

Chapter 1: Prescriptive Authority

Test Bank

Multiple Choice

1. An APRN works in a urology clinic under the supervision of a physician who does not restrict the types of medications the APRN is allowed to prescribe. State law does not require the APRN to practice under physician supervision. How would the APRN's prescriptive authority be described?
 - a. Full authority
 - b. Independent
 - c. Without limitation
 - d. Limited authority

ANS: B

The APRN has independent prescriptive authority because the regulating body does not require that the APRN work under physician supervision. Full prescriptive authority gives the provider the right to prescribe independently and without limitation. Limited authority places restrictions on the types of drugs that can be prescribed. DIF: Cognitive Level: Comprehension REF: p. 1 TOP: Nursing Process: I MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

2. Which factors increase the need for APRNs to have full prescriptive authority?
 - a. More patients will have access to health care.
 - b. Enrollment in medical schools is predicted to decrease.
 - c. Physician's assistants are being utilized less often.
 - d. APRN education is more complex than education for physicians.

ANS: A

Implementation of the Affordable Care Act has increased the number of individuals with health care coverage, and thus the number who have access to health care services. The increase in the number of patients creates the need for more providers with prescriptive authority. APRNs can fill this practice gap. DIF: Cognitive Level: Comprehension REF: p. 2 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

3. Which factors could be attributed to limited prescriptive authority for APRNs?
Select all that apply.

- a. Inaccessibility of patient care
- b. Higher health care costs
- c. Higher quality medical treatment
- d. Improved collaborative care
- e. Enhanced health literacy

ANS: A , B

Limiting prescriptive authority for APRNs can create barriers to quality, affordable, and accessible patient care. It may also lead to poor collaboration among providers and higher health care costs. It would not directly impact patient's health literacy. DIF: Cognitive Level:

Comprehension REF:

p. 2 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

4. Which aspects support the APRN's provision for full prescriptive authority? Select all that apply.
- a. Clinical education includes prescription of medications and disease processes.
 - b. Federal regulations support the provision of full authority for APRNs.
 - c. National examinations provide validation of the APRN's ability to provide safe care.
 - d. Licensure ensures compliance with health care and safety standards.
 - e. Limiting provision can decrease health care affordability.

ANS: A , C , D

APRNs are educated to practice and prescribe independently without supervision. National examinations validate the ability to provide safe and competent care. Licensure ensures compliance with standards to promote public health and safety. Limited prescriptive authority creates numerous barriers to quality, affordable, and accessible patient care. DIF: Cognitive Level: Comprehension REF: pp. 1-2 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

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ComprehensionREF: pp. 1-2TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

6. A family nurse practitioner practicing in Maine is hired at a practice across state lines in Virginia. Which aspect of practice may change for the APRN?
- The APRN will have less prescriptive authority in the new position.
 - The APRN will have more prescriptive authority in the new position.
 - The APRN will have equal prescriptive authority in the new position.
 - The APRN's authority will depend on federal regulations.

ANS: A

Virginia allows limited prescriptive authority, while Maine gives full authority to certified nurse practitioners. The federal government does not regulate prescriptive authority.DIF: Cognitive Level: ComprehensionREF: p. 3TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 2: Rational Drug Selection and Prescription Writing

Test Bank

Multiple Choice

7. How can collaboration with a pharmacist improve positive outcomes for patients? Select all that apply.
- Pharmacists can suggest foods that will help with the patient's condition.
 - Pharmacists have additional information on drug interactions.
 - The pharmacist can suggest adequate medication dosing.
 - Pharmacists have firsthand knowledge of the facility formulary.
 - Pharmacy can alter prescriptions when necessary to prevent patient harm.

ANS: B , C , D

Providers should collaborate with pharmacists because they will likely have additional information on formulary, drug interactions, and suggestions for adequate medication dosing. Dietitians can make foods recommendations to treat the patient's condition. The pharmacist can contact the prescriber about questionable prescriptions, but cannot alter the prescription without notification of and approval by the provider.DIF: Cognitive Level: ComprehensionREF: p. 9TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

8. A patient presents with delirium tremens requiring Ativan administration. The provider of care is not in the facility. Which action by the nurse is most appropriate?
- Obtain a telephone order.
 - Contact the on-call hospitalist.
 - Obtain an order from the charge nurse.
 - Wait for a written Ativan order.

ANS: A

In an emergency situation, such as delirium tremens with seizure activity, it is acceptable to provide a telephone order. Contacting the on-call hospitalist or waiting for a written order would take more time than available for a patient with high seizure risk. Writing an order is outside the scope of practice for the charge nurse. DIF: Cognitive Level: Application REF: p. 7 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

9. A patient with chronic pain calls the provider's office to request a refill on their oxycontin. Which action is most appropriate?
- Fax an order to the pharmacy.
 - Schedule an appointment with the patient.
 - Verify the patient's adherence to drug regimen.
 - Determine the patient's current medication dosage.

ANS: B

Schedule II medications are not eligible for refills, and prescriptions must be handwritten. It is important to verify the patient's adherence to the drug regimen and determine the current dosage of medication; however, this can be accomplished by scheduling an appointment and evaluating the patient in person. DIF: Cognitive Level: Application REF: p. 8 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

10. A patient prescribed amoxicillin for streptococcal pharyngitis reports new onset of a flat, itchy red rash on the chest and neck. Which action is most important?
- Provide a different prescription.
 - Discontinue the medication.
 - Prescribe an antihistamine cream.
 - Assess for respiratory compromise.

ANS: B

The priority action is to discontinue the medication to prevent worsening of the patient's symptoms. A different prescription would be provided, topical antihistamine may be administered, and the patient would be assessed for respiratory involvement, but these actions would not be

performed first.DIF: Cognitive Level: ApplicationREF: p. 6TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

11. A patient taking three medications for hypertension is diagnosed with COPD. Which action should be taken prior to prescribing medications to treat COPD?
- Obtain baseline laboratory values.
 - Obtain a complete medication history.
 - Assess liver enzyme levels.
 - Determine if patient has insurance coverage.

ANS: B

Prior to adding medications to the treatment regimen, it is essential to assess for any potential drug- drug interactions through a complete medical history. Baseline laboratory values are not necessary for COPD treatment. Liver enzyme levels may give insight into the possibility of altered metabolism but would not be the first action. The presence of insurance coverage would affect the patient's access to treatment but may not affect the type of medication prescribed.DIF: Cognitive Level: ApplicationREF: p. 6TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

12. A patient with diabetes reports losing their job and an inability to purchase required medications. Which action is most appropriate?
- Provide a 7-day sample pack.
 - Decrease the daily dose by half.
 - Contact a different pharmacy.
 - Prescribe a different medication.

ANS: C

Providing a 7-day sample will address the patient's immediate need, but will not help with the patient's long-term need for medication. Decreasing the daily dose will diminish the effectiveness of the medication. Selecting a different pharmacy could decrease the cost of the medication, as costs vary based on the location and the pharmacy dispensing the medication. Prescribing a different medication would be the last option.DIF: Cognitive Level: ApplicationREF: p. 5TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

13. A patient recently prescribed hydrocodone calls to report they are unable to fill the prescription. Which factors could contribute to the inability to fill the prescription? Select all that apply.

- DEA number missing from prescription

- b. Prescription sent via electronic messenger
- c. Dose higher than typically prescribed
- d. Prescriber license number not included
- e. Patient name and date of birth were handwritten

ANS: A , B , D

In order to fill a hydrocodone prescription, the prescriber name, license number, DEA number, and contact information must be included. Schedule II medications, such as narcotics, must be prescribed using written prescriptions. Though the pharmacist may question the high dosing, that would not prevent filling the prescription. The patient's name and date of birth must be included on the prescription, but there are no regulations that the name cannot be handwritten. DIF: Cognitive Level: Comprehension REF: pp. 6-8 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 3: Promoting Positive Outcomes of Drug Therapy

Test Bank

Multiple Choice

14. A patient reports that a medication prescribed for recurrent migraine headaches is not working. Which action should be taken first?
- a. Ask the patient about the number and frequency of tablets taken.
 - b. Assess the patient's headache pain on a scale from 1 to 10.
 - c. Report the patient's complaint to the prescriber.
 - d. Suggest biofeedback as an adjunct to drug therapy.

ANS: A

When evaluating the effectiveness of a drug, it is important to determine whether the patient is using the drug as ordered. Asking the patient to tell the nurse how many tablets are taken and how often helps the nurse determine compliance. Assessing current pain does not yield information about how well the medication is working unless the patient is currently taking it. The nurse should gather as much information about compliance, symptoms, and drug effectiveness as possible before contacting the prescriber. Biofeedback may be an effective adjunct to treatment, but it should not be recommended without complete information about drug effectiveness. DIF: Cognitive Level: Application REF: pp. 15-16 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

15. A patient is prescribed metronidazole for bacterial vaginosis. Which patient history finding would be most concerning?

- a. Recent yeast infection
- b. Family history of cervical cancer
- c. Drinks two glasses of wine every night
- d. Patient is currently unemployed

ANS: C

Patients taking metronidazole should be educated not to drink alcohol to prevent adverse reactions. It would be concerning that the patient drinks wine daily. History of a yeast infection may indicate increased risk for recurrence with administration of an antimicrobial. A family history of cervical cancer is not related to administration of metronidazole. Unemployment can indicate lack of insurance coverage, which may limit the patient's ability to purchase medications, but is not the most concerning patient finding. DIF: Cognitive Level: Application REF: p. 12 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

16. A patient is using a metered-dose inhaler containing albuterol for asthma. The medication label instructs the patient to administer "two puffs every 4 hours as needed for coughing or wheezing." The patient reports feeling jittery sometimes when taking the medication, and she doesn't feel that the medication is always effective. Which action is most appropriate?
- a. Asking the patient to demonstrate use of the inhaler
 - b. Assessing the patient's exposure to tobacco smoke
 - c. Auscultating lung sounds and obtaining vital signs
 - d. Suggesting that the patient use one puff to reduce side effects

ANS: C

Asking the patient to demonstrate inhaler use helps to evaluate the patient's ability to administer the medication properly and is part of the nurse's evaluation, but is not a priority intervention based on the patient's current report. Assessing tobacco smoke exposure helps the nurse determine whether nondrug therapies, such as smoke avoidance, can be used as an adjunct to drug therapy, but does not relate to the patient's current problem. Performing a physical assessment helps the nurse evaluate the patient's response to the medication and identify the presence of other side effects. DIF: Cognitive Level: Application REF: p. 13 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

17. A patient newly diagnosed with diabetes is to be discharged from the hospital. Which action should be taken first during medication education?
- a. Asking the patient to demonstrate how to measure and administer insulin
 - b. Discussing methods of storing insulin and discarding syringes
 - c. Giving information about how diet and exercise affect insulin requirements
 - d. Teaching the patient about the long-term consequences of poor diabetes control

ANS: A

Because insulin must be given correctly to control symptoms and because an overdose can be fatal, it is most important for the patient to know how to administer it. Asking for a demonstration of technique is the best way to determine whether the patient has understood the teaching. When a patient is receiving a lot of new information, the information presented first is the most likely to be remembered. The other teaching points are important as well, but they are not as critical and can be taught later. DIF: Cognitive Level: Application REF: p. 11 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

18. The drug manual states that older adult patients are at increased risk for hepatic side effects. Which action is most important when prescribing this medication to an 80-year-old patient?
- Obtain pretreatment laboratory work.
 - Ensure that the drug is given in the correct dose at the correct time to minimize the risk of adverse effects.
 - Discontinue the order; the drug is contraindicated for this patient.
 - Give the medication intravenously so that the drug does not pass through the liver.

ANS: A

The drug manual indicates that this drug should be given with caution to elderly patients. Getting information about liver function before giving the drug establishes baseline data that can be compared with post-treatment data to determine whether the drug is affecting the liver. Giving the correct dose at the correct interval helps to minimize risk, but without baseline information, the effects cannot be determined. The drug is not contraindicated. DIF: Cognitive Level: Analysis REF: p. 12 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

19. A patient recently diagnosed with HIV is prescribed several medications to treat the condition. Which factors could impact the patient's adherence to the treatment regimen? Select all that apply.
- The patient is uninsured
 - The patient works three part-time jobs
 - The medication regimen includes six different pills
 - Patient has an eighth-grade reading comprehension level
 - Medication regimen requires medication be taken at regular 4-hour intervals.

ANS: A , B , C , E

Lack of insurance coverage can inhibit the patient from purchasing the medications, limiting his access to treatment. Having three part-time jobs indicates that the patient has a busy schedule, which contributes to forgetfulness and poor adherence. The more complex the medication regimen, the more difficult it is to maintain patient adherence. Although a patient with an eighth-grade reading comprehension level may have difficulty understanding professional medical language, medication teaching can be adjusted to meet the patient's learning needs. DIF: Cognitive Level:

ComprehensionREF: pp. 13-14TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

20. A patient diagnosed with bipolar disorder is prescribed daily lithium. Which action is most important to determine if the therapeutic level is maintained?
- Obtain preadministration blood work.
 - Administer medication at regular intervals.
 - Ensure periodic laboratory testing is completed.
 - Assess the patient for adverse effects.

ANS: C

Therapeutic serum levels are determined through periodic laboratory testing. Preadministration blood work may be necessary to determine the patient's physical condition but will not determine therapeutic levels. Scheduling medication administration at regular intervals will help to ensure medication is absorbed and metabolized predictably, but will not determine therapeutic blood levels. Assessing the patient for physical signs of adverse effects does not determine if a therapeutic level has been obtained.DIF: Cognitive Level: ApplicationREF: p. 12TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 4: Pharmacokinetics, Pharmacodynamics, and Drug Interactions

Test Bank

Multiple Choice

21. The nurse administers naloxone [Narcan] to a patient who has received a toxic dose of morphine sulfate. The nurse understands that the naloxone is effective because of which action?
- Countering the effects of morphine sulfate by agonist actions
 - Increasing the excretion of morphine sulfate by altering serum pH
 - Preventing activation of opioid receptors through antagonist actions
 - Regulating the sensitivity of opioid receptors by neurochemical alterations

ANS: C

Naloxone acts by blocking the action of opioids at opioid receptors. An opioid agonist would increase the effects of morphine. Naloxone does not affect serum pH or excretion of opioids. Naloxone does not alter the sensitivity of opioid receptors.DIF: Cognitive Level: AnalysisREF: p. 31TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

22. A patient is taking drug X and receives a new prescription for drug Y, which is listed as an inducing agent. The nurse caring for this patient understands that this patient may require doses of drug .
- lower; X
 - lower; Y
 - higher; X
 - higher; Y

ANS: C

An inducing agent stimulates the synthesis of CYP isoenzymes, which may increase the metabolism of other drugs as much as two- to threefold, thereby lowering the level of those drugs in the body and requiring higher doses to maintain drug effectiveness. DIF: Cognitive Level: Application REF: p. 36 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

23. The nurse is preparing to administer penicillin G intramuscularly to a child. The child's parents ask why the drug cannot be given in an oral liquid form. What is the nurse's reply?
- "This drug causes severe gastric upset if given orally."
 - "This drug has a narrow therapeutic range, and the dose must be tightly controlled."
 - "This drug is absorbed much too quickly in an oral form."
 - "This drug would be inactivated by enzymes in the stomach."

ANS: D

Penicillin G is inactivated by digestive enzymes in the stomach and cannot be given orally. It does not have a narrow therapeutic range. DIF: Cognitive Level: Application REF: p. 20 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

24. Which statement about food and drug interactions is true?
- Foods alter drug absorption and metabolism but not drug action.
 - Medications are best absorbed on an empty stomach.
 - Patient discomfort is the food and drug interaction of most concern.
 - Some foods can inhibit CYP isoenzymes and alter drug metabolism.

ANS: D

Grapefruit juice inhibits CYP3A4, which lowers the metabolism of some drugs, leading to toxic effects of drugs affected by these isoenzymes. Foods can alter all pharmacokinetic and pharmacodynamic processes. Not all medications are absorbed better on an empty stomach; some require certain foods to enhance absorption. Patient comfort is a concern, but it is not as important as more severe and possibly life-threatening food and drug interactions. DIF: Cognitive Level:

AnalysisREF: p. 39TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

25. A nurse is teaching a patient about a drug that induces P-glycoprotein. The nurse will explain that this drug may cause which effect on other drugs?
- Decreased absorption in the intestines
 - Decreased elimination through the kidneys
 - Increased brain exposure
 - Increased fetal absorption

ANS: B

Drugs that induce PGP can increase drug export from cells of the intestinal epithelium into the intestinal lumen, thus decreasing absorption of the drug. PGP inducers also increase drug elimination and decrease brain and fetal drug exposure.DIF: Cognitive Level: AnalysisREF: p. 36TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

26. A patient claims to get better effects with a tablet of Brand X of a drug than with a tablet of Brand Y of the same drug. Both brands contain the same amount of the active ingredient. What does the nurse know to be most likely?
- Advertising by pharmaceutical companies can enhance patient expectations of one brand over another, leading to a placebo effect.
 - Because the drug preparations are chemically equivalent, the effects of the two brands must be identical.
 - Tablets can differ in composition and can have differing rates of disintegration and dissolution, which can alter the drug's effects in the body.
 - The bioavailability of a drug is determined by the amount of the drug in each dose.

ANS: C

Even if two brands of a drug are chemically equivalent (i.e., they have identical amounts of the same chemical compound), they can have different effects in the body if they differ in bioavailability. Tablets made by different manufacturers contain different binders and fillers, which disintegrate and dissolve at different rates and affect the bioavailability of the drug. Two brands may be chemically equivalent and still differ in bioavailability, which is not determined by the amount of drug in the dose.DIF: Cognitive Level: ApplicationREF: p. 19TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

27. Two nurses are discussing theories of drug-receptor interaction. Which statements are true regarding the affinity of a drug and its receptor?
Select all that apply.

- a. Affinity and intrinsic activity are dependent properties.
- b. Affinity refers to the strength of the attraction between a drug and its receptor.
- c. Drugs with high affinity are strongly attracted to their receptors.
- d. Drugs with low affinity are strongly attracted to their receptors.
- e. The affinity of a drug for its receptors is reflected in its potency.

ANS: B , C , E

Affinity refers to the strength of the attraction between a drug and its receptor. Drugs with high affinity are strongly attracted to their receptors, and the affinity of a drug and its receptors is reflected in its potency. Affinity and intrinsic activity are independent properties. Drugs with low affinity are weakly attracted to their receptors. DIF: Cognitive Level: Comprehension REF: pp. 30- 31 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

28. A patient receives a drug that has a narrow therapeutic range. The nurse administering this medication will expect to do what?
- a. Administer the drug at intervals longer than the drug half-life.
 - b. Administer this medication intravenously.
 - c. Monitor plasma drug levels.
 - d. Teach the patient that maximum drug effects will occur within a short period.

ANS: C

A drug with a narrow therapeutic range is more difficult to administer safely, because the difference between the minimum effective concentration and the toxic concentration is small. Patients taking these medications must have their plasma drug levels monitored closely to ensure that they are getting an effective dose that is not toxic. Administering medications at longer intervals only increases the time required to reach effective plasma drug levels. Drugs that have a narrow therapeutic range may be given by any route and do not differ from other medications in the amount of time it takes for them to take effect, which is a function of a drug's half-life and dosing frequency. DIF: Cognitive Level: Application REF: p. 25 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

29. What occurs when a drug binds to a receptor in the body?
- a. It alters the receptor to become nonresponsive to its usual endogenous molecules.
 - b. It increases or decreases the activity of that receptor.
 - c. It gives the receptor a new function.
 - d. It prevents the action of the receptor by altering its response to chemical mediators.

ANS: B

When a drug binds to a receptor, it mimics or blocks the actions of the usual endogenous regulatory molecules, either increasing or decreasing the rate of the physiologic activity normally controlled

by that receptor. It does not alter the activity of the receptor and does not give the receptor a new function. DIF: Cognitive Level: Analysis REF: p. 29 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

30. A patient is receiving intravenous gentamicin. A serum drug test reveals toxic levels. The dosing is correct, and this medication has been tolerated by this patient in the past. Which could be a probable cause of the test result?
- A loading dose was not given.
 - The drug was not completely dissolved in the IV solution.
 - The patient is taking another medication that binds to serum albumin.
 - The medication is being given at a frequency that is longer than its half-life.

ANS: C

Gentamicin binds to albumin, but only weakly, and in the presence of another drug that binds to albumin, it can rise to toxic levels in blood serum. A loading dose increases the initial amount of a drug and is used to bring drug levels to the desired plateau more quickly. A drug that is not completely dissolved carries a risk of causing embolism. A drug given at a frequency longer than the drug half-life will likely be at subtherapeutic levels and not at toxic levels. DIF: Cognitive Level: Analysis REF: p. 21 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

31. A patient reports becoming “immune” to a medication because it no longer works to alleviate symptoms. The nurse recognizes that this decreased effectiveness is likely caused by:
- antagonists produced by the body that compete with the drug for receptor sites.
 - decreased selectivity of receptor sites, resulting in a variety of effects.
 - desensitization of receptor sites by continual exposure to the drug.
 - synthesis of more receptor sites in response to the medication.

ANS: C

Continual exposure to an agonist would cause the cell to become less responsive or desensitized. The body does not produce antagonists as a response to a medication. Receptor site selectivity is determined by physiologic factors and not by the substances that bind to them. Medications do not cause more receptors to be produced. DIF: Cognitive Level: Analysis REF: p. 32-33 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

32. A patient who is taking morphine for pain asks the nurse how a pain medication can also cause constipation. What does the nurse know about morphine?
- It binds to different types of receptors in the body.
 - It can cause constipation in toxic doses.

- c. It causes only one type of response, and the constipation is coincidental.
- d. It is selective to receptors that regulate more than one body process.

ANS: D

Morphine is a medication that is selective to receptor type that regulates more than one process. Because it is selective to receptor type, it does not bind to different types of receptors. Constipation is a normal side effect and is not significant for toxicity. DIF: Cognitive Level: Analysis REF: p. 35 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

33. The nurse is administering morning medications. The nurse gives a patient multiple medications, two of which compete for plasma albumin receptor sites. As a result of this concurrent administration, the nurse can anticipate that what might occur?
Select all that apply.

- a. Binding of one or both agents will be reduced.
- b. Plasma levels of free drug will rise.
- c. Plasma levels of free drug will fall.
- d. The increase in free drug will intensify effects.
- e. The increase in bound drug will intensify effects.

ANS: A , B , D

When two drugs bind to the same site on plasma albumin, coadministration of those drugs produces competition for binding. As a result, binding of one or both agents is reduced, causing plasma levels of free drug to rise. The increase in free drug can intensify the effect, but it usually undergoes rapid elimination. The increase in plasma levels of free drug is rarely sustained. DIF: Cognitive Level: Analysis REF: p. 36 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

34. When administering medications to infants, it is important to remember which of the following?
Select all that apply.

- a. Breast-feeding infants are more likely to develop toxicity when given lipid-soluble drugs.
- b. Immaturity of renal function in infancy causes infants to excrete drugs less efficiently.
- c. Infants have immature livers, which slows drug metabolism.
- d. Infants are more sensitive to medications that act on the central nervous system (CNS).
- e. Oral medications are contraindicated in infants, because PO administration requires a cooperative patient.

ANS: B , C , D

Immature renal function causes infants to excrete drugs more slowly, and infants are at risk for toxicity until renal function is well developed. Infants' livers are not completely developed, and they are less able to metabolize drugs efficiently. Because the blood-brain barrier is not well

developed in infants, caution must be used when administering CNS drugs. Lipid-soluble drugs may be excreted in breast milk if the mother is taking them, but breastfeeding does not affect medications given directly to the infant. Oral medications may be given safely to infants as long as they are awake and can swallow the drug. DIF: Cognitive Level: Comprehension REF: "pp. 20,22,24" TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

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Chapter 5: Adverse Drug Reactions and Medication Errors

Test Bank

Multiple Choice

35. A nursing student is preparing to give a medication that has a boxed warning. The student asks the nurse what this means. What will the nurse explain about boxed warnings?
- They indicate that a drug should not be given except in life-threatening circumstances.
 - They provide detailed information about the adverse effects of the drug.
 - They alert prescribers to measures to mitigate potential harm from side effects.
 - They provide information about antidotes in the event that toxicity occurs.

ANS: C

Boxed warnings (also known as black box warnings) are used to alert providers to potential side effects and to ways to prevent or reduce harm from these side effects. A boxed warning is placed on any drug that, although useful, has serious side effects; this is a way to keep drugs on the market while protecting patients. Many of these drugs are used in situations that are not life-threatening. The boxed warning provides a concise summary and not a detailed explanation of drug side effects. The boxed warning does not include antidotes to toxicity. DIF: Cognitive Level: Analysis REF: p. 45 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

36. A nurse is preparing to administer a drug. Upon reading the medication guide, the nurse notes that the drug has been linked to symptoms of Parkinson disease in some patients. What will the nurse do?
- Ask the patient to report these symptoms, which are known to be teratogenic effects.
 - Observe the patient closely for such symptoms and prepare to treat them if needed.
 - Request an order to evaluate the patient's genetic predisposition to this effect.
 - Warn the patient about these effects and provide reassurance that this is expected.

ANS: B

A drug that causes disease-like symptoms is known to be iatrogenic. Nurses should be prepared for this possibility and be prepared to withdraw the drug if necessary and treat the symptoms. Such

effects are not teratogenic, since teratogenic effects affect the fetus. Patients with a genetic predisposition to respond differently to drugs are known to have idiosyncratic effects. Iatrogenic effects, even when known, are not typically expected side effects. DIF: Cognitive Level: Application REF: pp. 41-42 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

37. Which patients are at increased risk for adverse drug events?
Select all that apply.

- a. A 2-month-old infant taking a medication for gastroesophageal reflux disease
- b. A 23-year-old female taking an antibiotic for the first time
- c. A 40-year-old male who is intubated in the intensive care unit and taking antibiotics and cardiac medications
- d. A 7-year-old female receiving insulin for diabetes
- e. An 80-year-old male taking medications for COPD

ANS: A , C , E

Patients at increased risk for adverse drug events include the very young, the very old, and those who have serious illnesses. Females, children, and young adults taking single medications do not have increased risk for adverse events. DIF: Cognitive Level: Analysis REF: "pp. 42,46" TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

38. A nurse provides teaching to a patient who will begin taking a drug with a known risk of hepatotoxicity. Which statement by the patient indicates a need for further teaching?

- a. "I should avoid taking acetaminophen while taking this drug."
- b. "I will need periodic evaluation of aspartate aminotransferase and alanine aminotransferase levels."
- c. "If I experience nausea, vomiting, or abdominal pain, I should call my provider."
- d. "Routine testing and early detection of problems will prevent liver failure."

ANS: D

Drug-induced liver injury can progress from undetectable to advanced between routine tests; therefore, routine testing does not always prevent liver failure. Patients taking known hepatotoxic drugs should avoid other drugs, such as acetaminophen, that can cause liver damage. Aspartate aminotransferase (AST) and alanine aminotransferase (ALT) are liver enzymes that are routinely monitored when a patient is taking hepatotoxic drugs. Nausea, vomiting, and abdominal pain are signs of liver injury and should be reported. DIF: Cognitive Level: Application REF: p. 44 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

39. A nurse is reviewing a medication administration record before administering medications. Which order will the nurse implement?
- Furosemide [Lasix] 20 mg QD PO
 - Furosemide [Lasix] 20 mg qd PO
 - Furosemide [Lasix] 20 mg daily
 - Furosemide [Lasix] 20 mg PO daily

ANS: D

The correct answer is a complete order; it contains the medication, dose, route, and time. “qd” is no longer an accepted abbreviation; it should be written out as “daily” or “every day.” The order of “20 mg daily” does not specify the route to be used. DIF: Cognitive Level: Analysis REF: p. 48 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

40. A patient is given a new medication and reports nausea within an hour after taking the drug. The nurse consults the drug information manual and learns that nausea is not an expected adverse effect of this drug. When the next dose is due, what will the nurse do?
- Administer the drug and tell the patient to report further nausea.
 - Hold the drug and notify the provider of the patient’s symptoms.
 - Report the symptoms of nausea to the MEDWATCH program.
 - Request an order for an antiemetic to counter this drug’s effects.

ANS: A

Not all adverse drug reactions (ADRs) can be detected during clinical trials, and nurses should be alert to any effects that may result from drug administration. Because nausea is not a serious effect and because it is not yet known whether the drug is the cause of this patient’s nausea, the nurse should administer the medication and observe the patient for recurrence of the symptom. It is not necessary to hold the drug, because nausea is not a serious side effect. The MEDWATCH program should be notified when there is a greater suspicion that the drug may have caused the nausea if the nausea occurs with subsequent doses. Until there is greater suspicion that the drug actually caused this patient’s nausea, giving an antiemetic is not indicated. DIF: Cognitive Level: Application REF: p. 42 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

41. A nurse is preparing to give an antibiotic to a patient who reports being allergic to antibiotics. Before giving the medication, what will the nurse do first?
- Ask whether the patient has taken this antibiotic for other infections
 - Question the patient about allergies to other medications
 - Request an order for a lower dose of the antibiotic
 - Request an order for an antihistamine

ANS: A

The nurse needs to assess whether the patient is truly allergic to this drug. Allergic reactions require previous exposure to the drug, so the nurse should ask whether the patient has taken this antibiotic before. If a patient is allergic to a drug, lowering the dose will not decrease the risk of allergic reaction. Antihistamines sometimes are given when patients must take a drug to which they are allergic. DIF: Cognitive Level: Application REF: p. 41 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

42. A patient is taking sertraline [Zoloft] for depression, and the provider orders azithromycin [Zithromax] to treat an infection. What will the nurse do?
- Contact the provider to discuss an alternative to azithromycin.
 - Request an order for a different antidepressant medication.
 - Request an order to reduce the dose of sertraline.
 - Withhold the sertraline while giving the azithromycin.

ANS: A

Both sertraline and azithromycin prolong the QT interval, and when taken together, they increase the risk of fatal dysrhythmias. Because the antibiotic is used for a short time, it is correct to consider using a different antibiotic. Reducing the dose of sertraline does not alter the combined effects of two drugs that lengthen the QT interval. Sertraline should not be stopped abruptly, so withholding it during antibiotic therapy is not indicated. DIF: Cognitive Level: Application REF: p. 44 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

43. A patient is given a drug for the first time and develops shortness of breath. The patient's heart rate is 76 beats/minute, the respiratory rate is 20 breaths/minute, and the blood pressure is 120/70 mm Hg. The nurse checks a drug administration manual to make sure the correct dose was given and learns that some patients taking the drug experience shortness of breath. The nurse will contact the provider to report what?
- An allergic reaction
 - An idiosyncratic effect
 - An iatrogenic response
 - A side effect

ANS: D

A side effect is a secondary drug effect produced at therapeutic doses. This patient received the correct dose of the drug and developed shortness of breath, which, in this case, is a drug side effect. To experience an allergic reaction, a patient must have prior exposure to a drug and sensitization of the immune response. An idiosyncratic effect results from a genetic predisposition to an uncommon drug response. An iatrogenic response occurs when a drug causes symptoms of a disease. DIF: Cognitive Level: Application REF: p. 41 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

44. Which are effective ways to help prevent medication errors?

Select all that apply.

- a. Developing non-punitive approaches to track errors
- b. Focusing on caregivers who make errors
- c. Helping patients to be active, informed members of the healthcare team
- d. Naming, blaming, and shaming those who make errors
- e. Using electronic medical order entry systems

ANS: A , C , E

To help prevent medication errors, it is important to create an environment for tracking errors that is non-punitive so that caregivers can learn from mistakes and work together to change systems appropriately. Helping patients be active, informed members of the healthcare team is a useful tool in this process. Using electronic order entry helps eliminate confusion from poor handwriting and allows built-in systems to warn caregivers about possible overdoses, side effects, and drug interactions; it also helps ensure the right dose at the right time to the right patient. An approach that focuses on those who make mistakes by naming, blaming, and shaming is not productive and often results in personnel who cover up mistakes instead of working to make things better. DIF: Cognitive Level: Analysis REF: pp. 46-47 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

45. A patient is taking a drug that has known toxic side effects. What will the nurse do?

- a. Discontinue the drug at the first signs of toxicity.
- b. Ensure that complete blood counts are ordered periodically.
- c. Monitor the function of all organs potentially affected by the drug.
- d. Teach the patient how to treat the symptoms if they develop.

ANS: C

When a drug is administered that has known toxic side effects, the nurse is responsible for monitoring all organ systems potentially affected by the drug. Not all toxic side effects warrant discontinuation of the drug, and a nurse cannot discontinue a drug without an order from the provider. Complete blood counts are indicated only for drugs that affect the blood. Some drugs need to be discontinued, so teaching a patient to treat symptoms is not correct in all cases. DIF: Cognitive Level: Application REF: pp. 42-43 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

46. A patient is being discharged after surgery. During the admission history, the nurse learned that the patient normally consumes two or three glasses of wine each day. The prescriber has ordered hydrocodone with acetaminophen [Lortab] for pain. What will the nurse do?

- a. Request an order for acetaminophen without hydrocodone for pain.

- b. Suggest that the patient use ibuprofen for pain.
- c. Tell the patient not to drink wine while taking Lortab.
- d. Tell the patient to limit wine intake to one or two glasses per day.

ANS: C

Combining a hepatotoxic drug with certain other drugs may increase the risk of hepatotoxicity. When even therapeutic doses of acetaminophen are taken with alcohol, the acetaminophen can cause liver damage. Patients should be cautioned not to drink alcohol; even two drinks with acetaminophen can produce this effect. Hydrocodone does not contribute to hepatotoxicity. Ibuprofen is not indicated for post-operative pain unless the pain is mild. Limiting wine to one or two glasses per day still increases the risk of hepatotoxicity. DIF: Cognitive Level: Application REF: p. 42 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

47. Which actions occur in 90% of fatal medication errors?
Select all that apply.

- a. Confusing drugs with similar packaging
- b. Giving a drug intravenously instead of intramuscularly
- c. Giving Nasarel instead of Nizoral
- d. Using an infusion device that malfunctions
- e. Writing a prescription illegibly

ANS: B , C , E

Ninety percent of fatal medication errors fall into three categories: human factors, communication mistakes, and name confusion. Giving a drug IV (intravenously) instead of IM (intramuscularly) is an example of a human factor; writing a prescription so that it is illegible is an example of a communication mistake; and giving a drug with a name that sounds like the name of another drug is an example of name confusion. Confusion of drugs with similar packaging and using a faulty device also can cause fatal drug errors, but these factors do not fall into the categories that account for 90% of fatal errors. DIF: Cognitive Level: Analysis REF: pp. 45-46 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 6: Individual Variation in Drug Responses

Test Bank

Multiple Choice

48. A nurse is caring for a woman with breast cancer who is receiving tamoxifen. A review of this patient's chart reveals a deficiency of the CYP2D6 gene. The nurse will contact the provider to suggest:
- a different medication.
 - an increased dose.
 - a reduced dose.
 - serum drug levels.

ANS: A

Women with a deficiency of the CYP2D6 gene lack the ability to convert tamoxifen to its active form, endoxifen, and will not benefit from this drug. Another drug should be used to treat this patient's breast cancer. Increasing the dose, reducing the dose, or monitoring serum drug levels will not make this drug more effective in these women. DIF: Cognitive Level: Application REF: p. 53 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

49. Which groups of people are especially sensitive to medication effects?
Select all that apply.
- Older adults
 - Caucasians
 - Infants
 - Minorities
 - Women

ANS: A , C

Older adults and infants are the two groups most sensitive to drugs because of differences in organs that absorb, metabolize, and excrete drugs. In the older adult, organ degeneration accounts for these differences, whereas in infants the differences are related to organ immaturity. Racial and gender differences tend to be related to genetic differences and not race and gender per se. These groups are more sensitive to drug effects in some cases and less sensitive in other cases. DIF: Cognitive Level: Comprehension REF: p. 51 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

50. A post-operative patient who is worried about pain control will be discharged several days after surgery. The nurse providing discharge teaching tells the patient that the prescribed Lortab is not as strong as the morphine the patient was given in the immediate post-operative period. Which response is the patient likely to experience?
- A decreased likelihood of filling the prescription for the drug
 - A negative placebo effect when taking the medication
 - An increased compliance with the drug regimen
 - Optimistic, realistic expectations about the drug

ANS: B

The full extent of placebo effects, if they truly occur, is not well documented or understood, although a decrease in pain as a placebo effect has been demonstrated to some extent. To foster a beneficial placebo effect, it is important for all members of the healthcare team to present an optimistic and realistic assessment of the effects of the drug the patient is taking. If the nurse tells an anxious patient that the medication being given is not as strong as what has been given, the patient is likely to have lowered expectations of the effectiveness of the drug, causing a negative placebo effect. Lowered expectations do not mean that the patient will give up on the drug entirely; in fact, the patient may actually fill the prescription and then take more drug than what is prescribed to get a better effect. DIF: Cognitive Level: Application REF: p. 52 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

51. A patient has been taking narcotic analgesics for chronic pain for several months. The nurse caring for this patient notes that the prescribed dose is higher than the recommended dose. The patient has normal vital signs, is awake and alert, and reports mild pain. What does the nurse recognize about this patient?
- This patient exhibits a negative placebo effect with a reduced response to the drug.
 - This patient has developed a reaction known as tachyphylaxis because of repeated exposure to the drug.
 - This patient has developed pharmacodynamic tolerance, which has increased the minimal effective concentration (MEC) needed for analgesic effect.
 - This patient produces higher than normal hepatic enzymes as a result of prolonged exposure to the drug.

ANS: C

Pharmacodynamic tolerance results when a patient takes a drug over a period of time. Adaptive processes occur in response to chronic receptor occupation. The result is that the body requires increased drug, or an increased MEC, to achieve the same effect. This patient is getting adequate pain relief, so there is no negative placebo effect. Tachyphylaxis is a form of tolerance that can be defined as a reduction in drug responsiveness brought on by repeated dosing over a short time; this occurs over several months. Barbiturates induce synthesis of hepatic enzymes that cause increased metabolism of the drug, but it does not increase the MEC. DIF: Cognitive Level: Application REF: p. 52 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

52. A patient asks a nurse why a friend who is taking the same drug responds differently to that drug. The nurse knows that the most common variation in drug response is due to differences in each patient's:
- drug receptor sites.
 - hypersensitivity potential.

- c. metabolism of drugs.
- d. psychosocial response.

ANS: C

The most common source of genetic variation in drug response is related to alterations in drug metabolism and is determined by genetic codes for various drug-metabolizing isoenzymes. There are known genetic differences in codes for drug target sites, but these are not as numerous as those for metabolic isoenzymes. Hypersensitivity potential is also genetically determined, but variations produce differences in adverse reactions to drugs and not in drug effectiveness. Psychosocial responses vary for many less measurable reasons, such as individual personalities and variations in cultures. DIF: Cognitive Level: Analysis REF: p. 53 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

53. The nurse is assessing a newly admitted older patient who has recently lost 15 pounds. The nurse notes that the patient is taking warfarin (Coumadin). Which laboratory tests will the nurse discuss with this patient's provider?
- a. Blood glucose and C-reactive protein
 - b. Complete blood count and hepatic function tests
 - c. Renal function tests and serum electrolytes
 - d. Serum albumin and coagulation studies

ANS: D

Older patients and those who are malnourished are at increased risk for low serum albumin. Since warfarin binds to albumin, such patients are at increased risk for elevated warfarin levels, which can cause increased bleeding. The nurse should request albumin levels and coagulation studies. DIF: Cognitive Level: Analysis REF: p. 54 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

54. A nurse is preparing to care for a patient who is receiving digoxin. When screening for potential adverse effects from this drug, the nurse will review which of this patient's laboratory results?
- a. Albumin
 - b. Blood urea nitrogen (BUN) and creatinine
 - c. Hepatic enzymes
 - d. Serum electrolytes

ANS: D

Patients with low serum potassium are at risk for fatal cardiac dysrhythmias when taking digoxin, and it is essential to know this level before this medication is administered. Knowing a patient's albumin level would be important when giving drugs that are protein bound. The BUN and creatinine levels are indicators of renal function. Hepatic enzymes are important to know when drugs are metabolized by the liver. DIF: Cognitive Level: Application REF: p. 51 TOP: Nursing

Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

55. A nurse administers the same medication in the same preparation in the same dose to several patients and notes that some patients have a better response to the drug than others. What is the most likely explanation for this phenomenon?
- Altered bioavailability of the drug
 - Patient compliance with the therapeutic regimen
 - Pharmacogenomic differences among individuals
 - Placebo effects enhancing expectations of drug efficacy

ANS: C

Each patient's genetic makeup can determine how that patient responds to drugs quantitatively and qualitatively, and this is the most likely cause of individual variation when the same drug is given at the same dose. The bioavailability of a drug is determined by the drug's composition and varies across formulations of the drug. The patients in this example were given the same drug. The nurse was administering the medication to the patients, so compliance is not an issue. Nothing in this example indicates that a placebo effect was in play. DIF: Cognitive Level: Comprehension REF: p. 53 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

56. A nurse is teaching a group of women about medications. The women want to know why so many drugs have unpredictable effects in women. The nurse will tell them that:
- drugs usually have more toxic effects in women.
 - most known drug effects are based on drug trials in men.
 - women have varying responses to drugs during menstrual cycles.
 - women metabolize drugs more slowly.

ANS: B

Until 1997 almost all clinical drug trials were performed in men. Women may have more toxic effects with some drugs and fewer toxic effects with others. Not all drugs are influenced by hormonal changes. Women metabolize some drugs more slowly and other drugs more quickly. Unless drug trials are performed in both women and men, the effects of drugs in women will not be clear. DIF: Cognitive Level: Application REF: p. 55 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

57. The U.S. Food and Drug Administration (FDA) recommends genetic testing of patients receiving certain medications. Genetic testing helps prescribers:
- better establish a drug's therapeutic index.

- b. determine whether a patient is a rapid or slow metabolizer of the drug.
- c. identify racial characteristics that affect psychosocial variation in drug response.
- d. produce a drug that is tailored to an individual patient's genetic makeup.

ANS: B

Pharmacogenomics is the study of the ways genetic variations affect individual responses to drugs through alterations in genes that code for drug-metabolizing enzymes and drug receptors. For some drugs, the FDA requires genetic testing, and for others, this testing is recommended but not required. Genetic testing does not determine a drug's therapeutic index; this is a measure of a drug's safety based on statistics of the drug's use in the general population (see Chapter 5). Any distinct physiologic differences in drug response among various racial populations are related to genetic differences and do not affect psychosocial differences in drug responses. Genetic testing is recommended to identify how a patient will respond to a drug and not to design a drug specific to an individual. DIF: Cognitive Level: Analysis REF: pp. 53-54 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential **Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.**

Chapter 7: Drug Therapy During Pregnancy and Breast-Feeding

Test Bank

Multiple Choice

58. Which types of drugs taken by a pregnant patient are more likely to have effects on a fetus?

- a. Drugs that are highly polar
- b. Ionized drugs
- c. Lipid-soluble drugs
- d. Protein-bound drugs

ANS: C

Lipid-soluble drugs cross the placenta more readily. Drugs that are highly polar, ionized, or protein bound cross the placenta with difficulty. DIF: Cognitive Level: Analysis REF: p. 58 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

59. A patient in her second trimester of pregnancy tells the nurse she is worried that a medication she took before knowing she was pregnant might have harmed the fetus. What will the nurse do?

- a. Ask the patient what she took and when she learned she was pregnant.
- b. Contact the patient's provider to request an ultrasound.
- c. Counsel the patient to consider termination of the pregnancy.
- d. Suggest to the patient that she go to a high-risk pregnancy center.

ANS: A

When a pregnant patient is exposed to a known or potential teratogen, the first step is to find out when the drug was taken and when the pregnancy began to determine whether the drug was taken during the period of organogenesis, when the fetus is most vulnerable to teratogenic effects. If exposure occurred during this phase, the provider may order an ultrasound. Counseling the patient to terminate a pregnancy is not a nursing role. Until more is known about this patient's fetus, it is not necessary to refer her to another pregnancy center. DIF: Cognitive Level: Application REF: p. 58 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

60. A patient who has just learned she is pregnant has stopped using a prescription medication that she takes for asthma because she does not want to harm her baby. What will the nurse tell her?
- That asthma medications will not affect the fetus
 - That her baby's health is dependent on hers
 - To avoid taking medications during her pregnancy
 - To resume the medication in her second trimester

ANS: B

Asthmatic women who fail to take medication have a doubled risk of stillbirth; therefore, the nurse should encourage the patient to use her medications. Because the health of the fetus depends on the health of the mother, all drugs must be considered in light of the benefits of treatment versus the risks to the fetus. Asthma medications may have effects on the fetus, but the risk of stillbirth presents a greater risk. In this case, the patient needs to take the medication to treat her asthma and not wait until the second trimester. DIF: Cognitive Level: Application REF: p. 61 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

61. A pregnant patient in active labor is admitted to the emergency department. A toxicology screen and a physical assessment reveal that the patient is an active heroin addict. The nurse who cares for the neonate after delivery should anticipate which clinical manifestations?
- Passivity and flat affect
 - Diarrhea and salivation
 - A shrill cry and irritability
 - Restless sleep and seizures

ANS: C

The newborn of an active heroin addict experiences a withdrawal syndrome that includes shrill crying, vomiting, and extreme irritability. The newborn will not experience passivity or a flat affect, diarrhea, or salivation, or continuous restless sleep as a result of being born to an active heroin addict. DIF: Cognitive Level: Application REF: p. 58 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

62. A pregnant patient asks the nurse about the safe use of medications during the third trimester. What will the nurse tell her about drugs taken at this stage?
- They may need to be given in higher doses if they undergo renal clearance.
 - They require lower doses if they are metabolized by the liver.
 - They are less likely to cross the placenta and affect the fetus.
 - They are more likely to cause anatomical defects if they are teratogenic.

ANS: A

In the third trimester, drugs excreted by the kidneys may have to be increased, because renal blood flow is doubled, the glomerular filtration rate is increased, and drug clearance is accelerated. Hepatic metabolism increases, meaning that drugs metabolized by the liver must be increased. All drugs can cross the placenta. Anatomic defects are more likely to occur in the embryonic period, which is in weeks 3 through 8 in the first trimester. DIF: Cognitive Level: Analysis REF: p. 60 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

63. A patient has just given birth to a baby boy with a cleft palate. The nurse will review the patient's medication history with special emphasis on drugs taken during which period?
- Before she became pregnant
 - During the first trimester
 - During the second trimester
 - During the third trimester

ANS: B

Gross malformations typically are the result of teratogens consumed during the first trimester. Using teratogenic drugs before becoming pregnant is a risk because 50% of pregnancies are unintended, and a patient could become pregnant while taking the drug. Exposure to teratogens during the second or third trimester usually alters function, not gross anatomy. DIF: Cognitive Level: Application REF: p. 58 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

64. A nurse is caring for a patient and her newborn immediately after delivery. The patient's medication history includes prenatal vitamins throughout pregnancy, one or two glasses of wine before knowing she was pregnant, occasional use of an albuterol inhaler in her last trimester, and intravenous morphine during labor. What will the nurse expect to do?
- Administer opioids to the infant to prevent withdrawal syndrome.
 - Monitor the infant's respirations and prepare to administer naloxone if needed.
 - Note a high-pitched cry and irritability in the infant and observe for seizures.
 - Prepare the patient for motor delays in the infant caused by the alcohol use.

ANS: B

Narcotics given for pain during labor cross the placenta and can cause respiratory depression in the infant. Nurses must be prepared to provide respiratory support and to give naloxone to reverse the narcotic effects if necessary. Exposure to opioids during labor is not sufficient to cause dependence, so withdrawal syndrome is not an issue. Infants withdrawing from drugs have a high-pitched cry and are irritable, which is not expected in this case. Any drug taken during the first weeks of pregnancy tends to have an “all or none” effect, meaning that it either causes death of the conceptus or, if sublethal, the conceptus recovers. DIF: Cognitive Level: Application REF: p. 58 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

65. A woman who is breastfeeding her infant must take a prescription medication for 2 weeks. The medication is safe, but the patient wants to make sure her baby receives as little of the drug as possible. What will the nurse tell the patient to do?
- Give the baby formula as long as the mother is taking the medication
 - Take the medication immediately after breastfeeding
 - Pump breast milk and feed the baby by bottle
 - Take the medication 1 hour before breastfeeding

ANS: B

Taking the medication immediately after breastfeeding minimizes the drug concentration in the breast milk at the next feeding. Disrupting breastfeeding is not indicated. Pumping the breast milk will not diminish the drugs or drug concentration in the breast milk. Taking the medication 1 hour before breastfeeding will increase concentrations of the drug in the breast milk. DIF: Cognitive Level: Application REF: p. 63 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

66. A nursing student asks the nurse why more is not known about the teratogenic effects of maternal medication ingestion during pregnancy. Which response by the nurse is correct?
- “Clinical trials to assess this risk would put the fetus at risk.”
 - “It is safer to recommend that pregnant women avoid medications while pregnant.”
 - “Most women are reluctant to admit taking medications while they are pregnant.”
 - “The relatively new MEPREP study will allow testing of medications during pregnancy in the future.”

ANS: A

One of the greatest challenges in identifying drug effects on a developing fetus has been the lack of clinical trials, which, by their nature, would put the developing fetus at risk. Many pregnant women need prescription medications and not taking those would put the fetus at risk by compromising the health of the mother. The MEPREP study is a retrospective study to learn about possible outcomes related to known maternal drug exposure. DIF: Cognitive Level: Analysis REF:

p. 57TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

67. A nurse is teaching a class to a group of pregnant patients. The nurse correctly teaches that the highest risk of teratogen-induced gross malformations exists during which time?
- Immediately before conception
 - During the first trimester
 - During the second trimester
 - During the third trimester

ANS: B

Gross malformations are caused by exposure to teratogens during the embryonic period, which is considered the first trimester. This is the time when the basic shape of internal organs and other structures is established. No risk exists immediately before conception unless the medication is a category X drug. Teratogen exposure during the second and third trimesters usually disrupts function rather than gross anatomy. DIF: Cognitive Level: Comprehension REF: p. 61 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

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Chapter 8: Drug Therapy in Pediatric Patients

Test Bank

Multiple Choice

1. A nurse is caring for an infant after a surgical procedure. After ensuring that the ordered dose is appropriate for the infant's age and weight, the nurse administers a narcotic analgesic intravenously. When assessing the infant 15 minutes later, the nurse notes respirations of 22 breaths/minute and a heart rate of 110 beats/minute. The infant is asleep in the parent's arms and does not awaken when vital signs are assessed. The nurse understands that these findings are the result of:
 - an allergic reaction to the medication.
 - immaturity of the blood-brain barrier in the infant.
 - toxic effects of the narcotic, requiring naloxone as an antidote.
 - unexpected side effects of medications in infants.

ANS: B

The blood-brain barrier is not as well developed in infants, making them more susceptible to CNS effects of medications. This assessment of the patient reveals no signs of an allergic reaction. Although this infant is somnolent, the vital signs are stable, so toxicity is not a concern. CNS

effects are not unexpected with narcotic analgesics, but they may be more pronounced in infants. DIF: Cognitive Level: Application REF: p. 65 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

2. A child will receive 750 mg of an antibiotic for 10 days. The child attends day care. The drug may be dosed in several ways and is available in two concentrations. Which dosing regimen will the nurse discuss with the child's provider?
 - a. 250 mg/5 mL to 375 mg PO twice daily
 - b. 250 mg/5 mL to 250 mg PO three times daily
 - c. 500 mg/5 mL to 250 mg PO three times daily
 - d. 500 mg/5 mL to 375 mg PO twice daily

ANS: D

To promote adherence to a drug regimen in children, it is important to consider the size and timing of the dose. In this case the preparation containing 500 mg/5 mL means that a smaller volume can be given, which is more palatable to a child. Twice daily dosing is more convenient for parents, especially when a child is in day care or school; it also helps prevent the problem of the medication being left either at home or at school. DIF: Cognitive Level: Application REF: p. 68 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

3. Parents ask the nurse why an over-the-counter cough suppressant with sedative side effects is not recommended for infants. Which response by the nurse is correct?
 - a. "Babies have a more rapid gastric emptying time and do not absorb drugs well."
 - b. "Cough medicine tastes bad, and infants usually won't take it."
 - c. "Infants are more susceptible to central nervous system effects than are adults."
 - d. "Infants metabolize drugs too rapidly, so drugs are not as effective."

ANS: C

Drugs cross the blood-brain barrier more readily in infants, making these patients more susceptible to central nervous system (CNS) side effects. Infants have a prolonged and irregular gastric emptying time and absorb drugs in the stomach more quickly. Although it may be true that cough medicines taste bad and are difficult to administer, this is not a contraindication to giving them. Infants metabolize drugs more slowly. DIF: Cognitive Level: Analysis REF: p. 66 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

4. A nurse caring for a 5-year-old child notes that the child has discoloration of several teeth. When taking a medication history, the nurse will ask about which group of medications?
 - a. Glucocorticoids

- b. Salicylates
- c. Sulfonamides
- d. Tetracyclines

ANS: D

Tetracyclines cause discoloration in developing teeth in children. Glucocorticoids are associated with growth suppression. Salicylates are associated with Reye syndrome. Sulfonamides are associated with kernicterus in newborns. DIF: Cognitive Level: Application REF: p. 67 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

5. An infant has allergies and often develops a pruritic rash when exposed to allergens. The infant's parents ask the nurse about using a topical antihistamine. What should the nurse tell them?
- a. Antihistamines given by this route are not absorbed as well in children.
 - b. Applying an antihistamine to the skin can cause toxicity in this age group.
 - c. The child will also need oral medication to achieve effective results.
 - d. Topical medications have fewer side effects than those given by other routes.

ANS: B

Drug absorption through the skin is more rapid in infants, because their skin is thinner and has greater blood flow; therefore, infants are at increased risk of toxicity from topical drugs. Because of increased drug absorption through the skin, infants should not be given additional drugs via other routes. If a drug is more likely to be absorbed rapidly, it will have more side effects. DIF: Cognitive Level: Application REF: p. 66 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

6. An infant is receiving a medication that has a narrow therapeutic range. The nurse reviews the medication information and learns that the drug is excreted by the kidneys. When giving the medication, the nurse will assess the infant for:
- a. decreased effectiveness of the drug.
 - b. shorter period of the drug's effects.
 - c. signs of drug toxicity.
 - d. unusual CNS effects.

ANS: C

Renal drug excretion is lower in infants, so drugs that are eliminated primarily by renal excretion should be given in reduced doses or at longer intervals. Drugs with a narrow therapeutic range should be monitored closely for toxicity. This drug likely will have intensified effects and be present for a longer time. Nothing indicates that unusual CNS effects will occur because of this alteration in excretion. DIF: Cognitive Level: Application REF: p. 66 TOP: Nursing Process:

Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

7. A pediatric nurse is teaching nursing students to calculate medication doses for children using a formula based on body surface area. Which statement by a nursing student indicates understanding of the teaching?
- “This formula helps approximate the first dose; other doses should be based on clinical observations.”
 - “This formula accounts for pharmacokinetic factors that are different in children.”
 - “Using this formula will prevent side effects of medications in children.”
 - “This formula can determine medication dosing for a child of any age.”

ANS: A

This formula helps determine an approximate first dose for a child that is extrapolated from an adult dose; subsequent doses should be adjusted based on clinical outcome and serum plasma levels. The formula accounts only for differences in weight and not for differences in pharmacokinetic factors. The formula helps determine an effective dose but cannot account for unusual side effects that may occur in children. It may not be effective for all ages because of rapid changes in pharmacokinetics. DIF: Cognitive Level: Comprehension REF: p. 67 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

8. A pediatric nurse is teaching nursing students about medication administration in children. Which statement by a student indicates an understanding of the teaching?
- “Drugs effective in adults may not work in children, even if the dose is proportional for weight and size.”
 - “Infants metabolize drugs more quickly than do older children and adults.”
 - “Side effects of drugs in children are similar to side effects of drugs in adults.”
 - “The known differences in drug effects in children versus those in adults are related to the size of the patient.”

ANS: A

Drugs have different effects in children for many reasons besides simply the amount of drug per unit of weight. Because two-thirds of drugs used in children have never been tested in children, most of our knowledge of their effects is anecdotal and requires research. Infants metabolize drugs more slowly because of immaturity of organ systems that metabolize drugs. Because of differences in metabolism, absorption, and excretion of drugs in infants and children, side effects of drugs also differ. Again, the differences in drug effects are related to many factors, not just size and relative dose. DIF: Cognitive Level: Application REF: p. 65 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

9. A nurse is teaching nursing students about pediatric medication administration. What will the nurse include when discussing pediatric drug research?
- Early studies revealed that less than 10% of drugs known to be effective in adults were effective in children.
 - Research findings show that drug doses may be safely calculated by extrapolating adult dosing.
 - Studies showed a significant percentage of unanticipated and potentially lethal side effects in children.
 - There is no need to continue with pediatric-specific drug research, since early studies were reassuring.

ANS: C

In early studies, about 30% of drugs caused unanticipated side effects, some of them potentially lethal. These same studies revealed that about 20% of drugs were ineffective in children and that about 20% of drugs required doses different from those extrapolated from adult dosing. Because the early studies showed that there is much to learn, the BPCA and PREA were permanently reauthorized by Congress in 2012. DIF: Cognitive Level: Analysis REF: p. 67 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

10. A prescriber has ordered medication for a newborn. The medication is eliminated primarily by hepatic metabolism. The nurse expects the prescriber to:
- order a dose that is lower than an adult dose.
 - order a dose that is higher than an adult dose.
 - increase the frequency of medication dosing.
 - discontinue the drug after one or two doses.

ANS: A

The drug-metabolizing capacity of newborns is low. As a result, neonates are especially sensitive to drugs that are eliminated primarily by hepatic metabolism. When these drugs are used, dosages must be reduced. Because of the decreased ability of hepatic metabolism in the newborn, a lower dose is required, not a higher dose, and the frequency will not be increased. The medication dosage should be adjusted, not discontinued, for the newborn. DIF: Cognitive Level: Application REF: p. 66 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

11. The parents of a child with asthma ask the nurse why their child cannot use oral corticosteroids more often, because they are so effective. The nurse will offer which information that is true for children?
- Chronic steroid use can inhibit growth.
 - Frequent use of this drug may lead to a decreased response.

- c. A hypersensitivity reaction to this drug may occur.
- d. Systemic steroids are more toxic in children.

ANS: A

A specific age-related reaction to a drug is growth suppression caused by glucocorticoids. Children with asthma may need these from time to time for acute exacerbations, but chronic use is not recommended. None of the other three effects occurs in either adults or children. DIF: Cognitive Level: Application REF: p. 67 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 9: Drug Therapy in Geriatric Patients

Test Bank

Multiple Choice

12. A nurse is obtaining a drug history from an older adult patient who is taking multiple medications prescribed by different providers. Which two medications taken together create a reason for concern?
- a. Acetaminophen [Tylenol] and oxycodone
 - b. Amitriptyline [Elavil] and diphenhydramine [Benadryl]
 - c. Fexofenadine [Allegra] and an over-the-counter laxative
 - d. Zolpidem [Ambien] and sertraline [Zoloft]

ANS: B

Both amitriptyline and diphenhydramine are on the BEERS list, amitriptyline for anticholinergic effects and diphenhydramine because it causes blurred vision. Additionally, they both have CNS effects that can compound each other when the drugs are given together. Acetaminophen and oxycodone are both acceptable and may be given together. Fexofenadine is a second-generation antihistamine with fewer side effects, and it is not contraindicated for use with a laxative. Zolpidem is a sedative that has less risk of physical dependence and less risk of confusion, falls, and cognitive impairment; sertraline is a safer antidepressant, because it has a shorter half-life than others. DIF: Cognitive Level: Application REF: p. 71 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

13. A nurse is teaching a group of nursing students about administering medications to older adult patients. Which statement by a student indicates a need for further teaching?
- a. "Alteration in hepatic function requires more frequent drug dosing."
 - b. "Changes in GI function in older adult patients lead to lower serum drug levels."
 - c. "Most adverse drug reactions in older adult patients are related to altered renal function."

- d. “Most nonadherence among older adult patients is intentional.”

ANS: A

Changes in hepatic function in older adult patients lead to decreased metabolism, meaning that drugs metabolized by the liver have prolonged half-lives and should be given less frequently. Altered GI function does not have much effect in this population, but most known effects from this cause are related to poor absorption and less available drug. Alterations in renal function are the cause of most adverse drug effects in the older adult. In most cases, nonadherence to drug regimens is intentional, usually because the patient does not believe that the drug is needed or that the dose prescribed is not necessary. DIF: Cognitive Level: Analysis REF: p. 69 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

14. A nurse is preparing to give medications to four older patients who are all taking multiple medications. Which patient is most likely to have an adverse drug reaction related to increased drug effects?
- Obese patient
 - Patient with decreased serum creatinine
 - Patient with chronic diarrhea
 - Thin patient with a chronically low appetite

ANS: D

The patient who is thin and has a poor appetite has an increased risk of malnutrition, with significant lowering of serum albumin. This can result in increased free drug levels of protein-bound drugs and can lead to drug toxicity. Obesity, which involves increased adipose tissue, would cause lipid-soluble drugs to deposit in adipose tissue, with a resulting reduction of drug effects. Decreased serum creatinine in an older adult patient may just be a function of a decrease in lean body mass and not of renal function. Chronic diarrhea would accelerate the passage of medications through the GI tract and reduce absorption. DIF: Cognitive Level: Analysis REF: p. 69 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

15. A nurse is concerned about renal function in an 84-year-old patient who is taking several medications. What will the nurse assess?
- Creatinine clearance
 - Sodium levels
 - Potassium levels
 - Serum creatinine

ANS: A

The proper index of renal function in older adults is creatinine clearance, which indicates renal function in older patients whose organs are undergoing age-related deterioration. Sodium and

potassium levels are not indicative of renal function. Serum creatinine levels do not reflect kidney function in older adults because lean muscle mass, which is the source of creatinine in serum, declines and may be low even with reduced kidney function. DIF: Cognitive Level: Analysis REF:

p. 70 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

16. A nurse is preparing to teach a forgetful older adult patient about a multiple drug regimen to follow after discharge from the hospital. To help promote adherence, what will the nurse do?

- a. Ask the patient to share the teaching with a neighbor or friend soon after discharge.
- b. Give the patient detailed written information about each drug.
- c. Cluster medication administration times as much as possible.
- d. Make sure the patient understands the actions and side effects of each drug.

ANS: C

Unintentional nonadherence often is the result of confusion and forgetfulness. Grouping medications to reduce the number of medication times per day can simplify the regimen and help the patient remember medication times. Enlisting a neighbor, relative, or friend is a good idea, but this person should be included in the teaching. Asking the patient to share what is learned may not be a reasonable expectation of a forgetful patient. Detailed written information may just be more confusing; verbal and written information should be clear and concise. Making sure the patient understands the actions and side effects of medications helps when intentional nonadherence is an issue, but in this case it may just add to the patient's confusion. DIF: Cognitive Level: Application REF: p. 72 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

17. Based on changes in hepatic function in older adult patients, which adjustment should the nurse expect for oral medications that undergo extensive first pass metabolism?

- a. A higher dose should be used with the same time schedule.
- b. The interval between doses should be increased.
- c. No change is necessary; metabolism will not be affected.
- d. The interval between doses should be reduced.

ANS: B

The interval between doses of the medication should be increased in older adult patients, because drugs that undergo the first pass effect may not be broken down as well as in an individual with full liver function. A higher dose of the medication is not indicated, because toxic effects could occur. A change in administration may be indicated in older adults, because their metabolism is affected. The interval between doses should not be reduced but increased. DIF: Cognitive Level: Application REF: p. 69 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

18. A thin older adult woman is admitted to the hospital after several days of vomiting, diarrhea, and poor intake of foods and fluids. She has not voided since admission. In preparing to care for this patient, the nurse will look for what laboratory values to help guide medication administration?

Select all that apply.

- a. Creatinine clearance
- b. Gastric pH
- c. Plasma drug levels
- d. Serum albumin
- e. Serum creatinine

ANS: A , C , D

Creatinine clearance is the best way to evaluate renal function in the older adult. Plasma drug levels are important for determining if the patient has toxic or subtherapeutic drug levels. Serum albumin may be decreased, especially in patients who are thin, are chronically undernourished, or have been vomiting, and the decreased level may result in higher levels of drugs that normally bind to proteins. Gastric pH is not important; most GI changes result in lowered absorption and less free drug. Serum creatinine levels are related to the amount of lean muscle mass, which may be low in older adult patients, and do not reflect renal function. DIF: Cognitive Level: Application REF: pp. 69-70 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

19. A nurse is reviewing an older adult patient's chart before giving medications. Which patient information is of most concern?

- a. Chronic constipation
- b. Increased body fat
- c. Low serum albumin
- d. Low serum creatinine

ANS: C

Low serum albumin reduces protein binding of drugs and can cause levels of free drug to rise, increasing the risk of toxicity. Altered gastrointestinal (GI) absorption is not a major factor in drug sensitivity in the older adult, although delayed gastric emptying can delay drug responses. Increased body fat can alter drug distribution, causing reduced responses in lipid-soluble drugs, however, it is not the finding of greatest concern to the nurse. Low serum creatinine is a function of decreased lean muscle mass in older patients and does not reflect kidney function or drug excretion. DIF: Cognitive Level: Application REF: p. 69 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

20. A nurse is caring for an older adult patient during the immediate postoperative period after a total hip replacement. The surgeon has ordered meperidine [Demerol] for severe pain. What will the nurse do?

- a. Administer the medication as prescribed and initiate a fall risk protocol.
- b. Ask for a PRN order for diphenhydramine [Benadryl] for the expected side effect of itching.
- c. Request an order for morphine instead of meperidine [Demerol].
- d. Suggest to the surgeon that the patient receive diazepam [Valium] to reduce anxiety and the need for narcotics.

ANS: C

In older adults, meperidine is not effective at usual doses and causes more confusion than in younger patients. Morphine is recommended for severe pain. A fall risk protocol is appropriate, but the drug ordered is not. Diphenhydramine is not recommended for older adult patients, because it causes blurred vision. Both diphenhydramine and diazepam have central nervous system (CNS) sedative effects, which will compound the CNS effects of the narcotic. Diazepam also produces prolonged sedation in older adults. DIF: Cognitive Level: Application REF: p. 71 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

21. The nurse is teaching a group of nursing students about adherence to medication in older adults. Which statement by a student indicates understanding of the teaching?
- a. "An inability to pay for medications contributes to most intentional non-adherence among older adults."
 - b. "Most issues associated with non-adherence among older adults would be resolved with simplified drug regimens."
 - c. "Most non-adherence in older adults results in drug toxicity and adverse drug effects."
 - d. "A majority of older patients who do not adhere to drug regimens do so intentionally."

ANS: D

Intentional non-adherence is common. It accounts for 75% of non-adherence among older adults and may occur because older adult patients are not convinced that drugs are needed or that the dose prescribed is correct. The inability to pay for medications and complicated drug regimens result in non-intentional non-adherence. Although non-adherence may result in therapeutic failure and drug toxicity, subtherapeutic dosing is by far the most common result. DIF: Cognitive Level: Analysis REF: p. 72 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

22. A nurse is making a home visit to an older adult woman who was recently discharged home from the hospital with a new prescription. The nurse notes that a serum drug level drawn the day before was subtherapeutic. What will the nurse do next?
- a. Ask the patient if she has difficulty swallowing pills.
 - b. Count the pills in the prescription bottle.
 - c. Notify the provider to request more frequent dosing.

- d. Request an order for renal function tests.

ANS: B

Intentional non-adherence is common and may occur because older adult patients are not convinced that drugs are needed or that the dose prescribed is correct. Counting the pills would be an appropriate first step as the nurse determines the cause of the low serum drug level, because it provides information about adherence. If the pill count is correct and the patient has taken the drug as prescribed, other causes may have to be investigated. If it is clear that the patient has not been taking enough of the medication, asking about her ability to swallow may be a good follow-up question. The last two options would be steps to discuss with the provider if the patient is taking the medication as prescribed. DIF: Cognitive Level: Application REF: p. 72 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

23. An older adult patient is admitted to the hospital for treatment of an exacerbation of a chronic illness. Admission laboratory work reveals an extremely low serum drug level of the drug used to treat this condition. The patient has brought the medication to the hospital, along with other medications taken. The patient's renal and hepatic function tests are normal. What might the nurse suspect as a likely cause of this finding?
- a. Financial concerns
 - b. Inability to open drug containers
 - c. Increased tolerance to the drug's effects
 - d. Patient's conviction that the drug is unnecessary

ANS: A

Older adult patients who have financial concerns about paying for medications often take less of the drug or take it less often to make the drug last longer. A patient unable to open the drug container would not get any medication and would not have a detectable serum drug level. A patient with increased tolerance to a drug's effects would require more of the drug to get effects. A patient convinced that the drug is not needed would probably not fill the prescription. DIF: Cognitive Level: Analysis REF: p. 72 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 10: Basic Principles of Neuropharmacology

Test Bank

Multiple Choice

24. A nursing student asks about drugs that interfere with the termination of transmitter action. Which statement by the nurse is correct?
- “Drugs act on this process by altering the diffusion of the transmitter away from the synaptic gap.”
 - “Drugs can interfere with termination by either increasing or decreasing reuptake of the transmitter.”
 - “Drugs in this category lead to decreased activation by the transmitter in the synapse.”
 - “These drugs reduce either reuptake or degradation of the transmitter, causing an increase in receptor activation.”

ANS: D

Drugs that interfere with termination of transmitter action do so by blocking transmitter reuptake or inhibiting transmitter degradation, resulting in increased receptor activation, because more of the transmitter remains available. Diffusion of the transmitter occurs naturally, but it is a slow process with little clinical significance. Drugs that alter this process cause a decrease in reuptake, not an increase. The effect of drugs that interfere with termination of transmitter action is increased activation. DIF: Cognitive Level: Application REF: p. 76 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

25. A nurse is teaching a group of nursing students about neuropharmacology. Which statement by a student about peripheral nervous system (PNS) drugs indicates a need for further teaching?
- “Drugs affecting axonal conduction have a variety of uses.”
 - “Drugs that alter synaptic transmission can be highly selective.”
 - “Many PNS drugs act by altering synaptic transmission.”
 - “These drugs work by influencing receptor activity.”

ANS: A

Local anesthetics are drugs that work by altering axonal conduction. Any drug affecting axonal conduction would be nonselective, because axonal conduction of impulses is essentially the same in all neurons. In contrast, drugs that affect synaptic transmission can be highly selective, because each transmitter has different effects on receptor sites. Most PNS drugs work on synaptic transmission processes. Through their effects on transmitters, they influence receptor activity. DIF: Cognitive Level: Analysis REF: pp. 73-74 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

26. A nurse is preparing to administer a medication and learns that it is a nonselective agonist drug. What does the nurse understand about this drug?
- It directly activates receptors to affect many physiologic processes.
 - It directly activates receptors to affect a specific physiologic process.

- c. It prevents receptor activation to affect many physiologic processes.
- d. It prevents receptor activation to affect a specific physiologic processes.

ANS: A

Drugs that directly activate receptors are called agonists, so this drug will directly activate the receptor site. Drugs that are nonselective activate a variety of receptor sites. A selective agonist would directly activate specific receptors to affect a specific process. An antagonist would prevent receptor activation. DIF: Cognitive Level: Analysis REF: p. 76 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

27. A patient has allergies and takes an antihistamine. The patient wants to know how the drug works. The nurse understands that antihistamines work because they are what?
- a. Activators
 - b. Agonists
 - c. Antagonists
 - d. Antidotes

ANS: C

Antihistamines bind to receptors to prevent activation by histamine; this makes antihistamines antagonist drugs. Antihistamines do not activate receptors. Agonist drugs activate receptors; they are not antidotes. DIF: Cognitive Level: Application REF: p. 76 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

28. A patient receiving botulinum toxin injections to control muscle spasticity asks how the drug works. The nurse knows that this drug affects the transmitter acetylcholine by:
- a. inhibiting its release.
 - b. interfering with its storage.
 - c. preventing its reuptake.
 - d. promoting its synthesis.

ANS: A

Acetylcholine is a neurotransmitter that activates receptors that increase skeletal muscle contraction. Botulinum toxin inhibits the release of this transmitter. It does not interfere with storage, reuptake, or synthesis of acetylcholine. DIF: Cognitive Level: Application REF: p. 76 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

29. A nurse is administering drug X to a patient. The drug information states that the drug acts by activating receptors in the peripheral nervous system by increasing transmitter synthesis. The nurse understands that the effect of this drug is to:
- activate axonal conduction.
 - enhance transmitter storage.
 - increase receptor activation.
 - synthesize supertransmitters.

ANS: C

Drugs that increase transmitter synthesis increase receptor activation. Other drugs that alter transmitter synthesis can decrease synthesis and would cause decreased receptor activation. Drugs that affect transmitter production do not exert their effects on axonal conduction. The amount of transmitter produced does not directly affect transmitter storage. Some drugs that alter transmitter synthesis cause the synthesis of transmitter molecules that are more effective than the transmitter itself; however, this is not accomplished by increasing transmitter synthesis. DIF: Cognitive Level: Application REF: p. 77 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

30. A patient receives morphine and shows signs of toxicity. The prescriber orders naloxone [Narcan] to reverse the effects of the morphine. The nurse understands that the naloxone reverses morphine toxicity by which action on morphine receptor sites?
- Blocking transmitter reuptake
 - Inhibiting transmitter release
 - Interfering with transmitter storage
 - Preventing activation of receptors

ANS: D

Morphine and its antagonist, naloxone, act directly at the same receptors. Morphine causes activation, and naloxone prevents activation. Neither morphine nor naloxone acts to alter transmitter reuptake, release, or storage. DIF: Cognitive Level: Comprehension REF: p. 76 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

31. A nurse learns about a drug that interferes with transmitter storage in the PNS. The transmitter affected by this drug causes an increased heart rate. What response will the nurse expect to see when this drug is administered?
- Bradycardia
 - Positive inotropic effects
 - Prolonged receptor activation
 - Tachycardia

ANS: A

Drugs that interfere with transmitter storage reduce receptor activation, because disruption of storage decreases the amount of transmitter available for release. Because this transmitter increases the heart rate, the result will be a decrease in the heart rate. Inotropic effects control the force of contraction, not the rate of contraction. Decreased transmitter storage would result in decreased receptor activation. Tachycardia would occur if transmitter availability were increased. DIF: Cognitive Level: Application REF: p. 77 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 11: Physiology of the Peripheral Nervous System

Test Bank

Multiple Choice

32. What is the target organ when a beta1 agonist is administered?

- a. Heart
- b. Kidney
- c. Respiratory
- d. Liver

ANS: A

A beta1 agonist increases the patient's heart rate and blood pressure and is used in heart failure. Beta1 agonists would not be used for kidney, respiratory, or liver failure. DIF: Cognitive Level: Knowledge REF: pp. 88 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

33. A nurse is teaching a group of nursing students about neurotransmitters. Which statement by a student about acetylcholine indicates a need for further teaching?

- a. "It activates three cholinergic receptor subtypes."
- b. "It has effects in the parasympathetic, sympathetic, and somatic nervous systems."
- c. "It is used at most junctions of the peripheral nervous system."
- d. "Its transmission is terminated by reuptake into the cholinergic nerve terminal."

ANS: D

Acetylcholine (ACh) is destroyed by acetylcholinesterase, an enzyme that degrades ACh into two inactive products: acetate and choline. Choline is taken up into the nerve terminal. ACh activates three receptor sites: nicotinicN, nicotinicM, and muscarinic. ACh has effects throughout the peripheral nervous system (PNS) and is used at most junctions in the PNS. DIF: Cognitive Level:

AnalysisREF: pp. 90TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

34. A nurse is administering an agonist drug that acts on postganglionic neurons of the sympathetic nervous system. Which response will the nurse expect to see?
- Decreased sweating
 - Bronchodilation
 - Increased cardiac output
 - Pinpoint pupils

ANS: C

Norepinephrine (NE) is the most common neurotransmitter released by all postganglionic neurons of the sympathetic nervous system except those going to sweat glands where ACh is the neurotransmitter. NE acts on alpha1, alpha2, and beta1 receptors to increase the force and rate of cardiac contraction, thus increasing cardiac output. ACh would increase sweating. Bronchodilation occurs when epinephrine activates beta2 receptors on bronchial smooth muscle. NE affects alpha1 receptors to dilate the pupils.DIF: Cognitive Level: ApplicationREF: pp. 79TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

35. A nurse is teaching a patient about a medication that alters sympathetic nervous system functions. To evaluate understanding, the nurse asks the patient to describe which functions the sympathetic nervous system regulates. Which answer indicates the need for further teaching?
- “The digestive functions of the body”
 - “The cardiovascular system”
 - “The fight-or-flight response”
 - “Body temperature”

ANS: A

The sympathetic nervous system does not regulate digestive functions of the body—the parasympathetic nervous system does; further education is needed. The sympathetic nervous system regulates the cardiovascular system, the fight-or-flight response, and the body temperature; no further education is needed.DIF: Cognitive Level: AnalysisREF: pp. 79TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

36. A patient is wheezing and short of breath. The nurse assesses a heart rate of 88 beats/minute, a respiratory rate of 24 breaths/minute, and a blood pressure of 124/78 mm Hg. The prescriber orders a nonspecific beta agonist medication. Besides evaluating the patient for a reduction in respiratory distress, the nurse will monitor for which side effect?

- a. Hypotension
- b. Tachycardia
- c. Tachypnea
- d. Urinary retention

ANS: B

Beta agonists are used for asthma because of their beta2 effects on bronchial smooth muscle, causing dilation. Beta1 effects cause tachycardia and hypertension. Beta receptors do not exert effects on the bladder. DIF: Cognitive Level: Application REF: pp. 88 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

37. Many medications list side effects that include dry mouth, constipation, and urinary retention. What kinds of effects are these?

- a. Alpha adrenergic
- b. Anticholinergic
- c. Beta adrenergic
- d. Sympathetic

ANS: B

Cholinergic stimulation by ACh causes increased salivation, increased gastrointestinal (GI) motility, and relaxation of the bladder trigone and sphincter. Anticholinergic medications inhibit these responses, causing dry mouth, constipation, and urinary retention. Alpha-adrenergic agents effect processes in the sympathetic nervous system, causing peripheral vasoconstriction and pupil dilation, among other effects. The effects of beta-adrenergic medications are seen mostly in the heart and blood vessels. The sympathetic nervous system has both cholinergic and adrenergic transmitters. DIF: Cognitive Level: Analysis REF: pp. 87 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

38. A patient is to receive a beta agonist. Before administration of this medication, which assessment finding would most concern the nurse?

- a. Pulse oximetry reading of 88%
- b. Blood pressure of 100/60 mm Hg
- c. Respiratory rate of 28 breaths/minute
- d. Heart rate of 110 beats/minute

ANS: D

A beta agonist dilates respiratory smooth muscle, but as a side effect, it can stimulate the heart. A heart rate of 110 beats/minute is a concern, because this medication may further increase the already elevated heart rate. A pulse oximetry reading of 88% is a concern, but the medication causes bronchodilation and increased oxygenation; this should increase the pulse oximetry

reading. A blood pressure of 100/60 mm Hg is on the low side, but this medication may actually cause an increase in blood pressure as a side effect; this should not concern the nurse before administration of the medication. A respiratory rate of 28 breaths/minute is elevated; however, this medication should increase oxygenation by bronchodilation, and the patient's respiratory rate should decrease once oxygenation has improved. Therefore, this should not concern the nurse. DIF: Cognitive Level: Application REF: pp. 88 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

39. A nurse is explaining activation of beta2 receptors to nursing students during a clinical rotation at the hospital. Which statement by a student demonstrates a need for further teaching?
- “Beta2 activation results in bronchodilation.”
 - “Beta2 activation results in contraction of uterine muscle.”
 - “Beta2 activation results in glycogenolysis.”
 - “Beta2 activation results in vasodilation of skeletal muscles.”

ANS: B

Beta2 activation would result in relaxation of uterine smooth muscle, not contraction; this statement indicates a need for further teaching. Bronchodilation is an effect of beta2 activation; no further teaching is needed. Beta2 activation does result in glycogenolysis; no further teaching is needed. Beta2 activation does result in vasodilation of skeletal muscle; no further teaching is needed. DIF: Cognitive Level: Analysis REF: pp. 88 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

40. A pregnant patient is in premature labor. Which class of drug will she be given?
- Alpha1 agonist
 - Anticholinergic
 - Beta2 agonist
 - Beta2 antagonist

ANS: C

Beta2 agonists cause relaxation of uterine muscle, slowing or stopping the contractions that precipitate labor. An alpha1 agonist would have effects on the heart and arterioles. Anticholinergic drugs generally are given for their effects on the urinary and GI tracts and do not affect uterine muscle. A beta2 antagonist would cause increased constriction of uterine muscle. DIF: Cognitive Level: Application REF: pp. 88 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies
Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 12: Muscarinic Agonists and Antagonists

Test Bank

Multiple Choice

41. A prescriber has ordered bethanechol [Urecholine] for a postoperative patient who has urinary retention. The nurse reviews the patient's chart before giving the drug. Which part of the patient's history would be a contraindication to using this drug?
- Asthma as a child
 - Gastroesophageal reflux
 - Hypertension
 - Hypothyroidism

ANS: A

Bethanechol is contraindicated in patients with active or latent asthma, because activation of muscarinic receptors in the lungs causes bronchoconstriction. It increases the tone and motility of the gastrointestinal (GI) tract and is not contraindicated in patients with reflux. It causes vasodilation and would actually lower blood pressure in a hypertensive patient. It causes dysrhythmias in hyperthyroid patients. DIF: Cognitive Level: Application REF: p. 94 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

42. Bethanechol [Urecholine] is used to treat urinary retention but is being investigated for use in which other condition?
- Gastric ulcers
 - Gastroesophageal reflux
 - Hypotension
 - Intestinal obstruction

ANS: B

Bethanechol is being investigated for the treatment of gastroesophageal reflux disease (GERD) because of its effects on esophageal motility and the lower esophageal sphincter. Bethanechol stimulates acid secretion and could intensify ulcer formation. Bethanechol can cause hypotension. Because bethanechol increases the motility and tone of intestinal smooth muscle, the presence of an obstruction could lead to bowel rupture. DIF: Cognitive Level: Application REF: p. 93 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

43. An older adult patient who lives alone and is somewhat forgetful has an overactive bladder (OAB) and reports occasional constipation. The patient has tried behavioral therapy to treat the OAB without adequate results. Which treatment will the nurse anticipate for this patient?
- Oxybutynin short-acting syrup
 - Oxybutynin [Ditropan XL] extended-release tablets

- c. Oxybutynin [Oxytrol] transdermal patch
- d. Percutaneous tibial nerve stimulation (PTNS)

ANS: C

The transdermal patch is applied weekly and may be the best option for a patient who is more likely to forget to take a daily medication. The transdermal preparation has fewer side effects than the systemic dose, so it is less likely to increase this patient's constipation. The syrup has a high incidence of dry mouth and other anticholinergic side effects. The extended-release tablets must be given daily, and this patient may not remember to take them. PTNS is used after behavioral and drug therapies have failed. DIF: Cognitive Level: Analysis REF: p. 104 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

44. A nurse is helping a nursing student who is administering a medication to a patient with myasthenia gravis. Which statement by the student indicates the need for further teaching?
- a. "I will ask the patient to sip some water before giving the medication."
 - b. "I will let the patient sleep after giving the medication, because rest is important."
 - c. "I will record muscle strength assessments before and after I give the medication."
 - d. "I will report excessive salivation to the patient's prescriber."

ANS: B

An important assessment indicating the medication's effectiveness is evaluating a patient's ability to raise the eyelids. Letting the patient sleep, even though rest is important, would prevent the nurse from making this assessment. To make sure the patient can safely swallow a pill, the nurse must evaluate swallowing ability by asking the patient to take a sip of water. Muscle strength assessments before and after medication administration help the nurse evaluate the medication's effectiveness. Excessive salivation may be a sign of drug toxicity and should be reported. DIF: Cognitive Level: Application REF: p. 98 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

45. A patient is experiencing toxic side effects from atropine, including delirium and hallucinations. Which medication will the nurse expect to administer?
- a. Donepezil [Aricept]
 - b. Edrophonium [Reversol]
 - c. Neostigmine [Prostigmin]
 - d. Physostigmine

ANS: D

Physostigmine is the drug of choice for treating poisoning from atropine and other drugs that cause muscarinic blockade. Donepezil is used to treat Alzheimer disease. Edrophonium is used to distinguish between a myasthenic crisis and a cholinesterase inhibitor overdose. Neostigmine does not cross the blood-brain barrier and would not effectively treat this patient's CNS symptoms. DIF:

Cognitive Level: Application REF: p. 96 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

46. A prescriber has ordered pilocarpine [Pilocar]. A nurse understands that the drug stimulates muscarinic receptors and would expect the drug to have which action?
- Reduction of excessive secretions in a postoperative patient
 - Lowering of intraocular pressure in patients with glaucoma
 - Inhibition of muscular activity in the bladder
 - Prevention of hypertensive crisis

ANS: B

Pilocarpine is a muscarinic agonist used mainly for topical therapy of glaucoma to reduce intraocular pressure. Pilocarpine is not indicated for the treatment of excessive secretions and mucus; in fact, pilocarpine is used to treat dry mouth. Pilocarpine does not inhibit muscular activity in the bladder. Pilocarpine is not used to prevent hypertensive crisis. DIF: Cognitive Level: Application REF: p. 94 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

47. A nurse is caring for a patient who has myasthenia gravis. The prescriber has ordered neostigmine [Prostigmin]. An important initial nursing action before administration of the medication includes assessing:
- the ability to raise the eyelids.
 - level of fatigue.
 - skeletal muscle strength.
 - swallowing ability.

ANS: D

Many patients hospitalized for myasthenia gravis do not have the muscle strength to swallow well and need a parenteral form of the medication; therefore, assessing the patient's ability to swallow is an important initial safety measure. Evaluating the patient's ability to raise the eyelids, level of fatigue, and skeletal muscle strength are important assessments before drug administration and during drug treatment, because they indicate the effectiveness of the drug and help determine subsequent doses. DIF: Cognitive Level: Application REF: p. 97 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

48. A patient who has myasthenia gravis will be taking neostigmine [Prostigmin]. What will the nurse emphasize when teaching this patient about the medication?
- "Stop taking the drug if you have diarrhea."
 - "Take a supplementary dose before exercise."

- c. "Use atropine if you have excessive salivation."
- d. "Withhold the dose if ptosis occurs."

ANS: B

Neostigmine doses must be adjusted continually, and patients usually need supplemental doses before exertion; therefore, patients must be taught how to modify doses as needed. Increased gastrointestinal (GI) secretions can cause loose stools; this is a known adverse effect that does not warrant stopping the drug. Atropine will help with excessive salivation but should not be used routinely, because it can mask the early signs of anticholinesterase overdose. Ptosis is one of the symptoms of myasthenia gravis and is an indication for taking neostigmine. DIF: Cognitive Level: Application REF: p. 98 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

49. A patient who has esophageal cancer is experiencing dry mouth and the provider orders oral pilocarpine to treat this symptom. What will the nurse expect to teach this patient about this medication?
- a. "This medication may cause rapid heart rate and elevated blood pressure."
 - b. "This medication may cause constipation and gastric discomfort in large doses."
 - c. "You should experience sweating with this medication and should not have other side effects."
 - d. "You will begin taking 5 mg three times daily and may increase the dose to 10 mg."

ANS: D

The dosing for pilocarpine, when used for dry mouth associated with head and neck cancers, is 5 mg three times daily, which may be titrated up to 10 mg three times daily. Tachycardia and constipation are side effects of atropine. Sweating occurs with low doses of pilocarpine. Higher doses, such as this, are associated with the full range of muscarinic effects. DIF: Cognitive Level: Application REF: p. 93 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 13: Adrenergic Agonists

Test Bank

Multiple Choice

50. A nursing student asks the nurse about receptor specificity of adrenergic agonist medications. What will the nurse say?
- a. "As the dosage of these medications increases, drugs in this class are more selective."

- b. "Dopamine is selective for dopamine receptors and has no effects on alpha or beta receptors."
- c. "Epinephrine is the most selective alpha-adrenergic agonist medication."
- d. "Specificity is relative and is dose dependent."

ANS: D

Receptor specificity is relative, is not absolute, and is dose dependent. At low doses, selectivity is maximal, and selectivity declines as the dose increases. Dopamine is the only drug in this class that acts on dopamine receptors, but it also has effects on alpha and beta receptors. Epinephrine is the least selective of this class. DIF: Cognitive Level: Analysis REF: pp. 110 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

51. A nurse is teaching parents how to use an Epi-Pen for their child, who has a peanut allergy. Which statement by the parents indicates understanding of the teaching?

- a. "After using the Epi-Pen, we must go to the emergency department."
- b. "The Epi-Pen should be stored in the refrigerator, because epinephrine is sensitive to heat."
- c. "The teacher should call us when symptoms start so that we can bring the Epi-Pen to school."
- d. "We should jab the device into the thigh until it is empty of solution."

ANS: A

After using the Epi-Pen, it is important that the individual get medical attention as quickly as possible. The effects of epinephrine fade in 10 to 20 minutes, and the anaphylactic reaction can be biphasic and prolonged. Epinephrine is sensitive to heat, but storing the device in the refrigerator can compromise the injection mechanism; the device should be stored at room temperature in a dark place. Individuals who need an Epi-Pen must have the device with them at all times; any delay in treatment can be fatal, because anaphylaxis can occur within minutes after exposure. The Epi-Pen contains 2 mL of epinephrine, but only 0.3 mL is injected; the device will not be empty with a successful injection. DIF: Cognitive Level: Application REF: pp. 116 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

52. A nursing student asks the nurse why epinephrine, and not other adrenergic agonists, is used to treat anaphylactic shock. What will the nurse tell the student?

- a. "Epinephrine is the only adrenergic agonist that may be given parenterally."
- b. "Epinephrine has the ability to activate multiple types of adrenergic receptors."
- c. "Other adrenergic agonists have more severe adverse effects and are not safe in the doses needed to treat anaphylaxis."
- d. "Other adrenergic agonists have little or no effects on beta₂-adrenergic receptors."

ANS: B

Epinephrine is used to treat anaphylactic shock because of its ability to activate multiple adrenergic receptor types. Activation of beta1 receptors helps to increase cardiac output and improve blood pressure as well as suppress glottal edema. Activation of beta2 receptors helps to counteract bronchoconstriction. Activation of alpha1 receptors also causes vasoconstriction, which improves blood pressure. Isoproterenol may also be given parenterally but does not activate multiple receptor types. Other adrenergic agonists, such as albuterol, are more specific to beta2 receptors and have fewer side effects. DIF: Cognitive Level: Application REF: pp. 114 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

53. Dopamine is administered to a patient who has been experiencing hypotensive episodes. Other than an increase in blood pressure, which indicator would the nurse use to evaluate a successful response?
- Decrease in pulse
 - Increase in urine output
 - Weight gain
 - Improved gastric motility

ANS: B

Dopamine would cause an increase in urine output, because cardiac output is increased as a result of the increase in blood pressure. The effectiveness of dopamine would not be measured by a decrease in pulse, because dopamine's primary effect is to increase blood pressure. Dopamine's effectiveness would not be evaluated by a weight gain. Dopamine's effectiveness would not be evaluated by improved gastric motility. DIF: Cognitive Level: Application REF: pp. 119 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

54. A nursing student asks why albuterol, which is selective for beta2 receptors, causes an increased heart rate in some patients. How should the nurse respond?
- "Adrenergic agonists can lose their selectivity when given at higher doses."
 - "Bronchodilation lowers blood pressure, which causes a reflex tachycardia."
 - "Some patients metabolize the drug differently and have unusual side effects."
 - "Systemic effects are intensified with inhaled doses."

ANS: A

Although albuterol affects the beta2 receptors, at higher doses it may also activate beta1 receptors, causing an increase in the heart rate. Bronchodilation does not lower the blood pressure, and activation of beta1 receptors actually may increase it. Tachycardia is a common side effect. The inhaled route reduces the likelihood of systemic side effects. DIF: Cognitive Level: Application REF: pp. 118 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

55. Because they cause vasoconstriction, alpha1-adrenergic agonists are especially useful for:

- a. causing hemostasis in skin and mucous membranes.
- b. producing mydriasis to facilitate ophthalmic examinations.
- c. slowing the heart rate in tachycardic patients.
- d. treating hypotension.

ANS: A

The vasoconstrictive effects of alpha1-adrenergic agonists, such as epinephrine, help produce hemostasis in skin and mucous membranes. These agents can increase blood pressure but are not the primary drugs used except in emergency situations. Alpha1 receptors in the radial muscles of the iris, not vasoconstriction, cause mydriasis. Reflex bradycardia is a side effect and not a clinical use of these agents. DIF: Cognitive Level: Application REF: pp. 112 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

56. A nurse is teaching a nursing student about the two classes of adrenergic agonist drugs. Which statement by the nursing student indicates understanding of the teaching?

- a. "Catecholamines may be given orally."
- b. "Catecholamines often require continuous infusion to be effective."
- c. "Noncatecholamines do not cross the blood-brain barrier."
- d. "Noncatecholamines undergo rapid degradation by monoamine oxidase."

ANS: B

Catecholamines undergo rapid degradation by monoamine oxidase (MAO) and catechol-O-methyltransferase (COMT). Consequently, they have a brief duration of action, and continuous infusion often is required to maintain the drug's effects. Catecholamines cannot be used orally. Catecholamines do not cross the blood-brain barrier; noncatecholamines do. Noncatecholamines are not degraded by MAO. DIF: Cognitive Level: Analysis REF: pp. 110 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

57. A patient with asthma uses albuterol [Ventolin] for wheezing. The nurse assesses the patient and notes vital signs of HR, 96 beats/minute; RR, 18 breaths/minute; and BP, 116/78 mm Hg. The patient has clear breath sounds and hand tremors. What will the nurse do?

- a. Ask the patient how often the inhaler is used.
- b. Check the patient's blood glucose level.
- c. Request an order for isoproterenol [Isuprel] to reduce side effects.
- d. Stop the medication and report the tremors to the provider.

ANS: A

Tachycardia is a response to activation of beta1 receptors. It can occur when large doses of albuterol are used and selectivity decreases. The nurse should question the patient about the number of inhalations used. Isoproterenol can cause hyperglycemia in diabetic patients. Isoproterenol has more side effects than albuterol. Tremors are an expected side effect and are not an indication for stopping the drug. DIF: Cognitive Level: Application REF: pp. 118 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

58. A nurse is administering intravenous dopamine [Intropin] to a patient in the intensive care unit. Which assessment finding would cause the most concern?
- Blood pressure of 100/70 mm Hg
 - Increased urine output
 - Edema at the IV insertion site
 - Headache

ANS: C

The nurse would be concerned if the patient's peripheral IV were edematous, because this could signal infiltration of the solution into the tissues. Dopamine can cause necrosis if it extravasates. Dopamine is indicated to increase the patient's blood pressure; this blood pressure reading is acceptable. When dopamine is effective at increasing cardiac output, it also causes an increase in urine output. Headache is not a contraindication to the use of dopamine. DIF: Cognitive Level: Application REF: pp. 117 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

59. A patient is receiving dobutamine [Dobutrex] as a continuous infusion in the immediate postoperative period. The patient also is receiving a diuretic. What adverse drug reactions are possible in this patient?
Select all that apply.
- Angina
 - Dysrhythmias
 - Hypotension
 - Oliguria
 - Tachycardia

ANS: A , B , E

Angina, dysrhythmias, and tachycardia are the most common adverse effects of dopamine; general anesthetics can increase the likelihood of dysrhythmias. Dopamine elevates blood pressure by increasing cardiac output. Diuretics complement the beneficial effects of dopamine on the kidney, so urine output would be increased, not decreased. DIF: Cognitive Level: Application REF: pp. 119 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

60. A patient brought to the emergency department requires sutures. The prescriber orders a local anesthetic with epinephrine. The nurse understands that epinephrine is ordered to:
- prevent hypertension induced by the anesthetic.
 - allow a reduced dose of the anesthetic.
 - reduce anesthetic-induced nausea.
 - reduce the pain of an injection.

ANS: B

Epinephrine prolongs absorption of the anesthetic, because it is an alpha1 agonist. It is frequently combined with a local anesthetic for this purpose, so that the amount of anesthetic required may be reduced. Local anesthetics do not induce hypertension; therefore, epinephrine would not be needed to prevent it. Epinephrine does not act as an antiemetic and would not reduce anesthetic-induced nausea. Epinephrine is not used to reduce the pain of an injection. DIF: Cognitive Level: Analysis REF: pp. 112 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

61. A patient is admitted to the intensive care unit for treatment of shock. The prescriber orders isoproterenol [Isuprel]. The nurse expects this drug to increase tissue perfusion in this patient by activating:
- alpha1 receptors to cause vasoconstriction.
 - alpha1 receptors to increase blood pressure.
 - beta1 receptors to cause a positive inotropic effect.
 - beta2 receptors to cause bronchodilation.

ANS: C

Isoproterenol is used for shock because of its actions on beta1 receptors in the heart. It has a positive inotropic effect, which improves cardiac output and thus increases tissue perfusion. Isoproterenol does not affect alpha1 receptors. Although it activates beta2 receptors to cause bronchodilation, this is not indicated for the treatment of shock. DIF: Cognitive Level: Application REF: pp. 117 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 14: Adrenergic Antagonists

Test Bank

Multiple Choice

62. A patient with pheochromocytoma is admitted for surgery. The surgeon has ordered an alpha- blocking agent to be given preoperatively. What does the nurse understand about this agent?
- It is ordered to prevent perioperative hypertensive crisis.
 - It prevents secretion of catecholamines by the adrenal tumor.
 - It reduces contraction of smooth muscles in the adrenal medulla.
 - It is given chronically after the surgery to prevent hypertension.

ANS: A

Manipulation of the adrenal tumor in patients with pheochromocytoma can cause a massive catecholamine release. Alpha-adrenergic antagonists are given to reduce the risk of acute hypertension during surgery. These agents do not prevent secretion of catecholamines; they block catecholamine receptor sites. They do not act on the tissue of the adrenal medulla. They are given chronically in patients who have inoperable tumors. DIF: Cognitive Level: Application REF: pp. 122 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

63. A patient with type 1 diabetes is taking NPH insulin, 30 units every day. A nurse notes that the patient is also taking metoprolol [Lopressor]. What education should the nurse provide to the patient?
- “Metoprolol has no effect on diabetes mellitus or on your insulin requirements.”
 - “Metoprolol interferes with the effects of insulin, so you may need to increase your insulin dose.”
 - “Metoprolol may mask signs of hypoglycemia, so you need to monitor your blood glucose closely.”
 - “Metoprolol may potentiate the effects of the insulin, so the dose should be reduced.”

ANS: C

Because metoprolol may mask the signs of hypoglycemia, the patient should monitor the blood glucose closely and report changes to the prescriber. Metoprolol does have an indirect effect on diabetes mellitus and/or insulin requirements in that it may mask the signs of hypoglycemia, causing the patient to make a healthcare decision based on the drug-to-drug interaction rather than actual physiologic factors. The patient should not increase the insulin, because metoprolol will cause a decrease in blood glucose, increasing the risk of a hypoglycemic reaction. The patient should not reduce the dose of insulin when taking metoprolol, because this might alter serum glucose levels. DIF: Cognitive Level: Application REF: pp. 129 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

64. A nurse is caring for a newborn 1 day after delivery. The infant’s mother used betaxolol during pregnancy. The nurse will expect to monitor this infant for which condition?
- Hyperglycemia

- b. Hyperthyroidism
- c. Respiratory distress
- d. Tachycardia

ANS: C

Use of beta blockers during pregnancy can affect a newborn for several days after birth. Newborns are at risk for bradycardia, respiratory distress, and hypoglycemia. Hyperglycemia, hyperthyroidism, and tachycardia are not expected residual effects. DIF: Cognitive Level: Application REF: pp. 126 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

65. A patient with migraines is started on a beta blocker. The nurse explains the benefits of taking the medication for migraines. Which statement by the patient indicates an understanding of the medication's effects?
- a. "I need to take it every day to reduce the frequency of migraines."
 - b. "I will take it as needed to get relief from migraines."
 - c. "I will take it to shorten the duration of my migraines."
 - d. "I will take this drug when a migraine starts."

ANS: A

When taken prophylactically, beta blockers can reduce the frequency of migraine attacks. Beta blockers do not provide complete relief from migraines. They do not reduce the duration of migraines. They are not effective for treating a migraine once the migraine has begun. DIF: Cognitive Level: Application REF: pp. 125 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

66. A nurse is discussing phentolamine [OraVerse] with a nursing student. Which statement by the student indicates the need for further teaching?
- a. "Phentolamine can be used to block both epinephrine- and norepinephrine-mediated vasoconstriction."
 - b. "Phentolamine can be used to prevent tissue necrosis after extravasation of drugs such as norepinephrine."
 - c. "Phentolamine is a competitive adrenergic agonist that acts selectively on alpha 1 receptors."
 - d. "Side effects of phentolamine may include tachycardia and hypotension."

ANS: C

Phentolamine has actions on both alpha1 and alpha2 receptors; it is not selective for alpha1 receptors only. It blocks both epinephrine- and norepinephrine-mediated vasoconstriction. It is used to prevent tissue necrosis after extravasation of drugs such as norepinephrine and other drugs that produce alpha1-mediated vasoconstriction. Side effects include tachycardia and hypotension. DIF: Cognitive Level: Analysis REF: pp. 124 TOP: Nursing Process: Planning

MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

67. The nurse assesses a patient who has been given phentolamine [OraVerse] to treat pheochromocytoma. The nurse notes a blood pressure of 76/52 mm Hg and a heart rate of 90 beats/minute. Which action by the nurse is correct?
- Contact the provider to request an order for epinephrine.
 - Continue to monitor the patient's vital signs and notify the provider if the heart rate increases.
 - Notify the provider and request an order for a beta blocker.
 - Notify the provider and request an order for norepinephrine.

ANS: D

Phentolamine can cause orthostatic hypotension, reflex tachycardia, nasal congestion, and inhibition of ejaculation. Overdose can produce profound hypotension. When this occurs, blood pressure can be elevated with norepinephrine. Epinephrine should not be used because, in the presence of alpha1 blockade, the ability of epinephrine to promote vasodilation by activation of beta2 receptors may outweigh its ability to cause vasoconstriction, causing further lowering of blood pressure. Norepinephrine does not activate beta2 receptors. Beta blockers may be used to treat severe reflex tachycardia. This patient has significant hypotension, so it is not correct to continue to monitor without notifying the provider. DIF: Cognitive Level: Application REF: pp. 124 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

68. Which are conditions that may be treated using beta blockers?
Select all that apply.

- Cardiac dysrhythmias
- Heart failure
- Hypotension
- Hypothyroidism
- Stage fright

ANS: A , B , E

Beta blockers are used to treat cardiac dysrhythmias, heart failure, and stage fright. They are used to treat hypertension and hyperthyroidism. DIF: Cognitive Level: Application REF: pp. 124 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

69. Which are adverse effects of alpha blockade?
Select all that apply.

- a. Hypertension
- b. Reflex tachycardia
- c. Nasal congestion
- d. Ejaculation
- e. Hypernatremia

ANS: B , C , E

Adverse effects of alpha blockade include reflex tachycardia, nasal congestion, and hypernatremia. Other adverse effects include orthostatic hypotension and inhibition of ejaculation. Hypertension and ejaculation are not adverse effects of alpha blockade. DIF: Cognitive Level: Application REF: pp. 122 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

70. The nurse is discussing home management with a patient who will begin taking an alpha-adrenergic antagonist for hypertension. Which statement by the patient indicates understanding of the teaching?
- a. "I need to stop the medication if my heart rate increases."
 - b. "I should not drive while taking this medication."
 - c. "I should take the first dose at bedtime."
 - d. "I will stop taking the medication if I feel dizzy."

ANS: C

Orthostatic hypotension is a common side effect of this class of drugs and is most severe with the first dose. Administering the first dose at bedtime eliminates the risk associated with this first-dose effect. Tachycardia is an expected side effect; if severe, it can be treated with other medications. Patients should not drive during the first 12 to 24 hours after taking these agents, because fainting and dizziness may occur, but they may drive after that. Dizziness is not an indication for stopping the drug; patients who experience dizziness are instructed to sit or lie down until symptoms pass. DIF: Cognitive Level: Application REF: pp. 122 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

71. A nurse is teaching nursing students about the use of alpha-adrenergic antagonists. Which statement by a student indicates the need for further teaching?
- a. "Alpha-adrenergic antagonists block alpha1 receptors on arterioles and veins."
 - b. "Dilation of arterioles has a direct effect on arterial pressure."
 - c. "Dilation of veins by alpha-adrenergic antagonists improves cardiac output."
 - d. "Venous dilation by alpha-adrenergic antagonists indirectly lowers arterial pressure."

ANS: C

Cardiac output is decreased as a result of the venous dilation caused by alpha-adrenergic antagonists. Alpha-adrenergic antagonists block alpha1 receptors on arterioles and veins. When alpha1 receptors on arterioles are blocked by alpha-adrenergic antagonists, a direct effect on

arterial pressure occurs. When alpha receptors on veins are blocked by alpha-adrenergic antagonists, an indirect effect on arterial pressure occurs. DIF: Cognitive Level: Analysis REF: pp. 121 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

72. A patient taking a beta blocker complains of shortness of breath. The patient has respirations of 28 breaths/minute, a blood pressure of 162/90 mm Hg, and a pulse of 88 beats/minute. The nurse auscultates crackles in all lung fields. The nurse understands that these assessments are consistent with:

- a. bronchoconstriction.
- b. left-sided heart failure.
- c. rebound cardiac excitation.
- d. sinus bradycardia.

ANS: B

The signs and symptoms describe left-sided heart failure, in which the blood normally handled by the left ventricle and forced out through the aorta into the body backs up into the lungs, producing respiratory signs and symptoms. The patient's signs and symptoms are not indicative of bronchoconstriction, which would cause wheezing and diminished breath sounds. Rebound cardiac excitation occurs when the beta blocker is withdrawn, not during administration of the drug. The patient's heart rate is elevated, so sinus bradycardia is not present. DIF: Cognitive Level: Application REF: pp. 126 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

73. A male patient is being treated for benign prostatic hyperplasia and has stopped taking his alpha-adrenergic antagonist medication because of ejaculatory difficulties. Which medication does the nurse expect the provider to prescribe?

- a. Alfuzosin [Uroxatral]
- b. Prazosin [Minipress]
- c. Silodosin [Rapaflo]
- d. Tamsulosin [Flomax]

ANS: A

Alfuzosin is used for BPH and does not interfere with ejaculation. All of the other drugs have ejaculatory side effects. Prazosin may be useful for BPH, but it is not approved for this use. DIF: Cognitive Level: Analysis REF: pp. 123 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

74. A patient is taking a beta-adrenergic antagonist medication for angina pectoris and asks the nurse how the drug works to relieve the discomfort associated with this condition. Which statement by the patient after the nurse's teaching indicates understanding of the drug's effects?

- a. "It causes bronchodilation, which increases oxygen flow."
- b. "It helps reduce the heart's oxygen needs."
- c. "It improves blood flow to the heart."
- d. "It increases cardiac output."

ANS: B

Blockade of beta1 receptors in the heart reduces cardiac work by reducing the heart rate, the force of contraction, and the velocity of impulse conduction through the AV node. Beta blockers result in bronchoconstriction, not bronchodilation. They do not increase blood flow to the heart. Cardiac output is decreased, not increased. DIF: Cognitive Level: Application REF: pp. 124 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

75. A nurse prepares to administer propranolol [Inderal] to a patient recovering from acute myocardial infarction. The patient's heart rate is 52 beats/minute, and the rhythm is regular. What action should the nurse take next?
- a. Administer the drug as prescribed.
 - b. Request an order for atropine.
 - c. Withhold the dose and document the pulse rate.
 - d. Withhold the dose and notify the prescriber.

ANS: E

A beta blocker, such as propranolol, should not be given if the pulse is lower than 60 beats/minute; therefore, the nurse should withhold the dose and notify the prescriber. Administering the dose as prescribed would not be appropriate, because the patient's pulse rate is too slow at this time. The dose should be withheld and the prescriber notified. The patient's heart rate is slow, and atropine may be necessary if the bradycardia persists, but the first step is to withhold the dose of propranolol. Withholding the dose and documenting the pulse rate is an appropriate but incomplete nursing intervention. The nurse must notify the prescriber to obtain further orders related to the medication. DIF: Cognitive Level: Application REF: pp. 125 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

76. A patient will begin taking propranolol [Inderal] for hypertension. Which statement by the nurse is important when teaching this patient about the medication?
- a. "Check your hands and feet for swelling and report that to your provider."
 - b. "It is safe to take this medication with a calcium channel blocker."
 - c. "Stop taking the drug if you become short of breath."
 - d. "Take your pulse and do not take the medication if your heart rate is fast."

ANS: A

Patients taking propranolol can develop heart failure because of the suppression in myocardial contractility. Patients should be taught to watch for signs, which include shortness of breath, night coughs, and swelling of the extremities. Use of these agents with calcium channel blockers is contraindicated, because the effects are identical and excessive cardiosuppression can occur. Shortness of breath should be reported to the provider, but abrupt cessation of the drug can cause rebound cardiac excitability. Propranolol reduces the heart rate and should not be given if the pulse is less than 60 beats/minute. DIF: Cognitive Level: Application REF: pp. 128 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 15: Indirect-Acting Antiadrenergic Agents

Test Bank

Multiple Choice

77. A patient who has been taking clonidine [Catapres] for several weeks complains of drowsiness and constipation. What will the nurse do?
- Recommend that the patient take most of the daily dose at bedtime.
 - Suggest asking the provider for a transdermal preparation of the drug.
 - Suspect that the patient is overusing the medication.
 - Tell the patient to stop taking the drug and call the provider.

ANS: A

CNS depression is common with clonidine, but this effect lessens over time. Constipation is also a common side effect. Patients who take most of the daily amount at bedtime can minimize daytime sedation. Transdermal forms of clonidine do not alter adverse effects. Patients who are abusing clonidine often experience euphoria and hallucinations along with sedation, but they generally find these effects desirable and would not complain about them to a healthcare provider. Clonidine should not be withdrawn abruptly, because serious rebound hypertension can occur. DIF: Cognitive Level: Application REF: pp. 134 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

78. A prescriber has ordered methyldopa for a patient with hypertension. The nurse teaches the patient about drug actions, adverse effects, and the ongoing blood tests necessary with this drug. The nurse is correct to tell the patient what?
- “If you have a positive Coombs test result, you will need to discontinue the medication, because this means you have hemolytic anemia.”
 - “Methyldopa can be used for its analgesic effects and for its hypertensive effects.”

- c. "Xerostomia and orthostatic hypotension are serious side effects and indications for withdrawing the medication."
- d. "You will need to contact the provider and stop taking the medication if your eyes look yellow."

ANS: D

Hepatotoxicity is a serious adverse effect of methyldopa and is an indication for withdrawal of the drug to prevent fatal hepatic necrosis. Jaundice is a sign of liver toxicity. Patients should undergo periodic liver function tests while taking the drug. Liver function usually improves when the drug is withdrawn. A positive Coombs test result is not an indication for withdrawal of the drug in itself. About 5% of patients with a positive Coombs test result develop hemolytic anemia; withdrawal of the drug is indicated for those patients. Methyldopa does not have analgesic effects. Xerostomia and orthostatic hypotension are known side effects of methyldopa but usually are not serious. DIF: Cognitive Level: Application REF: pp. 135 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

79. A prescriber has ordered clonidine [Catapres] for a patient who has hypertension. The nurse teaches the patient about side effects of this drug. Which statement by the patient indicates understanding of the teaching?
- a. "I should chew sugar-free gum or drink water to reduce dry mouth."
 - b. "I should not drive as long as I am taking this drug."
 - c. "I should stand up slowly when taking this medication."
 - d. "I should stop taking this drug if I feel anxious or depressed."

ANS: A

Xerostomia is a common side effect of clonidine and is often uncomfortable enough that patients stop using the drug. Counseling patients to chew sugar-free gum and take frequent sips of liquid can help alleviate this discomfort. Drowsiness is common, but this side effect becomes less intense over time. Patients should be counseled to avoid hazardous activities in the first weeks of therapy if they feel this effect. The hypertensive effects of clonidine are not posture dependent, as they are with the peripheral alpha-adrenergic blockers, so orthostatic hypotension is minimal with this drug. Clonidine causes euphoria, hallucinations, and sedation in high doses and can cause anxiety or depression, although the last two effects are less common. The drug should not be stopped abruptly because of the risk of rebound hypertension, so patients experiencing unpleasant central nervous system (CNS) effects should consult their provider about withdrawing the medication slowly. DIF: Cognitive Level: Application REF: pp. 134 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

80. A prescriber has ordered methyldopa for a female patient with hypertension. The nurse understands that which laboratory tests are important before beginning therapy with this drug? Select all that apply.
- a. Coombs test

- b. Hemoglobin and hematocrit (H&H)
- c. Liver function tests
- d. Pregnancy test
- e. Urinalysis

ANS: A , B , C

A positive Coombs test result occurs in 10% to 20% of patients who take methyldopa chronically. A few of these patients (5%) develop hemolytic anemia. Blood should be drawn for a Coombs test and an H&H before treatment is started and at intervals during treatment. Because methyldopa is associated with liver disorders, liver function tests should be performed before therapy is started and periodically during treatment. Clonidine, not methyldopa, is contraindicated during pregnancy. A urinalysis is not indicated. DIF: Cognitive Level: Application REF: pp. 135 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

81. A nurse is teaching nursing students about the pharmacology of methyldopa. Which statement by a student indicates the need for further teaching?
- a. "Methyldopa results in alpha2 agonist activation, but it is not itself an alpha2 agonist."
 - b. "Methyldopa is not effective until it is converted to an active compound."
 - c. "Methyldopa reduces blood pressure by reducing cardiac output."
 - d. "Methyldopa's principal mechanism is vasodilation, not cardiosuppression."

ANS: C

Methyldopa does not reduce the heart rate or cardiac output, so its hypotensive actions are not the result of cardiac depression. The drug is not, in itself, an alpha2 agonist. When taken up into brainstem neurons, it is converted into methylnorepinephrine, which is an alpha2 agonist; it is not effective until converted to this active compound. Its hypotensive effects are the result of vasodilation, not cardiosuppression. DIF: Cognitive Level: Analysis REF: pp. 134 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

82. A patient complains to the nurse that the clonidine [Catapres] recently prescribed for hypertension is causing drowsiness. Which response by the nurse to this concern is appropriate?
- a. "Drowsiness is a common side effect initially, but it will lessen with time."
 - b. "You may also experience orthostatic hypotension along with the drowsiness."
 - c. "You may be at risk for addiction if you have central nervous system side effects."
 - d. "You should discontinue the medication and contact your prescriber."

ANS: A

CNS depression, evidenced in this patient by drowsiness, is common in about 35% of the population. These responses become less intense with continued drug use. Orthostatic hypotension

is less likely with clonidine, because its antihypertensive effects are not posture dependent. The experience of drowsiness does not indicate abuse potential. The patient should not discontinue the medication abruptly because of the potential for rebound hypertension; the patient should contact the prescriber before stopping the medication. DIF: Cognitive Level: Application REF: pp. 134 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

83. A prescriber orders clonidine [Kapvay] ER tablets for a 12-year-old child. The nurse understands that this drug is being given to treat which condition?

- a. ADHD
- b. Hypertension
- c. Severe pain
- d. Tourette syndrome

ANS: A

Kapvay ER is used to treat ADHD and is given as a single dose at bedtime. This form of clonidine is not used for hypertension, severe pain, or treatment of Tourette syndrome. DIF: Cognitive Level: Application REF: pp. 133 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

84. A patient with hypertension has a previous history of opioid dependence. Which medication would the nurse question?

- a. Clonidine [Catapres]
- b. Guanabenz [Wytensin]
- c. Methyldopa
- d. Reserpine [Serpasil]

ANS: A

Patients who abuse cocaine, opioids, and other such drugs also frequently abuse clonidine, so this agent would not be the best choice for this patient. The other drugs do not share this abuse potential. DIF: Cognitive Level: Analysis REF: pp. 134 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

85. Clonidine is approved for the treatment of which conditions?
Select all that apply.

- a. ADHD
- b. Hypertension
- c. Opioid withdrawal
- d. Severe pain

e. Smoking cessation

ANS: A , B , D

Clonidine has three approved uses: treatment of ADHD, hypertension, and severe pain. It has investigational uses for management of opioid withdrawal and for smoking cessation. DIF: Cognitive Level: Application REF: pp. 133 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

86. A prescriber orders transdermal clonidine [Catapres TTS] for a patient with hypertension. What will the nurse teach this patient?

- a. That medication given by transdermal patch has fewer systemic side effects
- b. That localized skin reactions are uncommon
- c. To apply the patch to intact skin on the forearm or leg
- d. To change the patch every week

ANS: D

Transdermal patches are to be changed every 7 days. Medication administered by patch has the same therapeutic effect and adverse effects as that given by other routes, except that localized skin reactions may occur and are common with clonidine patches. The patch should be applied to intact, hairless skin on the upper arm or torso. DIF: Cognitive Level: Application REF: pp. 134 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

87. A nurse is teaching a patient about a new prescription for reserpine [Serpasil] for hypertension. Which statement by the patient indicates the need for further teaching?

- a. "Depressive side effects are common and will improve over time."
- b. "I should report gastrointestinal side effects to the provider."
- c. "I should stand up slowly when getting up and lie down if I feel dizzy."
- d. "Therapeutic effects may not be optimal for a couple of weeks."

ANS: A

Reserpine can produce severe depression, which may persist for months during drug therapy and after the drug is withdrawn. Reserpine can stimulate the secretion of gastric acid, which can cause ulcers; it also can increase the tone and motility of intestinal smooth muscle, which can cause cramps and diarrhea. Reserpine can cause orthostatic hypotension, so patients should be counseled to rise slowly when standing up and to sit or lie down if they feel dizzy. Reserpine works by depleting norepinephrine, and the processes necessary for this may take 1 to 2 weeks. DIF: Cognitive Level: Application REF: pp. 136 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 16: Introduction to Central Nervous System Pharmacology

Test Bank

Multiple Choice

88. An infant who receives a drug that does not produce CNS side effects in adults exhibits drowsiness and sedation. The nurse understands that this is because of differences in which physiologic system in infants and adults?

- a. Blood-brain barrier
- b. First-pass effect
- c. Gastrointestinal absorption
- d. Renal filtration

ANS: A

The blood-brain barrier is not fully developed at birth, making infants much more sensitive to CNS drugs than older children and adults. CNS symptoms may include sedation and drowsiness. The first-pass effect and GI absorption affect metabolism and absorption of drugs, and renal filtration affects elimination of drugs, all of which may alter drug levels. DIF: Cognitive Level: Comprehension REF: pp. 139 TOP: Nursing Process: N/A MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

89. Which monoamines act as neurotransmitters in the central nervous system?
Select all that apply.

- a. Acetylcholine
- b. Norepinephrine
- c. Serotonin
- d. Dopamine
- e. Epinephrine
- f. Histamine

ANS: B , C , D , E

Acetylcholine and histamines are not monoamines. DIF: Cognitive Level: Comprehension REF: pp. 140 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

90. A patient asks a nurse to explain what drug tolerance means. The nurse responds by telling the patient that when tolerance occurs, it means the patient:

- a. has developed a psychologic dependence on the drug.
- b. may need increased amounts of the drug over time.

- c. will cause an abstinence syndrome if the drug is discontinued abruptly.
- d. will have increased sensitivity to drug side effects.

ANS: B

When tolerance develops, a dose increase may be needed, because a decreased response may occur with prolonged use. Psychologic dependence involves cravings for drug effects and does not define tolerance. Physical dependence occurs when the drug becomes necessary for the brain to function “normally,” meaning the patient should be weaned from the drug slowly to prevent an abstinence syndrome. Patients may have a decreased sensitivity to drug side effects over time as the brain adapts to the medication. DIF: Cognitive Level: Comprehension REF: pp. 140 TOP: Nursing Process: N/A MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

91. A group of nursing students asks a nurse to explain the blood-brain barrier. The nurse would be correct to say that the blood-brain barrier:
- a. prevents some potentially toxic substances from crossing into the central nervous system.
 - b. causes infants to be less sensitive to CNS drugs and thus require larger doses.
 - c. allows only ionized or protein-bound drugs to cross into the central nervous system.
 - d. prevents lipid-soluble drugs from entering the central nervous system.

ANS: A

The blood-brain barrier can prevent some drugs and some toxic substances from entering the CNS. The blood-brain barrier in infants is not fully developed, so infants are more sensitive to CNS drugs and often require lower doses. The blood-brain barrier prevents highly ionized and protein-bound drugs from crossing into the CNS and allows lipid-soluble drugs and those that can cross via specific transport systems to enter. DIF: Cognitive Level: Analysis REF: pp. 139 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

92. A nurse is teaching a group of students about how CNS drugs are developed. Which statement by a student indicates a need for further teaching?
- a. “Central nervous system drug development relies on observations of their effects on human behavior.”
 - b. “Studies of new central nervous system drugs in healthy subjects can produce paradoxical effects.”
 - c. “Our knowledge of the neurochemical and physiologic changes that underlie mental illness is incomplete.”
 - d. “These drugs are developed based on scientific knowledge of CNS transmitters and receptors.”

ANS: D

The deficiencies in knowledge about how CNS transmitters and receptors work make systematic development of CNS drugs difficult. Testing in healthy subjects often leads either to no effect or to paradoxical effects. Medical knowledge of the neurochemical and physiologic changes underlying mental illness is incomplete. The development of CNS drugs depends less on knowledge of how the CNS functions and how these drugs affect that process and more on how administering one of these agents leads to changes in behavior. DIF: Cognitive Level: Analysis REF: pp. 139 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

93. A nurse is teaching a group of nursing students how the CNS adapts to psychotherapeutic medications. Which statement by a nursing student indicates a need for further teaching?
- “Adaptation can lead to tolerance of these drugs with prolonged use.”
 - “Adaptation helps explain how physical dependence occurs.”
 - “Adaptation often must occur before therapeutic effects develop.”
 - “Adaptation results in an increased sensitivity to side effects over time.”

ANS: D

With adaptation of the central nervous system to prolonged exposure to CNS drugs, many adverse effects diminish and therapeutic effects remain. Adaptation helps explain how tolerance and physical dependence occur, as the brain adapts to the presence of the drug. Therapeutic effects can take several weeks to manifest, because they appear to work by initiating adaptive changes in the brain. DIF: Cognitive Level: Analysis REF: pp. 140 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

94. A psychiatric nurse is teaching a patient about an antidepressant medication. The nurse tells the patient that therapeutic effects may not occur for several weeks. The nurse understands that this is likely the result of:
- changes in the brain as a result of prolonged drug exposure.
 - direct actions of the drug on specific synaptic functions in the brain.
 - slowed drug absorption across the blood-brain barrier.
 - tolerance to exposure to the drug over time.

ANS: A

It is thought that beneficial responses to central nervous system (CNS) drugs are delayed because they result from adaptive changes as the CNS modifies itself in response to prolonged drug exposure, and that the responses are not the result of the direct effects of the drugs on synaptic functions. The blood-brain barrier prevents protein-bound and highly ionized drugs from crossing into the CNS, but it does not slow the effects of drugs that can cross the barrier. Tolerance is a decreased response to a drug after prolonged use. DIF: Cognitive Level: Application REF: pp. 140 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

95. Which are medical applications of central nervous system drugs?
Select all that apply.

- a. Analgesia
- b. Anesthesia
- c. Depression
- d. Euphoria
- e. Seizure control

ANS: A , B , E

CNS drugs have medical uses for pain management, anesthesia, and seizure control. Depression and euphoria are side effects that can contribute to abuse of these drugs. DIF: Cognitive Level: Comprehension REF: pp. 139 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 17: Drugs for Parkinson's

Disease Test Bank

Multiple Choice

96. A nursing student wants to know how carbidopa can be effective for treating Parkinson disease if it prevents the conversion of levodopa to dopamine. The nurse explains that carbidopa:

- a. can be taken with high-protein meals.
- b. does not cross the blood-brain barrier.
- c. has dopamine-like effects of its own.
- d. reduces abrupt loss of effect.

ANS: B

Carbidopa inhibits decarboxylation of levodopa in the intestine and peripheral tissues, leading to more levodopa in the CNS. Carbidopa cannot cross the blood-brain barrier, so it does not have this action in the CNS. Carbidopa is not given with high-protein meals. Carbidopa does not have dopamine-like effects. Carbidopa does not affect abrupt loss of effect. DIF: Cognitive Level: Analysis REF: p. 149 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

97. A 25-year-old patient has been newly diagnosed with Parkinson disease, and the prescriber is considering using pramipexole [Mirapex]. Before beginning therapy with this drug, the nurse will ask the patient about:

- a. any history of alcohol abuse or compulsive behaviors.

- b. any previous history of hypertension.
- c. difficulty falling asleep or staying asleep.
- d. whether any family members have experienced psychoses.

ANS: A

Pramipexole has been associated with impulse control disorders, and this risk increases in patients with a history of alcohol abuse or compulsive behaviors. Pramipexole increases the risk of hypotension and sleep attacks, so a history of hypertension or insomnia would not be cautionary. Unlike with levodopa, the risk of psychoses is not increased. DIF: Cognitive Level: Application REF: p. 153 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

98. A patient with Parkinson disease is taking levodopa/carbidopa [Sinemet] and reports occasional periods of loss of drug effect lasting from minutes to several hours. The nurse questions the patient further and discovers that these episodes occur at different times related to the medication administration. The nurse will contact the provider to discuss:
- a. administering a catechol-O-methyltransferase (COMT) inhibitor, such as entacapone.
 - b. adding the DA-releasing agent amantadine to the regimen.
 - c. giving a direct-acting dopamine agonist.
 - d. shortening the dosing interval of levodopa/carbidopa.

ANS: A

This patient is describing abrupt loss of effect, or the “off” phenomenon, which is treated with entacapone or another COMT inhibitor. Amantadine is used to treat dyskinesias. A direct-acting dopamine agonist is useful for gradual loss of effect, which occurs at the end of the dosing interval as the dose is wearing off. Shortening the dosing interval does not help with abrupt loss of effect. DIF: Cognitive Level: Application REF: p. 154 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

99. A nurse is discussing motor symptoms with a patient with Parkinson disease who has been taking levodopa/carbidopa [Sinemet] for 9 months and who is now having regular tics. Which statement by the patient indicates understanding of this symptom?
- a. “I may need to try a lower dose of Sinemet to reduce my tics.”
 - b. “My provider may order clozapine to treat these tics.”
 - c. “These tics are an indication that my dose of Sinemet is too low.”
 - d. “This means I will have to have surgery to stop the symptoms.”

ANS: A

Levodopa can cause movement disorders, generally within the first year of therapy. If they occur, a lower dose of levodopa may be required to alleviate them. Clozapine is an antipsychotic used to treat levodopa-induced psychoses. Movement disorders generally occur as the dose of levodopa increases. Surgery is a last option for treating movement disorders, after amantadine fails. DIF:

Cognitive Level: Application REF: p. 148 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

100. A hospitalized patient with Parkinson disease who is receiving apomorphine to treat “off” episodes develops nausea and vomiting. The nurse will discuss the use of which medication with the patient’s provider?
- Levodopa [Dopar]
 - Ondansetron [Zofran]
 - Prochlorperazine [Compazine]
 - Trimethobenzamide [Tigan]

ANS: D

Trimethobenzamide can be used as an antiemetic in patients treated with apomorphine. Serotonin receptor agonists (e.g., ondansetron) and dopamine receptor antagonists (e.g., prochlorperazine) cannot be used, because they increase the risk of serious postural hypotension. Levodopa only increases nausea and vomiting. DIF: Cognitive Level: Application REF: p. 154 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

101. A patient has been diagnosed with Parkinson disease (PD) and begins treatment with levodopa/carbidopa [Sinemet]. After several months of therapy, the patient reports no change in symptoms. The nurse will expect the provider to:
- add a dopamine agonist.
 - discuss the “on-off” phenomenon.
 - increase the dose of Sinemet.
 - reevaluate the diagnosis.

ANS: D

Patients beginning therapy with levodopa/carbidopa should expect therapeutic effects to occur after several months of treatment. Levodopa is so effective that a diagnosis of PD should be questioned if the patient fails to respond in this time frame. Adding a dopamine agonist is not indicated. The “on-off” phenomenon occurs when therapeutic effects are present. Increasing the dose of levodopa/carbidopa is not indicated. DIF: Cognitive Level: Application REF: p. 146 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

102. A nursing student wants to know why a patient who has been taking levodopa [Dopar] for years will now receive levodopa/carbidopa [Sinemet]. The nurse explains the reasons that levodopa as a single agent is no longer available. Which statement by the student indicates a need for further education?

- a. "Carbidopa increases the availability of levodopa in the central nervous system."
- b. "Carbidopa reduces the incidence of nausea and vomiting."
- c. "Combination products reduce peripheral cardiovascular side effects."
- d. "Combination products cause fewer dyskinesias and decrease psychosis."

ANS: D

Adding carbidopa to levodopa does not reduce the incidence of dyskinesias or psychosis. In fact, carbidopa can increase the intensity and the speed of onset of these effects. Carbidopa inhibits decarboxylation of levodopa in the intestine and peripheral tissues, leading to more levodopa in the CNS. Carbidopa cannot cross the blood-brain barrier, so it does not have this action in the CNS. Peripheral side effects are reduced, including nausea, vomiting, and cardiovascular effects. DIF: Cognitive Level: Analysis REF: p. 149 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

103. A patient has taken levodopa [Dopar] for Parkinson disease for 2 weeks but reports no improvement in the symptoms. Which response by the nurse is correct?
- a. "Another agent will be needed to manage your symptoms."
 - b. "Double the dose to see whether an effect occurs."
 - c. "It may take several months for a response to occur."
 - d. "The prescriber may need to change your drug regimen."

ANS: C

A full therapeutic response with levodopa may take several months to develop. Until the true effect of the dose is seen, it is not necessary to change to another drug, increase the dose, or change the drug regimen. DIF: Cognitive Level: Application REF: p. 148 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

104. A patient with Parkinson disease is taking levodopa/carbidopa [Sinemet]. The prescriber orders bromocriptine [Parlodel] to treat dyskinesias. The nurse notes that the patient is agitated, and the patient reports having frequent nightmares. The nurse will contact the provider to discuss:
- a. adding an antipsychotic medication.
 - b. changing from bromocriptine to cabergoline [Dostinex].
 - c. reducing the dose of bromocriptine.
 - d. reducing the dose of levodopa/carbidopa.

ANS: C

Bromocriptine is used to treat levodopa-induced dyskinesias and has dose-dependent psychological side effects. The nurse should suggest reducing the dose of this drug to minimize these side effects. Adding an antipsychotic medication is not indicated. Cabergoline is not approved for this use. Reducing the dose of levodopa/carbidopa is not indicated. DIF: Cognitive Level: Application REF:

p. 154TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

105. A nurse is teaching a group of nurses about Parkinson medications. The nurse is correct to state that one side effect associated with pramipexole [Mirapex] that is less likely to occur with other dopamine agonists is:
- sleep attacks.
 - dizziness.
 - hallucinations.
 - dyskinesias.

ANS: A

A few patients taking pramipexole have experienced sleep attacks, or an overwhelming and irresistible sleepiness that comes on without warning. Dizziness, hallucinations, and dyskinesias are listed as side effects of pramipexole and other dopamine agonists.DIF: Cognitive Level: ApplicationREF: p.153TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 18: Drugs for Alzheimer's

Disease Test Bank

Multiple Choice

106. A nurse is caring for an older adult man who has Alzheimer disease (AD). The patient's daughter wants to know if testing can be done to determine her risk for developing the disease. What will the nurse tell her?
- Female gender is known to increase the risk.
 - Genetic testing can provide a definitive measure of the risk.
 - Patients with the apolipoprotein E2 gene (apoE2) are more likely to develop the disease.
 - Advancing age and family history are known risk factors.

ANS: D

Advancing age and a positive family history are the only two known risk factors. Female gender is not a known risk; the increased incidence among females may be the result of women living longer than men. No definitive genetic tests are available. The presence of apoE2 seems to be protective.DIF: Cognitive Level: ApplicationREF: pp. 162TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

107. A patient will begin taking a cholinesterase inhibitor for early Alzheimer disease. The nurse is teaching the patient's spouse about the medication. Which statement by the spouse indicates a need for further teaching?
- "Gastrointestinal symptoms are common with this medication."
 - "People taking this drug should not take antihistamines."
 - "This drug helps neurons that are not already damaged to function better."
 - "This drug significantly slows the progression of the disease."

ANS: D

Cholinesterase inhibitors produce modest improvements in cognition, behavior, and function and may slightly delay disease progression; they do not have a major impact on delaying progression of the disease. Gastrointestinal symptoms are common side effects. Drugs that block cholinergic receptors, including antihistamines, can reduce therapeutic effects and should be avoided. Cholinesterase inhibitors do not affect neurons already damaged, but they do improve function in those not yet affected. DIF: Cognitive Level: Application REF: pp. 164 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

108. The spouse of a patient who is newly diagnosed with Alzheimer disease asks the nurse if medications will prevent the need for nursing home care. Which response by the nurse is correct?
- "Drugs to treat Alzheimer disease may slow the progression of memory loss."
 - "Drugs may be effective to stop the progression of the disease if they are initiated early in the disease."
 - "Medications to treat Alzheimer disease are effective for treating core symptoms of the disease."
 - "Medications for Alzheimer disease are effective in reducing cognitive impairment."

ANS: A

Alzheimer disease is a disease in which symptoms progress relentlessly from mild to moderate to severe. Medications have not been clearly effective and do not stop the disease progression, although they may slow loss of memory and cognition and prolong independent function. There is no indication that available drugs stop disease progression if begun early in the course of the disease. There is no clearly effective therapy for core symptoms, but associated symptoms such as incontinence and depression may be treated. DIF: Cognitive Level: Application REF: pp. 162 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

109. A nurse is caring for an older adult patient who has Alzheimer disease. The patient is taking a cholinesterase inhibitor drug. Which side effects would concern the nurse?
- Confusion and memory impairment

- b. Dizziness and headache
- c. Nausea, vomiting, and diarrhea
- d. Slowed heart rate and lightheadedness

ANS: D

Cardiovascular effects of cholinesterase inhibitor drugs are uncommon but cause the most concern. Bradycardia and fainting can occur when cholinergic receptors in the heart are activated. Confusion and memory impairment are signs of the disease and are not side effects of the drug. Dizziness, headache, nausea, vomiting, and diarrhea are all expected adverse effects, and although uncomfortable, they do not present an increased risk to the patient. DIF: Cognitive Level: Application REF: pp. 164 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

110. An older adult patient with Alzheimer disease is admitted to the hospital. The patient's spouse reports that the patient is often confused and gets lost walking to the store, which is three blocks from their home. That evening, the nurse observes the patient pacing the hall and screaming. What will the nurse do?
- a. Notify the provider of this patient's worsening symptoms.
 - b. Prepare the patient's spouse for impending death from Alzheimer disease.
 - c. Request an increase in the medication dose to treat the exacerbation in symptoms.
 - d. Tell the spouse that this is an expected progression of the disease.

ANS: D

This patient is showing signs of the natural progression of AD. Behavior problems such as these occur in 70% to 90% of patients with AD as the disease progresses. There is no need to notify the provider to report these symptoms, because they are expected. The time from onset of symptoms to death usually is 4 to 8 years, but it may be as long as 20 years; this progression does not represent the final stages. Medications are not effective for preventing disease progression, and their effects on memory and cognition are modest, so requesting an increase in the drug dose would not help in this situation. DIF: Cognitive Level: Application REF: pp. 162 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

111. A nurse is preparing to administer memantine [Nemanda] to a patient and notes a slight elevation in the patient's creatinine clearance level. What will the nurse expect the provider to order for this patient?
- a. Adding sodium bicarbonate to the patient's drug regimen
 - b. Continuing the memantine as ordered
 - c. Discontinuing the memantine
 - d. Reducing the dose of

memantine ANS: D

Patients with severe renal impairment may require a dosage reduction. Adding sodium bicarbonate would alkalinize the urine and increase memantine levels, causing toxicity. It is not necessary to discontinue or decrease the dose of the memantine with mild or moderate renal impairment. DIF: Cognitive Level: Application REF: pp. 167 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

112. The spouse of a patient with Alzheimer disease asks a nurse for more information about the rivastigmine [Exelon] transdermal patch that is being used. Which statement by the spouse indicates a need for further explanation?
- “Doses are lower but more steady with the transdermal patch.”
 - “Reduced side effects occur with the transdermal patch.”
 - “We only need to change the patch every 2 weeks.”
 - “We should remove the old patch before applying the new one.”

ANS: C

The rivastigmine transdermal patch needs to be changed daily. Sites used should not be reused for 14 days. Transdermal dosing provides lower, steady levels of the drug. Intensity of side effects is lower with the transdermal patch. The old patch must be removed prior to applying the new patch to prevent toxicity. DIF: Cognitive Level: Application REF: pp. 164 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

113. A patient is worried about the risk of developing Alzheimer disease, because both parents had the disease. The nurse will tell this patient that known risk factors include what? Select all that apply.
- Advanced age
 - Alcoholism
 - Family history
 - Gender
 - Obesity

ANS: A , C

The major known risk factor for AD is advancing age; the only other known risk factor is a family history of AD. Alcoholism, gender, and obesity are not known risk factors. DIF: Cognitive Level: Comprehension REF: pp. 162 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

114. A nurse is teaching a group of nursing students about the use of memantine [Namenda] for Alzheimer disease. Which statement by a student indicates understanding of the teaching?
- “Memantine is indicated for patients with mild to moderate Alzheimer disease.”

- b. "Memantine modulates the effects of glutamate to alter calcium influx into neurons."
- c. "Memantine prevents calcium from leaving neurons, which improves their function."
- d. "Memantine and donepezil combined may stop progression of Alzheimer disease."

ANS: B

Memantine modulates the effects of glutamate, which is involved in calcium influx into neuronal cells. Memantine is used for patients with moderate to severe AD. Memantine does not prevent calcium from leaving cells; it only affects the influx of calcium. In studies, although the effects of memantine and donepezil appear to be synergistic or may confer independent benefits, they only demonstrate improvement in cognitive function and not a stop in disease progression. DIF: Cognitive Level: Analysis REF: pp. 165 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

115. An older adult patient has confusion, memory loss, and disorientation in familiar surroundings. The patient has been taking donepezil [Aricept] 10 mg once daily for 6 months. The patient's symptoms have begun to worsen, and the patient's spouse asks if the medication dose can be increased. What will the nurse tell the spouse?
- a. The dose can be increased, because the patient has been taking the drug for longer than 3 months.
 - b. The dose can be increased to twice daily dosing instead of once daily dosing.
 - c. The increase in symptoms is the result of hepatotoxicity from the medication's side effects.
 - d. The patient must take the drug for longer than 1 year before the dose can be increased.

ANS: A

Donepezil is given for mild, moderate, and severe AD, and dosing may be increased, although it must be titrated up slowly. For patients with moderate to severe AD who have taken 10 mg once daily for at least 3 months, the dose can be increased to 23 mg once daily. Donepezil is not given twice daily. Donepezil does not cause hepatotoxicity; hepatotoxicity occurs with tacrine, the first acetylcholinesterase (AChE) inhibitor, which now is rarely used. Dosing is increased after 3 months, not 1 year. DIF: Cognitive Level: Application REF: pp. 164 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 19: Drugs for

Epilepsy Test Bank

Multiple Choice

116. A nurse is assessing a patient who becomes motionless and seems to stare at the wall and then experiences about 60 seconds of lip smacking and hand wringing. What should the nurse do?

- a. Ask the patient about a history of absence seizures.
- b. Contact the provider to report symptoms of a complex partial seizure.
- c. Notify the provider that the patient has had a grand mal seizure.
- d. Request an order for intravenous diazepam [Valium] to treat status epilepticus.

ANS: B

This patient showed signs of a complex partial seizure, characterized by impaired consciousness beginning with a period of motionlessness with a fixed gaze, followed by a period of automatism. The entire episode generally lasts 45 to 90 seconds. Absence seizures are characterized by loss of consciousness for a brief period (about 10 to 30 seconds) and may involve mild, symmetric motor activity or no motor signs. A grand mal seizure is characterized by jaw clenching and rigidity followed by alternating muscle relaxation and contraction and then periods of cyanosis, all with a loss of consciousness. Status epilepticus is a seizure that persists for 30 minutes or longer. DIF: Cognitive Level: Application REF: p. 167 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

117. A nurse counsels a patient who is to begin taking phenytoin [Dilantin] for epilepsy. Which statement by the patient indicates understanding of the teaching?
- a. "I should brush and floss my teeth regularly."
 - b. "Once therapeutic blood levels are reached, they are easy to maintain."
 - c. "I can consume alcohol in moderation while taking this drug."
 - d. "Rashes are a common side effect but are not serious."

ANS: A

Gingival hyperplasia occurs in about 20% of patients who take phenytoin. It can be minimized with good oral hygiene, so patients should be encouraged to brush and floss regularly. Because small fluctuations in phenytoin levels can affect response, maintaining therapeutic levels is not easy. Patients should be cautioned against consuming alcohol while taking phenytoin. Rashes can be serious and should be reported immediately. DIF: Cognitive Level: Application REF: p. 174 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

118. A nurse is caring for a patient who has been taking an antiepileptic drug for several weeks. The nurse asks the patient if the therapy is effective. The patient reports little change in seizure frequency. What will the nurse do?
- a. Ask the patient to complete a seizure frequency chart for the past few weeks.
 - b. Contact the provider to request an order for serum drug levels.
 - c. Reinforce the need to take the medications as prescribed.
 - d. Request an order to increase the dose of the antiepileptic drug.

ANS: B

If medication therapy is not effective, it is important to measure serum drug levels of the medication to determine whether therapeutic levels have been reached and to help monitor patient compliance. Patients should be asked at the beginning of therapy to keep a seizure frequency chart to help deepen their involvement in therapy; asking for historical information is not helpful. Until it is determined that the patient is not complying, the nurse should not reinforce the need to take the medication. Until the drug level is known, increasing the dose is not indicated. DIF: Cognitive Level: Application REF: p. 172 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

119. A patient is to begin taking phenytoin [Dilantin] for seizures. The patient tells the nurse that she is taking oral contraceptives. What will the nurse tell the patient?
- She may need to increase her dose of phenytoin while taking oral contraceptives.
 - She should consider a different form of birth control while taking phenytoin.
 - She should remain on oral contraceptives, because phenytoin causes birth defects.
 - She should stop taking oral contraceptives, because they reduce the effectiveness of phenytoin.

ANS: B

Because phenytoin can reduce the effects of oral contraceptive pills (OCPs) and because avoiding pregnancy is desirable when taking phenytoin, patients should be advised to increase the dose of oral contraceptives or use an alternative method of birth control. Increasing the patient's dose of phenytoin is not necessary; OCPs do not affect phenytoin levels. Phenytoin is linked to birth defects; OCPs have decreased effectiveness in patients treated with phenytoin, and the patient should be advised to increase the OCP dose or to use an alternative form of birth control. OCPs do not alter the effects of phenytoin. DIF: Cognitive Level: Application REF: p. 175 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

120. A patient with a form of epilepsy that may have spontaneous remission has been taking an AED for a year. The patient reports being seizure free for 6 months and asks the nurse when the drug can be discontinued. What will the nurse tell the patient?
- AEDs must be taken for life to maintain remission.
 - Another AED will be substituted for the current AED.
 - The provider will withdraw the drug over a 6- to 12-week period.
 - The patient should stop taking the AED now and restart the drug if seizures recur.

ANS: C

The most important rule about withdrawing AEDs is that they should be withdrawn slowly over 6 weeks to several months to reduce the risk of status epilepticus (SE). AEDs need not be taken for life if seizures no longer occur. Substituting one AED for another to withdraw AED therapy is not recommended. Stopping an AED abruptly increases the risk of SE. DIF: Cognitive Level:

ApplicationREF: p. 172TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

121. A patient who has a seizure disorder is admitted to the hospital after an increase in seizure frequency, and the prescriber orders carbamazepine [Tegretol] 100 mg twice daily to be added to the patient's medication regimen. The nurse reviewing the patient's medical history notes that the patient is already taking lamotrigine [Lamictal] 375 mg twice daily. The nurse will contact the provider to discuss which action?
- Reducing the carbamazepine dose to 50 mg twice daily
 - Reducing the lamotrigine dose to 225 mg twice daily
 - Increasing the carbamazepine dose to 200 mg twice daily
 - Increasing the lamotrigine dose to 500 mg twice daily

ANS: D

Carbamazepine induces hepatic drug-metabolizing enzymes and can increase the rate at which lamotrigine and other drugs are metabolized; therefore, patients taking any of these drugs would need an increased dose. Reducing the dose of either drug is not indicated. Increasing the dose of carbamazepine may be necessary but only after serum drug levels have been checked.DIF: Cognitive Level: AnalysisREF: p. 188TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

122. A patient who is taking oral contraceptives begins taking valproic acid [Depakote] for seizures. After a week of therapy with valproic acid, the patient tells the nurse that she is experiencing nausea. What will the nurse do?
- Ask the patient if she is taking the valproic acid with food, because taking the drug on an empty stomach can cause gastrointestinal side effects.
 - Contact the provider to request an order for a blood ammonia level, because hyperammonemia can occur with valproic acid therapy.
 - Suggest that the patient perform a home pregnancy test, because valproic acid can reduce the efficacy of oral contraceptives.
 - Suspect that hepatotoxicity has occurred, because this is a common adverse effect of valproic acid.

ANS: A

Gastrointestinal effects, including nausea, vomiting, and indigestion, are common with valproic acid and can be minimized by taking the drug with food or using an enteric-coated product. Hyperammonemia can occur when valproic acid is combined with topiramate. Signs of pregnancy usually do not occur within a week, so this is less likely. Hepatotoxicity is a rare adverse effect.DIF: Cognitive Level: ApplicationREF: p. 189TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

123. A nurse is discussing partial versus generalized seizures with a group of nursing students. Which statement by a student indicates understanding of the teaching?
- “Febrile seizures are a type of generalized tonic-clonic seizure.”
 - “Generalized seizures are characterized by convulsive activity.”
 - “Partial seizures do not last as long as generalized seizures.”
 - “Patients having partial seizures do not lose consciousness.”

ANS: A

Febrile seizures typically manifest as a tonic-clonic seizure of short duration and are a type of generalized seizure. Generalized seizures may be convulsive or nonconvulsive. Partial seizures may last longer than some types of generalized seizures. Patients with complex partial seizures and secondarily generalized seizures, which are types of partial seizures, may lose consciousness. DIF: Cognitive Level: Analysis REF: p. 168 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

124. A nurse provides teaching for a patient with a newly diagnosed partial complex seizure disorder who is about to begin therapy with antiepileptic drugs (AEDs). Which statement by the patient indicates understanding of the teaching?
- “Even with an accurate diagnosis of my seizures, it may be difficult to find an effective drug.”
 - “I will soon know that the drugs are effective by being seizure free for several months.”
 - “Serious side effects may occur, and if they do, I should stop taking the medication.”
 - “When drug levels are maintained at therapeutic levels, I can expect to be seizure free.”

ANS: A

Even with an accurate diagnosis of seizures, many patients have to try more than one AED to find a drug that is effective and well tolerated. Unless patients are being treated for absence seizures, which occur frequently, monitoring of the clinical outcome is not sufficient for determining effectiveness, because patients with convulsive seizures often have long seizure-free periods. Serious side effects may occur, but withdrawing a drug precipitously can induce seizures. Not all patients have seizure control with therapeutic drug levels, because not all medications work for all patients. DIF: Cognitive Level: Application REF: p. 170 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies
Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 20: Drugs for Muscle Spasm and Spasticity

Test Bank

Multiple Choice

125. A nurse is teaching the parent of a child with spastic quadriplegia about intrathecal baclofen [Lioresal]. Which statement by the parent indicates a need for further teaching?
- “I can expect my child to be more drowsy when receiving this medication.”
 - “I should not notice any change in my child’s muscle strength.”
 - “I will contact the provider if my child is constipated or cannot urinate.”
 - “If my child has a seizure, I should stop giving the medication immediately.”

ANS: D

Seizures may occur if oral baclofen is withdrawn abruptly; seizures are not an adverse effect of baclofen. If intrathecal baclofen is stopped abruptly, patients can experience life-threatening effects, so parents should be advised not to stop the drug abruptly. The central nervous system effects of baclofen include drowsiness and lethargy, so these effects are expected. Baclofen does not reduce muscle strength. It can cause constipation and urinary retention, and patients should be advised to contact their provider so that these conditions can be treated. DIF: Cognitive Level: Application REF: pp. 197 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

126. A nurse is admitting a patient to the hospital. The patient reports taking oral baclofen [Lioresal] but stopped taking the drug the day before admission. The nurse would be correct to anticipate which adverse effects?
- Weakness and dizziness
 - Fatigue and drowsiness
 - Seizures and hallucinations
 - Respiratory depression and coma

ANS: C

Abrupt discontinuation of baclofen is associated with visual hallucinations, paranoid ideation, and seizures. Central nervous system effects of baclofen include weakness, dizziness, fatigue, and drowsiness. Respiratory depression is a result of overdose of baclofen. DIF: Cognitive Level: Application REF: pp. 195 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

127. A patient with cerebral palsy has severe muscle spasticity and muscle weakness. The patient is unable to take anything by mouth. The nurse is correct to anticipate that which medication will be ordered for home therapy?
- Baclofen [Lioresal]
 - Dantrolene [Dantrium]
 - Diazepam [Valium]
 - Metaxalone

[Skelaxin] ANS: A

Baclofen is used to treat muscle spasticity associated with multiple sclerosis, spinal cord injury, and cerebral palsy. It does not reduce muscle strength, so it will not exacerbate this patient's muscle weakness. It can be given intrathecally, via an implantable pump, and therefore is a good choice for patients who cannot take medications by mouth. Dantrolene must be given by mouth or intravenously and so would not be a good option for this patient. It also causes muscle weakness. Diazepam is not the first-line drug of choice. Alternative routes to PO administration are IM, IV, or by rectum. Metaxalone is used to treat localized muscle spasms caused by injury and is not used for cerebral palsy. DIF: Cognitive Level: Application REF: pp. 196 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

128. A patient has localized muscle spasms after an injury. The prescriber has ordered tizanidine [Zanaflex] to alleviate the spasms. When obtaining the patient's health history, the nurse should be concerned about which possible reason for considering another drug?
- Concomitant use of aspirin
 - A history of hepatitis
 - A history of malignant hyperthermia
 - Occasional use of alcohol

ANS: B

Hepatotoxicity is a serious potential problem in a patient receiving tizanidine, because the drug can cause liver damage. Baseline liver enzymes should be obtained before dosing and periodically thereafter. Analgesic anti-inflammatory drugs commonly are used in conjunction with centrally acting muscle relaxants, so using aspirin is not a concern. This drug does not contribute to malignant hyperthermia. Patients should be advised to avoid alcohol when taking this drug, but a history of occasional alcohol use is not a contraindication. DIF: Cognitive Level: Application REF: pp. 193 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

129. A patient with multiple sclerosis needs pharmacologic treatment for spasticity to begin strengthening exercises to improve walking ability. The nurse anticipates that which medication will be ordered for spasticity?
- Baclofen [Lioresal]
 - Dantrolene [Dantrium]
 - Diazepam [Valium]
 - Metaxalone [Skelaxin]

ANS: A

Baclofen is used to treat spasms associated with multiple sclerosis. It has no direct muscle relaxant effects, so it does not reduce muscle strength. Dantrolene works well to reduce spasms, but it also has significant effects on muscle strength. Diazepam is not the first-line drug of choice, but it could be used because it does not reduce muscle strength. Metaxalone is not indicated to treat spasms caused by multiple sclerosis. DIF: Cognitive Level: Application REF: pp. 196 TOP: Nursing

Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

130. A patient with cerebral palsy who has been receiving baclofen [Lioresal] via gastrostomy tube for 3 months is admitted to the hospital for evaluation of new-onset seizures. What may the nurse suspect to be the cause of these seizures?
- Baclofen toxicity
 - Common adverse effect of baclofen
 - Idiopathic causes related to disease process
 - Missed doses of baclofen

ANS: D

Baclofen does not appear to cause physical dependence, but abrupt discontinuation has been associated with adverse reactions. Abrupt withdrawal of oral baclofen can cause visual hallucinations, paranoid ideation, and seizures and should be considered when a patient develops these symptoms. Seizures are not a symptom of baclofen toxicity. DIF: Cognitive Level: Application REF: pp. 197 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

131. Which drugs are used to treat spasticity?
Select all that apply.

- Baclofen [Lioresal]
- Dantrolene [Dantrium]
- Diazepam [Valium]
- Metaxalone [Skelaxin]
- Tizanidine [Flexeril]

ANS: A , B , C

Three drugs—baclofen, dantrolene, and diazepam—are used to treat spasticity. Baclofen and diazepam act in the CNS, whereas dantrolene acts directly on skeletal muscles. With the exception of diazepam, drugs used for muscle spasm, such as metaxalone and tizanidine, are not effective for treating spasticity. DIF: Cognitive Level: Comprehension REF: pp. 193 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

132. A patient who has a lower back injury exhibits muscle spasms. The provider orders cyclobenzaprine [Flexeril] 10 mg three times a day. What will the nurse include when teaching this patient about this drug?
- “This drug carries some risk of developing hallucinations and psychotic symptoms.”
 - “This medication may cause your urine to turn brown, black, or dark green.”

- c. "You may experience blurred vision, dry mouth, or constipation."
- d. "You will need to have liver function tests performed while taking this medication."

ANS: C

Cyclobenzaprine has significant anticholinergic effects and patients should be warned about dry mouth, blurred vision, and constipation. Tizanidine can cause hallucinations and psychotic symptoms. Methocarbamol may turn urine brown, black, or green, which is a harmless side effect. Tizanidine and metaxalone can cause liver toxicity and require monitoring. DIF: Cognitive Level: Application REF: pp. 193 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

133. Which patient should receive dantrolene [Dantrium] with caution?

- a. A 20-year-old woman with a spinal cord injury
- b. A 45-year-old man with a history of malignant hyperthermia
- c. A 55-year-old woman with multiple sclerosis
- d. An 8-year-old child with cerebral palsy

ANS: C

Dose-related liver damage is the most serious adverse effect of dantrolene and is most common in women older than 35 years. Dantrolene is used to treat spasticity associated with multiple sclerosis, cerebral palsy, and spinal cord injury, so all of these patients would be candidates for this agent. Dantrolene also is used to treat malignant hyperthermia. DIF: Cognitive Level: Application REF: pp. 196 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

134. A nurse is caring for a patient receiving intrathecal baclofen [Lioresal]. The patient is unresponsive. After asking a coworker to contact the provider, the nurse anticipates performing which intervention?

- a. Preparing to support respirations
- b. Administering an antidote to baclofen
- c. Administering diazepam to prevent seizures
- d. Obtaining an electrocardiogram

ANS: A

An overdose of baclofen can produce coma and respiratory depression, so the nurse would be correct to suspect overdose in this patient. Respiratory support is essential to prevent a fatal outcome. There is no antidote for baclofen overdose. Diazepam would not be indicated, because seizures are not a result of baclofen overdose and may further depress respirations. An electrocardiogram is not indicated for this patient. DIF: Cognitive Level: Application REF: pp. 195 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 21: Local Anesthetics

Test Bank

Multiple Choice

135. A nurse is caring for a patient in the immediate postoperative period after surgery in which a spinal anesthetic was used. The patient has not voided and complains of headache. The patient has a pulse of 62 beats/minute, a respiratory rate of 16 breaths/minute, and a blood pressure of 92/48 mm Hg. Which action by the nurse is appropriate?
- Contact the anesthesiologist to request an order for ephedrine.
 - Have the patient sit up to relieve the headache pain.
 - Lower the head of the bed to a 10- to 15-degree head-down position.
 - Obtain an order for a urinary catheter for urinary retention.

ANS: C

Spinal anesthetics have several adverse effects, but the most significant is hypotension caused by the venous dilation that occurs from blockade of sympathetic nerves. The result is decreased blood return to the heart, which causes reduced cardiac output and a drop in blood pressure. The first step in treating this is to put the patient in a 10- to 15-degree head-down position to promote venous return to the heart. Ephedrine or phenylephrine is used if the first measure fails. Spinal headaches are common; the intervention for this is to have the patient assume a supine position. Urinary retention can occur secondary to autonomic blockade; it is a concern if the patient has not voided for 8 hours after the procedure, but not in the immediate postoperative period. DIF: Cognitive Level: Application REF: pp. 199 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

136. A nurse is assisting a physician who is preparing to suture a superficial laceration on a patient's leg. The physician asks the nurse to draw up lidocaine with epinephrine. The nurse understands that epinephrine is used with the lidocaine to:
- allow more systemic absorption to speed up metabolism of the lidocaine.
 - increase the rate of absorption of the lidocaine.
 - improve perfusion by increasing blood flow to the area.
 - prolong anesthetic effects and reduce the risk of systemic toxicity from lidocaine.

ANS: D

Epinephrine causes vasoconstriction, which reduces local blood flow and delays systemic absorption of lidocaine, which prolongs local anesthetic effects and reduces the risk of systemic toxicity. Epinephrine slows the rate of absorption. Epinephrine delays systemic absorption of lidocaine, so metabolism is slowed and the effects are prolonged in the periphery. Epinephrine does not increase local blood flow. DIF: Cognitive Level: Application REF: pp. 198 TOP: Nursing

Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

137. A nurse is preparing a patient to go home from the emergency department after receiving sutures for a laceration on one hand. The provider used lidocaine with epinephrine as a local anesthetic. Which symptom in this patient causes the most concern?
- Difficulty moving the fingers of the affected hand
 - Inability to feel pressure at the suture site
 - Nervousness and tachycardia
 - Sensation of pain returning to the wound

ANS: C

Absorption of the vasoconstrictor can cause systemic effects, including nervousness and tachycardia. If severe, alpha- and beta-adrenergic antagonists can be given. Local anesthetics are nonselective modifiers of neuronal function and also can block motor neurons, so it is expected that patients may have difficulty with movement. The sensation of pressure also is affected and is an expected effect. As the local anesthetic wears off, the sensation of pain will return. DIF: Cognitive Level: Application REF: pp. 198 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

138. A nurse is teaching a group of nursing students about local anesthetics. Which statement by a student reflects an understanding of the teaching?
- “Local anesthetics affect large myelinated neurons first.”
 - “Local anesthetics affect motor and sensory nerves.”
 - “Local anesthetics do not block temperature perception.”
 - “Local anesthetics do not cause systemic effects.”

ANS: B

Local anesthetics are nonselective modifiers of neuronal function. They block actions in motor and sensory nerves. They affect small myelinated neurons first. They block temperature, pressure, and pain sensation. When absorbed into the systemic circulation, they can cause systemic effects. DIF: Cognitive Level: Application REF: pp. 197 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

139. Which are important considerations when spinal anesthesia is being administered? Select all that apply.
- Encouraging the patient to remain supine after the procedure
 - Having epinephrine available in case of adverse effects
 - Injecting a local anesthetic into the sacral region

- d. Placing the agent into the spinal column outside the dura mater
- e. Using an anesthetic solution from a single-dose vial

ANS: A , B , E

Spinal anesthesia frequently causes headache; these headaches are posture-dependent and can be relieved by having the patient assume a supine position. Epinephrine is used if significant hypotension occurs as an adverse effect of spinal anesthesia and should be kept nearby. All anesthesia used in spinal anesthesia must be preservative free, so it would be drawn up from a single-dose vial. Spinal anesthesia is produced by injecting local anesthetic into the subarachnoid space with injection made in the lumbar region below the termination of the cord. Epidural anesthesia is injected into the spinal column outside the dura mater. DIF: Cognitive Level: Comprehension REF: pp. 199 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

140. A nurse is discussing the use of cocaine as a local anesthetic with a nursing student. Which statement by the student indicates understanding of this agent?
- a. "Anesthetic effects develop slowly and persist for several hours."
 - b. "Cocaine is a local anesthetic administered by injection."
 - c. "Vasoconstrictors should not be used as adjunct agents with this drug."
 - d. "When abused, cocaine causes physical dependence."

ANS: C

Cocaine should not be combined with epinephrine or other vasoconstrictors, because it causes vasoconstriction itself, and the combination could precipitate severe hypertension. Cocaine has a rapid onset of effects, which last about 1 hour. It is used only topically for anesthesia. Although subject to widespread abuse with profound psychologic dependence, it does not cause substantial physical dependence. DIF: Cognitive Level: Analysis REF: pp. 200 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

141. A nurse is assisting a physician who is performing a circumcision on a newborn. The physician asks the nurse to prepare lidocaine and epinephrine for injection to provide anesthesia. What will the nurse do?
- a. Ask the provider why an injectable anesthetic is being used for this procedure.
 - b. Draw up the medication as ordered and prepare the infant for the procedure.
 - c. Make sure that seizure precautions are in place.
 - d. Question the use of the epinephrine for this procedure.

ANS: D

The physician is preparing to use infiltration anesthesia by injecting the local anesthetic directly into the immediate area of surgery. Epinephrine can be used in some cases but should never be used in areas supplied by end arteries, such as the penis, toes, fingers, nose, or ears, because

restriction of blood flow in these areas can result in gangrene. Injectable agents are appropriate for this procedure. The nurse should not draw up the medication as requested, because the combination of agents can harm the patient. Seizure precautions are not necessary. DIF: Cognitive Level: Application REF: pp. 198 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

142. A nurse is assisting the physician during a procedure in which a local anesthetic is administered. Within a few minutes of administration of the anesthetic, the patient has a pulse of 54 beats/minute, respirations of 18 breaths/minute, and a blood pressure of 90/42 mm Hg. The nurse should monitor the patient for further signs of:

- a. heart block.
- b. anaphylaxis.
- c. central nervous system excitation.
- d. respiratory depression.

ANS: A

When absorbed in a sufficient amount, local anesthetics can affect the heart and blood vessels. These drugs suppress excitability in the myocardium and conduction system and can cause hypotension, bradycardia, heart block, and potentially cardiac arrest. Anaphylaxis would be manifested by hypotension, bronchoconstriction, and edema of the glottis. Central nervous system excitation would be manifested by hyperactivity, restlessness, and anxiety and may be followed by convulsions. No evidence indicates respiratory depression; this patient's respirations are within normal limits. DIF: Cognitive Level: Application REF: pp. 199 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

143. A nurse is teaching a patient who has a second-degree burn on one arm about the use of a topical anesthetic for pain. Which statement by the patient indicates understanding of the teaching?

- a. "I will apply a thin layer of the medication to a small area of skin."
- b. "I will cover the burn with a dressing after applying the medication."
- c. "I will make sure to apply the medication to the entire burn area."
- d. "I will use the medication only on the most painful, blistered areas."

ANS: A

Topical anesthetics can be absorbed in sufficient amounts to cause serious and even life-threatening systemic toxicity, so they should be applied in the smallest amount needed to as small an area as possible. Covering the site increases the skin's temperature, which increases absorption, so this should be avoided. Applying the medication to a large area increases systemic absorption. Applying the medication to broken skin increases systemic absorption. DIF: Cognitive Level: Application REF: pp. 200 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

144. Vasoconstrictors are combined with local anesthetics for which reasons?

Select all that apply.

- a. To enhance absorption
- b. To reduce the risk of toxicity
- c. To prevent bradycardia
- d. To shorten the duration of action
- e. To prolong anesthesia

ANS: B , E

Vasoconstrictors, when combined with local anesthetics, reduce the risk of toxicity and prolong the anesthetic effects. Vasoconstrictors, when combined with local anesthetics, do not speed up the absorption process, prevent bradycardia, or shorten the duration of action. DIF: Cognitive Level: Application REF: pp. 198 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

145. A patient receives an epidural anesthetic during labor and delivery. The nurse caring for the newborn in the immediate postpartum period will observe the infant for:

- a. bradycardia.
- b. hypoglycemia.
- c. jitteriness.
- d. tachypnea.

ANS: A

Local anesthetics can cross the placenta, causing bradycardia and central nervous system (CNS) depression in the infant. They do not affect blood glucose. Jitteriness is a sign of CNS excitation. Increased respirations are not an adverse effect in the newborn. DIF: Cognitive Level: Application REF: pp. 199 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 22: Opioid Analgesics, Opioid Antagonists, and Nonopioid Centrally Acting Analgesics

Test Bank

Multiple Choice

146. A patient who has had abdominal surgery has been receiving morphine sulfate via a patient-controlled analgesia (PCA) pump. The nurse assesses the patient and notes that the patient's pupils are dilated and that the patient is drowsy and lethargic. The patient's heart rate is 84

beats/minute, the respiratory rate is 10 breaths/minute, and the blood pressure is 90/50 mm Hg. What will the nurse do?

- a. Discuss possible opiate dependence with the patient's provider.
- b. Encourage the patient to turn over and cough and take deep breaths.
- c. Note the effectiveness of the analgesia in the patient's chart.
- d. Prepare to administer naloxone and possibly ventilatory support.

ANS: D

Opioid toxicity is characterized by coma, respiratory depression, and pinpoint pupils. Although pupils are constricted initially, they may dilate as hypoxia progresses, which also causes blood pressure to drop. This patient has a respiratory rate of fewer than 12 breaths/minute, dilated pupils, and low blood pressure; the patient also is showing signs of central nervous system (CNS) depression. The nurse should prepare to give naloxone and should watch the patient closely for respiratory collapse. Patients with opioid dependence show withdrawal symptoms when the drug is discontinued. When postoperative patients have adequate analgesia without serious side effects, encouraging patients to turn, cough, and breathe deeply is appropriate. This patient is probably relatively pain free, but providing emergency treatment is the priority. DIF: Cognitive Level: Application REF: pp. 207 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

147. A patient asks the nurse what can be given to alleviate severe, chronic pain of several months' duration. The patient has been taking oxycodone [OxyContin] and states that it is no longer effective. The nurse will suggest discussing which medication with the provider?

- a. Fentanyl [Duragesic] transdermal patch
- b. Hydrocodone [Vicodin] PO
- c. Meperidine [Demerol] PO
- d. Pentazocine [Talwin] PO

ANS: A

Transdermal fentanyl is indicated only for persistent, severe pain in patients already opioid tolerant. Hydrocodone, a combination product, has actions similar to codeine and is not used for severe, chronic pain. Meperidine is not recommended for continued use because of the risk of harm caused by the accumulation of a toxic metabolite. Pentazocine is an agonist-antagonist opioid and is less effective for pain; moreover, when given to a patient who is already opioid tolerant, it can precipitate an acute withdrawal syndrome. DIF: Cognitive Level: Application REF: pp. 208 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

148. Which side effects of opioid analgesics can have therapeutic benefits?
Select all that apply.

- a. Biliary colic

- b. Cough suppression
- c. Suppression of bowel motility
- d. Urinary retention
- e. Vasodilation

ANS: B , C , E

Individual effects of morphine may be beneficial, detrimental, or both. Cough suppression is usually beneficial; suppression of bowel motility and vasodilation can be either beneficial or detrimental. Biliary colic and urinary retention are always detrimental side effects. DIF: Cognitive Level: Analysis REF: pp. 204 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

149. A patient with cancer has been taking an opioid analgesic four times daily for several months and reports needing increased doses for pain. What will the nurse tell the patient?
- a. PRN dosing of the drug may be more effective.
 - b. The risk of respiratory depression increases over time.
 - c. The patient should discuss increasing the dose with the provider.
 - d. The patient should request the addition of a benzodiazepine to augment pain relief.

ANS: C

This patient is developing tolerance, which occurs over time and is evidenced by the need for a larger dose to produce the effect formerly produced by a smaller dose. This patient should be encouraged to request an increased dose. PRN dosing is less effective than scheduled, around-the-clock dosing. The risk of respiratory depression decreases over time as patients develop tolerance to this effect. Benzodiazepines are CNS depressants and should not be given with opioids, because they increase the risk of oversedation. DIF: Cognitive Level: Application REF: pp. 206 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

150. A patient will receive buprenorphine [Butrans] as a transdermal patch for pain. What is important to teach this patient about the use of this drug?
- a. Avoid prolonged exposure to the sun.
 - b. Cleanse the site with soap or alcohol.
 - c. Remove the patch daily at bedtime.
 - d. Remove hair by shaving before applying the patch.

ANS: A

Patients using the buprenorphine transdermal patch should be cautioned against heat, heating pads, hot baths, saunas, and prolonged sun exposure. The skin should be cleaned with water only. The patch should stay on for 7 days before a new patch is applied. Patients should remove hair by clipping, not shaving. DIF: Cognitive Level: Application REF: pp. 214 TOP: Nursing Process:

Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

151. A patient with moderate to severe chronic pain has been taking oxycodone [OxyContin] 60 mg every 6 hours PRN for several months and tells the nurse that the medication is not as effective as before. The patient asks if something stronger can be taken. The nurse will contact the provider to discuss:
- administering a combination opioid analgesic/acetaminophen preparation.
 - changing the medication to a continued-release preparation.
 - confronting the patient about drug-seeking behaviors.
 - withdrawing the medication, because physical dependence has occurred.

ANS: B

Oxycodone is useful for moderate to severe pain, and a continued-release preparation may give more continuous relief. Dosing is every 12 hours, not PRN. A combination product is not recommended with increasing pain, because the nonopioid portion of the medication cannot be increased indefinitely. This patient does not demonstrate drug-seeking behaviors. Physical dependence is not an indication for withdrawing an opioid, as long as it is still needed; it indicates a need for withdrawing the drug slowly when the drug is discontinued. DIF: Cognitive Level: Application REF: pp. 212 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

152. A woman in labor receives meperidine [Demerol] for pain. The nurse caring for the infant will observe the infant closely for:
- congenital anomalies.
 - excessive crying and sneezing.
 - respiratory depression.
 - tremors and hyperreflexia.

ANS: C

Use of morphine or other opioids during delivery can cause respiratory depression in the neonate, because the drug crosses the placenta. Infants should be monitored for respiratory depression and receive naloxone if needed. Opioids given during delivery do not contribute to birth defects in the newborn. Excessive crying and sneezing and tremors and hyperreflexia are signs of neonatal opioid dependence, which occurs with long-term opioid use by the mother during pregnancy and not with short-term use of these drugs during labor. DIF: Cognitive Level: Application REF: pp. 207 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

153. A patient has been taking methadone [Dolophine] for 5 months to overcome an opioid addiction. The nurse should monitor the patient for which of the following electrocardiographic changes?
- Prolonged QT interval
 - Prolonged P-R interval
 - AV block
 - An elevated QRS complex

ANS: A

Methadone prolongs the QT interval. It does not prolong the P-R interval, cause AV block, or produce an elevated QRS complex. DIF: Cognitive Level: Application REF: p. 211 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

154. A patient who has developed opioid tolerance will experience which effect?
- Decreased analgesic effect
 - Decreased constipation
 - Increased euphoria
 - Increased respiratory depression

ANS: A

Patients who develop tolerance to opioids will develop tolerance to its analgesic, euphoric, and sedative effects and will also develop tolerance to respiratory depression. Very little tolerance develops to constipation. DIF: Cognitive Level: Application REF: p. 206 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

155. A nurse is preparing a pediatric patient for surgery and is teaching the patient and the child's parents about the use of the patient-controlled analgesia pump. The parents voice concern about their child receiving an overdose of morphine. What will the nurse do?
- Instruct the parents not to activate the device when their child is sleeping.
 - Reassure the parents that drug overdose is not possible with PCA.
 - Suggest that the child use the PCA sparingly.
 - Tell the patient that the pump can be programmed for PRN dosing only.

ANS: A

The nurse should instruct parents not to activate the PCA when their child is sleeping because that can lead to drug overdose. Postoperative pain should be treated appropriately with medications that are effective. Nonopioid medications are not sufficient to treat postoperative pain. Patients should be encouraged to use the PCA as needed so that pain can be controlled in a timely fashion. PRN dosing is not as effective as dosing that is continuous, so a basal dose should be given as well

as a PRN dose.DIF: Cognitive Level: ApplicationREF: p. 206TOP: Nursing Process: Planning
MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

156. A patient is brought to the emergency department by friends, who report finding the patient difficult to awaken. The friends report removing two fentanyl transdermal patches from the patient's arm. On admission to the emergency department, the patient has pinpoint pupils and a respiratory rate of 6 breaths/minute. A few minutes after administration of naloxone, the respiratory rate is 8 breaths/minute and the patient's pupils are dilated. The nurse recognizes these symptoms as signs of:

- a. a mild opioid overdose.
- b. decreased opioid drug levels.
- c. improved ventilation.
- d. worsening hypoxia.

ANS: D

The classic triad of symptoms of opioid overdose are coma, respiratory depression, and pinpoint pupils. The pupils may dilate as hypoxia worsens, and this symptom, along with continued respiratory depression (fewer than 12 breaths/minute), indicates worsening hypoxia. Fentanyl is a strong opioid, so this is not likely to be a mild overdose, because the patient was wearing two patches. Fentanyl continues to be absorbed even after the patches are removed because of residual drug in the skin, so the drug levels are not likely to be decreasing. The patient does not have improved ventilation, because the respiratory rate is still fewer than 12 breaths/minute.DIF: Cognitive Level: ApplicationREF: pp. 207TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

157. A patient with chronic pain has been receiving morphine sulfate but now has decreased pain. The prescriber changes the medication to pentazocine [Talwin]. The nurse will monitor the patient for:

- a. euphoria.
- b. hypotension.
- c. respiratory depression.
- d. yawning and sweating.

ANS: D

Pentazocine is an agonist-antagonist opioid, and when given to a patient who is physically dependent on morphine, it can precipitate withdrawal. Yawning and sweating are early signs of opioid withdrawal. Pentazocine does not produce euphoria, hypotension, or respiratory depression.DIF: Cognitive Level: ApplicationREF: pp. 206TOP: Nursing Process: Planning
MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

158. A nurse is administering morphine sulfate to a postoperative patient. Which are appropriate routine nursing actions when giving this drug?
Select all that apply.

- a. Counting respirations before and after giving the medication
- b. Encouraging physical activity and offering increased fluids
- c. Monitoring the patient's blood pressure closely for hypertension
- d. Palpating the patient's lower abdomen every 4 to 6 hours
- e. Requesting an order for methylnaltrexone [Relistor] to prevent constipation

ANS: A , B , D

Respiratory depression, constipation, and urinary retention are common adverse effects of opioid analgesics. It is important to count respirations before giving the drug and periodically thereafter to make sure that respiratory depression has not occurred. Increased physical activity, increased fluid intake, and increased fiber help alleviate constipation. It is important to assess the patient's abdomen and palpate the bladder to make sure that urinary retention has not occurred. Patients taking morphine often experience hypotension, not hypertension. Methylnaltrexone is given as a last resort to treat constipation, because it blocks mu receptors in the intestine. DIF: Cognitive Level: Application REF: pp. 204 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

159. A patient who has biliary colic reports a pain level of 8 on a 1-to-10 pain scale with 10 being the most severe pain. The patient has an order for ibuprofen as needed for pain. Which action by the nurse is correct?

- a. Administer the ibuprofen as ordered.
- b. Contact the provider to discuss nonpharmacologic pain measures.
- c. Request an order for meperidine [Demerol].
- d. Request an order for morphine sulfate.

ANS: C

Opioids can induce spasm of the common bile duct and can cause biliary colic. For patients with existing biliary colic, morphine may intensify the pain. It is important to treat pain, however, and certain opioids, such as meperidine, which cause less smooth muscle spasm, may be given. Ibuprofen is used for mild-to-moderate pain and is not appropriate for this patient. Nonpharmacologic methods are appropriate when used as adjunctive therapy with an opioid. DIF: Cognitive Level: Application REF: pp. 210 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 23: Drugs for Headache

Test Bank

Multiple Choice

160. A young woman with migraine headaches who has recently begun taking sumatriptan [Imitrex] calls the nurse to report a sensation of chest and arm heaviness. The nurse questions the patient and determines that she feels pressure and not pain. What will the nurse do?
- Ask the patient about any history of hypertension or coronary artery disease.
 - Determine whether the patient might be pregnant.
 - Reassure the patient that this is a transient, reversible side effect of sumatriptan.
 - Tell the patient to stop taking the medication immediately.

ANS: C

Some patients taking sumatriptan experience unpleasant chest symptoms, usually described as “heavy arms” or “chest pressure.” These symptoms are transient and are not related to heart disease. Patients experiencing angina-like pain when taking sumatriptan, as a result of coronary vasospasm, should be asked about hypertension or coronary artery disease (CAD); they should not take sumatriptan if they have a history of either of these. The symptoms this patient describes are not characteristics of pregnancy. There is no need to stop taking the medication. DIF: Cognitive Level: Application REF: pp. 225 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

161. A patient who has migraine headaches has been using sumatriptan [Imitrex] with good results but reports frequent migraine recurrence 24 hours later. Which medication will the nurse expect the provider to order for this patient?
- Aspirin
 - Ergotamine [Ergomar]
 - Naratriptan [Amerge]
 - Zolmitriptan [Zomig]

ANS: C

Naratriptan has effects that persist longer than other triptans, and the 24-hour recurrence rate may be reduced when taking this formulation. Aspirin has a shorter half-life. Ergotamine and zolmitriptan do not have a long duration. DIF: Cognitive Level: Application REF: pp. 225 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

162. A patient arrives in the emergency department complaining of numbness in the extremities. The nurse notes that the patient’s hands and feet are cool and pale. When conducting a health history, the nurse learns that the patient has a history of migraine headaches. The nurse recognizes this patient’s symptoms as:
- ergotamine withdrawal.

- b. ergotism.
- c. severe migraine symptoms.
- d. sumatriptan side effects.

ANS: B

Ergotism is a serious toxicity caused by acute or chronic overdose of ergotamine. The toxicity results in ischemia, causing the extremities to become cold, pale, and numb. Symptoms associated with ergotamine withdrawal include headache, nausea, vomiting, and restlessness. These are not symptoms of a severe migraine or side effects of sumatriptan. DIF: Cognitive Level: Application REF: pp. 226 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

163. Which drugs are used to prevent migraine headaches?
Select all that apply.

- a. Divalproex [Depakote]
- b. Amitriptyline [Elavil]
- c. Timolol
- d. Ergotamine [Ergomar]
- e. Acebutolol

ANS: A , B , C

Preferred drugs for prophylaxis include propranolol, divalproex, and amitriptyline. Timolol is a beta blocker and can be used instead of propranolol. Acebutolol possesses intrinsic sympathomimetic activity and is not effective for migraine prophylaxis. Ergotamine is used for abortive therapy. DIF: Cognitive Level: Comprehension REF: pp. 227 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

164. Which medications are used to treat menstrually associated migraine (MAM)?
Select all that apply.

- a. Amitriptyline [Elavil]
- b. Estrogen
- c. Ergotamine [Ergomar]
- d. Frovatriptan [Frova]
- e. Naproxen

ANS: B , D , E

Menstrual migraines may be treated with estrogen, some perimenstrual triptans, such as frovatriptan, and Naproxyn. DIF: Cognitive Level: Comprehension REF: pp. 228 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

165. A patient who has a history of asthma experiences three or four migraine headaches each month. The patient uses sumatriptan [Imitrex] as an abortive medication and has developed medication-overuse headaches. The patient asks the nurse what can be done to prevent migraines. The nurse will suggest that the patient discuss which preventive medication with the provider?
- Botulinum toxin
 - Meperidine [Demerol]
 - Timolol
 - Topiramate [Topamax]

ANS: D

Topiramate can be used for migraine prophylaxis, and its benefits appear equal to those of the first-line beta blockers. Botulinum toxin can be used for migraine prophylaxis in patients who have 15 or more headaches a month. Meperidine may be used as abortive therapy but has addictive potential. Timolol is a beta blocker; this patient has asthma, and because beta blockers cause bronchoconstriction, these agents are not recommended. DIF: Cognitive Level: Application REF: pp. 228 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

166. A prescriber orders sumatriptan [Imitrex] for a patient for a migraine headache. Before administration of this drug, it would be most important for the nurse to assess whether the patient:
- has a family history of migraines.
 - has taken acetaminophen in the past 3 hours.
 - has taken ergotamine in the past 24 hours.
 - is allergic to sulfa compounds.

ANS: C

Sumatriptan, other triptans, and ergot alkaloids all cause vasoconstriction and should not be combined, or excessive and prolonged vasospasm could result. Sumatriptan should not be used within 24 hours of an ergot derivative and another triptan. A family history is important, but it is not vital assessment data as it relates to this scenario. Acetaminophen has no drug-to-drug interaction with sumatriptan. Sulfa is not a component of sumatriptan and therefore is not relevant. DIF: Cognitive Level: Application REF: pp. 225 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

167. A patient on the unit complains of cluster headaches. A new graduate nurse is asked to differentiate between a migraine headache and cluster headaches. The graduate nurse is correct to state that manifestations and/or risk factors for a patient with cluster headaches include what?
Select all that apply.

- a. Female gender
- b. Male gender
- c. Complaints of nausea and vomiting
- d. Short duration (15 min to 2 hr)
- e. Auras before the onset of headache pain
- f. Throbbing, sometimes piercing pain

ANS: B , D , F

Cluster headaches are more common in males, are short in duration, and present as throbbing and piercing pain. Migraine headaches are more common in females and are manifested by nausea and vomiting and the presence of an aura before the onset of headache pain. DIF: Cognitive Level: Application REF: p. 228 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

168. A patient who has migraine headaches is prescribed sumatriptan [Imitrex] 5 mg unit-dose nasal spray. The patient has administered two sprays at 1400, 1600, and 1800 and calls to report little relief from headache pain. What will the nurse instruct the patient to do?
- a. Administer two sprays at 2000 and call the provider if no relief.
 - b. Continue using two sprays every 2 hours as needed to relieve discomfort.
 - c. Contact the provider to ask about using an ergot alkaloid medication.
 - d. Use three sprays at the next dose to increase the dose.

ANS: A

Sumatriptan nasal spray may be used every 2 hours with a maximum 24-hour dose of 40 mg. The patient has already used 30 mg, and another two-spray dose will bring the total dose to 40 mg. The patient should be instructed to contact the provider if the next dose is not effective. Ergot alkaloids should not be given within 24 hours of a triptan. Increasing the next dose to 15 mg would exceed the 24-hour dose maximum. DIF: Cognitive Level: Analysis REF: pp. 224 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

169. A woman with moderate migraine headaches asks a nurse why the provider has ordered metoclopramide [Reglan] as an adjunct to aspirin therapy, because she does not usually experience nausea and vomiting with her migraines. The nurse will tell her that the metoclopramide is used to:
- a. help induce sleep.
 - b. improve absorption of the aspirin.
 - c. prevent gastric irritation caused by the aspirin.
 - d. prolong the effects of the aspirin.

ANS: B

Besides reducing nausea and vomiting, metoclopramide also reverses gastric stasis and improves absorption of oral antimigraine drugs. When aspirin-like analgesics are combined with metoclopramide, they may work as well as sumatriptan. Metoclopramide is not used to induce sleep. It does not prevent gastric irritation or prolong the effects of the aspirin. DIF: Cognitive Level: Application REF: pp. 222 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

170. Supplemental oxygen has been shown to help reduce symptoms for which type of headache?

- a. Cluster
- b. Menstrual migraine
- c. Migraine
- d. Tension-type

ANS: A

Cluster headaches can be treated with 100% oxygen inhalation. Oxygen therapy is not used to treat other types of headaches. DIF: Cognitive Level: Comprehension REF: pp. 229 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

171. A patient who has occasional migraine headaches tells a nurse that the abortive medication works well, but she would like to do more to prevent the occurrence of these headaches. The nurse will suggest that the patient:

- a. ask the provider about an adjunct medication, such as prochlorperazine.
- b. discuss the use of prophylactic medications with the provider.
- c. keep a headache diary to help determine possible triggers.
- d. take the abortive medication regularly instead of PRN.

ANS: C

Keeping a headache diary to try to identify triggers to migraines can be helpful when a patient is trying to prevent them and is the first step in managing headaches. Prochlorperazine is an antiemetic and does not prevent or abort migraine headaches. Prophylactic medications are used when headaches are more frequent. To prevent medication-overuse headache, abortive medications should not be used more than 1 to 2 days at a time. DIF: Cognitive Level: Application REF: pp. 222 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

172. A patient who has recurrent migraine headaches is prescribed sumatriptan [Imitrex]. Which aspect of this patient's history is of concern when taking this drug?

- a. Asthma

- b. Coronary artery disease
- c. Diabetes
- d. Renal disease

ANS: B

Serotonin receptor agonists can cause vasoconstriction and coronary vasospasm and should not be given to patients with coronary artery disease, current symptoms of angina, or uncontrolled hypertension. There is no contraindication for asthma, diabetes, or renal disease. DIF: Cognitive Level: Application REF: pp. 225 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 24: Antipsychotic Agents and Their Use in Schizophrenia

Test Bank

Multiple Choice

173. A patient with schizophrenia receives a dose of risperidone [Risperdal Consta] IM. The nurse teaching this patient about this medication will make which statement?
- a. "You will experience therapeutic levels of this drug in 1 to 2 weeks."
 - b. "You will need injections of this drug every 6 weeks."
 - c. "You will need to take an oral antipsychotic drug for 3 weeks."
 - d. "You probably will not have extrapyramidal symptoms with this drug."

ANS: C

Risperidone given intramuscularly is a depot preparation used for long-term therapy. Significant release of the drug does not occur until 2 to 3 weeks after injection; therefore, patients must take an oral antipsychotic medication until drug levels are raised. Therapeutic levels are reached 4 to 6 weeks after injection. Patients need injections every 2 weeks. With IM dosing, the incidence of extrapyramidal symptoms is substantial. DIF: Cognitive Level: Application REF: pp. 240 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

174. A patient with schizophrenia shows suicidal behaviors, and the provider orders clozapine [Clozaril]. The nurse teaches the family about the medication and its side effects. Which statement by a family member indicates a need for further teaching about this drug?
- a. "Blood counts are necessary for several weeks after discontinuation of the drug."
 - b. "Fever, sore throat, and sores in the mouth should be reported immediately."
 - c. "If the ANC is less than 3000, the drug will be discontinued permanently."
 - d. "Use of this drug requires weekly evaluation of blood work."

ANS: C

Clozapine can cause agranulocytosis. If the absolute neutrophil count (ANC) drops below 1000/mcL, the drug must be discontinued permanently. Blood counts must be evaluated weekly, and this evaluation should be continued for several weeks after withdrawal of the drug. Fever, sore throat, and mouth ulcers are symptoms of agranulocytosis and should be reported immediately. DIF: Cognitive Level: Comprehension REF: pp. 240 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

175. A patient in whom drug therapy has failed several times in the past is readmitted to a hospital to begin therapy for schizophrenia. What will the nurse do to help improve adherence?
- Encourage the patient to take responsibility for medication management.
 - Teach the patient about drug side effects and how to manage them.
 - Tell the patient that an abstinence syndrome will occur if the drug is stopped.
 - Tell the patient that the drug may be taken as needed to control symptoms.

ANS: B

One way to promote adherence to a medication regimen is to teach patients about drug side effects and how to minimize undesired responses. Family members should be encouraged to oversee medication management for outpatients, because patients themselves may fail to appreciate the need for therapy or may be unwilling to take prescribed medications. It is not true that an abstinence syndrome occurs when these drugs are withdrawn. These drugs are not used PRN; they must be given on a regular basis. DIF: Cognitive Level: Application REF: pp. 245 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

176. A nurse provides teaching for a patient about to begin taking an FGA drug for schizophrenia. Which statement by the patient indicates a need for further teaching about side effects of these drugs?
- “Dry mouth and constipation are uncommon with this medication.”
 - “I may experience gynecomastia and galactorrhea.”
 - “I may feel lightheaded or dizzy and should sit or lie down if this occurs.”
 - “Sedation may occur initially, but will subside in 1 to 2 weeks.”

ANS: A

Anticholinergic effects are common with FGAs, so this statement indicates a need for further teaching. Neuroendocrine effects, orthostatic hypertension, and sedation can occur with FGAs. DIF: Cognitive Level: Application REF: pp. 236 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

177. A patient taking an FGA medication develops severe parkinsonism and is treated with amantadine [Symmetrel]. The amantadine is withdrawn 2 months later, and the parkinsonism returns. The nurse will expect the provider to:
- give anticholinergic medications.
 - make a diagnosis of idiopathic parkinsonism.
 - resume the amantadine indefinitely.
 - try a second-generation antipsychotic (SGA).

ANS: D

Neuroleptic-induced parkinsonism is treated with some of the same drugs used for idiopathic parkinsonism, such as amantadine. If parkinsonism is severe, switching to an SGA may help, because the risk of parkinsonism is much lower with these drugs. An anticholinergic medication may be used initially. A recurrence of parkinsonism when the drug is withdrawn does not indicate idiopathic parkinsonism. These drugs should not be used indefinitely. DIF: Cognitive Level: Analysis REF: pp. 235 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

178. What are negative symptoms of schizophrenia?
Select all that apply.

- Delusions
- Disordered thinking
- Poor judgment
- Poor self-care
- Poverty of speech

ANS: C , D , E

Poor judgment, poor self-care, and poverty of speech are all negative symptoms of schizophrenia. Delusions and disordered thinking are positive symptoms. DIF: Cognitive Level: Comprehension REF: pp. 231 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

179. A patient is taking an FGA for schizophrenia. The nurse notes that the patient has trouble speaking and chewing and observes slow, wormlike-movements of the patient's tongue. The nurse recognizes which adverse effect in this patient?
- Acute dystonia
 - Akathisia
 - Parkinsonism
 - Tardive

dyskinesia ANS: D

Tardive dyskinesia can occur in patients during long-term therapy with FGAs. This patient shows signs of this adverse effect. Acute dystonia is characterized by severe spasm of muscles in the face, tongue, neck, or back, and by opisthotonus. Akathisia is characterized by constant motion. Parkinsonism is characterized by bradykinesia, drooling, tremor, rigidity, and a shuffling gait. DIF: Cognitive Level: Comprehension REF: pp. 236 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

180. A nurse and a nursing student are discussing the plan of care for a patient with schizophrenia. The patient, who has been taking a high-potency FGA for 2 months, has become restless and constantly needs to be in motion. Which statement by the student indicates a need for further education?
- “Anticholinergic medications may help control these symptoms.”
 - “Because this may be an exacerbation of psychosis, the provider may increase the dose of the FGA.”
 - “The provider may try a low-potency FGA instead of the high-potency FGA.”
 - “This patient may need to take a benzodiazepine or a beta blocker.”

ANS: B

The patient is showing signs of akathisia, which can resemble an exacerbation of psychosis. If the two are confused and the provider orders more of the FGA, the symptoms may actually increase. Anticholinergic medications may be used, a low-potency FGA may be ordered, or a benzodiazepine or beta blocker may be prescribed. DIF: Cognitive Level: Analysis REF: pp. 236 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

181. A patient who is taking a first-generation antipsychotic (FGA) drug for schizophrenia comes to the clinic for evaluation. The nurse observes that the patient has a shuffling gait and mild tremors. The nurse will ask the patient’s provider about which course of action?
- Administering a direct dopamine antagonist
 - Giving an anticholinergic medication
 - Increasing the dose of the antipsychotic drug
 - Switching to a second-generation antipsychotic drug

ANS: B

The patient is showing signs of parkinsonism, an extrapyramidal effect associated with antipsychotic medications. Anticholinergic medications are indicated. A direct dopamine antagonist would counter the effects of the antipsychotic and remove any beneficial effect it has. Increasing the dose of the antipsychotic medication would only worsen the extrapyramidal symptoms. A second-generation antipsychotic medication may be used if parkinsonism is severe, since the risk of parkinsonism is lower than with the FGA. This patient is exhibiting mild symptoms, so this is not necessary at this point. DIF: Cognitive Level: Analysis REF: pp. 235 TOP:

Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

182. A patient with schizophrenia has been taking an oral FGA for 1 week. The patient has been taking the drug daily in two divided doses. The individual complains of daytime drowsiness. The patient's family reports a decrease in the person's hostility and anxiety but states that the patient remains antisocial with disordered thinking. What will the nurse tell the patient and the family?
- An increased dose of the drug may be needed.
 - Intramuscular dosing may be needed.
 - Some symptoms take months to improve.
 - The entire dose may be taken at bedtime.

ANS: C

When patients begin therapy with antipsychotic medications, some symptoms resolve sooner than others. During the first week, agitation, hostility, anxiety, and tension may resolve, but other symptoms may take several months to improve. It is not necessary to increase the dose in the first week. IM dosing is indicated for patients with severe, acute schizophrenia and for long-term maintenance. Sedation is normal, and once an effective dose has been determined, the entire dose can be taken at bedtime, but not in the initial days of therapy. DIF: Cognitive Level: Application REF: pp. 245 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

183. A patient with schizophrenia has been taking an antipsychotic drug for several days. The nurse enters the patient's room to administer a dose of haloperidol [Haldol] and finds the patient having facial spasms. The patient's head is thrust back, and the patient is unable to speak. What will the nurse do?
- Administer the haloperidol as ordered.
 - Discuss increasing the haloperidol dose with the provider.
 - Request an order to give diphenhydramine.
 - Request an order to give levodopa.

ANS: C

An early reaction to antipsychotic drugs is acute dystonia. Initial treatment consists of an anticholinergic medication, such as diphenhydramine. Administering more antipsychotic medication would increase the symptoms and could be life threatening. Levodopa is not given for extrapyramidal symptoms, because it could counteract the beneficial effects of antipsychotic treatment. DIF: Cognitive Level: Analysis REF: pp. 235 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

184. A parent reports being afraid that a child may have schizophrenia because of disorganized speech and asocial behaviors. The nurse will tell this parent that which of the following must also be present to make a diagnosis?

Select all that apply.

- a. A decrease in self-care, job, or school function
- b. A history of substance abuse
- c. A 1-month duration of active phase symptoms
- d. Continuous signs of disturbance for longer than 6 months
- e. The presence of manic episodes

ANS: A , C , D

Patients must have at least two symptoms with 1-month duration of active symptoms. One symptom must be delusions, hallucinations, or disordered speech. Patients must have continuous signs of disturbance for longer than 6 months. A history of substance abuse and manic episodes are not associated with schizophrenia. DIF: Cognitive Level: Application REF: pp. 231 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

185. Which side effects are more common in second-generation antipsychotic medications than in first-generation antipsychotic medications?

Select all that apply.

- a. Agranulocytosis
- b. Anticholinergic effects
- c. Extrapyramidal symptoms
- d. Metabolism by CYP3A4
- e. Prolactin elevation

ANS: A , B , D

SGAs are more likely than FGAs to cause agranulocytosis and anticholinergic effects and are metabolized by CYP3A4 enzymes. They are not more likely to cause extrapyramidal effects or prolactin elevation. DIF: Cognitive Level: Application REF: pp. 231 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

186. A nurse in a mental health hospital finds a patient with schizophrenia who takes haloperidol [Haldol] lying rigid in bed with a temperature of 41.3°C. A cardiac monitor shows cardiac dysrhythmias. What will be included in the treatment of this patient?

Select all that apply.

- a. Anticholinergic medications
- b. Beta blockers
- c. Dantrolene

- d. Intravenous fluids
- e. Withdrawal of haloperidol

ANS: C , D , E

Neuroleptic malignant syndrome is characterized by “lead pipe” rigidity, sudden high fever, and autonomic instability. Treatment requires supportive measures, drug therapy, and immediate withdrawal of the antipsychotic medication. Dantrolene is used to relax muscles and reduce heat production. Intravenous fluids are used to maintain hydration. Anticholinergic medications and beta blockers are not helpful. DIF: Cognitive Level: Application REF: pp. 236 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

187. A patient who has diabetes mellitus is diagnosed with schizophrenia and the provider orders thioridazine. The patient asks the nurse why the provider has not ordered olanzapine [Zyprexa], which the patient has seen advertised on television. Which response by the nurse is the most important reason that this patient is not receiving olanzapine?
- a. “Olanzapine is more expensive than thioridazine.”
 - b. “Olanzapine causes more metabolic side effects than thioridazine.”
 - c. “Thioridazine has fewer side effects than olanzapine.”
 - d. “Thioridazine has a faster onset of action than olanzapine.”

ANS: B

Olanzapine is an SGA and, although it has fewer extrapyramidal side effects than the FGA the provider has ordered, it has an increased risk of metabolic side effects, which is contraindicated in patients with diabetes. It is more expensive, but this is not the most important reason for not prescribing it. Thioridazine has more side effects than olanzapine, but the side effects caused by olanzapine are more critical for this patient. Thioridazine does not have a faster onset of action. DIF: Cognitive Level: Analysis REF: pp. 240 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

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Chapter 25: Antidepressants

Test Bank

Multiple Choice

188. A patient who has been taking a monoamine oxidase inhibitor (MAOI) for depression for several months tells the provider that the medication has not helped with symptoms. The provider plans to switch the patient to an SSRI. The nurse will teach this patient to:
- a. start taking the SSRI and stop the MAOI when symptoms improve.

- b. start taking the SSRI and then gradually withdraw the MAOI.
- c. stop taking the MAOI and wait 5 weeks before starting the SSRI.
- d. stop taking the MAOI 2 weeks before starting the SSRI.

ANS: D

MAOIs increase 5-HT availability, thus greatly increasing the risk of serotonin syndrome. MAOIs should be withdrawn at least 14 days before an SSRI is started. An SSRI should never be given at the same time as an MAOI. It is not necessary to wait 5 weeks before starting an SSRI. DIF: Cognitive Level: Application REF: pp. 252 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

189. An older adult patient who is to begin taking imipramine [Tofranil] asks the nurse when the drug should be taken. The nurse will instruct the patient to:
- a. divide the daily dose into two equal doses 12 hours apart.
 - b. take the entire dose at bedtime to minimize the sedative effects.
 - c. take the medication once daily in the late afternoon.
 - d. take the medication once daily in the morning.

ANS: A

For many patients, taking the entire dose of a TCA at bedtime is advantageous for facilitating adherence, minimizing daytime sedation, and promoting sleep. However, older adult patients are at greater risk for cardiotoxicity and may experience intolerable effects on the heart if the entire dose is taken at once; therefore, twice-daily dosing is recommended in the elderly. DIF: Cognitive Level: Application REF: pp. 258 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

190. A young adult patient has been taking an antidepressant medication for several weeks and reports having increased thoughts of suicide. The nurse questions further and learns that the patient has attempted suicide more than once in the past. The patient identifies a concrete plan for committing suicide. The nurse will contact the provider to discuss:
- a. changing the medication to another drug class.
 - b. discontinuing the medication immediately.
 - c. hospitalizing the patient for closer monitoring.
 - d. requiring more frequent clinic visits for this patient.

ANS: C

Patients with depression often think of suicide, and during treatment with antidepressants, these thoughts often increase for a time. Patients whose risk of suicide is especially high should be hospitalized. All antidepressants carry this risk, so changing medication is not recommended. Discontinuing the medication is not recommended. More frequent clinic visits are recommended for patients with a low to moderate risk of suicide. DIF: Cognitive Level: Analysis REF: pp.

248TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

191. A patient has been taking an SSRI antidepressant for major depression and reports having headaches and jaw pain. What will the nurse tell the patient?
- This represents an irreversible extrapyramidal side effect.
 - Discuss discontinuing the antidepressant with the provider.
 - Discuss these symptoms with a dentist.
 - Try stress-relieving methods and relaxation techniques.

ANS: C

Bruxism is a side effect of SSRIs and can result in headache and jaw pain. Patients who experience these signs should be evaluated for bruxism by a dentist, who can determine whether the patient may benefit from the use of a mouth guard. Headache and jaw pain are not signs of extrapyramidal side effects. Discontinuing the antidepressant is not indicated, because depression may return. Stress-relieving methods and relaxation techniques are not recommended, because these symptoms occur during sleep. DIF: Cognitive Level: Application REF: pp. 252 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

192. A neonate is born to a patient who reports taking venlafaxine [Effexor XR]. The nurse caring for the infant will observe the infant for:
- irritability, tremor, and respiratory distress.
 - poor appetite and disturbed sleeping patterns.
 - serotonin syndrome.
 - sustained mydriasis.

ANS: A

Use of venlafaxine late in pregnancy can result in a neonatal withdrawal syndrome characterized by irritability, abnormal crying, tremor, respiratory distress, and possibly seizures. Poor appetite and disturbed sleep are not part of this withdrawal syndrome. Serotonin syndrome is not likely. Sustained mydriasis occurs as an adverse effect in patients taking the drug. DIF: Cognitive Level: Analysis REF: pp. 254 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

193. A patient is brought to the emergency department after taking a handful of TCA pills. The nurse will expect to provide what when caring for this patient?
Select all that apply.
- Cardiac monitoring
 - Cholinesterase inhibitors

- c. Gastric lavage and activated charcoal
- d. Sedative medications
- e. Procainamide

ANS: A , B , C

Patients who overdose with a TCA should have cardiac monitoring, because cardiac side effects can occur. Cholinesterase inhibitors are given to counteract anticholinergic side effects. Gastric lavage followed by activated charcoal can reduce absorption of the TCA. Sedative drugs would only increase the sedative effects of the TCA. Procainamide causes cardiac depression and is not recommended to treat TCA dysrhythmias. DIF: Cognitive Level: Application REF: pp. 257 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

194. A patient is diagnosed with major depression with severe symptoms and begins taking an antidepressant medication. Three weeks after beginning therapy, the patient tells the nurse that the drug is not working. The nurse will counsel this patient to ask the provider about:
- a. adding a second medication to complement this drug.
 - b. changing the medication to one in a different drug class.
 - c. increasing the dose of this medication.
 - d. using nondrug therapies to augment the medication.

ANS: D

Patients with severe depression benefit more from a combination of drug therapy and psychotherapy than from either component alone, so this patient should ask the provider about nondrug therapies. Once a drug has been selected for treatment, it must be used for 4 to 8 weeks before its efficacy can be assessed. Until a drug has been used at least 1 month without success, it should not be considered a failure. Adding a second medication, changing to a different medication, and increasing the dose of this medication should all be reserved until the current drug is deemed to have failed after at least 4 weeks. DIF: Cognitive Level: Analysis REF: pp. 247 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

195. Which patients are candidates for MAOIs?
Select all that apply.

- a. Patients who have not responded to SSRIs and TCAs
- b. Patients with atypical depression
- c. Patients with bulimia nervosa
- d. Patients with hypotension
- e. Patients with postpartum depression

ANS: A , B , C

Patients who have not responded to SSRIs or TCAs, patients with atypical depression, and patients with bulimia nervosa are candidates for MAOIs. MAOIs contribute to hypotension and therefore are contraindicated in patients with hypotension. MAOIs are not recommended for the treatment of postpartum depression. DIF: Cognitive Level: Comprehension REF: pp. 258 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

196. A patient whose spouse has died recently reports feeling down most of every day for the past 2 months. On further questioning, the nurse learns that the patient has quit participating in church and social activities, has difficulty falling asleep, and has lost 5 pounds. The patient reports feeling tired and confused all the time but does not have suicidal thoughts. What does the nurse suspect?

- a. Grief and sadness
- b. Hypomania
- c. Major depression
- d. Situational depression

ANS: C

This patient has symptoms of major depression, which include depressed mood, loss of pleasure in usual activities, insomnia, weight loss, and feelings of fatigue. For a diagnosis of major depression, these symptoms must be present most of the day, nearly every day, for at least 2 weeks. Grief and sadness and situational depression are common responses to the death of a loved one, but this patient's symptoms go beyond this normal response. This patient does not show signs of hypomania. DIF: Cognitive Level: Application REF: pp. 247 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Psychosocial Integrity: Grief and Loss

197. A patient taking an MAOI is seen in the clinic with a blood pressure of 170/96 mm Hg. What will the nurse ask this patient?

- a. Whether any antihypertensive medications are used
- b. Whether the patient drinks grapefruit juice
- c. To list all foods eaten that day
- d. Whether SSRIs are taken in addition to the MAOI

ANS: C

Patients taking an MAOI should be counseled to follow strict dietary restrictions and to avoid all foods containing tyramine. Patients who consume such foods when taking an MAOI experience a hypertensive episode. Antihypertensive medications, given with an MAOI, will result in hypotension. Grapefruit juice does not alter the metabolism of an MAOI. SSRIs and MAOIs, when administered together, cause a serotonin syndrome. DIF: Cognitive Level: Analysis REF: pp. 259 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

198. A patient taking fluoxetine [Prozac] complains of decreased sexual interest. A prescriber orders a “drug holiday.” What teaching by the nurse would best describe a drug holiday?
- “Cut the tablet in half anytime to reduce the dosage.”
 - “Discontinue the drug for 1 week.”
 - “Don’t take the medication on Friday and Saturday.”
 - “Take the drug every other day.”

ANS: C

Sexual dysfunction may be managed by having the patient take a drug holiday, which involves discontinuing medication on Fridays and Saturdays. Cutting the tablet in half anytime to reduce the dosage is an inappropriate way to manage drug administration effectively. In addition, it does not describe a drug holiday. The patient should not take the drug every other day, nor should it be discontinued for a week at a time, because this would diminish the therapeutic levels of the drug, thereby minimizing the therapeutic effects. In addition, neither of those options describe a drug holiday. DIF: Cognitive Level: Application REF: pp. 251 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

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Chapter 26: Drugs for Bipolar Disorder

Test Bank

Multiple Choice

199. A patient with bipolar disorder who wants to minimize the need for drug therapy asks the nurse what else can be done to treat the disorder. The nurse will recommend which measures? Select all that apply.
- Electroconvulsive therapy
 - Moderate use of alcohol to reduce stress
 - Psychotherapy
 - Regular sleep and exercise
 - Using a chart to monitor mood changes

ANS: C , D , E

BPD should be treated with a combination of drugs and adjunctive psychotherapy, because drug therapy alone is not optimal. Other measures, such as regular sleep and exercise and recognizing early symptoms of mood change, help minimize extreme mood swings. Electroconvulsive therapy is effective, but it is not the first-choice treatment; it is reserved for patients who have not responded to other therapies. Avoidance of alcohol is recommended. DIF: Cognitive Level: Application REF: pp. 271 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

200. A patient with bipolar disorder who is taking divalproex sodium [Valproate] has just been admitted to the hospital. During the admission assessment, the patient tells the nurse about recent suicidal ideation. The nurse observes several areas of bruising over soft tissue areas and notes a weight gain of 10 pounds since the last admission 1 year ago. What will the nurse do?

- a. Ask the patient whether the bruises are self-inflicted.
- b. Contact the provider to report these findings.
- c. Give the patient information about weight loss.
- d. Request an order for an increased dose to help with depressive symptoms.

ANS: B

Divalproex sodium is used to control symptoms during manic episodes and can prevent relapse into mania. It is less effective than lithium at reducing the risk of suicide. It can cause thrombocytopenia, which results in bruising and is an indication for immediate drug withdrawal. Weight gain can be serious and chronic. All of these findings are an indication for withdrawing the drug and should be reported to the provider. Until platelet levels determine whether the bruises are drug induced, it is not appropriate to ask the patient if they are self-inflicted. Because weight gain is common and can be severe with this drug, information about weight loss is not likely to have an effect. Divalproex sodium is better than lithium at treating depression; however, in light of the other symptoms, it is probably not the best choice. DIF: Cognitive Level: Application REF: pp. 274 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

201. A patient with bipolar disorder takes lamotrigine [Lamictal]. Which statement by the patient would prompt the nurse to hold the drug and notify the prescriber for further assessment?

- a. "I get a little dizzy sometimes."
- b. "I had a headache last week that lasted for about an hour."
- c. "I've broken out in a rash on my chest and back."
- d. "Last night I woke up twice with a bad dream."

ANS: C

Evidence of a rash in a patient taking lamotrigine requires further assessment, because this may indicate the development of Stevens-Johnson syndrome. Although dizziness and headaches are side effects of lamotrigine, they are not potentially life threatening. A bad dream is not necessarily related to the lamotrigine. DIF: Cognitive Level: Application REF: pp. 275 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

202. A patient who has recently begun taking carbamazepine [Equetro] for bipolar disorder reports having vertigo and headaches. Which action by the nurse is appropriate?

- a. Ask the provider whether another medication can be used for this patient, because the patient is showing signs of toxicity.
- b. Contact the provider to request a complete blood count (CBC) to evaluate for other, more serious side effects.
- c. Reassure the patient that these effects occur early in treatment and will resolve over time.
- d. Review the patient's chart for cytochrome P450 enzymes to see whether an increased dose is needed.

ANS: C

Carbamazepine can cause several neurologic side effects early in treatment, including vertigo and headaches. These resolve with continued drug use. These side effects are not related to drug toxicity. A CBC should be obtained at baseline and periodically thereafter. Carbamazepine can cause changes in hematologic laboratory values. The side effects reported by this patient are not associated with hematologic side effects. Carbamazepine induces cytochrome P450 enzymes and can accelerate its own metabolism, which would reduce the amount of drug and decrease side effects, so an increased dose is not appropriate. DIF: Cognitive Level: Application REF: pp. 275 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

203. A patient is admitted to a hospital for treatment for first-time symptoms of mania and is exhibiting euphoric mania. Which medication will the provider order?
- a. Lithium [Lithobid]
 - b. Olanzapine [Zyprexa]
 - c. Risperidone [Risperdal]
 - d. Divalproex sodium [Valproate]

ANS: A

In almost all cases of mania, divalproex sodium is the drug of choice, except for euphoric mania symptoms. Lithium is used to treat euphoric mania. Olanzapine and risperidone are used to treat other symptoms associated with BPD. DIF: Cognitive Level: Application REF: pp. 270 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

204. A patient with bipolar disorder has been taking lithium [Lithobid] for several years. The patient has developed a goiter, and serum tests reveal hypothyroidism. What will the nurse expect the provider to order for this patient?
- a. Administration of levothyroxine
 - b. Increasing the lithium dose
 - c. Iodine supplements
 - d. Referral to an endocrinologist

ANS: A

Patients taking lithium may experience reduced incorporation of iodine into the thyroid hormone, resulting in goiter and hypothyroidism. Administration of levothyroxine or withdrawing the lithium will reverse both. Increasing the lithium dose will make this worse. Iodine supplements are not indicated. The provider will either order stopping the lithium or administration of levothyroxine, which will reverse this condition, so referral to an endocrinologist is not necessary. DIF: Cognitive Level: Application REF: pp. 273 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

205. A nurse is preparing to administer medications to a hospitalized patient who has been taking lithium [Lithobid] for 3 days. The patient is complaining of mild nausea and abdominal bloating. The patient's lithium level is 0.8 mEq/L. What will the nurse do?
- Administer the dose and tell the patient that the side effects are temporary.
 - Contact the prescriber to request an order for serum electrolytes.
 - Hold the dose and notify the prescriber of the patient's lithium level.
 - Request an order for amiloride [Midamor].

ANS: A

This patient is experiencing side effects that are common and that occur at therapeutic levels of the drug. The lithium level is therapeutic and not toxic, so the nurse should give the dose and reassure the patient that the side effects will diminish over time. In the presence of low sodium, lithium can accumulate to toxic doses; therefore, if the lithium level were elevated, evaluating serum electrolytes would be advisable. The dose does not need to be withheld because the patient does not have toxic levels of lithium. Amiloride is used if patients are experiencing lithium-induced polyuria, which this patient does not have. DIF: Cognitive Level: Application REF: pp. 273 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

206. A patient recently was diagnosed with bipolar disorder. The patient, who has a history of seasonal allergies, is an athlete who participates in track. The nurse is teaching the patient about lithium [Lithobid], which the prescriber has just ordered. Which statement by the patient indicates the need for further teaching?
- "I can continue to use ibuprofen as needed for muscle pain."
 - "I should drink extra fluids before and during exercise."
 - "I should not use antihistamines while taking lithium."
 - "I should report muscle weakness and tremors to my provider."

ANS: A

Because nonsteroidal anti-inflammatory drugs (NSAIDs) can increase lithium levels as much as 60%, they should not be used by patients taking lithium. Aspirin does not have this effect. Lithium induces polyuria in 50% to 70% of patients, so patients should be advised to drink extra fluids,

especially during exercise. Antihistamines have anticholinergic effects, which cause urinary hesitancy; this can be uncomfortable when patients experience the polyuria associated with lithium use. Muscle weakness and tremors can occur with lithium; tremors can be treated with beta blockers or by altering the lithium regimen. DIF: Cognitive Level: Application REF: pp. 273 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

207. A patient with bipolar disorder is admitted to the hospital. The patient has been taking lithium [Lithobid] for several years and has not been evaluated by a provider for over a year. Besides obtaining a lithium level, the nurse caring for this patient will anticipate orders for which laboratory tests?
Select all that apply.

- a. Calcium level
- b. Complete blood count with differential
- c. Liver function tests
- d. Renal function tests
- e. Serum potassium
- f. Thyroid function tests

ANS: B , D , F

Patients taking lithium can develop a mild, reversible leukocytosis, so annual CBC evaluation with differential is recommended. Chronic lithium use is associated with degenerative changes in the kidneys, so renal function should be assessed annually. Lithium can reduce the incorporation of iodine into thyroid hormone and can inhibit thyroid secretion; therefore, thyroid hormone and thyroid-stimulating hormone (TSH) levels should be measured annually. Lithium is affected by sodium levels but not by calcium or potassium levels. Because lithium is excreted by the kidneys, hepatic function tests are not indicated. DIF: Cognitive Level: Application REF: pp. 273 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

208. The spouse of a patient with bipolar disorder (BPD) tells the nurse that the patient will not stay on the lithium ordered by the provider longer than 1 or 2 months at a time. The nurse understands that adherence to medication regimens in patients with BPD is problematic and will tell the spouse:

- a. "During manic episodes, many patients don't see the benefit of prophylactic medications."
- b. "Increased gastrointestinal side effects occur over time and reduce compliance."
- c. "Long-term use of lithium causes memory impairment, causing patients to forget to take their medications."
- d. "Patients who are depressed do not want to take their medications."

ANS: A

Patients experiencing manic symptoms often do not see anything wrong with their thinking and behavior and therefore do not believe they need treatment. Moreover, these symptoms are often enjoyable, and they do not want them to stop. Gastrointestinal side effects and central nervous system (CNS) effects of memory impairment subside over time and would diminish with long-term treatment. Patients are usually most uncomfortable during depressive episodes, and it is during these episodes that they often seek treatment. DIF: Cognitive Level: Application REF: pp. 271 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

209. A patient with bipolar disorder has frequent manic episodes alternating with depressive episodes. The prescriber orders risperidone [Risperdal] in addition to the lithium [Lithobid] that the patient is already taking. The patient asks the nurse why another drug is needed. The nurse will tell the patient that the risperidone is used to:
- elevate mood during depressive episodes.
 - help control symptoms during manic episodes.
 - manage tremors associated with lithium use.
 - prevent recurrence of depressive episodes.

ANS: B

Risperidone is an antipsychotic often used in conjunction with lithium to help manage symptoms during manic episodes, regardless of whether psychotic symptoms occur. Risperidone does not elevate mood and is not used during depressive episodes. It is not used to counter side effects associated with lithium. It does not prevent recurrence of depressive episodes. DIF: Cognitive Level: Application REF: pp. 275 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 27: Sedative-Hypnotic Drugs

Test Bank

Multiple Choice

210. A patient with a new-onset seizure disorder receives a prescription for phenobarbital. The patient reports being concerned about the sedative side effects of this drug. Which response by the nurse is correct?
- “Phenobarbital doses for seizures are nonsedating.”
 - “This is a short-acting barbiturate, so sedation wears off quickly.”
 - “Tolerance to the sedative effects will develop in a few weeks.”
 - “You may actually experience paradoxical effects of euphoria.”

ANS: A

Phenobarbital and mephobarbital are used for seizure disorders and suppress seizures at doses that are nonsedative. Phenobarbital is a long-acting barbiturate. At therapeutic doses, sedative effects do not occur. Paradoxical drug effects are associated with benzodiazepines and in older adults and debilitated patients with barbiturates. DIF: Cognitive Level: Application REF: p. 281 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

211. A patient who travels frequently for business reports occasional instances of being unable to fall asleep. The patient tells the nurse that job demands require staying up late and then getting up early for meetings. The nurse expects that the provider will prescribe which medication for this patient?
- Flurazepam
 - Trazodone [Desyrel]
 - Zaleplon [Sonata]
 - Zolpidem [Ambien]

ANS: C

Zaleplon [Sonata] works well for people who have trouble falling asleep and, because of its short duration of action, can be taken late at night without causing a hangover or next-day sedation early in the morning. Zolpidem [Ambien] has a longer duration and is a good choice for patients who have difficulty maintaining sleep. Flurazepam has a long duration of action. Trazodone causes daytime grogginess. DIF: Cognitive Level: Application REF: p. 279 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

212. A patient who is experiencing alcohol withdrawal is given a benzodiazepine. The nurse understands that this drug is effective because:
- the alcohol does not interact with the benzodiazepine.
 - the benzodiazepine potentiates alcohol withdrawal symptoms.
 - the benzodiazepine relieves muscle spasms and spasticity.
 - the patient has a cross-dependence to the benzodiazepine.

ANS: D

Benzodiazepines are given to ease withdrawal from alcohol because of cross-dependence with these drugs and alcohol, enabling the benzodiazepine to suppress withdrawal symptoms. Alcohol and benzodiazepines can potentiate one another. The benzodiazepine does not potentiate withdrawal symptoms. DIF: Cognitive Level: Analysis REF: p. 276 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

213. A patient in the emergency department is given intravenous diazepam [Valium] for seizures. When the seizures stop, the nurse notes that the patient is lethargic and confused and has a respiratory rate of 10 breaths/minute. The nurse will expect to administer which of the following?
- Flumazenil [Romazicon]
 - Gastric lavage
 - Respiratory support
 - Toxicology testing

ANS: C

When benzodiazepines are administered IV, severe effects, including profound hypotension, respiratory arrest, and cardiac arrest, can occur. Respiration should be monitored, and the airway must be managed if necessary. Flumazenil [Romazicon] is a competitive benzodiazepine receptor antagonist and is used to reverse the sedative effects but may not reverse respiratory depression. Gastric lavage would not be effective, because the benzodiazepine has been given IV. Without further indication of the ingestion of other drugs, toxicology testing is not a priority. DIF: Cognitive Level: Application REF: p. 277 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

214. A patient who has been using secobarbital for several months to treat insomnia tells the nurse that the prescriber has said the prescription will be changed to temazepam [Restoril] because it is safer. The patient asks why this agent is safer. The nurse is correct in telling the patient that temazepam:
- does not depress the central nervous system.
 - shows no respiratory depression, even in toxic doses.
 - mimics the actions of a central nervous system inhibitory neurotransmitter.
 - potentiates endogenous gamma-aminobutyric acid (GABA) producing a finite CNS depression.

ANS: D

Benzodiazepines potentiate the actions of GABA, and because the amount of GABA in the CNS is finite, these drugs' depressive effect on the CNS is limited. Benzodiazepines depress the CNS but not to the extent that barbiturates do. Benzodiazepines are weak respiratory depressants at therapeutic doses and moderate respiratory depressants at toxic doses. Barbiturates mimic GABA; therefore, because they produce CNS depression, this effect is limited only by the amount of barbiturate administered. DIF: Cognitive Level: Application REF: p. 276 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

215. A hospitalized patient who is given one dose of flurazepam continues to show drowsiness the next day. A nursing student asks the nurse the reason for this, because the drug's half-life is only 2 to 3 hours. Which response by the nurse is correct?

- a. "Benzodiazepines commonly cause residual effects lasting into the day after the dose is given."
- b. "The patient is having a paradoxical reaction to this medication."
- c. "This patient must have developed a previous tolerance to benzodiazepines."
- d. "When this drug is metabolized, the resulting compound has longer-lasting effects."

ANS: D

Flurazepam has a half-life of 2 to 3 hours; however, its metabolite has a long half-life, so giving the drug results in long-lasting effects. Barbiturates, not benzodiazepines, are commonly associated with residual, or hangover, effects. A paradoxical reaction to a sedative would manifest as insomnia, euphoria, and excitation, not drowsiness. Tolerance means that the patient would need increased amounts of a drug to get the desired effects and would not have prolonged effects of the medication. DIF: Cognitive Level: Analysis REF: p. 276 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

216. A patient takes temazepam [Restoril] for insomnia. The patient tells the nurse that a recent telephone bill lists several calls to friends that the patient does not remember making. What will the nurse do?
- a. Ask the patient about any alcohol consumption in conjunction with the benzodiazepine.
 - b. Contact the prescriber to request an order for a benzodiazepine with a shorter duration.
 - c. Reassure the patient that this is most likely caused by a paradoxical reaction to the benzodiazepine.
 - d. Tell the patient that this is an example of anterograde amnesia, which is an expected effect of the benzodiazepine.

ANS: A

This patient is describing complex sleep-related behavior, which occurs when patients carry out complex behaviors while taking benzodiazepines but have no memory of their actions. These actions can occur with normal doses but are more likely with excessive doses or when benzodiazepines are combined with alcohol or other CNS depressants, so the nurse is correct in evaluating this possibility. The duration of the benzodiazepine does not contribute to this phenomenon. Paradoxical effects of benzodiazepines include insomnia, excitation, euphoria, anxiety, and rage. Anterograde amnesia occurs when patients have impaired recall of events that occur after dosing. DIF: Cognitive Level: Analysis REF: p. 277 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

217. A nurse is discussing the use of benzodiazepines as sedative-hypnotic agents with a group of nursing students. A student asks about the actions of these drugs in the central nervous system. The nurse makes which correct statement?

- a. "Benzodiazepines affect the hippocampus and the cerebral cortex to cause anterograde amnesia."
- b. "Benzodiazepines depress neuronal functions by acting at a single site in the brain."
- c. "Benzodiazepines induce muscle relaxation by acting on sites outside the central nervous system."
- d. "Benzodiazepines promote sleep through effects on the limbic system."

ANS: A

All beneficial and most adverse effects of benzodiazepines occur from depressant actions in the central nervous system (CNS); the various effects depend on the site of action. Anterograde amnesia is the result of effects in the hippocampus and the cerebral cortex. Benzodiazepines act at multiple sites in the CNS. Muscle relaxant effects are the result of actions on supraspinal motor areas in the CNS. Benzodiazepines promote sleep through effects on cortical areas and on the sleep-wakefulness "clock."DIF: Cognitive Level: AnalysisREF: p. 275TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 28: Management of Anxiety

Disorders Test Bank

Multiple Choice

218. A patient who has been taking alprazolam [Xanax] to treat generalized anxiety disorder (GAD) reports recently stopping the medication after symptoms have improved but reports having feelings of panic and paranoia. Which initial action by the nurse is correct?
- a. Ask the patient if the medication was stopped abruptly.
 - b. Instruct the patient to resume taking the alprazolam.
 - c. Notify the provider that the patient is experiencing a relapse.
 - d. Suggest that the patient discuss taking buspirone [Buspar] with the provider.

ANS: A

Long-term use of benzodiazepines can cause physical dependence, with symptoms of panic, paranoia, and delirium occurring with abrupt withdrawal. These symptoms can be confused with symptoms of relapse of anxiety, so the nurse should evaluate this by first asking about how the medication was discontinued. If the symptoms are caused by a relapse, the patient should resume taking the alprazolam. Buspirone is not indicated.DIF: Cognitive Level: AnalysisREF: pp. 288TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

219. A patient is diagnosed with anxiety after describing symptoms of tension, poor concentration, and difficulty sleeping that have persisted for over 6 months. Which medication will the nurse expect the provider to order for this patient?
- Alprazolam [Xanax]
 - Amitriptyline [Elavil]
 - Bupirone [Buspar]
 - Paroxetine [Paxil]

ANS: C

This patient has symptoms of generalized anxiety disorder (GAD) that are not acute or severe. Bupirone is as effective as benzodiazepines but without causing CNS depression or having the same abuse potential. Symptoms develop slowly, which is acceptable in this case, since symptoms are not acute or severe. Alprazolam is a benzodiazepine and would be used in the short term to treat acute, severe anxiety. Amitriptyline is a TCA used to treat panic disorder. Paroxetine is an antidepressant used as a second-line drug for GAD. DIF: Cognitive Level: Application REF: pp. 287 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

220. A nurse is preparing a patient who will stop taking lorazepam [Ativan] for anxiety and begin taking bupirone [Buspar]. Which statement by the patient indicates a need for further teaching?
- “I can drink alcohol when taking Buspar, but not grapefruit juice.”
 - “I may need to use a sedative medication if I experience insomnia.”
 - “I may not feel the effects of Buspar for a few weeks.”
 - “I should stop taking the Ativan when I start taking the Buspar.”

ANS: D

Ativan should not be withdrawn quickly; it must be tapered to prevent withdrawal symptoms. Moreover, Buspar does not have immediate effects. Because no cross-dependence occurs with these two medications, they may be taken together while the benzodiazepine is tapered. Because Buspar does not have sedative effects, patients can consume alcohol without increasing sedation. Levels of Buspar can be increased by grapefruit juice, leading to drowsiness and a feeling of dysphoria. Buspar can cause nervousness and excitement and does not have sedative effects, so patients with insomnia must use a sedative. Buspar does not have immediate effects. DIF: Cognitive Level: Application REF: pp. 289 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

221. A patient reports having occasional periods of tremors, palpitations, nausea, and a sense of fear, which usually dissipate within 30 minutes. To treat this condition, the nurse anticipates the provider will prescribe a drug in which drug class?
- Benzodiazepines

- b. Monoamine oxidase inhibitors
- c. Selective serotonin reuptake inhibitors
- d. Tricyclic antidepressants

ANS: C

This patient is showing characteristics of panic disorder. All three major classes of antidepressants are effective, but selective serotonin reuptake inhibitors are first-line drugs. Benzodiazepines are second-line drugs and are rarely used because of their abuse potential. MAOIs are effective but are difficult to use because of their side effects and drug and food interactions. Tricyclic antidepressants are second-line drugs, and their use is recommended only after a trial of at least one SSRI has failed. DIF: Cognitive Level: Application REF: pp. 290 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

222. Selective serotonin reuptake inhibitors are known to be effective for which disorders? Select all that apply.

- a. Generalized anxiety disorder (GAD)
- b. Obsessive-compulsive disorder
- c. Panic disorder
- d. Posttraumatic stress disorder
- e. Social anxiety disorder

ANS: A , B , C , E

SSRIs have been shown to be effective in treating GAD, OCD, panic disorder, and social anxiety disorder. They are used to treat PTSD but have not demonstrated effectiveness in clinical research. DIF: Cognitive Level: Application REF: pp. 292 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

223. During an admission history, a patient reports a frequent need to return to a room multiple times to make sure an iron or other appliance is unplugged. What does the nurse understand about this patient's behavior?

- a. It helps the patient reduce anxiety about causing a fire.
- b. It usually is treated with alprazolam [Xanax].
- c. It seems perfectly normal to the patient.
- d. It will best respond to deep brain stimulation.

ANS: A

Patients with OCD have compulsive behaviors, such as repeatedly checking to make sure appliances have been unplugged. The compulsion is a ritualized behavior resulting from obsessive anxiety or fear that something bad will happen, such as starting a fire with an overheated appliance. Alprazolam is not a first-line drug for treating OCD. Patients usually understand that compulsive

behaviors are excessive and senseless but are unable to stop. Deep brain stimulation is indicated for patients in whom other treatments have failed; its effectiveness at reducing symptoms has been shown to be about 40%.DIF: Cognitive Level: ApplicationREF: pp. 290TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

224. A patient describes feelings of anxiety and fear when speaking in front of an audience and is having difficulty at work because of an inability to present information at meetings three or four times each year. The patient is reluctant to take long-term medications. The nurse will expect the provider to order which treatment?

- a. Alprazolam [Xanax] as needed
- b. Cognitive behavioral therapy
- c. Paroxetine [Paxil]
- d. Psychotherapy

ANS: A

This patient is describing social anxiety disorder; the symptoms are related to performance only and are not generalized to all social situations. Because this patient must speak in front of an audience only three or four times per year, a PRN medication can be used. Cognitive behavioral therapy is used for OCD. Paroxetine must be used continuously for at least 1 year. Psychotherapy can be used but is more effective when used in combination with drugs.DIF: Cognitive Level: ApplicationREF: pp. 291TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

225. A patient who has obsessive-compulsive disorder (OCD) has been undergoing behavioral therapy but continues to exhibit symptoms that interfere with daily life. Which intervention will the nurse expect the provider to order for this patient?

- a. Alprazolam [Xanax]
- b. Buspirone [Buspar]
- c. Deep brain stimulation
- d. Fluoxetine [Paxil]

ANS: D

Patients with OCD usually respond optimally to a combination of an SSRI, such as fluoxetine, and behavioral therapy. Alprazolam and buspirone are used to treat GAD. Deep brain stimulation is used when other therapies fail to treat OCD.DIF: Cognitive Level: ApplicationREF: pp. 290TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

226. A nurse is performing an admission assessment on a patient. The patient reports taking alprazolam [Xanax] for “nerves.” The nurse knows that this patient is most likely being treated for which condition?
- Generalized anxiety disorder
 - Obsessive-compulsive disorder (OCD)
 - Panic disorder
 - Posttraumatic stress disorder (PTSD)

ANS: A

Benzodiazepines are the first-choice drugs for anxiety, and alprazolam and lorazepam are prescribed most often. Selective serotonin reuptake inhibitors (SSRIs) are the first-line drugs for the treatment of OCD. Panic disorder is treated with any of the three classes of antidepressants: SSRIs, tricyclic antidepressants (TCAs), and monoamine oxidase inhibitors (MAOIs). Research has not shown any drug to be effective in the treatment of PTSD, although two SSRIs have been approved for use for this disorder. DIF: Cognitive Level: Analysis REF: pp. 288 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

227. An agitated, extremely anxious patient is brought to the emergency department. The prescriber orders a benzodiazepine. The nurse understands that benzodiazepines are used in this clinical situation based on which principle?
- Benzodiazepines have a very short half-life.
 - Physical dependence is not a risk when taking benzodiazepines.
 - Benzodiazepines are known to cure generalized anxiety.
 - Benzodiazepines have a rapid onset of action.

ANS: D

The patient is clearly in a state of extreme, uncontrolled anxiety. Benzodiazepines are the drugs of choice for acute episodes of anxiety because of their rapid onset of action. Benzodiazepines do not have a very short half-life. Benzodiazepines are associated with physical dependence. Benzodiazepines do not cure generalized anxiety, nor do any other drugs. DIF: Cognitive Level: Analysis REF: pp. 288 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 29: Central Nervous System Stimulants and Attention-Deficit/Hyperactivity Disorder

Test Bank

Multiple Choice

228. A child will begin taking methylphenidate [Ritalin] for attention-deficit/hyperactivity disorder. Important baseline information about this patient will include:
- results of an electrocardiogram (ECG).
 - family history of psychosis.
 - height and weight.
 - renal function.

ANS: C

Side effects of methylphenidate include a reduced appetite, and children taking these drugs should be monitored for growth suppression. Baseline height and weight measurements help with this ongoing assessment. The value of an ECG for children has not been proved, except when known heart disease is a factor. Excessive use of stimulants can produce a state of psychosis but is not related to the family history. Renal function tests are not indicated. DIF: Cognitive Level: Application REF: pp. 298 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

229. A child has been taking SD methylphenidate [Ritalin], 10 mg at 0800 and 1200 and 5 mg at 1600, for 2 months. The parents tell the nurse that the child sometimes misses the noon dose while at school. The child's appetite is normal. The teacher has reported a slight improvement in hyperactivity and impulsivity. What will the nurse do?
- Ask the prescriber whether this child could be given methylphenidate [Concerta].
 - Contact the prescriber to suggest using a nonstimulant medication.
 - Reinforce the need to take all doses as prescribed.
 - Suggest drug holidays for the child on weekends.

ANS: A

This child is showing slight improvement with the medication but has trouble taking the noon dose; therefore, a once-daily formulation would increase compliance and improve effects. There is no indication to use a nonstimulant medication, because the child's appetite is normal. If 3 times/day dosing were the only option available, reinforcing the need to take all doses would be necessary; however, some children avoid taking medication at school because of the stigma attached to being different from their peers. The use of drug holidays is controversial; this approach is used when growth suppression is a problem. DIF: Cognitive Level: Application REF: pp. 295 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

230. An adult patient will begin taking atomoxetine [Strattera] for attention-deficit/hyperactivity disorder. What will the nurse teach this patient?
- Appetite suppression does not occur, because this drug is not a stimulant.
 - Stopping the drug abruptly will cause an abstinence syndrome.
 - Suicidal thoughts may occur and should be reported to the provider.

- d. Therapeutic effects may not be felt for 1 to 3 weeks after beginning therapy.

ANS: D

Atomoxetine is a selective inhibitor of norepinephrine (NE) reuptake, and its effects probably are the result of adaptive changes that occur after uptake blockade, which can take 1 to 3 weeks. Appetite suppression is an adverse effect of this drug. Atomoxetine does not have abuse potential, and abstinence syndrome does not occur when it is withdrawn. Suicidal thoughts may occur in children and adolescents, but not in adults. DIF: Cognitive Level: Application REF: pp. 298 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

231. A child is diagnosed with attention-deficit/hyperactivity disorder (ADHD). The prescriber orders a central nervous system stimulant. Which statement by the child's parent indicates a need for further teaching?

- a. "I should report insomnia and poor appetite to his provider."
- b. "I will make sure he takes his medication after breakfast every day."
- c. "This drug will make him less impulsive while he's at school."
- d. "This medication will help my child focus so he can learn new behaviors."

ANS: C

Stimulants do not suppress negative behaviors directly and do not directly cause a decrease in hyperactivity. They act by improving attention and focus so that positive behaviors can be learned to replace negative behaviors. Insomnia and poor appetite are common side effects and should be reported to the provider, because alternate dosing regimens often counteract these effects. Taking the medication either during or after breakfast prevents morning appetite suppression at breakfast time. Stimulants improve focus and allow new, more positive behaviors to be learned. DIF: Cognitive Level: Application REF: pp. 298 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

232. A university student who is agitated and restless and has tremors is brought to the emergency department. The patient's heart rate is 110 beats/minute, the respiratory rate is 18 breaths/minute, and the blood pressure is 160/95 mm Hg. The patient reports using concentrated energy drinks to stay awake during finals week. What complication will the nurse monitor for in this patient?

- a. CNS depression
- b. Cardiac arrest
- c. Respiratory failure
- d. Seizures

ANS: D

In large doses, caffeine produces nervousness and tremors; in very large doses, it can cause seizures. This patient has been drinking concentrated energy drinks which are high in caffeine.

Caffeine is a stimulant and produces CNS excitation, not depression. Although cardiac side effects are common with caffeine, cardiac arrest is not. Respiratory failure is not an effect of caffeine toxicity. DIF: Cognitive Level: Analysis REF: pp. 296 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

233. A patient who is morbidly obese is admitted for treatment. The prescriber orders lisdexamfetamine [Vyvanse]. The nurse will be concerned if this patient shows signs of:

- a. anorexia.
- b. dyspnea.
- c. insomnia.
- d. loquaciousness.

ANS: B

Stimulants can produce cardiovascular effects. Any patient reporting shortness of breath needs to be evaluated for cardiovascular problems. Anorexia, or poor appetite, is an expected effect of stimulants and is the desired effect when these drugs are used for obesity. Stimulants increase alertness and can cause insomnia, which is an expected effect at therapeutic doses. Loquaciousness is an expected effect at therapeutic doses. DIF: Cognitive Level: Application REF: pp. 293 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

234. A nurse is providing education to a group of patients regarding amphetamines. To evaluate the group's understanding, the nurse asks a participant what effects amphetamines would have on her. The participant shows that she understands the effects of these drugs if she gives which answers?

Select all that apply.

- a. "Amphetamines increase fatigue."
- b. "Amphetamines suppress the perception of pain."
- c. "Amphetamines increase appetite."
- d. "Amphetamines increase the heart rate."
- e. "Amphetamines elevate mood."

ANS: B , D , E

At customary doses, amphetamines increase wakefulness and alertness, reduce fatigue, elevate mood, and augment self-confidence and initiative. Amphetamines also suppress appetite and the perception of pain and increase the heart rate. Amphetamines do not increase fatigue or appetite. DIF: Cognitive Level: Application REF: pp. 293 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

235. A nurse working the night shift begins taking modafinil [Alertec]. The nurse is telling a coworker about the medication. Which statement is correct?
- “I can take it during pregnancy.”
 - “It doesn’t have cardiovascular side effects.”
 - “It is safe and has no serious adverse effects.”
 - “It will not interfere with my normal sleep.”

ANS: D

Modafinil is used to increase wakefulness in patients with excessive sleepiness, including those with shift-work sleep disorder (SWSD). It acts without disrupting nighttime sleep. It is embryotoxic in laboratory animals and therefore is contraindicated during pregnancy. It can increase the heart rate and blood pressure. In rare cases, it has been linked to serious skin reactions, including Stevens-Johnson syndrome, erythema multiforme, and toxic epidermal necrolysis. DIF: Cognitive Level: Analysis REF: pp. 296 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

236. A nurse is teaching the parents of a child who has attention-deficit/hyperactivity disorder about methylphenidate [Concerta]. Which statement by the child’s parents indicates understanding of the teaching?
- “The effects of this drug will wear off in 4 to 6 hours.”
 - “The tablet needs to be swallowed whole, not crushed or chewed.”
 - “This medication has fewer side effects than amphetamines.”
 - “We should call the provider if we see parts of the medicine in our child’s stools.”

ANS: B

Concerta tablets must be swallowed whole and should not be crushed, chewed, or dissolved in liquids. This is a long-duration preparation with effects that last 10 to 12 hours. Methylphenidate has the same actions and adverse effects as amphetamines. The tablet shell may not fully dissolve in the gastrointestinal (GI) tract; therefore, tablet “ghosts” in the stool are normal. DIF: Cognitive Level: Application REF: pp. 297 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

237. A young adult begins taking clonidine [Kapvay] to treat ADHD symptoms after suffering anorexia with methylphenidate [Ritalin]. What will the nurse include when teaching this patient about taking clonidine?
- “Avoid consuming alcohol while taking this medication.”
 - “Insomnia may still occur while taking this drug.”
 - “You will need to pick up a written prescription every 30 days.”
 - “You may crush the tablets and put them in food.”

ANS: A

Clonidine causes somnolence, which is made worse by alcohol or other CNS depressants, so clients should avoid alcohol while taking clonidine. Insomnia and anorexia are not side effects of clonidine. Clonidine is not a controlled substance, so prescriptions may be refilled over the phone and may be written for more than 1 month at a time. The tablets must be swallowed whole and should not be crushed or chewed. DIF: Cognitive Level: Application REF: pp. 299 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

238. A parent thinks a school-aged child has ADHD. The nurse asks the parent to describe the child's behaviors. Which behaviors are characteristic of ADHD?
Select all that apply.

- a. Anxiety
- b. Compulsivity
- c. Hyperactivity
- d. Inattention
- e. Impulsivity

ANS: C, D, E

ADHD is characterized by inattention, hyperactivity, and impulsivity. Anxiety and compulsivity are not characteristic of ADHD. DIF: Cognitive Level: Comprehension REF: pp. 297 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Health Promotion and Maintenance **Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.**

Chapter 30: Drug Abuse I: Basic Considerations

Test Bank

Multiple Choice

239. The nurse is teaching a nursing student about management of controlled substances in medication administration. Which statement by the nursing student indicates understanding of the teaching?

- a. "If there is a difference between state and federal laws governing a scheduled drug, the federal law takes precedence."
- b. "Prescriptions for drugs in Schedules III and IV may be written to include up to 5 refills."
- c. "Schedule I drugs may only be given to hospitalized patients."
- d. "To reduce the possibility of abuse of a drug that is Schedule II, the prescriber should call the prescription to the pharmacy."

ANS: B

Providers may prescribe Schedule III and IV drugs orally by phone, written as a prescription, or electronically, and may provide up to 5 refills. When state and federal laws differ, the more restrictive law takes precedence, whether it is the state or the federal law. Schedule I drugs have

no approved uses. Schedule II drugs must be typed or written in indelible ink or pencil and signed by the provider or may be submitted electronically. They may be called in an emergency but must be followed by a written prescription within 72 hours. DIF: Cognitive Level: Application REF: pp. 307 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

240. A psychiatric nurse is caring for a drug-addicted patient. The nurse knows that the ideal goal of drug rehabilitation for this patient is:

- a. abstinence from the drug.
- b. decreasing episodes of relapse.
- c. minimizing drug cravings.
- d. reduction of drug use.

ANS: A

The goal of treatment is complete cessation of the drug. Decreasing episodes of relapse, minimizing cravings, and reducing drug use are all steps toward achieving eventual abstinence. DIF: Cognitive Level: Analysis REF: pp. 306 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

241. A nurse is teaching a group of nursing students about drug abuse. Which statement by a student indicates a need for further teaching?

- a. "Patients who experience physical dependence will show compulsive drug-seeking behavior."
- b. "People who are addicted to a drug do not necessarily have tolerance to that drug."
- c. "Physical dependence means that abstinence syndrome will occur if a drug is withdrawn."
- d. "Physical dependence often contributes to addictive behavior but does not cause it."

ANS: A

Physical dependence occurs with prolonged drug exposure and, through neuroadaptive processes, results in abstinence syndrome if a drug is withdrawn. It does not necessarily result in compulsive drug-seeking behavior. Patients can have drug addiction, which involves compulsive drug seeking without having developed a tolerance to drug effects. Addictive behavior is the result of psychologic dependence with an intense subjective need for a drug. Because abstinence syndrome is uncomfortable, physical dependence can increase subjective feelings for a drug. DIF: Cognitive Level: Analysis REF: pp. 304 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

242. A nurse is caring for four patients. The nurse would be concerned about which patient developing a substance use disorder?

- a. A college student who reports having experimented with marijuana in the past year.
- b. An older adult patient with terminal cancer who requires twice the normal dose of morphine for pain relief.
- c. A patient in moderate to severe pain after a total hip replacement who asks for pain medication an hour before the next dose is due.
- d. A patient whose history indicates the use of prescription narcotic analgesics for back and headache pain.

ANS: D

Patients who use narcotics for minor pains are more likely to be compulsive drug seekers. A college student who experiments with an illegal substance is not necessarily going to develop a substance use disorder. An elderly patient with terminal cancer pain has most likely developed physical dependence and tolerance to morphine but is not a substance abuser. Patients with significant pain who ask for more frequent dosing are not showing substance use disorder. DIF: Cognitive Level: Analysis REF: pp. 305 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

243. A nurse is teaching a class on addiction. Which statement by one of the class participants indicates a need for further teaching?
- a. “Addictive drugs lead to dopamine release in amounts similar to those released by normal reward circuits.”
 - b. “Neural remodeling leads to decreased dopamine release, leaving users with feelings of lifelessness and depression.”
 - c. “Over time, the brain will develop reduced responses to many addictive drugs.”
 - d. “With the use of a drug over time, the brain undergoes synaptic remodeling.”

ANS: A

Drugs of addiction use the same reward circuits that are used to reward biologically critical behaviors such as eating and sexual intercourse. However, addictive drugs lead to dopamine release that can be 2 to 10 times higher than that released naturally. Eventually, neural remodeling occurs, causing the brain to produce less dopamine and to reduce the number of dopamine receptors, leaving addicts feeling depressed and lifeless. This process of down-regulation reduces the response to the drug. All of this is part of the synaptic remodeling that occurs when the brain is exposed to a drug over a period of time. DIF: Cognitive Level: Analysis REF: pp. 305 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

244. A patient who has been taking a medication with a side effect of drowsiness stops taking the medication after several weeks. The patient reports feeling anxious and jittery. The nurse understands that this response is due to:
- a. addiction.
 - b. psychologic dependence.

- c. tolerance.
- d. withdrawal syndrome.

ANS: D

Withdrawal syndrome occurs when patients have developed a physical dependence on a drug and then often show symptoms that are the opposite of the drug's effect when the drug is withdrawn. Addiction is characterized by compulsive drug seeking. Psychologic dependence is an intense subjective need for a drug. Tolerance develops when increased amounts of a drug are needed to achieve the drug's effects. DIF: Cognitive Level: Analysis REF: pp. 304 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

245. A patient is ready for discharge home from a lengthy hospital stay after a motor vehicle accident. The patient suffered multiple fractures and required large doses of morphine for several weeks. The nurse preparing the patient for discharge notes that the patient requests the maximum dose of the oral opioid analgesic at the exact intervals it is prescribed. The nurse is correct to suspect that what has occurred?
- a. Addiction
 - b. Compulsive drug seeking
 - c. Cross-tolerance
 - d. Drug tolerance

ANS: D

Patients who use a drug regularly develop tolerance to the drug when a dose produces a smaller response than it did initially. This patient has been on large doses of opioids for several weeks and has developed tolerance to this class of drugs. Addiction is characterized by compulsive drug seeking, which has not occurred. A patient using narcotics for severe pain is not a compulsive drug seeker. Cross-tolerance occurs when tolerance to one drug confers tolerance to another drug. The opioid analgesic for home use is in the same drug classification, so this is not cross-tolerance. DIF: Cognitive Level: Analysis REF: pp. 304 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

246. A nursing student is caring for a patient who is addicted to several drugs. The student tells the nurse that the patient "got this way on purpose." Which response by the nurse is most appropriate?
- a. "Peer pressure and social factors determine individual choices."
 - b. "Physical dependence is necessary for addiction to occur."
 - c. "Preexisting psychopathology underlies most drug abuse."
 - d. "Some individuals are more vulnerable to drug abuse than others."

ANS: D

Some individuals are more prone to becoming drug abusers than others for a variety of reasons, including physiologic, psychologic, social, emotional, and genetic reasons. Peer pressure, social factors, the development of physical dependence, and underlying psychologic disorders contribute to the development of addiction but are not the determining factors. DIF: Cognitive Level: Analysis REF: pp. 305 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 31: Drug Abuse II: Alcohol

Test Bank

Multiple Choice

247. A nurse is providing education to a group of college students about the long-term effects of alcohol. Which statement by a student indicates understanding of the teaching?
- “Chronic alcohol use contributes to the development of osteoporosis.”
 - “Chronic use of alcohol can actually decrease the risk of cardiomyopathy.”
 - “Even small amounts of alcohol are related to the development of certain cancers.”
 - “Pancreatitis is not a common problem among chronic users of alcohol.”

ANS: C

The risk of certain types of cancers is increased even among moderate alcohol users. The current data suggest that no amount of alcohol is safe with regard to cancer risk. Chronic alcohol use actually reduces the risk of osteoporosis. Chronic consumption of alcohol is associated with an increased risk of cardiomyopathy. Pancreatitis occurs in only 5% of heavy drinkers, but 35% of all cases of pancreatitis are related to alcohol. DIF: Cognitive Level: Analysis REF: pp. 308 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

248. A nurse is obtaining an admission history on a patient who reports daily drinking for several years. When the nurse questions the patient further, the patient reports drinking up to five or six drinks each day. The patient expresses worry about liver damage. What will the nurse do?
- Contact the patient's provider to request liver function studies.
 - Explain that hepatitis, progressing to severe liver impairment, is likely.
 - Inform the patient that the history indicates that cirrhosis is likely to occur.
 - Tell the patient that stopping drinking will reverse any effects on the liver.

ANS: A

Chronic drinking can lead to hepatitis in about 90% of heavy users. The nurse would be correct to request laboratory studies of liver function. Until the laboratory values are known, the degree of damage to the liver is unknown, so the likelihood of severe outcomes cannot be predicted. Acute

drinking causes the accumulation of fat and protein in the liver, which is reversible, but this may not be the case with chronic drinking. DIF: Cognitive Level: Analysis REF: pp. 308 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

249. During a health history, the nurse asks a male patient about alcohol use. The patient tells the nurse that he and his wife are trying to conceive a pregnancy and he is using alcohol to lower his inhibitions. What will the nurse counsel this patient?
- “Alcohol causes increased masculinization.”
 - “Alcohol may cause testicular atrophy and sterility.”
 - “Alcohol will improve your chances of conceiving.”
 - “Alcohol will also help you to ejaculate.”

ANS: B

Alcohol may induce feminization and cause testicular atrophy, impotence, sterility, and breast enlargement. Alcohol significantly decreases the ability to ejaculate in spite of lowering inhibitions. DIF: Cognitive Level: Analysis REF: pp. 308 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

250. A nursing student asks a nurse to discuss alcoholism and alcohol use disorder. Which statement by the nurse is correct?
- “Alcohol use disorder can occur without the development of tolerance or physical dependence.”
 - “Individuals with alcohol use disorder develop cross-tolerance with opioid analgesics.”
 - “Initial symptoms of abstinence syndrome occur within 1 to 2 hours after withdrawal of alcohol.”
 - “With severe alcoholism, most alcoholics have delirium tremens when alcohol is withdrawn.”

ANS: A

Alcohol abuse can occur without the development of tolerance or physical dependence, although these generally develop with long-term use of alcohol. Cross-tolerance occurs between alcohol and general anesthetics and other CNS depressants, but not with opioids. The symptoms of abstinence syndrome begin to manifest 12 to 72 hours after the last drink. Fewer than 1% of alcoholics experience delirium tremens. DIF: Cognitive Level: Analysis REF: pp. 311 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

251. A pregnant patient in labor tells the nurse that she is afraid she may have harmed her fetus by consuming alcohol. What is an appropriate response by the nurse?

- a. Ask the patient how much alcohol she consumed, and at which stage of her pregnancy.
- b. Reassure the patient that the risk is likely to be minimal.
- c. Tell the patient that no amount of alcohol is considered safe during pregnancy.
- d. Tell the patient that the full range of outcomes may not be evident for years.

ANS: A

Although heavy use of alcohol has known adverse effects on the fetus, the effects of lower levels are unknown. The nurse should first question the patient about the amount of alcohol consumed at which stages of pregnancy to better determine the potential risk. Many women consume alcohol before knowing they are pregnant without any seeming ill effects. Reassuring this patient that her risks are low is not appropriate without further information. Moreover, reassuring her without getting more information only belittles her fears. Telling a patient that no amount of alcohol is safe during pregnancy would be an appropriate intervention during counseling of a woman who has just discovered she is pregnant; however, it would only intensify the fears of this patient. Telling the patient that the outcomes will not be evident for years would only intensify her fears. DIF: Cognitive Level: Analysis REF: pp. 309 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

252. A male patient tells a nurse that he drinks a six-pack of beer a day. When the nurse begins to question him further about his alcohol consumption, he says, "You sound like my wife. She's always nagging me to quit. It's only beer!" Which response by the nurse is most appropriate?
- a. "Because the alcohol in beer is diluted in a larger volume, it is absorbed more slowly."
 - b. "Have you considered switching to wine? It has chemicals that protect your heart."
 - c. "The amount you drink is equivalent to six shots of whiskey each day."
 - d. "You could try to cut the amount in half to a level that is better for your health."

ANS: C

The amount of alcohol in one can of beer is equivalent to the amount in a shot of whiskey or one glass of wine. Even though the amount per volume of fluid is less in beer, the absorption of the alcohol does not change; it just may take longer to consume it. Even though red wine contains resveratrol, which may reduce cardiovascular disease, the amount is too small to have significant effects and would be offset by the amount this man consumes on a daily basis. It is not likely that someone already accustomed to consuming six cans of beer a day would be able to cut the amount in half. Moreover, daily drinking in itself may still constitute an alcohol use disorder, depending on other factors. DIF: Cognitive Level: Application REF: pp. 309 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

253. A nurse is discussing alcohol abuse with a group of nursing students. One student asks whether alcohol consumption has any beneficial effects. The nurse replies that, in moderate amounts, alcohol:

- a. helps people to sleep well.
- b. improves sexual responsiveness.
- c. may protect against dementia.
- d. prevents hypothermia.

ANS: C

In moderate amounts, alcohol helps preserve cognitive function in the older adult and may protect against dementia. Alcohol disrupts sleep and alters sleep cycles, reducing total sleeping time and the quality of sleep. Alcohol lowers inhibitions but diminishes sexual responsiveness. Alcohol dilates cutaneous blood vessels, which actually promotes heat loss. DIF: Cognitive Level: Analysis REF: pp. 307 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

254. A college student who is unresponsive is brought to the emergency department by friends, who say that their friend drank more than half of a large bottle of whiskey 3 hours ago. Assessment reveals a blood alcohol level of 0.32%. The vital signs are BP, 88/32 mm Hg; R, 6/minute; T, 96.8° F; and P, 76/minute and weak and thready. The nurse should prepare the patient for which intervention?

- a. IV fluids and stimulants
- b. Charcoal administration
- c. Gastric lavage and dialysis
- d. Naloxone [Narcan] administration

ANS: C

The average rate at which a person can metabolize alcohol is about 15 mL (0.5 ounce) per hour. The patient in this scenario has consumed more than half of a large bottle of whiskey within 3 hours. Alcohol can be removed from the body by gastric lavage and dialysis. Gastric lavage “washes out” most of the alcohol if any is left in the gut, and dialysis is implemented to reduce the chance of renal failure and cardiovascular shock. Although intravenous fluids may be appropriate, stimulants are contraindicated for this patient. Charcoal is not indicated in this situation. Naloxone is indicated in opiate overdoses, not in alcohol overdoses. DIF: Cognitive Level: Analysis REF: pp. 310 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

255. A patient is brought to the emergency department after a motor vehicle accident. The patient’s speech is slurred. The nurse notes the smell of alcohol on the patient’s breath and observes hand tremors. The patient’s blood alcohol level is 0.4%. The nurse will expect to:

- a. find that the patient has lost consciousness within a short time.
- b. administer naltrexone [ReVia] and prepare for gastric lavage.
- c. give carbamazepine to reduce the risk of seizures.
- d. provide mechanical ventilation and oxygen.

ANS: D

A blood alcohol level that exceeds 0.4% poses a substantial risk of respiratory depression. Patients who are chronic abusers of alcohol may develop tolerance to other effects of increased blood levels, such as sedation, or behavioral changes, but there is very little tolerance to respiratory depression. A patient with a blood alcohol level of 0.4% must be treated for respiratory depression, usually with mechanical ventilation. If this patient has developed tolerance, which is likely because loss of consciousness has not already occurred, the nurse cannot expect that the patient will lose consciousness. Naltrexone is not used for acute toxicity. Carbamazepine is used as an adjunct to benzodiazepines and may be used after this patient's immediate needs have been addressed. DIF: Cognitive Level: Analysis REF: pp. 310 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

256. A patient asks a nurse about the effects of chronic alcohol use on the heart. The nurse's best response would be which statement?
- “Chronic alcohol use affects the liver more adversely than it does the heart.”
 - “Drinking more than two drinks a day protects the heart from atherosclerosis.”
 - “Long-term alcohol use can damage the heart and cause heart failure.”
 - “Over time, alcohol use can lower your blood pressure.”

ANS: C

Chronic abuse of alcohol results in direct damage to the myocardium, increasing the risk of heart failure. Chronic alcohol abuse has a significant effect on the heart and also affects the liver. Drinking fewer than two alcoholic beverages a day potentially protects the heart from atherosclerosis. Alcohol consumption produces a dose-dependent elevation of blood pressure. DIF: Cognitive Level: Application REF: pp. 308 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

257. A patient who is an active alcoholic is admitted to the hospital for surgery. The nurse reviewing orders for this patient would be correct to question which postoperative medication for this patient?
- Acetaminophen
 - Diazepam
 - Morphine
 - Thiamine

ANS: A

Acetaminophen poses a risk of fatal liver damage in alcoholics, because evidence indicates that even modest alcohol consumption combined with acetaminophen has this effect. Diazepam would probably be useful in this case, because it is used to aid alcohol withdrawal. However, diazepam cannot be taken with alcohol, because the central nervous system (CNS) depressive effects would be compounded. Likewise, morphine is safe as long as it is not given with alcohol. Thiamine is a

vitamin that often is deficient in alcoholics, so thiamine would be indicated. DIF: Cognitive Level: Application REF: pp. 310 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 32: Drug Abuse III: Nicotine and

Smoking Test Bank

Multiple Choice

258. A 4-year-old child is brought to the emergency department with symptoms of nausea and vomiting and a weak, thready pulse of 120 beats/minute after ingesting several cigarettes at home. The nurse caring for this child will expect to provide which treatment?
- Gastric lavage
 - Hemodialysis
 - Respiratory support
 - Vasoconstrictors

ANS: C

Nicotine is highly toxic, and the most prominent symptoms are those involving the cardiovascular, GI, and central nervous systems. This child is showing signs of toxicity. Respiratory arrest can occur, because nicotine affects the muscles of respiration. Respiratory support is the key to management; no antidote is available to nicotine poisoning. Nicotine undergoes rapid metabolism, so recovery can occur in a few hours. Gastric lavage, hemodialysis, and vasoconstrictors are not recommended. DIF: Cognitive Level: Application REF: pp. 318 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

259. A patient reports a desire to stop smoking and asks what is available without a prescription to help with smoking cessation. The nurse tells the patient that which method is best?
- Abrupt discontinuation to shorten withdrawal effects
 - Nicotine replacement and 1-800-QUITNOW
 - Nicotine replacement products tapered over a year
 - Support groups without the use of medications

ANS: B

Nicotine addiction can be treated with pharmacologic agents or counseling, but the combination of these two approaches is more effective than either one alone. Abrupt cessation is better than tapering off, because the withdrawal effects are not so prolonged; however, this approach is not recommended as the best way to quit. Nicotine replacement products should be discontinued after a few weeks to months after quitting smoking, because they contain nicotine, which is both harmful and addicting. Support groups alone can work but are not as effective as the combination of support

groups and medication.DIF: Cognitive Level: ApplicationREF: pp. 319TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

260. A patient who wants to quit smoking has begun taking varenicline [Chantix]. The patient reports experiencing mood swings and depression and a desire to cause harm to herself. What will the nurse tell this patient?
- “These symptoms are common and will disappear over time.”
 - “These symptoms may indicate an underlying psychiatric disorder.”
 - “You may need an increased dose to overcome these symptoms of nicotine withdrawal.”
 - “You should notify your provider of these symptoms immediately.”

ANS: D

Varenicline can cause serious neuropsychiatric effects, including mood swings, depression, and self-injurious behavior. Because suicidality is a risk, patients experiencing these effects should contact their provider immediately. The symptoms are not common and are not likely to abate. It is not known if these symptoms indicate an underlying disorder or if the drug causes the symptoms. Increasing the dose will increase the symptoms, since they are related to the drug.DIF: Cognitive Level: AnalysisREF: pp. 322TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

261. A patient who wants to quit smoking has a prescription for varenicline [Chantix], which will be used with a nicotine patch. The patient asks the nurse why the varenicline is necessary. Which statement by the nurse is correct?
- “It helps patients experiencing withdrawal to sleep better.”
 - “It helps reduce anxiety and other withdrawal symptoms.”
 - “It will help reduce the likelihood of addiction to the patch.”
 - “The drug blocks nicotine’s access to ‘pleasure’ receptors.”

ANS: D

Varenicline is a partial agonist at nicotinic receptors and helps block nicotine’s access to these receptors. A common side effect is sleep disturbances. Bupirone is a smoking cessation agent that acts to reduce withdrawal side effects. Varenicline is not used to reduce addiction to the patch.DIF: Cognitive Level: ApplicationREF: pp. 322TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

262. The spouse of a patient who smokes wonders why anyone would want to engage in “such a disgusting habit.” What will the nurse tell the spouse?
- Nicotine causes relaxation and helps with sleep.
 - Nicotine increases alertness and promotes dopamine release.

- c. Nicotine lowers blood pressure.
- d. Nicotine settles the stomach and reduces nausea and vomiting.

ANS: B

Nicotine increases alertness, facilitates memory, and improves cognition. Even though users report feeling relaxed when using nicotine, it actually increases arousal and does not cause relaxation. Nicotine elevates blood pressure. Nicotine causes the gastrointestinal (GI) side effects of nausea, vomiting, and increased motility. DIF: Cognitive Level: Analysis REF: pp. 318 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

263. A patient asks about nicotine patches for smoking cessation and wants to know the difference between the 24-hour patch and the 16-hour patch. Which response by the nurse is correct?
- a. "The 16-hour patch is for patients who have trouble sleeping."
 - b. "The 16-hour patch simulates usual nicotine ingestion patterns."
 - c. "The 24-hour patch is for persons weighing more than 100 pounds."
 - d. "The 24-hour patch is recommended for heavier smokers."

ANS: B

Nicotine transdermal patches usually are packaged in systems, with progressively smaller doses of nicotine. The 16-hour patch is designed to be removed at bedtime; this simulates the usual nicotine dosing produced by smoking. It does not necessarily affect the ability to sleep. Individuals who weigh less than 100 pounds are advised to use smaller patches. Heavier smokers are advised to begin with larger patches. DIF: Cognitive Level: Application REF: pp. 321 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

264. A patient with a desire to stop smoking asks a nurse about nicotine chewing gum [Nicorette]. The patient currently smokes 30 cigarettes per day. Which statement by the nurse is correct?
- a. "Stop using the gum 6 months after you stop using cigarettes."
 - b. "Use the 4-mg strength gum and chew one piece every 2 to 3 hours."
 - c. "Use the gum whenever you feel a craving for a cigarette."
 - d. "You should start with 30 pieces of the 2-mg strength gum per day."

ANS: B

Nicorette gum is available in two strengths, 2 and 4 mg. Patients who smoke more than 25 cigarettes per day should use the 4-mg strength. Dosing the gum on a regular schedule of every 2 to 3 hours has proved to be more effective than as-needed use. Use of the gum longer than 6 months total is not recommended, and the gum should be stopped 3 months after the last cigarette. PRN dosing is not as effective as regular dosing. The dose for a heavy smoker is 4-mg strength gum,

one piece every 2 to 3 hours.DIF: Cognitive Level: ApplicationREF: pp. 320TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

265. A nurse is conducting a smoking cessation class in the community and is discussing the physiologic effects of nicotine. The nurse is correct to teach that these effects include which of the following?

Select all that apply.

- a. Increased blood pressure
- b. Decreased gastric acid
- c. Vomiting
- d. Suppression of nausea
- e. Increased alertness
- f. Suppression of appetite

ANS: A , C , E , F

The physiologic effects of nicotine include increased blood pressure and other cardiovascular effects, vomiting, increased alertness, and suppression of appetite. Decreased gastric acid and suppression of nausea are not physiologic responses associated with nicotine use.DIF: Cognitive Level: ApplicationREF: pp. 317TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

266. A prescriber has ordered nicotine nasal spray for a patient to assist with smoking cessation. Which statement will the nurse include when teaching the patient about the medication?

- a. "This will produce a steady level of nicotine to reduce your cravings."
- b. "You should gradually reduce the dose after 3 months of use."
- c. "You should use one spray in each nostril per dose up to five times per hour."
- d. "You will not develop dependence on the nicotine in the nasal spray."

ANS: C

Dosing for the nicotine nasal spray should be one spray in each nostril once or twice an hour, up to five times per hour. The spray causes a rapid rise in blood nicotine levels with each dose, which more closely simulates smoking. After 4 to 6 weeks, dosing should be gradually reduced and then stopped. Many people become dependent on the spray.DIF: Cognitive Level: ApplicationREF: pp. 320TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

267. A patient who has just found out she is pregnant tells the nurse she wants to quit smoking. She asks about pharmacologic aids to help her quit. The nurse is correct to tell her what?

- a. "Nicotine replacement therapy is harmful, but it is safer than smoking, so it can be used."

- b. "Psychosocial support is the only recommended treatment for smoking cessation during pregnancy."
- c. "Varenicline [Chantix] is safe to use during pregnancy."
- d. "You should try to taper off your smoking gradually, because none of the drugs are safe."

ANS: A

Because nicotine is a component of nicotine replacement therapy (NRT), NRT is not safe during pregnancy. However, it is safer than smoking, and if it can help the patient stop smoking, it is recommended with caution. Psychosocial support is more effective when combined with a first-line pharmacologic agent. Varenicline has been shown to have harmful effects on fetuses in animal testing, so it should be avoided during pregnancy. Tapering nicotine withdrawal only seems to prolong the withdrawal symptoms; abrupt cessation is better than a taper. DIF: Cognitive Level: Application REF: pp. 319 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 33: Drug Abuse IV: Major Drugs of Abuse Other Than Alcohol and Nicotine

Test Bank

Multiple Choice

268. A patient arrives in the emergency department complaining of dizziness, lightheadedness, and a pulsating headache. Further assessment reveals a blood pressure of 82/60 mm Hg and palpitations. The patient's friends tell the nurse that they were experimenting with "poppers." The nurse will expect to administer which medication?
- a. Diazepam [Valium]
 - b. Haloperidol [Haldol]
 - c. Methylene blue and supplemental oxygen
 - d. Naloxone [Narcan]

ANS: C

These findings are consistent with volatile nitrate overdose, as evidenced by the venous dilation. The primary toxicity is methemoglobinemia, which can be treated with methylene blue and supplemental oxygen. Diazepam would not be used for patients experiencing volatile nitrate overdose, but it may be used in patients who have overdosed on hallucinogens. Haloperidol would be used in patients who have overdosed on amphetamines. Naloxone would be used to treat an opioid overdose. DIF: Cognitive Level: Application REF: pp. 323 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

269. A patient who is an opioid addict has undergone detoxification with buprenorphine [Subutex] and has been given a prescription for buprenorphine with naloxone [Suboxone]. The patient asks the nurse why the drug was changed. Which response by the nurse is correct?
- “Suboxone has a lower risk of abuse.”
 - “Suboxone has a longer half-life.”
 - “Subutex causes more respiratory depression.”
 - “Subutex has more buprenorphine.”

ANS: A

The combination of buprenorphine and naloxone [Suboxone] discourages intravenous abuse, because with IV use, the naloxone precipitates withdrawal; this effect does not occur with sublingual dosing [Subutex]. Suboxone does not differ from Subutex in terms of drug half-life. Subutex does not cause more respiratory depression and does not contain more buprenorphine. DIF: Cognitive Level: Application REF: pp. 324 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

270. What is the primary reason for opioid abuse?
- Ease of access
 - Initial “rush” similar to orgasm
 - Peer pressure
 - Prolonged sense of euphoria

ANS: D

The primary reason for opioid abuse is the prolonged sense of euphoria that occurs after the initial rush. Healthcare professionals have easy access to opioids, which makes them more vulnerable to abuse of these drugs, but this is not the primary reason for abuse in the greater population. The initial rush lasts about 45 seconds and is not the primary reason for opioid abuse. Peer pressure is not the primary reason for opioid abuse. DIF: Cognitive Level: Comprehension REF: pp. 321 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

271. A provider orders clonidine [Catapres] for a patient withdrawing from opioids. When explaining the rationale for this drug choice, the nurse will tell this patient that clonidine is used to:
- prevent opioid craving.
 - reduce somnolence and drowsiness.
 - relieve symptoms of nausea, vomiting, and diarrhea.
 - stimulate autonomic activity.

ANS: C

When administered to an individual physically dependent on opioids, clonidine can suppress some symptoms of abstinence. Clonidine is most effective against symptoms related to autonomic hyperactivity, including nausea, vomiting, and diarrhea. Clonidine does not stimulate autonomic activity; it is effective against symptoms of autonomic hyperactivity. Clonidine does not reduce somnolence and drowsiness. Clonidine does not prevent opioid craving. DIF: Cognitive Level: Application REF: pp. 323 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

272. A young adult patient is admitted to the hospital for evaluation of severe weight loss. The nurse admitting this patient notes that the patient has missing teeth and severe tooth decay. The patient's blood pressure is 160/98 mm Hg. The patient has difficulty answering questions and has trouble remembering simple details. The nurse suspects abuse of which substance?
- Cocaine
 - Ecstasy
 - Marijuana
 - Methamphetamine

ANS: D

Methamphetamine causes all of the symptoms shown by this patient. These are not symptoms associated with cocaine, Ecstasy, or marijuana. DIF: Cognitive Level: Evaluation REF: pp. 326 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

273. A nurse is discussing the differences between OxyContin OC and OxyContin OP with a group of nursing students. Which statement by a student indicates understanding of the teaching?
- “OxyContin OC cannot be drawn into a syringe for injection.”
 - “OxyContin OP has greater solubility in water and alcohol.”
 - “OxyContin OP is not easily crushed into a powder.”
 - “Patients using OxyContin OP are less likely to overdose.”

ANS: C

OxyContin OP is a newer formulation that is designed to reduce OxyContin abuse. The OP formulation is much harder to crush into a powder. The OC preparation can be crushed and dissolved in water or alcohol and can easily be drawn into a syringe. The OP preparation does not dissolve easily in these solutions. Despite the differences in preparation, there is no indication that either form is less subject to abuse or overdose. DIF: Cognitive Level: Analysis REF: pp. 322 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

274. A college student tells the nurse that several friends have been using synthetic marijuana to get high. What will the nurse tell this patient about this type of substance?
- “These substances are fairly safe because they are derived from herbs.”
 - “They can cause hypertension, nausea, vomiting, and hallucinations.”
 - “These substances do not have mind-altering affects.”
 - “These substances produce a high and they are not illegal.”

ANS: B

Synthetic marijuana can produce severe symptoms including hypertension, nausea, vomiting, and hallucinations. Although once thought safe, it is no longer considered safe. It produces a high and can cause hallucinations. Many types of synthetic marijuana are now illegal. DIF: Cognitive Level: Comprehension REF: pp. 330 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

275. In discussing the rationale for using methadone to ease opioid withdrawal, the nurse would explain that it has which pharmacologic properties or characteristics?
- Methadone can prevent abstinence syndrome.
 - Methadone has a shorter duration of action than other opioids.
 - Methadone is a nonopioid agent.
 - Methadone lacks cross-tolerance with other opioids.

ANS: A

Methadone is used to ease opioid withdrawal and can prevent abstinence syndrome. Methadone does not have a shorter duration of action. Methadone is not a nonopioid agent. Methadone does not lack cross-tolerance with other opioids. DIF: Cognitive Level: Comprehension REF: pp. 322 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

276. A patient who is agitated and profoundly anxious is brought to the emergency department. The patient acts paranoid and keeps describing things in the room that do not exist. A cardiac monitor shows an irregular ventricular tachycardia. Which medication will the nurse expect to administer?
- Anticocaine vaccine
 - Diazepam [Valium]
 - Disulfiram [Antabuse]
 - Vigabatrin [Sabril]

ANS: B

This patient is showing signs of acute cocaine toxicity. Diazepam can be given to reduce anxiety and suppress seizures which may occur. Anticocaine vaccine, disulfiram, and vigabatrin are drugs under investigation for treating cocaine addiction. DIF: Cognitive Level: Application REF: pp.

326TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

277. A nurse is teaching a drug prevention class to a group of parents of adolescents. Which statement by a parent indicates understanding of the teaching?
- “Compared with alcohol, marijuana has little or no long-term adverse effects.”
 - “Ecstasy causes reversible damage to serotonergic neurons.”
 - “LSD does not cause an abstinence syndrome when it is withdrawn.”
 - “Most individuals who abuse opioids began using them therapeutically.”

ANS: C

Although tolerance to LSD develops rapidly, there is no abstinence syndrome with abrupt withdrawal of the drug, and tolerance fades rapidly. Many adverse behavioral, subjective, and long-term effects are associated with chronic use of marijuana. MDMA [Ecstasy] can cause irreversible damage to serotonergic neurons. Most people who go on to abuse opioids begin their drug use illicitly; only an exceedingly small percentage of those exposed to opioids therapeutically go on to abuse these drugs. DIF: Cognitive Level: Analysis REF: pp. 331 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

278. A nurse is caring for a patient who is addicted to barbiturates and who will begin receiving phenobarbital. The nurse discusses the care of this patient with a nursing student. Which statement by the student indicates understanding of the teaching?
- “Phenobarbital acts as an antagonist to barbiturates and prevents toxicity.”
 - “Phenobarbital has a long half-life and can be tapered gradually to minimize abstinence symptoms.”
 - “Phenobarbital can be administered on an as-needed basis to treat withdrawal symptoms.”
 - “Phenobarbital prevents respiratory depression associated with barbiturate withdrawal.”

ANS: B

Phenobarbital has a long half-life and can be given to ease barbiturate withdrawal and suppress symptoms of abstinence. Phenobarbital is not an antagonist to barbiturates. It is not used on a PRN basis. Phenobarbital does not prevent respiratory depression associated with acute toxicity. DIF: Cognitive Level: Analysis REF: pp. 325 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

279. Which factors make meperidine an opioid of choice among nurses and physicians who abuse opioids?
Select all that apply.

- Easy access to syringes for administration of the drug

- b. Highly effective oral dosing
- c. Increased effects on smooth muscle function
- d. Less pupillary constriction than other opioids
- e. Shorter half-life than other opioids

ANS: B , D

Meperidine is often abused by medical personnel because oral dosing is highly effective, so telltale injection marks are unnecessary. Also, the drug causes less pupillary constriction than other opioids. Access to syringes is not necessary with oral dosing. Meperidine has fewer effects on smooth muscle function, causing less constipation and urinary retention. DIF: Cognitive Level: Application REF: pp. 321 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

280. A college student is brought to the emergency department by a group of friends who report that they had been dancing at a nightclub when their friend collapsed. The patient has a temperature of 105° F and shows jaw clenching and confusion. The nurse will expect to administer which medication?

- a. Dantrolene [Dantrium]
- b. Haloperidol [Haldol]
- c. Methadone
- d. Naloxone [Narcan]

ANS: A

This patient shows signs of Ecstasy toxicity. Dantrolene can be given to relax skeletal muscle to reduce heat generation and prevent the risk of rhabdomyolysis. The other medications are not used to treat Ecstasy toxicity. DIF: Cognitive Level: Application REF: pp. 332 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

281. A patient arrives in the emergency department acutely intoxicated and difficult to arouse. The patient's friends tell the nurse that the patient took a handful of diazepam [Valium] pills while at a party several hours ago. The nurse will expect to administer which drug?

- a. Buprenorphine [Subutex]
- b. Flumazenil [Romazicon]
- c. Nalmefene [Revex]
- d. Naloxone [Narcan]

ANS: B

Flumazenil can reverse signs and symptoms of benzodiazepine overdose. Buprenorphine, nalmefene, and naloxone are all used to treat opioid addiction or toxicity. DIF: Cognitive Level: Application REF: pp. 325 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

282. A patient who has a long-term addiction to opioids takes an overdose of barbiturates. The nurse preparing to care for this patient will anticipate:
- a severe abstinence syndrome when the effects of the barbiturates are reversed.
 - minimal respiratory depression, because the patient has developed a tolerance to opioids.
 - observing pinpoint pupils, respiratory depression, and possibly coma in this patient.
 - using naloxone [Narcan] to reverse the effects of the barbiturates, because cross-tolerance is likely.

ANS: C

A patient who is tolerant to opioids does not have cross-tolerance to barbiturates, so this patient will show signs of overdose such as pinpoint pupils, respiratory depression, and coma. Because there is no cross-tolerance, a patient addicted to opioids will not have an abstinence syndrome when the effects of the barbiturates are reversed. Respiratory depression will be severe. Naloxone cannot be used to reverse the effects of the barbiturates. DIF: Cognitive Level: Evaluation REF: pp. 322 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

283. A college student admits frequent use of LSD to a nurse and reports plans to stop using it. What will the nurse tell this student?
- Flashback episodes and episodic visual disturbances are common.
 - Tolerance to the effects of LSD will fade quickly once use of the drug has stopped.
 - Withdrawal symptoms can be mitigated with haloperidol [Haldol].
 - Withdrawal from LSD is associated with a severe abstinence syndrome.

ANS: B

Tolerance to the effects of LSD develops rapidly but fades quickly when the drug is stopped. Flashback episodes may occur but are not common. Haloperidol may actually intensify symptoms associated with an acute panic reaction; it is not indicated for LSD withdrawal. Abstinence syndrome does not occur when LSD is stopped. DIF: Cognitive Level: Application REF: pp. 331 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

284. A school nurse is teaching a high school health class about the effects of marijuana use. Which statement by a student indicates a need for further teaching?
- “Chronic use of marijuana can result in irreversible brain changes.”
 - “Higher doses of marijuana are likely to produce increased euphoria.”
 - “Marijuana is unique in that it produces euphoria, sedation, and hallucinations.”
 - “Marijuana has more prolonged effects when it is ingested than when it is smoked.”

ANS: B

With higher doses of marijuana, euphoria may be displaced by intense anxiety. Chronic use may cause irreversible brain changes. Euphoria, sedation, and hallucinations can all occur with marijuana use. Ingesting marijuana causes prolonged effects. DIF: Cognitive Level: Application REF: pp. 328 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

285. A pregnant patient reports using marijuana during her pregnancy. She asks the nurse whether this will affect the fetus. What should the nurse tell her?
- Children born to patients who use marijuana will have smaller brains.
 - Neonates born to patients who use marijuana will have withdrawal syndromes.
 - Preschool-aged children born to patients who use marijuana are more likely to be hyperactive.
 - School-aged children born to patients who use marijuana often have difficulty with memory.

ANS: D

School-aged children born to patients who use marijuana may show deficits in memory, attentiveness, and problem solving. Chronic marijuana use alters brain size in individuals who use marijuana but not in children born to parents who use marijuana. Newborns will not show withdrawal symptoms. Preschool-aged children have difficulty with memory and sustained attention. DIF: Cognitive Level: Application REF: pp. 328 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

286. A patient who is a heroin addict is admitted to a methadone substitution program. After administering the first dose of methadone, the nurse notes that the patient shows signs of euphoria and complains of nausea. What will the nurse do?
- Administer nalmefene [Revex].
 - Contact the provider to obtain an order for naloxone [Narcan].
 - Question the patient about heroin use that day.
 - Suspect that the patient exaggerated the amount of heroin used.

ANS: D

Patients entering a methadone substitution program must be carefully questioned about the amount of heroin used; patients may exaggerate the amount used to obtain higher doses of methadone or may minimize the amount used to downplay the extent of their addiction. In patients who exaggerate use, the amount of methadone given may cause euphoria, nausea, and vomiting. Nalmefene and naloxone are used to treat overdose and are not indicated. A patient receiving methadone along with a usual heroin dose would be likely to have signs of toxicity. DIF: Cognitive Level: Analysis REF: pp. 323 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

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Chapter 34: Review of Hemodynamics

Test Bank

Multiple Choice

287. A nurse is teaching a nursing student how blood can return to the heart when pressure in the venous capillary beds is very low. Which statement by the student indicates a need for further teaching?
- “Constriction of small muscles in the venous wall increases venous pressure.”
 - “Negative pressure in the left atrium draws blood toward the heart.”
 - “Skeletal muscles relax to allow the free flow of blood.”
 - “Venous valves help prevent the backflow of blood.”

ANS: C

Skeletal muscle contraction, along with one-way venous valves, helps create an “auxiliary” venous pump that helps drive blood toward the heart. Constriction of small muscles in venous walls helps increase venous pressure. Negative pressure in the left atrium sucks blood toward the heart. Valves, which are one-way, work with the contraction of skeletal muscles to create a venous pump. DIF: Cognitive Level: Application REF: pp. 338 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

288. A nurse is caring for a patient who is receiving a drug that causes constriction of arterioles. The nurse expects to observe which effect from this drug?
- Decreased stroke volume
 - Increased stroke volume
 - Decreased myocardial contractility
 - Increased myocardial contractility

ANS: A

Constriction of arterioles increases the load against which the heart must pump to eject blood. Increased constriction of arterioles would decrease, not increase, the stroke volume of the heart. Myocardial contractility is determined by the sympathetic nervous system, acting through beta1-adrenergic receptors in the myocardium. DIF: Cognitive Level: Analysis REF: pp. 339 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

289. A patient with hypertension is admitted to the hospital. On admission the patient’s heart rate is 72 beats/minute, and the blood pressure is 140/95 mm Hg. After administering an

antihypertensive medication, the nurse notes a heart rate of 85 beats/minute and a blood pressure of 130/80 mm Hg. What does the nurse expect to occur?

- a. A decrease in the heart rate back to baseline in 1 to 2 days
- b. An increase in the blood pressure within a few days
- c. An increase in potassium retention in 1 to 2 days
- d. A decrease in fluid retention within a week

ANS: A

When blood pressure drops, the baroreceptors in the aortic arch and carotid sinus sense this and relay information to the vasoconstrictor center of the medulla; this causes constriction of arterioles and veins and increased sympathetic impulses to the heart, resulting in an increased heart rate. After 1 to 2 days, this system resets to the new pressure, and the heart rate returns to normal. The blood pressure will not increase when this system resets. Increased potassium retention will not occur. Over time, the body will retain more fluid to increase the blood pressure. DIF: Cognitive Level: Evaluation REF: pp. 341 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

290. A nurse is assessing a patient who has heart failure. The patient complains of shortness of breath, and the nurse auscultates crackles in both lungs. The nurse understands that these symptoms are the result of:

- a. decreased force of ventricular contraction.
- b. increased force of ventricular contraction.
- c. decreased ventricular filling.
- d. increased ventricular filling.

ANS: A

In the failing heart Starling's law breaks down, and the force of contraction no longer increases in proportion to the amount of ventricular filling. The result is the backup of blood into the lungs and the symptoms of shortness of breath and crackles caused by fluid. Increased ventricular contraction would not result in a backup of blood into the lungs. Changes in ventricular filling are not the direct cause of this symptom. DIF: Cognitive Level: Application REF: pp. 340 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

291. A patient is taking a drug that interferes with venous constriction. The nurse will tell the patient to:

- a. ask for assistance when getting out of bed.
- b. expect bradycardia for a few days.
- c. notify the provider if headache occurs.
- d. report shortness of breath.

ANS: A

A drop in venous pressure reduces venous return to the heart, and as blood pools in the extremities, orthostatic hypotension can occur. Patients taking drugs that reduce venous constriction should be cautioned to ask for assistance when getting out of bed. Bradycardia, headache, and shortness of breath are not expected effects. DIF: Cognitive Level: Application REF: pp. 341 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

292. A patient is taking a beta1-adrenergic drug to improve the stroke volume of the heart. The nurse caring for this patient knows that this drug acts by increasing:

- a. cardiac afterload.
- b. cardiac preload.
- c. myocardial contractility.
- d. venous return.

ANS: C

Beta1-adrenergic agents help increase the heart's stroke volume by increasing myocardial contractility. Cardiac afterload is determined primarily by the degree of peripheral resistance caused by constriction of arterioles; increasing afterload would decrease stroke volume. Beta1-adrenergic agents do not affect afterload. Cardiac preload is the amount of stretch applied to the cardiac muscle before contraction and is determined by the amount of venous return. Beta1-adrenergic agents do not affect cardiac preload. Venous return is determined by the systemic filling pressure and auxiliary muscle pumps and is not affected by beta1-adrenergic agents. DIF: Cognitive Level: Analysis REF: pp. 339 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

293. A patient with a history of hypertension is admitted for a procedure. If the patient's arterial pressure decreases, which clinical manifestation would the nurse expect to see?

- a. Decreased heart rate
- b. Increased heart rate
- c. Decreased blood pressure
- d. Syncope

ANS: B

When arterial pressure decreases, the vasoconstrictor center causes constriction of nearly all arterioles, leading to an increase in peripheral resistance, constriction of veins, increasing venous return, and subsequent acceleration of the heart rate. A decrease in arterial pressure would not cause a decrease in the heart rate or blood pressure, nor would it cause syncope. DIF: Cognitive Level: Application REF: pp. 341 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

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Chapter 35: Diuretics

Test Bank

Multiple Choice

294. A patient is brought to the emergency department with shortness of breath, a respiratory rate of 30 breaths/minute, intercostal retractions, and frothy, pink sputum. The nurse caring for this patient will expect to administer which drug?
- Furosemide [Lasix]
 - Hydrochlorothiazide [HydroDIURIL]
 - Mannitol [Osmitrol]
 - Spironolactone [Aldactone]

ANS: A

Furosemide, a potent diuretic, is used when rapid or massive mobilization of fluids is needed. This patient shows severe signs of congestive heart failure with respiratory distress and pulmonary edema and needs immediate mobilization of fluid. Hydrochlorothiazide and spironolactone are not indicated for pulmonary edema, because their diuretic effects are less rapid. Mannitol is indicated for patients with increased intracranial pressure and must be discontinued immediately if signs of pulmonary congestion or heart failure occur. DIF: Cognitive Level: Application REF: pp. 346 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

295. A patient has 2+ pitting edema of the lower extremities bilaterally. Auscultation of the lungs reveals crackles bilaterally, and the serum potassium level is 6 mEq/L. Which diuretic agent ordered by the prescriber should the nurse question?
- Bumetanide [Bumex]
 - Furosemide [Lasix]
 - Spironolactone [Aldactone]
 - Hydrochlorothiazide [HydroDIURIL]

ANS: C

Spironolactone is a non-potassium-wasting diuretic; therefore, if the patient has a serum potassium level of 6 mEq/L, indicating hyperkalemia, an order for this drug should be questioned. Bumetanide, furosemide, and hydrochlorothiazide are potassium-wasting diuretics and would be appropriate to administer in a patient with hyperkalemia. DIF: Cognitive Level: Application REF: pp. 350 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

296. A patient who is taking digoxin is admitted to the hospital for the treatment of congestive heart failure. The prescriber has ordered furosemide [Lasix]. The nurse notes an irregular heart rate of 86 beats/minute, a respiratory rate of 22 breaths/minute, and a blood pressure of 130/82 mm Hg. The nurse auscultates crackles in both lungs. Which laboratory value causes the nurse the most concern?
- Blood glucose level of 120 mg/dL
 - Oxygen saturation of 90%
 - Potassium level of 3.5 mEq/L
 - Sodium level of 140 mEq/L

ANS: C

This patient has an irregular, rapid heartbeat that might be caused by a dysrhythmia. This patient's serum potassium level is low, which can trigger fatal dysrhythmias, especially in patients taking digoxin. Furosemide contributes to loss of potassium through its effects on the distal nephron. Potassium-sparing diuretics often are used in conjunction with furosemide to prevent this complication. This patient's serum glucose and sodium levels are normal and of no concern at this point, although they can be affected by furosemide. The oxygen saturation is somewhat low and needs to be monitored, although it may improve with diuresis. DIF: Cognitive Level: Application REF: pp. 347 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

297. A patient who was in a motor vehicle accident sustained a severe head injury and is brought into the emergency department. The provider orders intravenous mannitol [Osmitrol]. The nurse knows that this is given to:
- reduce intracranial pressure.
 - reduce renal perfusion.
 - reduce peripheral edema.
 - restore extracellular fluid.

ANS: A

Mannitol is an osmotic diuretic that is used to reduce intracranial pressure by relieving cerebral edema. The presence of mannitol in blood vessels in the brain creates an osmotic force that draws edematous fluid from the brain into the blood. Mannitol can also be used to increase renal perfusion. It can cause peripheral edema and is not used to restore extracellular fluid. DIF: Cognitive Level: Application REF: pp. 347 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

298. An older adult patient with congestive heart failure develops crackles in both lungs and pitting edema of all extremities. The physician orders hydrochlorothiazide [HydroDIURIL]. Before administering this medication, the nurse reviews the patient's chart. Which laboratory value causes the nurse the most concern?

- a. Elevated creatinine clearance
- b. Elevated serum potassium level
- c. Normal blood glucose level
- d. Low levels of low-density lipoprotein (LDL) cholesterol

ANS: A

Hydrochlorothiazide should not be given to patients with severe renal impairment; therefore, an elevated creatinine clearance would cause the most concern. Thiazide diuretics are potassium-wasting drugs and thus may actually improve the patient's potassium level. Thiazides may elevate the serum glucose level in diabetic patients. Thiazides increase LDL cholesterol; however, this patient's levels are low, so this is not a risk. DIF: Cognitive Level: Application REF: pp. 349 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

299. A nurse preparing to administer morning medications notes that a patient with a history of hypertension has been prescribed spironolactone [Aldactone]. The nurse assesses the patient and notes dyspnea, bilateral crackles, and pitting edema in both feet. Which intervention is appropriate?

- a. Administer the medications as ordered.
- b. Ask the patient about the use of salt substitutes.
- c. Contact the provider to request an order for serum electrolytes.
- d. Request an order for furosemide [Lasix].

ANS: D

Spironolactone takes up to 48 hours for its effects to develop, so it should not be used when the patient needs immediate diuresis. This patient has shortness of breath, crackles, and edema, and needs a short-acting diuretic, such as furosemide. Asking the patient about the use of salt substitutes is not indicated. The patient does not need assessment of serum electrolytes. DIF: Cognitive Level: Application REF: pp. 350 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

300. A patient is taking gentamicin [Garamycin] and furosemide [Lasix]. The nurse should counsel this patient to report which symptom?

- a. Frequent nocturia
- b. Headaches
- c. Ringing in the ears
- d. Urinary retention

ANS: C

Patients taking furosemide should be advised that the risk of furosemide-induced hearing loss can be increased when other ototoxic drugs, such as gentamicin, are also taken. Patients should be told to report tinnitus, dizziness, or hearing loss. Nocturia may be an expected effect of furosemide.

Headaches are not likely to occur with concomitant use of gentamicin and furosemide. Urinary retention is not an expected side effect. DIF: Cognitive Level: Application REF: pp. 347 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

301. A patient with hypertension is taking furosemide [Lasix] for congestive heart failure. The prescriber orders digoxin to help increase cardiac output. What other medication will the nurse expect to be ordered for this patient?
- Bumetanide [Bumex]
 - Chlorothiazide [Diuril]
 - Hydrochlorothiazide [HydroDIURIL]
 - Spironolactone [Aldactone]

ANS: D

Spironolactone is used in conjunction with furosemide because of its potassium-sparing effects. Furosemide can contribute to hypokalemia, which can increase the risk of fatal dysrhythmias, especially with digoxin administration. The other diuretics listed are all potassium-wasting diuretics. DIF: Cognitive Level: Application REF: pp. 347 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

302. Besides having diuretic effects for patients with congestive heart failure, thiazides are also used to treat what? Select all that apply.
- Diabetes insipidus
 - Hepatic failure
 - Increased intracranial pressure
 - Intraocular pressure
 - Postmenopausal osteoporosis

ANS: A , B , E

Thiazide diuretics have the paradoxical effect of reducing urine output in patients with diabetes insipidus. They can also be used to mobilize edema associated with liver disease. They promote tubular reabsorption of calcium, which may reduce the risk of osteoporosis in postmenopausal women. Mannitol is used to treat edema that causes increased intracranial pressure and intraocular pressure. DIF: Cognitive Level: Analysis REF: pp. 349 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

303. A patient with chronic congestive heart failure has repeated hospitalizations in spite of ongoing treatment with hydrochlorothiazide [HydroDIURIL] and digoxin. The prescriber has ordered spironolactone [Aldactone] to be added to this patient's drug regimen, and the nurse

provides education about this medication. Which statement by the patient indicates understanding of the teaching?

- a. "I can expect improvement within a few hours after taking this drug."
- b. "I need to stop taking potassium supplements."
- c. "I should use salt substitutes to prevent toxic side effects."
- d. "I should watch closely for dehydration."

ANS: B

Spironolactone is a potassium-sparing diuretic used to counter the potassium-wasting effects of hydrochlorothiazides. Patients taking potassium supplements are at risk for hyperkalemia when taking this medication, so they should be advised to stop the supplements. Spironolactone takes up to 48 hours to have effects. Salt substitutes contain high levels of potassium and are contraindicated. Spironolactone is a weak diuretic, so the risk of dehydration is not increased. DIF: Cognitive Level: Application REF: pp. 347 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

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Chapter 36: Drugs Acting on the Renin-Angiotensin-Aldosterone

System Test Bank

Multiple Choice

304. A patient who stops taking an ACE inhibitor because of its side effects will begin taking an angiotensin II receptor blocker (ARB) medication. Which side effect of ACE inhibitors will not occur with an ARB medication?
- a. Angioedema
 - b. Cough
 - c. Hyperkalemia
 - d. Renal failure

ANS: C

ARBs do not produce clinically significant hyperkalemia. Angioedema may occur with ARBs, but the incidence is lower than with ACE inhibitors. They do not promote the accumulation of bradykinin in the lungs and produce a lower incidence of cough. An increased risk of cancer may be a concern with ARBs but is not a concern with ACE inhibitors. As with ACE inhibitors, renal failure can occur in patients with bilateral renal artery stenosis or stenosis in the artery to a single remaining kidney. DIF: Cognitive Level: Analysis REF: pp. 358 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

305. A patient who is taking furosemide [Lasix] and digoxin will begin taking captopril [Capoten]. The nurse is providing information about the drug. Which statement by the patient indicates a need for further teaching?
- “I can use acetaminophen for analgesia if needed.”
 - “I should stop taking the Lasix about a week before starting the Capoten.”
 - “I should take this medication on a full stomach.”
 - “I will need to have blood tests done every 2 weeks for a few months.”

ANS: C

Most oral formulations of ACE inhibitors may be given without regard for meals; captopril and moexipril, however, should be given 1 hour before meals. Nonsteroidal anti-inflammatory medications should be avoided; acetaminophen is not contraindicated. Patients taking diuretics should stop taking them 1 week before starting an ACE inhibitor to minimize the risk of hypotension. A WBC with differential should be evaluated at baseline and, after treatment starts, every 2 weeks for several months to monitor for neutropenia. DIF: Cognitive Level: Application REF: pp. 358 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

306. A female patient who is not taking any other medications is prescribed aliskiren [Tekturna], a direct renin inhibitor (DRI). The nurse reviews medication information with the patient. Which statement by the patient indicates understanding of the teaching?
- “If I get pregnant, I should stop taking this drug by the second trimester.”
 - “If I take this drug with a high-fat meal, it will be more effective.”
 - “I should restrict my potassium intake while taking this drug.”
 - “I should take this medication 1 hour before sitting down to a meal.”

ANS: D

DRIs should be taken on an empty stomach to improve their bioavailability. Patients should not take this drug when pregnant and should stop immediately upon finding out they are pregnant. Dosing with a high-fat meal reduces the drug's bioavailability. DRIs rarely cause hyperkalemia when taken alone. DIF: Cognitive Level: Application REF: pp. 361 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

307. A nurse administers an ACE inhibitor to a patient who is taking the drug for the first time. What will the nurse do?
- Instruct the patient not to get up without assistance.
 - Make sure the patient takes a potassium supplement.
 - Report the presence of a dry cough to the prescriber.
 - Request an order for a diuretic to counter the side effects of the ACE inhibitor.

ANS: A

Severe hypotension can result with the first dose of an ACE inhibitor. The patient should be discouraged from getting up without assistance. Potassium supplements are contraindicated. A dry cough is an expected side effect that eventually may cause a patient to discontinue the drug; however, it is not a contraindication to treatment. Diuretics can exacerbate hypotension and should be discontinued temporarily when a patient starts an ACE inhibitor. DIF: Cognitive Level: Application REF: pp. 357 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

308. A provider has ordered captopril [Capoten] for a patient who has hypertension. The patient reports a history of swelling of the tongue and lips after taking enalapril [Vasotec] in the past. Which action by the nurse is correct?
- Administer the captopril and monitor for adverse effects.
 - Hold the dose and notify the provider.
 - Request an order to administer fosinopril instead of captopril.
 - Reassure the patient that this is not a serious side effect.

ANS: B

Angioedema is a potentially life-threatening reaction to ACE inhibitors. If a patient has exhibited this reaction with any ACE inhibitor, he or she should not receive ACE inhibitors again. The nurse should hold the medication and notify the provider. Fosinopril is an ACE inhibitor and should not be given. DIF: Cognitive Level: Application REF: pp. 358 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

309. A patient with hypertension is prescribed an angiotensin-converting enzyme (ACE) inhibitor. The nurse reviewing this patient's chart before administering the medication will be most concerned about which other disease process?
- Bronchial asthma
 - Coronary artery disease
 - Diabetes mellitus
 - Renal artery stenosis

ANS: D

ACE inhibitors can cause severe renal insufficiency in patients with bilateral renal artery stenosis or stenosis in the artery to a single remaining kidney. Bronchial asthma, coronary artery disease, and diabetes mellitus are not comorbidities that are contraindications to treatment with an ACE inhibitor. DIF: Cognitive Level: Application REF: pp. 357 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

310. A patient who has been taking an antihypertensive medication for several years is recovering from a myocardial infarction. The prescriber changes the patient's medication to an

ACE inhibitor. The patient asks the nurse why a new drug is necessary. What is the nurse's response?

- a. "ACE inhibitors can prevent or reverse pathologic changes in the heart's structure."
- b. "ACE inhibitors help lower LDL cholesterol and raise HDL cholesterol."
- c. "ACE inhibitors increase venous return to the heart, improving cardiac output."
- d. "ACE inhibitors regulate electrolytes that affect the cardiac rhythm."

ANS: A

ACE inhibitors have many advantages over other antihypertensive medications, the most important of which is their ability to prevent or reverse pathologic changes in the heart and reduce the risk of cardiac mortality caused by hypertension. They are useful in patients with high low-density lipoprotein (LDL) or low high-density lipoprotein (HDL) cholesterol, but they do not directly affect this comorbidity. They reduce venous return to the heart, thereby reducing right heart size. They do not alter serum electrolyte levels. DIF: Cognitive Level: Application REF: pp. 356 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

311. A female patient who begins taking spironolactone [Aldactone] as an adjunct to furosemide [Lasix] complains that her voice is deepening. What will the nurse do?

- a. Contact the provider to obtain an order for a complete blood count (CBC) and liver function tests.
- b. Explain that this drug binds with receptors for steroid hormones, causing this effect.
- c. Report this side effect to the provider and request another medication for this patient.
- d. Teach the patient to report any associated cough, which may indicate a more severe side effect.

ANS: B

Spironolactone binds with receptors for aldosterone and with other steroid hormones, causing side effects such as gynecomastia, menstrual irregularities, impotence, hirsutism, and deepening of the voice. There is no indication for a CBC or for liver function tests in this patient with this side effect. Deepening of the voice is not an indication for withdrawal of the drug. This side effect is not associated with cough. DIF: Cognitive Level: Application REF: pp. 362 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

312. A prescriber orders ramipril [Altace] for an obese patient with type 2 diabetes mellitus who has developed hypertension. The nurse provides teaching before dismissing the patient home. Which statement by the patient indicates understanding of the teaching?

- a. "I am less likely to develop diabetic nephropathy when taking this medication."
- b. "I should check my blood sugar more often, because hyperglycemia is a side effect of this drug."

- c. "Taking this medication helps reduce my risk of stroke and heart attack."
- d. "This medication will probably prevent the development of diabetic retinopathy."

ANS: C

Ramipril [Altace] is approved for reducing the risk of stroke and myocardial infarction (MI) in patients at high risk for a major cardiovascular event because they have hypertension in conjunction with a history of stroke or MI or because they have diabetes. ACE inhibitors cannot be used for primary prevention of diabetic nephropathy, but they can delay the onset of overt nephropathy in patients who already have less advanced nephropathy. ACE inhibitors do not affect serum electrolytes or glucose. One ACE inhibitor, enalapril, can reduce the risk of diabetic retinopathy in some patients with type 1 diabetes mellitus. DIF: Cognitive Level: Application REF: pp. 356 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

313. A female patient taking an ACE inhibitor learns that she is pregnant. What will the nurse tell this patient?
- a. The fetus most likely will have serious congenital defects.
 - b. The fetus must be monitored closely while the patient is taking this drug.
 - c. The patient's prescriber probably will change her medication to an ARB.
 - d. The patient should stop taking the medication and contact her provider immediately.

ANS: D

ACE inhibitors are known to cause serious fetal injury during the second and third trimesters of pregnancy. Whether injury occurs earlier in pregnancy is unknown, and the incidence probably is low. However, women should be counseled to stop taking the drug if they become pregnant, and they should not take it if they are contemplating becoming pregnant. Women who take ACE inhibitors in the first trimester should be counseled that the risk to the fetus is probably low. Women should stop taking the drug when pregnant. ARBs carry the same risk as ACE inhibitors. DIF: Cognitive Level: Application REF: pp. 357 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

314. A nurse is reviewing a patient's medications before administration. Which drug-to-drug interactions will most concern the nurse in a patient with a history of heart failure and a potassium level of 5.5 mEq/L?
- a. Furosemide [Lasix] and enalapril [Vasotec]
 - b. Amlodipine [Norvasc] and spironolactone [Aldactone]
 - c. Captopril [Capoten] and spironolactone [Aldactone]
 - d. Metoprolol [Lopressor] and furosemide [Lasix]

ANS: C

ACE inhibitors increase the risk of hyperkalemia, and combining this drug with a potassium-sparing diuretic creates a significant risk of hyperkalemia. Furosemide and enalapril, an ACE

inhibitor, would not be contraindicated in this patient. Amlodipine and spironolactone would not cause hyperkalemia. The combination of metoprolol, a beta blocker, and furosemide would not be contraindicated in this patient. DIF: Cognitive Level: Analysis REF: pp. 361 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

315. A patient begins taking an ACE inhibitor and complains of a dry cough. What does the nurse correctly tell the patient about this symptom?
- It indicates that a serious side effect has occurred.
 - It is a common side effect that occurs in almost all patients taking the drug.
 - It may be uncomfortable enough that the drug will need to be discontinued.
 - It occurs frequently in patients taking the drug but will subside over time.

ANS: C

A cough occurs in about 10% of patients taking ACE inhibitors and is the most common reason for discontinuing therapy. It does not indicate a serious condition. It occurs in about 10% of all patients and is more common in women, older adults, and those of Asian ancestry. It does not subside until the medication is discontinued. DIF: Cognitive Level: Application REF: pp. 357 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 37: Calcium Channel Blockers

Test Bank

Multiple Choice

316. A nurse is caring for a patient who is receiving verapamil [Calan] for hypertension and digoxin [Lanoxin] for heart failure. The nurse will observe this patient for:
- AV blockade.
 - gingival hyperplasia.
 - migraine headaches.
 - reflex tachycardia.

ANS: A

Verapamil and digoxin both suppress impulse conduction through the AV node; when the two drugs are used concurrently, the risk of AV blockade is increased. Gingival hyperplasia can occur in rare cases with verapamil, but it is not an acute symptom. Verapamil can be used to prevent migraine, and its use for this purpose is under investigation. Verapamil and digoxin both suppress the heart rate. Nifedipine causes reflex tachycardia. DIF: Cognitive Level: Application REF: pp.

366TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

317. A nurse is teaching a patient who will begin taking verapamil [Calan] for hypertension about the drug's side effects. Which statement by the patient indicates understanding of the teaching?
- "I may become constipated, so I should increase fluids and fiber."
 - "I may experience a rapid heart rate as a result of taking this drug."
 - "I may have swelling of my hands and feet, but this will subside."
 - "I may need to increase my digoxin dose while taking this drug."

ANS: A

Constipation is common with verapamil and can be minimized by increasing dietary fiber and fluids. Verapamil lowers the heart rate. Peripheral edema may occur secondary to vasodilation, and patients should notify their prescriber if this occurs, because the prescriber may use diuretics to treat the condition. Verapamil and digoxin have similar cardiac effects; also, verapamil may increase plasma levels of digoxin by as much as 60%, so digoxin doses may need to be reduced. DIF: Cognitive Level: Application REF: pp. 366 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

318. A patient who took an overdose of verapamil has been treated with gastric lavage and a cathartic. The emergency department nurse assesses the patient and notes a heart rate of 50 beats/minute and a blood pressure of 90/50 mm Hg. The nurse will anticipate:
- administering intravenous norepinephrine (NE) and atropine and glucagon.
 - assisting with direct-current (DC) cardioversion.
 - placing the patient in an upright position.
 - preparing to administer a beta blocker.

ANS: A

Verapamil toxicity can cause bradycardia and hypotension. Atropine and glucagon should be given to treat bradycardia and NE for hypotension. DC cardioversion is indicated for ventricular tachydysrhythmias, which this patient does not have. Patients with hypotension should be placed in Trendelenburg position. Beta blockers will only exacerbate these effects. DIF: Cognitive Level: Application REF: pp. 366 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

319. A nurse is preparing to assist a nursing student to administer intravenous verapamil to a patient who also receives a beta blocker. The nurse asks the nursing student to discuss the plan of care for this patient. Which statement by the student indicates a need for further teaching?

- a. "I will check to see when the last dose of the beta blocker was given."
- b. "I will monitor vital signs closely to assess for hypotension."
- c. "I will monitor the heart rate frequently to assess for reflex tachycardia."
- d. "I will prepare to administer intravenous norepinephrine if necessary."

ANS: C

Reflex tachycardia is not an expected effect; the greater risks are cardiosuppression and bradycardia. Because beta blockers and verapamil have the same effects on the heart, there is a risk of excessive cardiosuppression. To minimize this risk, the two drugs should be given several hours apart. Hypotension may occur and should be treated with IV norepinephrine. DIF: Cognitive Level: Application REF: pp. 366 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

320. A patient who has been taking verapamil [Calan] for hypertension complains of constipation. The patient will begin taking amlodipine [Norvasc] to avoid this side effect. The nurse provides teaching about the difference between the two drugs. Which statement by the patient indicates that further teaching is needed?
- a. "I can expect dizziness and facial flushing with nifedipine."
 - b. "I should notify the provider if I have swelling of my hands and feet."
 - c. "I will need to take a beta blocker to prevent reflex tachycardia."
 - d. "I will need to take this drug once a day."

ANS: C

Amlodipine produces selective blockade of calcium channels in blood vessels with minimal effects on the heart. Reflex tachycardia is not common, so a beta blocker is not indicated to prevent this effect. Dizziness and facial flushing may occur. Peripheral edema may occur and should be reported to the provider. Amlodipine is given once daily. DIF: Cognitive Level: Application REF: pp. 369 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

321. Which are therapeutic uses for verapamil? Select all that apply.
- a. Angina of effort
 - b. Cardiac dysrhythmias
 - c. Essential hypertension
 - d. Sick sinus syndrome
 - e. Suppression of preterm labor

ANS: A , B , C

Verapamil is used to treat both vasospastic angina and angina of effort. It slows the ventricular rate in patients with atrial flutter, atrial fibrillation, and paroxysmal supraventricular tachycardia. It is a first-line drug for the treatment of essential hypertension. It is contraindicated in patients

with sick sinus syndrome. Nifedipine has investigational uses in suppressing preterm labor. DIF: Cognitive Level: Analysis REF: pp. 365 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

322. A patient begins taking nifedipine [Procardia], along with metoprolol, to treat hypertension. The nurse understands that metoprolol is used to:

- a. reduce flushing.
- b. minimize gingival hyperplasia.
- c. prevent constipation.
- d. prevent reflex tachycardia.

ANS: D

Beta blockers are combined with nifedipine to prevent reflex tachycardia. Beta blockers do not reduce flushing, minimize gingival hyperplasia, or prevent constipation. Beta blockers can reduce the adverse cardiac effects of nifedipine. DIF: Cognitive Level: Application REF: pp. 368 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 38: Vasodilators

Test Bank

Multiple Choice

323. Which medications are most likely to cause postural hypotension?
Select all that apply.

- a. Minoxidil
- b. Diltiazem [Cardizem]
- c. Prazosin [Minipress]
- d. Captopril [Capoten]
- e. Losartan [Cozaar]

ANS: C , D , E

Postural, or orthostatic, hypotension is defined as a fall in blood pressure related to a change in position. Minoxidil and diltiazem dilate arterioles; therefore, they are not likely to cause postural hypotension. Prazosin, captopril, and losartan all reportedly can cause orthostatic hypotension. DIF: Cognitive Level: Comprehension REF: pp. 373 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

324. The nurse is caring for a patient who is taking a vasodilator that dilates capacitance vessels. The nurse will expect which effect in this patient?
- Decrease in cardiac work
 - Increase in cardiac output
 - Increase in tissue perfusion
 - Increase in venous return

ANS: A

Vasodilators that dilate capacitance vessels, or veins, lead to a decrease in venous return to the heart, which reduces preload and the force of ventricular contraction. The resultant effect is a decrease in cardiac work. With a decrease in ventricular contraction, cardiac output is reduced, as is tissue perfusion. Dilation of veins causes a decrease in venous return. DIF: Cognitive Level: Application REF: pp. 373 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

325. A nurse is obtaining a medication history on a newly admitted patient, who reports taking minoxidil for hypertension. Admission vital signs reveal a heart rate of 78 beats/minute and a blood pressure of 120/80 mm Hg. What is an important part of the initial assessment for this patient?
- Evaluating ankle edema
 - Monitoring for nausea and vomiting
 - Noting the presence of hypertrichosis
 - Obtaining a blood glucose

ANS: A

Fluid retention is a common and serious adverse effect of minoxidil, because it can lead to cardiac decompensation. If present, a diuretic is indicated. Nausea and vomiting may occur with this drug but is not a serious side effect. Hypertrichosis occurs in about 80% of patients taking the drug, but its effects are cosmetic and not life threatening. It may be important to monitor the blood glucose level in some patients, because the drug can alter glucose tolerance, but this effect is not as serious as fluid retention. DIF: Cognitive Level: Application REF: pp. 375 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

326. A female patient with essential hypertension is being treated with hydralazine 25 mg twice daily. The nurse assesses the patient and notes a heart rate of 96 beats/minute and a blood pressure of 110/72 mm Hg. The nurse will request an order to:
- administer a beta blocker.
 - administer a drug that dilates veins.
 - reduce the dose of hydralazine.
 - give the patient a diuretic.

ANS: A

This patient is showing signs of reflex tachycardia, so a beta blocker is indicated to slow the heart rate. Patients with heart failure who take hydralazine often require the addition of isosorbide dinitrate, which also dilates veins. There is no indication for reducing the dose of hydralazine. A diuretic can be given with hydralazine if sodium and water retention is present. DIF: Cognitive Level: Application REF: pp. 374 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

327. A nurse is administering a vasodilator that dilates resistance vessels. The nurse understands that this drug will have which effect on the patient?
- Decreased cardiac preload
 - Decreased cardiac output
 - Increased tissue perfusion
 - Increased ventricular contraction

ANS: C

Vasodilators that dilate resistance vessels, or arterioles, cause a decrease in afterload, which allows cardiac output and tissue perfusion to increase. A decrease in preload would be the result of dilation of capacitance vessels, or veins. Dilation of arterioles increases cardiac output. Ventricular contraction results when preload is increased. DIF: Cognitive Level: Application REF: pp. 373 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

328. A patient is taking a vasodilator that relaxes smooth muscles in veins. To help minimize drug side effects, the nurse caring for this patient will:
- caution the patient not to get up abruptly.
 - encourage the patient to increase fluid intake.
 - tell the patient to report shortness of breath.
 - warn the patient about the possibility of bradycardia.

ANS: A

Postural hypotension occurs when moving from a supine or seated position to an upright position. It is caused by relaxation of smooth muscle in veins, which allows blood to pool in veins and decreases venous return of blood to the heart. Patients taking such drugs should avoid abrupt transitions to prevent falls. Prolonged use of vasodilators can lead to expansion of blood volume and fluid overload, so increasing fluid intake is not appropriate. Shortness of breath is a symptom associated with heart failure. Tachycardia can occur when the blood pressure drops as a result of the baroreceptor reflex. DIF: Cognitive Level: Application REF: pp. 373 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

329. Which patients may receive hydralazine to treat hypertension?
Select all that apply.

- a. A 1-month-old infant
- b. A 5-year-old child
- c. A pregnant woman
- d. A mother breastfeeding a newborn
- e. An older adult

ANS: A , B , E

Hydralazine may be used in infants as young as 1 month of age, in children, and in older adults. Hydralazine is labeled pregnancy category C, and data are lacking regarding transmission of hydralazine in breast-feeding women, so benefits should outweigh risks. DIF: Cognitive Level: Comprehension REF: pp. 375 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

330. A nurse is caring for a patient who will begin taking hydralazine to treat hypertension. Which statement by the patient indicates understanding of the nurse's teaching about this drug?

- a. "I will need to ask for assistance when getting up out of a chair."
- b. "I will also take a beta blocker medication with this drug to prevent rapid heart rate."
- c. "I may develop joint pain, but this side effect will decrease over time."
- d. "This drug may cause excessive hair growth on my face, arms, and back."

ANS: B

Hydralazine can cause severe reflex tachycardia; a beta blocker is usually given to counter this effect. Postural hypotension is minimal with hydralazine. Patients should be taught to report joint pain, which indicates an SLE syndrome and requires discontinuation of the drug. Minoxidil can cause excessive hair growth, not hydralazine. DIF: Cognitive Level: Application REF: pp. 374 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

331. A nursing student asks a nurse why a patient in hypertensive crisis is receiving both intravenous sodium nitroprusside [Nitropress] and oral hydralazine. The nurse will explain that this is done to prevent:

- a. cyanide poisoning.
- b. fluid retention.
- c. rebound hypertension.
- d. reflex tachycardia.

ANS: C

Sodium nitroprusside acts rapidly and is given only intravenously. Rebound hypertension occurs immediately when the IV is stopped, so an oral antihypertensive should be given simultaneously. Cyanide poisoning can occur with sodium nitroprusside, but giving hydralazine does not counter this adverse effect. Hydralazine does not prevent fluid retention or reflex tachycardia. DIF: Cognitive Level: Application REF: pp. 374 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

332. A nurse is reviewing the phenomenon of reflex tachycardia with a group of nursing students. Which statement by a student indicates understanding of this phenomenon?
- “Baroreceptors in the aortic arch stimulate the heart to beat faster.”
 - “Reflex tachycardia can negate the desired effects of vasodilators.”
 - “Reflex tachycardia is more likely to occur when beta blockers are given.”
 - “Venous dilation must occur for reflex tachycardia to occur.”

ANS: B

Reflex tachycardia, which is a compensatory mechanism in response to decreased blood pressure, can negate the desired effect of a vasodilator by eventually increasing blood pressure. Baroreceptors relay information to the vasomotor center of the medulla; the medulla sends impulses to the heart. Beta blockers are given to counter reflex tachycardia. Reflex tachycardia can be produced by dilation of both arterioles and veins. DIF: Cognitive Level: Application REF: pp. 374 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

333. A patient is admitted with severe hypertensive crisis. The nurse will anticipate administering which medication?
- Captopril PO
 - Hydralazine [Apresoline] 25 mg PO
 - Minoxidil 20 mg PO
 - Sodium nitroprusside [Nitropress] IV

ANS: D

Sodium nitroprusside is the drug of choice for hypertensive emergencies and is given intravenously. ACE inhibitors, such as captopril, are not used. Hydralazine may be used but should be given IV. Minoxidil is effective, but its severe side effects make it a second-line drug. DIF: Cognitive Level: Application REF: pp. 373 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies
Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 39: Drugs for Hypertension

Test Bank

Multiple Choice

334. A nurse has provided education for a patient newly diagnosed with hypertension who is just beginning therapy with antihypertensive medications. Which statement by the patient indicates a need for further teaching?
- “I may experience serious long-term problems even if I am not having symptoms.”
 - “I should report side effects to the provider since other drugs may be substituted.”
 - “I will need to take medications on a long-term basis.”
 - “When my symptoms subside, I may discontinue the medications.”

ANS: D

Patients should be taught that hypertension treatment is lifelong and that medications must be continued even when symptoms subside. Long-term problems may still occur without symptoms. Reporting drug side effects is necessary so that other drugs may be tried if needed. DIF: Cognitive Level: Application REF: pp. 375 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

335. A hospitalized patient has a blood pressure of 145/96 mm Hg. The nurse caring for this patient notes that the blood pressure the day before was 132/98 mm Hg. The patient reports ambulatory blood pressure readings of 136/98 and 138/92 mm Hg. The patient has a history of a previous myocardial infarction and has adopted a lifestyle that includes the use of the DASH diet and regular exercise. What will the nurse do?
- Notify the provider and discuss ordering a beta blocker for this patient.
 - Notify the provider and suggest a thiazide diuretic as initial therapy.
 - Order a diet low in sodium and high in potassium for this patient.
 - Recheck the patient’s blood pressure in 4 hours to verify the result.

ANS: A

Initial drug selection is determined by the presence or absence of a compelling indication or comorbid condition. This patient has a history of MI; beta blockers are indicated for patients with preexisting heart disease. Thiazide diuretics are first-line drugs of choice in patients without compelling indications. The patient is already consuming a DASH diet; closer monitoring of sodium or potassium will not help lower blood pressure. The patient has a record of hypertension, so it is unnecessary to recheck the blood pressure to verify the condition. DIF: Cognitive Level: Application REF: pp. 383 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

336. A patient has been taking chlorthalidone to treat hypertension. The patient’s prescriber has just ordered the addition of spironolactone to the patient’s drug regimen. Which statement by the patient indicates a need for further teaching?

- a. "I should continue following the DASH diet when adding this drug."
- b. "I should not take an ACE inhibitor when adding this drug."
- c. "I will need to take potassium supplements when adding this drug."
- d. "I will not experience a significant increase in diuresis when adding this drug."

ANS: C

Spironolactone is given in addition to thiazide diuretics to balance potassium loss caused by the thiazide diuretic. Patients should be advised against taking potassium supplements with spironolactone, because hyperkalemia can result. The DASH diet may be continued. ACE inhibitors are contraindicated because they promote hyperkalemia. Spironolactone does not significantly increase diuresis. DIF: Cognitive Level: Application REF: pp. 383 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

337. A patient with hypertension will begin taking an alpha blocker. What will the nurse teach this patient?
- a. A persistent cough is a known side effect of this drug.
 - b. Eat foods rich in potassium while taking this drug.
 - c. Move slowly from sitting to standing when taking this drug.
 - d. Report shortness of breath while taking this drug.

ANS: C

The most disturbing side effect of alpha blockers is orthostatic hypotension. Patients taking these drugs should be cautioned to stand up slowly to avoid lightheadedness or falls. A persistent cough is a common side effect of ACE inhibitors. It is not necessary to increase dietary potassium intake when taking this drug. Shortness of breath may occur in individuals with asthma who are taking beta blockers. DIF: Cognitive Level: Application REF: pp. 382 TOP: Nursing Process: Teaching MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

338. A nurse checks a patient's vital signs in the hospital and notes a blood pressure of 146/98 mm Hg. What will the nurse do?
- a. Instruct the patient to consume a low-sodium diet.
 - b. Prepare the patient for an electrocardiogram and blood tests.
 - c. Recheck the patient's blood pressure in the other arm.
 - d. Request an order for a thiazide diuretic.

ANS: C

Diagnosis of hypertension should be based on several blood pressure readings, not just one. High readings should be confirmed in the contralateral arm. Low-sodium diets are indicated for patients with confirmed hypertension. An electrocardiogram and blood tests are indicated for patients with confirmed hypertension to rule out primary causes. Thiazide diuretics are first-line drugs for

confirmed hypertension. DIF: Cognitive Level: Application REF: pp. 376 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

339. A nursing student asks the nurse why multidrug therapy is often used to treat hypertension. Which statement by the student indicates a need for further teaching?
- “Multidrug therapy often means that drugs may be given in lower doses.”
 - “Some agents are used to offset adverse effects of other agents.”
 - “Treatment of hypertension via different mechanisms increases success.”
 - “Two or more drugs will lower blood pressure more quickly.”

ANS: D

Multidrug therapy does not lower blood pressure more quickly. Using more than one drug often means that doses can be decreased. Some agents can offset adverse effects of other agents. Treatment via different mechanisms increases the likelihood of success. DIF: Cognitive Level: Comprehension REF: pp. 384 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

340. A patient has three separate blood pressure (BP) readings of 120/100 mm Hg, 138/92 mm Hg, and 126/96 mm Hg. Which category describes this patient's BP?
- Hypertension
 - Isolated systolic hypertension
 - Normal
 - Prehypertension

ANS: A

Hypertension is defined as systolic BP over 140 mm Hg or diastolic BP over 90 mm Hg. When systolic and diastolic BP fall into different categories, classification is based on the higher category. This patient has a hypertensive diastolic BP. Isolated systolic hypertension occurs if the systolic BP is greater than 140 mm Hg with a diastolic BP less than 90 mm Hg. Because this patient has an elevated diastolic BP, it is not considered normal. Prehypertension occurs with a systolic BP of 120 to 139 mm Hg or a diastolic BP of 80 to 89 mm Hg. DIF: Cognitive Level: Application REF: pp. 375 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

341. A patient has had blood pressures of 150/95 mm Hg and 148/90 mm Hg on two separate office visits. The patient reports a blood pressure of 145/92 mm Hg taken in an ambulatory setting. The patient's diagnostic tests are all normal. The nurse will expect this patient's provider to order:
- a beta blocker.

- b. a loop diuretic and spironolactone.
- c. a thiazide diuretic.
- d. counseling on lifestyle changes.

ANS: C

This patient has primary, or essential, hypertension as evidenced by systolic pressure greater than 140 and diastolic pressure greater than 90, along with normal tests ruling out another primary cause. Thiazide diuretics are first-line drugs for hypertension. Beta blockers are effective but are most often used to counter reflex tachycardia associated with reduced blood pressure caused by therapeutic agents. Loop diuretics cause greater diuresis than is usually needed and so are not first-line drugs. This patient should be counseled on lifestyle changes as an adjunct to drug therapy but should also begin drug therapy because hypertension already exists. DIF: Cognitive Level: Application REF: pp. 380 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

342. The nurse is caring for a pregnant patient who is in labor. The woman reports having had mild preeclampsia with a previous pregnancy. The nurse notes that the woman has a blood pressure of 168/102 mm Hg. The nurse will contact the provider to request an order for which drug?
- a. Angiotensin-converting enzyme (ACE) inhibitor
 - b. Hydralazine (Apresoline)
 - c. Magnesium sulfate
 - d. Sodium nitroprusside

ANS: B

The drug of choice for lowering blood pressure in a patient with severe preeclampsia is hydralazine. Sodium nitroprusside is not indicated. Magnesium sulfate is given as prophylaxis against seizures but does not treat hypertension. ACE inhibitors are contraindicated because of their potential for fetal harm. DIF: Cognitive Level: Application REF: pp. 388 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

343. A patient with diabetes develops hypertension. The nurse will anticipate administering which type of medication to treat hypertension in this patient?
- a. ACE inhibitors
 - b. Beta blockers
 - c. Direct-acting vasodilators
 - d. Thiazide diuretics

ANS: A

ACE inhibitors slow the progression of kidney injury in diabetic patients with renal damage. Beta blockers can mask signs of hypoglycemia and must be used with caution in diabetics. Direct-acting

vasodilators are third-line drugs for chronic hypertension. Thiazide diuretics promote hyperglycemia. DIF: Cognitive Level: Application REF: pp. 382 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

344. A patient who does not consume alcohol or nicotine products reports a strong family history of hypertension and cardiovascular disease. The patient has a blood pressure of 126/82 mm Hg and a normal weight and body mass index for height and age. The nurse will expect to teach this patient about:
- ACE inhibitors and calcium channel blocker medications.
 - the DASH diet, sodium restriction, and exercise.
 - increased calcium and potassium supplements.
 - thiazide diuretics and lifestyle changes.

ANS: B

This patient has prehypertension without other risk factors. Lifestyle changes are indicated at this point. If blood pressure rises to hypertension levels, other measures, including drug therapy, will be initiated. Calcium and potassium supplements are not indicated. DIF: Cognitive Level: Application REF: pp. 377 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

345. A patient is taking clonidine for hypertension and reports having dry mouth and drowsiness. What will the nurse tell the patient?
- Beta blockers can reverse these side effects.
 - Discontinue the medication immediately and notify the provider.
 - Drink extra fluids and avoid driving when drowsy.
 - Notify the provider if symptoms persist after several weeks.

ANS: C

Clonidine can cause dry mouth and sedation; patients should be warned to drink extra fluids and avoid driving. Beta blockers do not reverse these drug side effects. Discontinuing clonidine abruptly can cause severe rebound hypertension. These are common side effects that do not abate over time. DIF: Cognitive Level: Application REF: pp. 382 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

346. Which two-drug regimen would be appropriate for a patient with hypertension who does not have other compelling conditions?
- Hydrochlorothiazide and nadolol
 - Hydralazine and minoxidil
 - Spironolactone and amiloride

d. Trichlormethiazide and hydrochlorothiazide

ANS: A

When two or more drugs are used to treat hypertension, each drug should come from a different class. Hydrochlorothiazide is a diuretic and nadolol is a beta blocker, so this choice is appropriate. Hydralazine and minoxidil are vasodilators. Spironolactone and amiloride are potassium-sparing diuretics. Trichlormethiazide and hydrochlorothiazide are both thiazide diuretics. DIF: Cognitive Level: Analysis REF: pp. 383 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

347. A patient takes an ACE inhibitor to treat hypertension and tells the nurse that she wants to become pregnant. She asks whether she should continue taking the medication while she is pregnant. What will the nurse tell her?

- a. Controlling her blood pressure will decrease her risk of preeclampsia.
- b. Ask the provider about changing to an ARB during pregnancy.
- c. Continue taking the ACE inhibitor during her pregnancy.
- d. Discuss using methyldopa instead while she is pregnant.

ANS: D

Methyldopa has limited effects on uteroplacental and fetal hemodynamics and does not adversely affect the fetus or neonate. Controlling blood pressure does not lower the risk of preeclampsia. ACE inhibitors and ARBs are specifically contraindicated during pregnancy. DIF: Cognitive Level: Application REF: pp. 387 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

348. A 60-year-old African-American patient has a blood pressure of 120/80 mm Hg and reports a family history of hypertension. The patient has a body mass index of 22.3. The patient reports consuming alcohol occasionally. Which therapeutic lifestyle change will the nurse expect to teach this patient?

- a. Alcohol cessation
- b. Potassium supplementation
- c. Sodium restriction
- d. Weight loss

ANS: C

Current recommendations for African-Americans to prevent hypertension include sodium restriction to less than 1500 mg/day, although this is under investigation. The patient has a normal BMI and does not consume alcohol excessively, so weight loss and alcohol cessation are not necessary. Potassium supplements are not indicated; patients should be advised to consume foods high in potassium. DIF: Cognitive Level: Application REF: pp. 385 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

349. A patient with a recent onset of nephrosclerosis has been taking an ACE inhibitor and a thiazide diuretic. The patient's initial blood pressure was 148/100 mm Hg. After 1 month of drug therapy, the patient's blood pressure is 130/90 mm Hg. The nurse will contact the provider to discuss:

- a. adding a calcium channel blocker to this patient's drug regimen.
- b. lowering doses of the antihypertensive medications.
- c. ordering a high-potassium diet.
- d. adding spironolactone to the drug regimen.

ANS: A

In patients with renal disease, the goal of antihypertensive therapy is to lower the blood pressure to 130/80 mm Hg or less. Adding a third medication is often indicated. Lowering the dose of the medications is not indicated because the patient's blood pressure is not in the target range. Adding potassium to the diet and using a potassium-sparing diuretic are contraindicated. DIF: Cognitive Level: Application REF: pp. 384 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

350. A patient with hypertension with a blood pressure of 168/110 mm Hg begins taking hydrochlorothiazide and verapamil. The patient returns to the clinic after 2 weeks of drug therapy, and the nurse notes a blood pressure of 140/85 mm Hg and a heart rate of 98 beats/minute. What will the nurse do?

- a. Notify the provider and ask about adding a beta blocker medication.
- b. Reassure the patient that the medications are working.
- c. Remind the patient to move slowly from sitting to standing.
- d. Request an order for an electrocardiogram.

ANS: A

Beta blockers are often added to drug regimens to treat reflex tachycardia, which is a common side effect of lowering blood pressure, caused by the baroreceptor reflex. The patient's blood pressure is responding to the medications, but the tachycardia warrants treatment. Reminding the patient to move slowly from sitting to standing is appropriate with any blood pressure medication, but this patient has reflex tachycardia, which must be treated. An electrocardiogram is not indicated. DIF: Cognitive Level: Application REF: pp. 382 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

351. A nurse is discussing how beta blockers work to decrease blood pressure with a nursing student. Which statement by the student indicates a need for further teaching?

- a. "Beta blockers block the actions of angiotensin II."
- b. "Beta blockers decrease heart rate and contractility."
- c. "Beta blockers decrease peripheral vascular resistance."

- d. “Beta blockers decrease the release of renin.”

ANS: A

Beta blockers reduce the release of renin by blockade of beta1 receptors on juxtaglomerular cells in the kidney, which reduces angiotensin II–mediated vasoconstriction, but do not block the actions of angiotensin II directly. Beta blockers decrease heart rate and cardiac contractility, decrease peripheral vascular resistance, and decrease the release of renin. DIF: Cognitive Level: Analysis REF: pp. 379 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

352. A 5-year-old patient seen in an outpatient clinic is noted to have hypertension on three separate visits. Ambulatory blood pressure monitoring confirms that the child has hypertension. As an initial intervention with the child’s parents, the nurse will expect to:
- perform a detailed health history on the child.
 - provide teaching about antihypertensive medications.
 - reassure the parents that their child may outgrow this condition.
 - teach the parents about lifestyle changes and a special diet.

ANS: A

Because the incidence of secondary hypertension is much higher in children than in adults, it is important to obtain an accurate health history to help uncover primary causes. Once the type of hypertension is established, the teaching interventions may be useful. Hypertension must be treated, and it is incorrect to reassure parents that their child may just outgrow the condition. DIF: Cognitive Level: Application REF: pp. 386 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 40: Drugs for Heart

Failure Test Bank

Multiple Choice

353. A patient asks a nurse why he cannot use digoxin [Lanoxin] for his heart failure, because both of his parents used it for HF. The nurse will explain that digoxin is not the first-line therapy for which reason?
- It causes tachycardia and increases the cardiac workload.
 - It does not correct the underlying pathology of heart failure.
 - It has a wide therapeutic range that makes dosing difficult.
 - It may actually shorten the patient’s life expectancy.

ANS: B

Digoxin improves cardiac output, alters electrical effects, and helps to decrease sympathetic outflow from the central nervous system (CNS) through its neurohormonal effects; however, it does not alter the underlying pathology of heart failure or prevent cardiac remodeling. Digoxin causes bradycardia and increases the cardiac workload by increasing contractility. It has a narrow therapeutic range and many adverse effects. Digoxin does not improve life expectancy; in women it may actually shorten life expectancy. DIF: Cognitive Level: Analysis REF: pp. 398 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

354. A patient has been taking digoxin [Lanoxin] 0.25 mg, and furosemide [Lasix] 40 mg, daily. Upon routine assessment by the nurse, the patient states, "I see yellow halos around the lights." The nurse should perform which action based on this assessment?
- Check the patient for other symptoms of digitalis toxicity.
 - Withhold the next dose of furosemide.
 - Continue to monitor the patient for heart failure.
 - Document the findings and reassess in 1 hour.

ANS: A

Yellow halos around lights indicate digoxin toxicity. The use of furosemide increases the risk of hypokalemia, which in turn potentiates digoxin toxicity. The patient should also be assessed for headache, nausea, and vomiting, and blood should be drawn for measurement of the serum digoxin level. The nurse should not withhold the dose of furosemide until further assessment is done, including measurement of a serum digoxin level. No evidence indicates that the patient is in worsening heart failure. Documentation of findings is secondary to further assessment and prevention of digoxin toxicity. DIF: Cognitive Level: Analysis REF: pp. 400 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

355. A patient has heart failure and is taking an ACE inhibitor. The patient has developed fibrotic changes in the heart and vessels. The nurse expects the provider to order which medication to counter this development?
- Aldosterone antagonist
 - Angiotensin II receptor blocker (ARB)
 - Beta blocker
 - Direct renin inhibitor (DRI)

ANS: A

Aldosterone antagonists are added to therapy for patients with worsening symptoms of HF. Aldosterone promotes myocardial remodeling and myocardial fibrosis, so aldosterone antagonists can help with this symptom. ARBs are given for patients who do not tolerate ACE inhibitors. Beta blockers do not prevent fibrotic changes. DRIs are not widely used. DIF: Cognitive Level:

AnalysisREF: pp. 394TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

356. A patient with heart failure who has been taking an ACE inhibitor, a thiazide diuretic, and a beta blocker for several months comes to the clinic for evaluation. As part of the ongoing assessment of this patient, the nurse will expect the provider to evaluate:
- complete blood count.
 - ejection fraction.
 - maximal exercise capacity.
 - serum electrolyte levels.

ANS: D

Patients taking thiazide diuretics can develop hypokalemia, which can increase the risk for dysrhythmias; therefore, the serum electrolyte levels should be monitored closely. A complete blood count is not recommended. This patient is taking the drugs recommended for patients with Stage C heart failure; although the patient's quality of life and ability to participate in activities should be monitored, routine measurement of the ejection fraction and maximal exercise capacity is not recommended.DIF: Cognitive Level: ApplicationREF: pp. 398TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

357. A patient is taking enalapril [Vasotec]. The nurse understands that patients taking this type of drug for heart failure need to be monitored carefully for:
- hypernatremia.
 - hypertension.
 - hyperkalemia.
 - hypokalemia.

ANS: C

One of the principal effects of angiotensin-converting enzyme (ACE) inhibitors is hyperkalemia, which is due to decreased aldosterone release arising from blockage of angiotensin II. There is no indication that careful monitoring of sodium for increased levels is indicated. Vasotec is indicated for heart failure, not hypertension. The drug therapy should be monitored to ascertain its effectiveness, but hyperkalemia is the main concern. Hyperkalemia, not hypokalemia, is a concern because of the decreased aldosterone release that occurs with blockage of angiotensin II.DIF: Cognitive Level: ApplicationREF: pp. 393TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

358. A patient is recovering from a myocardial infarction but does not have symptoms of heart failure. The nurse will expect to teach this patient about:

- a. ACE inhibitors and beta blockers.
- b. biventricular pacemakers.
- c. dietary supplements and exercise.
- d. diuretics and digoxin.

ANS: A

This patient is classified as having Stage B heart failure with no current symptoms but with structural heart disease strongly associated with the development of heart failure. Treatment at this stage includes an ACE inhibitor and a beta blocker to help prevent the progression of symptoms. Biventricular pacemakers are used for patients in Stage C heart failure and have more advanced structural disease and symptoms. Dietary supplements and exercise have not been proven to prevent structural heart disease. Diuretics and digoxin are used for patients with Stage C heart failure. DIF: Cognitive Level: Analysis REF: pp. 400 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Safe and Effective Care Environment: Management of Care

359. The potassium-sparing diuretic spironolactone [Aldactone] prolongs survival and improves heart failure symptoms by which mechanism?
- a. Blocking aldosterone receptors
 - b. Increasing diuresis
 - c. Reducing venous pressure
 - d. Reducing afterload

ANS: A

Spironolactone prolongs survival in patients with HF primarily by blocking receptors for aldosterone. Spironolactone causes only minimal diuresis. It does not reduce afterload, and it does not reduce venous pressure enough to prolong survival, because it causes only minimal diuresis. DIF: Cognitive Level: Analysis REF: pp. 392 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

360. An 88-year-old patient with heart failure has progressed to Stage D and is hospitalized for the third time in a month. The nurse will expect to discuss which topic with the patient's family?
- a. Antidysrhythmic medications
 - b. End-of-life care
 - c. Heart transplantation
 - d. Implantable mechanical assist devices

ANS: B

Patients in Stage D heart failure have advanced structural heart disease. For eligible patients, the best long-term solution is heart transplantation, but this patient probably is not eligible, given his advanced age. End-of-life care should be discussed. Antidysrhythmic medications are not

indicated and may make symptoms worse. An implantable mechanical assist device is used in patients awaiting heart transplantation. DIF: Cognitive Level: Application REF: pp. 402 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

361. A patient with heart failure who has been given digoxin [Lanoxin] daily for a week complains of nausea. Before giving the next dose, the nurse will:
- assess the heart rate (HR) and give the dose if the HR is greater than 60 beats/minute.
 - contact the provider to report digoxin toxicity.
 - request an order for a decreased dose of digoxin.
 - review the serum electrolyte values and withhold the dose if the potassium level is greater than 3.5 mEq/L.

ANS: A

Anorexia, nausea, and vomiting are the most common adverse effects of digoxin and should cause nurses to evaluate for more serious signs of toxicity. If the HR is greater than 60 beats/minute, the dose may be given. Nausea by itself is not a sign of toxicity. A decreased dose is not indicated. A serum potassium level less than 3.5 mEq/L is an indication for withholding the dose. DIF: Cognitive Level: Evaluation REF: pp. 398 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

362. Which medications are included in first-line therapy for heart failure? Select all that apply.
- Agents that inhibit the renin-angiotensin-aldosterone system (RAAS)
 - Aldosterone antagonists
 - Beta blockers
 - Cardiac glycosides
 - Diuretics

ANS: A , C , E

For routine therapy, heart failure is treated with agents that inhibit the RAAS, beta blockers, and diuretics. Aldosterone antagonists and cardiac glycosides are not first-line drugs for HF. DIF: Cognitive Level: Comprehension REF: pp. 392 TOP: Nursing Process: N/A MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

363. A nurse prepares to administer a scheduled dose of digoxin. The nurse finds a new laboratory report showing a plasma digoxin level of 0.7 ng/mL. What action should the nurse take?
- Withhold the drug for an hour and reassess the level.
 - Withhold the drug and notify the prescriber immediately.

- c. Administer Digibind to counteract the toxicity.
- d. Check the patient's apical pulse, and if it is within a safe range, administer the digoxin.

ANS: D

The optimum plasma digoxin range is 0.5 to 0.8 ng/mL. The patient's pulse should be checked before administration, as always, and the digoxin should be administered. The digoxin does not have to be withheld, nor does the prescriber need to be notified. If the digoxin level is demonstrating a trend of increasing, the issue should be discussed in rounds. Digibind is not indicated, because the digoxin level is therapeutic. DIF: Cognitive Level: Application REF: pp. 395 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

364. A patient with Stage C heart failure (HF) who has been taking an ACE inhibitor, a beta blocker, and a diuretic begins to have increased dyspnea, weight gain, and decreased urine output. The provider orders spironolactone [Aldactone]. The nurse will instruct the patient to:
- a. avoid potassium supplements.
 - b. monitor for a decreased heart rate.
 - c. take extra fluids.
 - d. use a salt substitute instead of salt.

ANS: A

Spironolactone is added to therapy for patients with worsening symptoms of HF. Because spironolactone is a potassium-sparing diuretic, patients should not take supplemental potassium. Patients taking digoxin need to monitor their heart rate. Extra fluids are not indicated. Salt substitutes contain potassium. DIF: Cognitive Level: Application REF: pp. 400 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

365. Which are expected effects of cardiac glycosides?
Select all that apply.
- a. Decreased cardiac output
 - b. Decreased force of contraction
 - c. Decreased heart rate
 - d. Modulation of neurohormonal systems
 - e. Positive inotropic effects

ANS: C, D, E

Digoxin slows the heart rate, modulates the activity of neurohormonal systems, and increases the force of contraction. It does not decrease cardiac output or reduce the force of contraction. DIF: Cognitive Level: Comprehension REF: pp. 395 TOP: Nursing Process: N/A MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

366. A nurse is preparing to administer digoxin [Lanoxin] to a patient. The patient's heart rate is 62 beats/minute, and the blood pressure is 120/60 mm Hg. The last serum electrolyte value showed a potassium level of 5.2 mEq/L. What will the nurse do?
- Contact the provider to request an increased dose of digoxin.
 - Give the dose of digoxin and notify the provider of the potassium level.
 - Request an order for a diuretic.
 - Withhold the dose and notify the provider of the heart rate.

ANS: B

The patient's serum potassium level is above normal limits, but only slightly. An elevated potassium level can reduce the effects of digoxin, so there is no risk of toxicity. There is no indication that an increased dose of digoxin is needed. There is no indication for a diuretic. The heart rate is acceptable; doses should be withheld if the heart rate is less than 60 beats/minute. DIF: Cognitive Level: Evaluation REF: pp. 398 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

367. A patient is taking a thiazide diuretic for hypertension and quinidine to treat a dysrhythmia. The prescriber orders digoxin 0.125 mg to improve this patient's cardiac output. The nurse should contact the provider to request:
- adding spironolactone [Aldactone].
 - reducing the dose of digoxin.
 - discontinuing the quinidine.
 - giving potassium supplements.

ANS: C

Quinidine can cause plasma levels of digoxin to rise; concurrent use of quinidine and digoxin is contraindicated. There is no indication for adding spironolactone unless this patient's potassium level is elevated. The dose of digoxin ordered is a low dose. Potassium supplements are contraindicated with digoxin. DIF: Cognitive Level: Analysis REF: pp. 399 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

368. A patient with chronic hypertension is admitted to the hospital. During the admission assessment, the nurse notes a heart rate of 96 beats/minute, a blood pressure of 150/90 mm Hg, bibasilar crackles, 2+ pitting edema of the ankles, and distention of the jugular veins. The nurse will contact the provider to request an order for which medication?
- ACE inhibitor
 - Digoxin [Lanoxin]
 - Furosemide [Lasix]
 - Spironolactone [Aldactone]

ANS: C

This patient shows signs of fluid volume overload and needs a diuretic. Furosemide is a loop diuretic, which can produce profound diuresis very quickly even when the glomerular filtration rate (GFR) is low. An ACE inhibitor will not reduce fluid volume overload. Digoxin has a positive inotropic effect on the heart, which may improve renal perfusion, but this is not its primary effect. Spironolactone is a potassium-sparing diuretic with weak diuresis effects; it is used in conjunction with other diuretics to improve electrolyte balance. DIF: Cognitive Level: Application REF: pp. 391 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

369. A patient with heart failure who takes a thiazide diuretic and digoxin [Lanoxin] is admitted for shortness of breath. The patient's heart rate is 66 beats/minute, and the blood pressure is 130/88 mm Hg. The serum potassium level is 3.8 mEq/L, and the digoxin level is 0.8 ng/mL. The nurse admitting this patient understands that the patient:

- a. has digoxin toxicity.
- b. is showing signs of renal failure.
- c. is experiencing worsening of the disease.
- d. needs a potassium-sparing diuretic.

ANS: C

This patient has a normal serum potassium level, and the digoxin level is normal. The patient is showing signs of pulmonary edema, which indicates progression of heart failure. The digoxin level is within normal limits, and the heart rate is above 60 beats/minute, so digoxin toxicity is not likely. There is no sign of renal failure. A potassium-sparing diuretic is not indicated. DIF: Cognitive Level: Evaluation REF: pp. 401 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

370. A patient newly diagnosed with heart failure is admitted to the hospital. The nurse notes a pulse of 90 beats/minute. The nurse will observe this patient closely for:

- a. decreased urine output.
- b. increased blood pressure.
- c. jugular vein distention.
- d. shortness of breath.

ANS: A

As the heart rate increases, ventricular filling decreases, and cardiac output and renal perfusion decrease. Tachycardia does not elevate blood pressure. Jugular vein distention and shortness of breath occur with fluid volume overload. DIF: Cognitive Level: Analysis REF: pp. 390 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

371. A patient with volume overload begins taking a thiazide diuretic. The nurse will tell the patient to expect which outcome when taking this drug?
- Improved exercise tolerance
 - Increased cardiac output
 - Prevention of cardiac remodeling
 - Prolonged survival

ANS: A

Diuretics help reduce fluid volume overload, which, by reducing pulmonary edema, can improve exercise tolerance. Diuretics do not improve cardiac output. ACE inhibitors are used to prevent cardiac remodeling and to improve long-term survival. DIF: Cognitive Level: Application REF: pp. 398 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

372. A nurse is discussing heart failure with a group of nursing students. Which statement by a student reflects an understanding of how compensatory mechanisms can compound existing problems in patients with heart failure?
- “An increase in arteriolar tone to improve tissue perfusion can decrease resistance.”
 - “An increase in contractility to increase cardiac output can cause pulmonary edema.”
 - “When the heart rate increases to increase cardiac output, it can prevent adequate filling of the ventricles.”
 - “When venous tone increases to increase ventricular filling, an increase in arterial pressure occurs.”

ANS: C

The heart rate increases to improve cardiac output, but it may prevent adequate ventricular filling. An increase in arteriole tone improves tissue perfusion but also increases both the resistance to the pumping of the heart and the cardiac workload. Increased contractility helps improve cardiac output but is detrimental because it increases the oxygen demand of the heart. An increase in venous tone improves ventricular filling, but as the ventricles fail, blood can back up and cause pulmonary edema. DIF: Cognitive Level: Analysis REF: pp. 396 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 41: Antidysrhythmic

Drugs Test Bank

Multiple Choice

373. A nurse is discussing adenosine with a nursing student. Which statement by the student indicates a need for further teaching?

- a. "Adenosine acts by suppressing action potentials in the SA and AV nodes."
- b. "Adenosine can be used to prevent paroxysmal supraventricular tachycardia and Wolff-Parkinson-White syndrome."
- c. "Adenosine has a half-life that lasts only a few seconds and must be given intravenously."
- d. "Adenosine is not effective for treating atrial fibrillation, atrial flutter, or ventricular dysrhythmias."

ANS: B

Adenosine is used to terminate paroxysmal supraventricular tachycardia (SVT) and Wolff-Parkinson-White (WPW) syndrome, not to prevent symptoms. Adenosine suppresses action potentials in the SA and AV nodes. Because it has a very short half-life of 1.5 to 10 seconds, it must be given IV bolus, as close to the heart as possible. Adenosine is not active against atrial fibrillation, atrial flutter, or ventricular dysrhythmias. DIF: Cognitive Level: Application REF: pp. 407 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

374. A patient will be taking amiodarone [Cordarone]. Which baseline tests are necessary before this medication is started?

Select all that apply.

- a. Chest radiograph and pulmonary function tests
- b. Complete blood count with differential
- c. Ophthalmologic examination
- d. Renal function tests
- e. Thyroid function tests

ANS: A , C , E

Amiodarone has many potential toxic side effects, including pulmonary toxicity, ophthalmic effects, and thyroid toxicity, so these systems should be evaluated at baseline and periodically while the patient is taking the drug. A complete blood count is not indicated. Renal function tests are not indicated. DIF: Cognitive Level: Application REF: pp. 415 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

375. A nurse is providing teaching to a patient who is admitted to the hospital for initiation of treatment with amiodarone [Cordarone] for atrial fibrillation that has been refractory to other medications. Which statement by the patient indicates a need for further teaching?

- a. "I may have itching, malaise, and jaundice, but these symptoms will subside."
- b. "I need to use sunblock to help keep my skin from turning bluish gray."
- c. "I should not drink grapefruit juice while taking this medication."
- d. "I should report shortness of breath and cough and stop taking the drug immediately."

ANS: A

Amiodarone has many toxic effects. Liver toxicity is rare but serious and should be reported and the drug discontinued. Dermatologic toxicity can occur, and sunblock helps protect the skin, which, with prolonged exposure to the sun, can turn bluish gray. Drinking grapefruit juice can increase amiodarone levels. Pulmonary toxicity is the greatest concern, and patients with pulmonary symptoms should report these to the provider. DIF: Cognitive Level: Analysis REF: pp. 415 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

376. A patient is in the intensive care unit after a myocardial infarction. The nurse notes that the QT interval on this patient's electrocardiogram has been elongating. The nurse is concerned that which cardiac dysrhythmia may occur?
- AV block
 - Bradycardia
 - Supraventricular tachycardia
 - Torsades de pointes

ANS: D

Torsades de pointes is a dysrhythmia that can occur with prolongation of the QT interval and can progress to fatal ventricular fibrillation. A prolonged QT interval does not signal the development of AV block, bradycardia, or SVT. DIF: Cognitive Level: Comprehension REF: pp. 410 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

377. A patient is taking digoxin [Lanoxin] and quinidine to treat sustained ventricular tachycardia. Before giving medications, the nurse reviews the patient's electrocardiogram (ECG) and notes a QRS complex that has widened by 50% from the baseline ECG. What will the nurse do?
- Administer the medications as ordered, because this indicates improvement.
 - Contact the provider to discuss reducing the digoxin dose.
 - Contact the provider to request an increase in the quinidine dose.
 - Withhold the quinidine and contact the provider to report the ECG finding.

ANS: D

Quinidine widens the QRS complex by slowing depolarization of the ventricles. As cardiotoxicity develops as a result of quinidine toxicity, the QRS complex widens excessively. Any widening of the QRS complex of 50% or more warrants notifying the provider, so the nurse should withhold the medication and contact the provider. Widening of the QRS complex by more than 50% of baseline indicates cardiotoxicity. Quinidine can double the digoxin levels, so it is not likely that the digoxin dose would need to be increased, and an increase in the QRS complex does not indicate a need for more digoxin. The quinidine dose should not be increased, because the findings indicate

cardiotoxicity from the quinidine. DIF: Cognitive Level: Evaluation REF: pp. 412 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

378. A nursing student asks a nurse how digoxin causes dysrhythmias. The nurse correctly states that digoxin:
- reduces automaticity in the AV node.
 - increases automaticity in the Purkinje fibers.
 - increases automaticity in the SA node.
 - speeds up AV conduction.

ANS: B

Digoxin increases automaticity in the Purkinje fibers, which contributes to dysrhythmias caused by digoxin. Decreased automaticity in the AV node is a desired effect of digoxin. Digoxin does not increase automaticity in the SA node. It does not increase AV node conduction. DIF: Cognitive Level: Application REF: pp. 410 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

379. A nurse is caring for a patient in the intensive care unit who is receiving intravenous lidocaine. The patient is drowsy and confused and reports numbness of the fingers and toes. Which standing order will the nurse initiate at this time?
- Administer diazepam.
 - Reduce the rate of infusion.
 - Discontinue the infusion.
 - Prepare for mechanical ventilation.

ANS: B

This patient is showing signs that are common with high therapeutic levels of lidocaine. Because lidocaine is rapidly degraded, slowing the rate of infusion can help remove excess drug from the circulation. Seizures are possible with toxic doses; diazepam should be used to control seizures. It is not necessary to discontinue the infusion, because this patient is showing signs common to high therapeutic doses. Respiratory arrest is possible with toxic doses; mechanical ventilation may be needed. DIF: Cognitive Level: Evaluation REF: pp. 412 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

380. A patient is taking digoxin [Lanoxin] and develops a dysrhythmia. The nurse reports this finding to the prescriber, who will most likely order what? Select all that apply.
- Amiodarone
 - Diltiazem
 - Phenytoin [Dilantin]

- d. Quinidine
- e. Serum electrolytes

ANS: C , E

Phenytoin is an antiseizure medication used to treat digoxin-induced dysrhythmias. Because digoxin-induced dysrhythmias can be caused by hypokalemia, it is appropriate to evaluate the serum electrolyte levels. Amiodarone, diltiazem, and quinidine increase digoxin levels. DIF: Cognitive Level: Application REF: pp. 410 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

381. A prescriber has ordered propranolol [Inderal] for a patient with recurrent ventricular tachycardia. The nurse preparing to administer this drug will be concerned about what in the patient's history?
- a. Asthma
 - b. Exercise-induced tachyarrhythmias
 - c. Hypertension
 - d. Paroxysmal atrial tachycardia associated with emotion

ANS: A

Propranolol is contraindicated in patients with asthma, because it is a nonselective beta-adrenergic antagonist and can cause bronchoconstriction and exacerbate asthma. It is used to treat tachyarrhythmias and paroxysmal atrial tachycardia evoked by emotion, so it is not contraindicated for patients with these conditions. It lowers blood pressure, so it would be helpful in patients with hypertension. DIF: Cognitive Level: Application REF: pp. 414 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

382. A patient with atrial fibrillation is taking verapamil [Calan]. The patient has read about the drug on the Internet and wants to know why a drug that affects the rate of ventricular contraction is used to treat an abnormal atrial contraction. What will the nurse tell the patient?
- a. "Drugs that treat ventricular dysrhythmias help to restore normal sinus rhythm."
 - b. "Atrial dysrhythmias can have life-threatening effects on ventricular function."
 - c. "Treating ventricular dysrhythmias helps prevent the likelihood of stroke."
 - d. "When ventricular contraction slows, atrial contraction is also slowed."

ANS: B

Dysrhythmic activity in the atria does not significantly reduce cardiac output but can be dangerous when dysrhythmic impulses cross the AV node, causing ventricular dysrhythmias, which can be life threatening. Treating ventricular dysrhythmia helps improve ventricular pumping. These drugs do not restore normal sinus rhythm. To prevent stroke, an anticoagulant, such as warfarin, is used. Slowing ventricular contraction does not affect the rate of atrial contraction. Restoring normal sinus rhythm requires cardioversion, short-term treatment with amiodarone or sotalol, or RF ablation of the dysrhythmic source. DIF: Cognitive Level: Application REF: pp. 409 TOP: Nursing

Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

383. A prescriber orders verapamil [Covera-HS] for a patient who is taking digoxin [Lanoxin] and warfarin. The nurse will expect the prescriber to the dose of .
- lower; digoxin
 - increase; digoxin
 - lower; warfarin
 - increase; warfarin

ANS: A

Calcium channel blockers, such as verapamil, can increase levels of digoxin, so patients taking these drugs may need to have their digoxin dose reduced. Increasing the dose of digoxin can result in digoxin toxicity. Verapamil does not affect warfarin levels. DIF: Cognitive Level: Analysis REF: pp. 418 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

384. A nurse provides teaching for a patient who will begin taking procainamide [Procanbid] for long-term suppression of a dysrhythmia. Which statement by the patient indicates a need for further teaching?
- “I need to take this drug at evenly spaced intervals around the clock.”
 - “I may have increased bruising, but this is a temporary side effect.”
 - “I should report pain and swelling in my joints when taking this drug.”
 - “I will need to have blood tests at regular intervals while taking this drug.”

ANS: B

Blood dyscrasias are a rare but potentially fatal side effect of procainamide and are an indication for withdrawing the drug. Procainamide should be taken around the clock at evenly spaced intervals. Lupus-like symptoms may occur; inflammation of the joints is one manifestation and should be reported so that antinuclear antibody (ANA) titers can be monitored. Because of the risk of lupus-like symptoms and blood dyscrasias, blood tests need to be done weekly at first and then periodically thereafter. DIF: Cognitive Level: Application REF: pp. 413 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

385. Which two classes of antidysrhythmic drugs have nearly identical cardiac effects?
- Beta blockers and calcium channel blockers
 - Beta blockers and potassium channel blockers
 - Calcium channel blockers and sodium channel blockers
 - Sodium channel blockers and potassium channel blockers

ANS: A

Calcium channel blockers have the same impact on cardiac action potentials as do beta blockers, so these agents have nearly identical effects on cardiac function; that is, they reduce automaticity in the SA node, delay conduction through the AV node, and reduce myocardial contractility. Potassium channel blockers act by delaying repolarization of fast potentials. Sodium channel blockers block sodium channels to slow impulse conduction in the atria, ventricles, and His-Purkinje system. DIF: Cognitive Level: Comprehension REF: pp. 408 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

386. A nurse is teaching a group of nursing students about antidysrhythmic medications. Which statement by a student indicates understanding of the teaching?
- “Antidysrhythmic drugs can cause new dysrhythmias or worsen existing ones.”
 - “Adverse effects of these drugs are mainly noncardiac in nature.”
 - “For most antidysrhythmic drugs, there is evidence of reduced mortality.”
 - “Use of these drugs may be necessary even if the benefits are unknown.”

ANS: A

Because antidysrhythmic drugs have prodysrhythmic actions, they can exacerbate existing dysrhythmias or generate new ones. Most adverse effects are cardiac related. There is evidence of increased mortality with many of these drugs. Use of these drugs should be limited to situations in which there is a clear benefit and only if that benefit outweighs any risks. DIF: Cognitive Level: Analysis REF: pp. 410 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

387. The nurse is teaching a group of nursing students about dofetilide [Tikosyn] to treat dysrhythmias. Which statement by a student indicates understanding of the teaching?
- “Dofetilide is a first-line medication to treat atrial flutter or atrial fibrillation.”
 - “Dofetilide carries a lower risk of causing torsades de pointes than other drugs.”
 - “Dofetilide is used for patients with severe symptoms of atrial dysrhythmias.”
 - “Dofetilide may be safely used as outpatient therapy to treat atrial fibrillation.”

ANS: C

Dofetilide is used for patients with severe, highly symptomatic atrial dysrhythmias because of its higher than usual risk of torsades de pointes. It is used only when other medications have not been effective. It is used for hospitalized patients with close ECG monitoring. DIF: Cognitive Level: Comprehension REF: pp. 417 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

388. A prescriber is considering prescribing the amiodarone derivative dronedarone [Multaq] for a patient with atrial flutter. The nurse should be concerned about which of the following?
- History of asthma
 - History of hypothyroidism
 - PR interval of 260 msec
 - QT interval of 520 msec

ANS: D

Because dronedarone prolongs the QT interval by about 10 msec, it should not be used in patients with a QT interval of more than 500 msec. It does not have significant pulmonary or thyroid toxicity. It should not be used in patients with a PR interval of more than 280 msec. DIF: Cognitive Level: Application REF: pp. 416 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

389. A nurse is teaching a patient who is about to undergo direct-current (DC) cardioversion to treat atrial flutter. The patient has been taking verapamil and warfarin for 6 months. Which statement by the patient indicates understanding of the teaching?
- “I may need long-term therapy with another cardiac medication after the procedure.”
 - “I should stop taking warfarin a few days before the procedure.”
 - “I will need to take a beta blocker after the procedure to prevent recurrence of atrial flutter.”
 - “I will not have to take antidysrhythmic medications after the procedure.”

ANS: A

After cardioversion for atrial flutter, patients may continue to need long-term therapy with either a class IC agent or a class III agent to prevent recurrence. Patients undergoing DC cardioversion need to take warfarin 3 to 4 weeks before the procedure and for several weeks afterward. Beta blockers are not indicated for postprocedural prophylaxis. Class IC and class III agents are antidysrhythmic drugs. DIF: Cognitive Level: Application REF: pp. 409 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

390. The nurse educator is providing patient education about the Cardiac Arrhythmia Suppression Trial (CAST). The nurse correctly explains that the trial demonstrated what effect from the pharmacologic suppression of dysrhythmias?
- It reduced mortality by 50% but increased morbidity.
 - It significantly reduced the risk of a second myocardial infarction (MI).
 - It doubled the risk of a second MI.
 - It should be used in all patients who have had an MI, regardless of rhythm.

ANS: C

In the CAST, class IC dysrhythmic drugs were used to prevent dysrhythmias after MI. These drugs were found to actually double the rate of mortality. The antidysrhythmic drugs did not reduce mortality or the risk of a second MI. They should not be used for any MI patients with associated dysrhythmias unless the dysrhythmias are life threatening. DIF: Cognitive Level: Comprehension REF: pp. 408 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

391. A nurse is teaching a class on dysrhythmias and associated therapy. The nurse asks the class, “Which cardiac dysrhythmia would result in the lowest cardiac output, and what treatment would be effective?” The class best demonstrates understanding by responding that ___ results in the lowest cardiac output, and treatment includes_.
- atrial flutter; lidocaine
 - tachycardia; atropine
 - first-degree heart block; verapamil [Calan]
 - ventricular fibrillation; defibrillation

ANS: D

With ventricular fibrillation there is no cardiac output, because the pumping action of the heart stops. Treatment with electrical countershock is indicated to restore cardiac function. Atrial flutter, tachycardia, and first-degree heart block do not result in the lowest cardiac output. DIF: Cognitive Level: Analysis REF: pp. 409 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

392. A patient with diabetes develops ventricular tachycardia and is in the hospital for evaluation of this condition. The nurse reviews the history and learns that the patient takes mexiletine [Mexitil] for pain caused by peripheral neuropathy. What should the nurse do?
- Discuss common side effects associated with taking mexiletine with cardiac agents.
 - Understand that this drug will help with both peripheral neuropathy and dysrhythmias.
 - Notify the provider to request that another drug be used for peripheral neuropathy pain.
 - Request an order for renal function and hepatic function tests.

ANS: C

Mexiletine is an antidysrhythmic medication that can also cause dysrhythmias. It is used to treat the pain associated with peripheral neuropathy in diabetic patients, but it is contraindicated in diabetic patients with heart disease, and so it should be stopped now that this patient has developed a heart disorder. Because it is contraindicated, the nurse will not teach the patient about its side effects with other agents. It can exacerbate cardiac symptoms, so it should not be used to treat dysrhythmias in diabetic patients. There is no indication for tests of renal and hepatic function. DIF: Cognitive Level: Evaluation REF: pp. 413 TOP: Nursing Process: Assessment MSC: NCLEX

Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 42: Prophylaxis of Atherosclerotic Cardiovascular Disease: Drugs That Help Normalize Cholesterol and Triglyceride Levels

Test Bank

Multiple Choice

393. Which is a possible benefit of taking fish-oil supplements?
- A decrease in low-density lipoprotein and triglyceride levels
 - Decreased risk of thrombotic stroke
 - Prevention of heart disease in high-risk patients
 - Reduced risk of dysrhythmia in patients after myocardial infarction

ANS: D

Fish oil may be beneficial in prevention of heart dysrhythmias in patients who have had myocardial infarction or heart failure. It has not shown to be beneficial in decreasing cholesterol, reducing the risk of thrombotic stroke, or preventing heart disease. DIF: Cognitive Level: Comprehension REF: pp. 439 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

394. A nurse is providing discharge teaching instructions for a patient taking cholestyramine [Questran]. Which statement made by the patient demonstrates a need for further teaching?
- “I will take warfarin [Coumadin] 1 hour before my medicine.”
 - “I will increase the fluids and fiber in my diet.”
 - “I can take cholestyramine with my hydrochlorothiazide.”
 - “I will take digoxin 4 hours after taking the cholestyramine.”

ANS: C

Drugs known to form complexes with the sequestrants include thiazide diuretics, such as hydrochlorothiazide, digoxin, warfarin, and some antibiotics. To reduce the formation of sequestrant-drug complexes, oral medication should be administered either 1 hour before the sequestrant or 4 hours after. Further teaching is needed. Warfarin should be taken 1 hour before or 4 hours after cholestyramine. Adverse effects of Questran are limited to the gastrointestinal (GI) tract. Constipation, the principal complaint, can be minimized by increasing dietary fiber and fluids. Digoxin should be taken 1 hour before or 4 hours after cholestyramine. DIF: Cognitive Level: Comprehension REF: pp. 436 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

395. A patient who recently started therapy with an HMG-COA reductase inhibitor asks the nurse, “How long will it take until I see an effect on my LDL cholesterol?” The nurse gives which correct answer?

- a. "It will take 6 months to see a change."
- b. "A reduction usually is seen within 2 weeks."
- c. "Blood levels normalize immediately after the drug is started."
- d. "Cholesterol will not be affected, but triglycerides will fall within the first week."

ANS: B

Reductions in LDL cholesterol are significant within 2 weeks and maximal within 4 to 6 weeks. It does not take 6 months to see a change. The blood level of LDL cholesterol is not reduced immediately upon starting the drug; a reduction is seen within 2 weeks. Blood cholesterol is affected, specifically LDL cholesterol, not triglycerides. DIF: Cognitive Level: Comprehension REF: pp. 429 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

396. A patient with a history of elevated triglycerides and LDL cholesterol begins taking nicotinic acid [Niacin]. The patient reports uncomfortable flushing of the face, neck, and ears when taking the drug. What will the nurse advise the patient?
- a. "Ask your provider about taking an immediate-release form of the medication."
 - b. "Ask your provider about assessing your serum uric acid levels which may be elevated."
 - c. "You should stop taking the Niacin immediately since this is a serious adverse effect."
 - d. "You should take 325 mg of aspirin half an hour before each dose of Niacin to prevent this effect."

ANS: D

Intense flushing of the face, neck, and ears occurs in practically all patients taking nicotinic acid in pharmacologic doses. Patients should be advised to take 325 mg of ASA 30 minutes prior to each dose to minimize this effect or to use an extended-release form of the drug. Serum uric acid levels may increase with Niacin use, but flushing does not indicate elevated levels. This side effect is not serious and does not warrant discontinuation of the drug. DIF: Cognitive Level: Analysis REF: pp. 435 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

397. A nurse is reviewing a patient's medications and realizes that gemfibrozil [Lopid] and warfarin [Coumadin] are to be administered concomitantly. Which effect will the nurse anticipate in this patient?
- a. Increased levels of gemfibrozil
 - b. Decreased levels of gemfibrozil
 - c. Increased anticoagulant effects
 - d. Reduced anticoagulant effects

ANS: C

Gemfibrozil displaces warfarin from the plasma albumin, thereby increasing anticoagulant effects. The level of gemfibrozil will not be increased or decreased. The anticoagulation effects will not be reduced, because free-floating drug is present in the system; the dosage of warfarin may have to be reduced. DIF: Cognitive Level: Application REF: pp. 437 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

398. Lovastatin [Mevacor] is prescribed for a patient for the first time. The nurse should provide the patient with which instruction?
- “Take lovastatin with your evening meal.”
 - “Take this medicine before breakfast.”
 - “You may take lovastatin without regard to meals.”
 - “Take this medicine on an empty stomach.”

ANS: A

Patients should be instructed to take lovastatin with the evening meal. Statins should be taken with the evening meal, not before breakfast. Statins should not be administered without regard to meals and should not be taken on an empty stomach. DIF: Cognitive Level: Analysis REF: pp. 433 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

399. While giving discharge instructions to a patient who will be taking cholestyramine [Questran], the nurse wants to assess the patient’s understanding of the treatment. Which statement made by the patient best demonstrates a need for additional teaching?
- “I will take cholestyramine [Questran] 1 hour before my other medications.”
 - “I will increase fluids and fiber in my diet.”
 - “I will weigh myself weekly.”
 - “I will have my blood pressure checked weekly.”

ANS: C

Patients need not weigh themselves weekly when taking cholestyramine. Cholestyramine should be taken at least 1 hour before other medications. When taken with other medications, cholestyramine can inhibit the absorption of the other drugs. Constipation is the principal complaint with cholestyramine. It can be minimized by increasing dietary fiber and fluids. Regular blood pressure checks are a good idea. The patient is taking cholestyramine because of high cholesterol, which contributes to hypertension. DIF: Cognitive Level: Application REF: pp. 436 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

400. A postmenopausal woman will begin taking atorvastatin [Lipitor] to treat hypercholesterolemia. The woman reports a history of osteopenia with a family risk of osteoporosis. What will the nurse include when teaching this patient?
- The need to discuss taking a bisphosphonate medication with her provider
 - That statins are known to reduce the risk of osteoporosis
 - That she should avoid foods high in calcium
 - To discuss vitamin D supplements with her provider since statins deplete calcium

ANS: A

Studies demonstrating a protective effect of statins in reducing the risk of osteoporosis have been inconclusive. Women at risk should discuss taking a bisphosphonate medication with their providers. Statins are not known to reduce the risk of osteoporosis. She should consume foods containing calcium. Vitamin D supplements are not indicated. DIF: Cognitive Level: Application REF: pp. 439 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

401. A nurse is instructing a patient receiving a cholesterol-lowering agent. Which information should the nurse include in the patient education?
- “This medication will replace other interventions you have been trying.”
 - “It is important for you to double your dose if you miss one to maintain therapeutic blood levels.”
 - “Stop taking the medication if you experience constipation.”
 - “You should continue your exercise program to increase your HDL serum levels.”

ANS: D

Regular exercise can reduce LDL cholesterol and elevate HDL cholesterol, thereby reducing the risk of coronary heart disease (CHD). The patient should consider the cholesterol-lowering drug an adjunct to a proper diet and exercise. Drug therapy cannot replace other important interventions, such as diet and exercise. The patient should never be instructed to double the dose. Constipation is a side effect of most cholesterol-lowering agents. The patient should be encouraged to eat a high-fiber diet and increase fluids if not contraindicated. DIF: Cognitive Level: Analysis REF: pp. 424 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

402. A patient has begun taking an HMG-COA reductase inhibitor. Which statement about this class of drugs made by the nurse during patient education would be inappropriate?
- “Statins reduce the risk of morbidity from influenza.”
 - “You should come into the clinic for liver enzymes in 1 month.”
 - “Statins reduce the risk of coronary events in people with normal LDL levels.”
 - “You should maintain a healthy lifestyle and avoid high-fat foods.”

ANS: B

Baseline liver enzyme tests should be done before a patient starts taking an HMG-COA reductase inhibitor. They should be measured again in 6 to 12 months unless the patient has poor liver function, in which case the tests are indicated every 3 months. A recent study demonstrated protection against influenza morbidity in patients because of a decrease in proinflammatory cytokine release. Statins do reduce the risk of stroke and coronary events in people with normal LDL levels. Maintaining a healthy lifestyle is important, as is avoiding high-fat foods. DIF: Cognitive Level: Analysis REF: pp. 419 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

403. Which plasma lipoprotein level is most concerning when considering the risk of coronary atherosclerosis?

- a. Elevated cholesterol
- b. Elevated high-density lipoprotein
- c. Elevated low-density lipoprotein
- d. Elevated very-low-density lipoprotein

ANS: C

Elevated LDL levels make the greatest contribution to coronary atherosclerosis with the probability of developing coronary heart disease (CHD) directly related to the LDL level in the blood. Total cholesterol levels do not have the same direct link. HDL levels cause increased risk when they are low. The relation between elevated very-low-density lipoprotein levels and CHD is not clear. DIF: Cognitive Level: Comprehension REF: pp. 421 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

404. A patient taking gemfibrozil [Lopid] and rosuvastatin [Crestor] concurrently begins to complain of muscle aches, fatigue, and weakness. What should the nurse monitor?

- a. For tendon tenderness
- b. For a lupus-like syndrome
- c. The patient's liver function test results
- d. The patient's creatine kinase levels

ANS: D

Creatine kinase levels are the best laboratory indicator of myopathy and/or rhabdomyolysis, which may lead to renal failure. As with the statins, gemfibrozil and other fibrates can cause myopathy. Fibrates must be used with caution in patients taking statins. Concurrent use of gemfibrozil and rosuvastatin does not cause tendon tenderness or a lupus-like syndrome. Liver function levels should be determined at the start of statin therapy and every 6 months thereafter in patients who do not have liver disease. DIF: Cognitive Level: Analysis REF: pp. 437 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

405. A nurse is reviewing the medications of a patient with diabetes before discharge. The nurse realizes that the patient will be going home on colesevelam, a bile acid sequestrant, and insulin. What patient education should the nurse provide in the discharge teaching for this patient?

- a. The patient needs to monitor the blood sugar carefully, because colesevelam can cause hypoglycemia.
- b. The patient needs to monitor the blood sugar carefully, because colesevelam can cause hyperglycemia.
- c. The patient needs to take the insulin at least 3 hours before the colesevelam.
- d. The patient needs to use an oral antidiabetic agent or agents, not insulin, with colesevelam.

ANS: A

Colesevelam can help control hyperglycemia in patients with diabetes; therefore, hypoglycemia is a possible risk. Hyperglycemia is not a risk for patients with diabetes who take colesevelam. Insulin and colesevelam do not interact; therefore, the insulin can be taken at the patient's preferred time or times. Either insulin or oral antidiabetic agents can be taken with colesevelam. DIF: Cognitive Level: Application REF: pp. 435 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

406. A patient is being started on nicotinic acid [Niaspan] to reduce triglyceride levels. The nurse is providing patient education and should include teaching about which adverse effects? Select all that apply.

- a. Facial flushing
- b. Constipation
- c. Hypoglycemia
- d. Gastric upset
- e. Itching

ANS: A , D , E

Adverse effects of nicotinic acid include intense flushing of the face, neck, and ears; itching; and GI upset (nausea, vomiting, and diarrhea). Constipation and hypoglycemia are not adverse effects of niacin therapy. DIF: Cognitive Level: Application REF: pp. 428 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

407. A patient who is taking simvastatin [Zocor] develops an infection and the provider orders azithromycin [Zithromax] to treat the infection. The nurse should be concerned if the patient complains of:

- a. nausea.
- b. tiredness.
- c. muscle pain.

- d. headache.

ANS: C

Statins can injure muscle tissue, causing muscle aches and pain known as myopathy/rhabdomyolysis. Daptomycin also can cause myopathy and therefore should be used with caution in patients concurrently taking simvastatin. Nausea, tiredness, and headache would not cause the nurse as much concern as the likelihood of myopathy. DIF: Cognitive Level: Analysis REF: pp. 432 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

408. A patient will begin taking atorvastatin [Lipitor] to treat elevated LDL levels. The patient asks the nurse what to do to minimize the risk of myositis associated with taking this drug. What will the nurse counsel this patient?

- a. "Consume an increased amount of citrus fruits while taking this drug."
- b. "Take vitamin D and coenzyme Q supplements."
- c. "Ask your provider about adding a fibrate medication to your regimen."
- d. "Have your creatine kinase levels checked every 4 weeks."

ANS: B

Patients taking a statin medication may take vitamin D and coenzyme Q supplements to reduce their risk of developing myositis. Citrus fruits can elevate statin levels and increase the risk of myositis. Fibrates also cause myositis in some patients, and adding a fibrate will increase the risk. Creatine kinase levels should be determined at baseline and as needed if symptoms occur but do not need to be monitored every 4 weeks. DIF: Cognitive Level: Analysis REF: pp. 432 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

409. An Asian patient will begin taking rosuvastatin [Crestor] to treat hypercholesterolemia. What will the nurse include when teaching this patient about this medication?

- a. Higher than usual doses may be necessary for this patient.
- b. Renal toxicity is a common adverse effect among Asian patients.
- c. Serum drug levels must be monitored more frequently than with other patients.
- d. Yellow skin and sclera are more common side effects with Asian patients but are not concerning.

ANS: C

Rosuvastatin reaches abnormally high levels in people of Asian heritage. Consequently, serum drug levels must be monitored closely. Asian patients may require lower than usual doses. Renal toxicity does not occur. Yellow skin and sclera occur with hepatotoxicity and are a cause for concern. DIF: Cognitive Level: Application REF: pp. 432 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

410. A nurse is providing patient education about colesevelam [Welchol], a bile acid sequestrant. Which statement made by the patient demonstrates a need for further teaching?
- “Colesevelam will reduce my levels of low-density lipoprotein.”
 - “Colesevelam will augment my statin drug therapy.”
 - “I will not have to worry about having as many drug interactions as I did when I took cholestyramine.”
 - “I will need to take supplements of fat-soluble vitamins.”

ANS: D

Colesevelam [Welchol] does not reduce absorption of fat-soluble vitamins as do other bile acid sequestrants, so supplements are not needed. Colesevelam reduces the LDL cholesterol level, which is one of its therapeutic uses. Colesevelam augments statin therapy. Colesevelam does not significantly interact with or reduce the absorption of statins, digoxin, warfarin, or most other drugs. DIF: Cognitive Level: Application REF: pp. 435 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 43: Drugs for Angina Pectoris

Test Bank

Multiple Choice

411. A patient who takes nitroglycerin to treat stable angina reports having erectile dysfunction and states that he plans to ask his primary provider for a prescription for tadalafil [Cialis]. What will the nurse tell this patient?
- “You may take these two drugs together safely as long as you take them as directed.”
 - “You should not take tadalafil and nitroglycerin within 30 to 60 minutes of each other.”
 - “You should discuss another antianginal medication with your provider.”
 - “You should avoid sexual activity since this increases oxygen demands on the heart.”

ANS: C

Use of nitroglycerin with any phosphodiesterase type 5 inhibitor, such as sildenafil or tadalafil, is absolutely contraindicated. The patient should be advised to discuss another antianginal agent with the provider. Patients should be taught to increase all activity to maintain as normal a lifestyle as possible. DIF: Cognitive Level: Application REF: pp. 443 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

412. A patient with angina who uses sublingual nitroglycerin tells the nurse that the episodes are increasing in frequency and usually occur when the patient walks the dog. The patient

reports needing almost daily doses of nitroglycerin and states that one tablet usually provides complete relief. What will the nurse do?

- a. Contact the provider to suggest ordering a transdermal patch for this patient.
- b. Question the patient about consumption of grapefruit juice.
- c. Suggest that the patient limit walking the dog to shorter distances less frequently.
- d. Suggest that the patient take two tablets of nitroglycerin each time, because the symptoms are increasing in frequency.

ANS: A

Transdermal patches are good for sustained prophylaxis for anginal attacks and are especially useful when patients have a regular pattern of attacks. Grapefruit juice does not affect the metabolism of nitroglycerin. Patients with angina should be encouraged to increase, not decrease, exercise. Taking two tablets is not recommended when one is effective. DIF: Cognitive Level: Analysis REF: pp. 446 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

413. A patient who has begun using transdermal nitroglycerin for angina reports occasional periods of tachycardia. The nurse will expect the prescriber to order:

- a. digoxin [Lanoxin] to slow the heart rate.
- b. immediate discontinuation of the nitroglycerin.
- c. periods of rest when the heart rate increases.
- d. verapamil as an adjunct to nitroglycerin therapy.

ANS: D

Nitroglycerin lowers blood pressure by reducing venous return and dilating the arterioles. The lowered blood pressure activates the baroreceptor reflex, causing reflex tachycardia, which can increase cardiac demand and negate the therapeutic effects of nitroglycerin. Treatment with a beta blocker or verapamil suppresses the heart to slow the rate. Digoxin is not recommended. Discontinuation of the nitroglycerin is not indicated. Resting does not slow the heart when the baroreceptor reflex is the cause of the tachycardia. DIF: Cognitive Level: Application REF: pp. 444 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

414. A patient who has renal impairment will begin taking ranolazine [Ranexa] as an adjunct to nitroglycerin to treat angina. What will the nurse include when teaching this patient?

- a. "You will need to monitor your blood pressure closely while taking this drug."
- b. "You should take this drug 1 hour before or 2 hours after a meal."
- c. "You may experience rapid heart rate while taking this medication."
- d. "You do not need to worry about drug interactions with this

medication." ANS: A

Ranolazine can elevate blood pressure in patients with renal impairment, so patients taking this drug will need to monitor blood pressure. The drug can be taken without regard to food. It does not cause reflex tachycardia. It has many significant drug interactions. DIF: Cognitive Level: Application REF: pp. 447 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

415. A nurse provides teaching to a patient with angina who also has type 2 diabetes mellitus, asthma, and hypertension. Which statement by the patient indicates a need for further teaching?

- a. "An ACE inhibitor, in addition to nitroglycerin, will lower my risk of cardiovascular death."
- b. "Beta blockers can help me control hypertension."
- c. "I should begin regular aerobic exercise."
- d. "Long-acting, slow-release calcium channel blockers can help with anginal pain."

ANS: B

Beta blockers can be used for angina in most patients but are contraindicated in patients with asthma, because they cause bronchoconstriction. ACE inhibitors help reduce the risk of death in patients with hypertension. Regular aerobic exercise is recommended to control weight and improve cardiovascular function. Long-acting, slow-release CCBs are recommended for patients who have coexisting type 2 diabetes. DIF: Cognitive Level: Application REF: pp. 449 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

416. A patient is taking a calcium channel blocker (CCB) for stable angina. The patient's spouse asks how calcium channel blockers relieve pain. The nurse will explain that CCBs:

- a. help relax peripheral arterioles to reduce afterload.
- b. improve coronary artery perfusion.
- c. increase the heart rate to improve myocardial contractility.
- d. increase the QT interval.

ANS: A

CCBs promote relaxation of peripheral arterioles, resulting in a decrease in afterload, which reduces the cardiac oxygen demand. CCBs do not improve coronary artery perfusion. CCBs reduce the heart rate and suppress contractility; they do not affect the QT interval. DIF: Cognitive Level: Analysis REF: pp. 446 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

417. A nurse is discussing the difference between stable and variant angina with a group of nursing students. Which statement by a student indicates the need for further teaching?

- a. "Beta blockers are effective in stable angina but not in variant angina."

- b. "In both types of angina, prophylactic treatment is possible."
- c. "Variant angina is primarily treated with vasodilators to increase oxygen supply."
- d. "Variant angina is the result of increased oxygen demand by the heart."

ANS: D

Variant angina is caused by coronary artery spasm, which reduces the oxygen supply to the heart. Beta blockers are not effective in variant angina but are useful with stable angina. Medications may be given to prevent anginal attacks in both types of angina. Vasodilators are used in variant angina to relieve coronary artery spasm and increase the oxygen supply to the heart. DIF: Cognitive Level: Analysis REF: pp. 443 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

418. A patient with variant angina wants to know why a beta blocker cannot be used to treat the angina. Which response by the nurse is correct?
- a. "A beta1-selective beta blocker could be used for variant angina."
 - b. "Beta blockers do not help relax coronary artery spasm."
 - c. "Beta blockers do not help to improve the cardiac oxygen supply."
 - d. "Beta blockers promote constriction of arterial smooth muscle."

ANS: B

Variant angina occurs when coronary arteries go into spasm, thus reducing the circulation and oxygen supply to the heart. CCBs help to reduce coronary artery spasm; beta blockers do not. Beta1-selective beta blockers are used for stable angina for patients who also have asthma, because they do not activate beta2 receptors in the lungs to cause bronchoconstriction. Beta blockers help improve the oxygen supply in stable angina, but they do not relieve coronary artery spasm, so they are not useful in variant angina. Beta blockers do not constrict arterial smooth muscle. DIF: Cognitive Level: Analysis REF: pp. 446 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

419. A nursing student asks a nurse how beta blockers increase the oxygen supply to the heart in the treatment of anginal pain. The nurse tells the student that beta blockers:
- a. dilate arterioles to improve myocardial circulation.
 - b. improve cardiac contractility, which makes the heart more efficient.
 - c. increase arterial pressure to improve cardiac afterload.
 - d. increase the time the heart is in diastole.

ANS: D

Beta blockers increase the time the heart is in diastole, which increases the time during which blood flows through the myocardial vessels, allowing more oxygen to reach the heart. Beta blockers do not dilate arterioles. They do not increase cardiac contractility; they decrease it, which reduces the cardiac oxygen demand. They do not increase arterial pressure, which would increase the cardiac oxygen demand. DIF: Cognitive Level: Comprehension REF: pp. 446 TOP: Nursing

Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

420. A patient with asthma and depression develops stable angina. In addition to organic nitrates, which other medications will be used to treat this condition?
Select all that apply.
- ACE inhibitors
 - Antiplatelet drugs
 - Beta blockers
 - Calcium channel blockers
 - Cholesterol-lowering drugs

ANS: A , B , D , E

ACE inhibitors have shown benefit in reducing the incidence of adverse outcomes in patients with coronary artery disease (CAD) and are recommended as part of therapy. Antiplatelet drugs are recommended to reduce the risk of thrombus formation. CCBs are used as adjuncts to nitroglycerin and are safe in patients with asthma and depression. Cholesterol-lowering drugs are recommended to help slow the progression of CAD. Beta blockers are not recommended in patients with asthma or depression. DIF: Cognitive Level: Analysis REF: pp. 448 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

421. A hospitalized patient complains of acute chest pain. The nurse administers a 0.3-mg sublingual nitroglycerin tablet, but the patient continues to complain of pain. Vital signs remain stable. What is the nurse's next step?
- Apply a nitroglycerin transdermal patch.
 - Continue dosing at 10-minute intervals.
 - Give a second dose of nitroglycerin in 5 minutes.
 - Request an order for intravenous nitroglycerin.

ANS: C

An initial dose of sublingual nitroglycerin is taken, and if the chest pain persists, as in this case, the patient should take another dose in 5 minutes. Transdermal delivery systems are not useful for terminating an ongoing attack. Dosing at 10-minute intervals is incorrect. If the patient fails to respond or if the pain intensifies, intravenous nitroglycerin may be indicated. DIF: Cognitive Level: Application REF: pp. 443 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

422. A patient with stable exertional angina has been receiving a beta blocker. Before giving the drug, the nurse notes a resting heart rate of 55 beats/minute. Which is an appropriate nursing action?

- a. Administer the drug as ordered, because this is a desired effect.
- b. Withhold the dose and notify the provider of the heart rate.
- c. Request an order for a lower dose of the medication.
- d. Request an order to change to another antianginal medication.

ANS: A

When beta blockers are used for anginal pain, the dosing goal is to reduce the resting heart rate to 50 to 60 beats/minute. Because this heart rate is a desired effect, there is no need to withhold the dose or notify the provider. The dosage does not need to be lowered, because a heart rate of 55 beats/minute is a desired effect. There is no indication of a need to change medications for this patient. DIF: Cognitive Level: Application REF: pp. 446 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

423. A nursing student is helping to care for a patient who takes verapamil for stable angina. The nurse asks the student to explain the purpose of verapamil in the treatment of this patient. Which statement by the student indicates a need for further teaching?
- a. "It relaxes coronary artery spasms."
 - b. "It reduces peripheral resistance to reduce oxygen demands."
 - c. "It reduces the heart rate, AV conduction, and contractility."
 - d. "It relaxes the peripheral arterioles to reduce afterload."

ANS: A

Verapamil does relax coronary artery spasms, but this is not useful in stable angina. Verapamil is used to relax coronary artery spasms in variant asthma. When used to treat stable angina, verapamil promotes relaxation of peripheral arterioles, which reduces peripheral resistance and decreases afterload. It also reduces the heart rate, AV conduction, and contractility. DIF: Cognitive Level: Application REF: pp. 446 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

424. A patient with angina who is taking ranolazine [Ranexa] has developed a respiratory infection and a dysrhythmia. The provider has ordered azithromycin [Zithromax] for the infection and amlodipine for the dysrhythmia. A nursing student caring for this patient tells the nurse that the patient's heart rate is 70 beats/minute, and the blood pressure is 128/80 mm Hg. The nurse asks the student to discuss the plan for this patient's care. Which action is correct?
- a. Observe the patient closely for signs of respiratory toxicity.
 - b. Question the order for azithromycin [Zithromax].
 - c. Report the patient's increase in blood pressure to the provider.
 - d. Request an order for a different calcium channel blocker.

ANS: B

Agents that inhibit CYP3A4 can increase levels of ranolazine and also the risk of torsades de pointes. Macrolide antibiotics, such as azithromycin, are CYP3A4 inhibitors. Respiratory toxicity is not an expected effect with this patient. The patient's blood pressure is not elevated enough to notify the provider. Amlodipine is the only CCB that should be used with ranolazine. DIF: Cognitive Level: Application REF: pp. 447 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

425. A patient with new-onset exertional angina has taken three nitroglycerin sublingual tablets at 5-minute intervals, but the pain has intensified. The nurse notes that the patient has a heart rate of 76 beats/minute and a blood pressure of 120/82 mm Hg. The electrocardiogram is normal. The patient's lips and nail beds are pink, and there is no respiratory distress. The nurse will anticipate providing:

- a. an angiotensin-converting enzyme (ACE) inhibitor.
- b. intravenous nitroglycerin and a beta blocker.
- c. ranolazine (Ranexa) and quinidine.
- d. supplemental oxygen and intravenous morphine.

ANS: B

This patient has unstable angina, and the next step, when pain is unrelieved by sublingual nitroglycerin, is to give intravenous nitroglycerin and a beta blocker. ACE inhibitors should be given to patients with persistent hypertension if they have left ventricular dysfunction or congestive heart failure (CHF). Ranolazine is a first-line angina drug, but it should not be given with quinidine because of the risk of increasing the QT interval. Supplemental oxygen is indicated if cyanosis or respiratory distress is present. IV morphine may be given if the pain is unrelieved by nitroglycerin. DIF: Cognitive Level: Application REF: pp. 443 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

426. A nurse is providing teaching for a patient with stable angina who will begin taking nitroglycerin. Which statement by the patient indicates understanding of the teaching?

- a. "I should not participate in aerobic exercise while taking this drug."
- b. "I should take aspirin daily to reduce my need for nitroglycerin."
- c. "If I take nitroglycerin before exertion, I can reduce the chance of an anginal attack."
- d. "I take nitroglycerin to increase the amount of oxygen to my heart."

ANS: C

Nitroglycerin can be taken before stressful events or exertion to reduce the chance of an attack of angina. Aerobic exercise is an important part of nondrug therapy to reduce the risk of heart attack. Aspirin therapy is an important adjunct to treatment to prevent coronary thrombus formation, but it does not reduce the need for nitroglycerin. Nitroglycerin reduces cardiac oxygen demand, but it does not increase the amount of oxygen available to the heart. DIF: Cognitive Level:

ApplicationREF: pp. 443TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

427. A patient asks a nurse how nitroglycerin works to relieve anginal pain. The nurse correctly states, “Nitroglycerin:
- dilates coronary arteries to increase the blood flow to the heart.”
 - increases the oxygen supply to the cardiac muscle.”
 - increases ventricular filling to improve cardiac output.”
 - promotes vasodilation, which reduces preload and oxygen demand.”

ANS: D

Nitroglycerin dilates the veins, which reduces venous return to the heart, which in turn decreases ventricular filling. The resulting decrease in preload reduces the oxygen requirements of the heart. Nitroglycerin does not increase the blood flow or oxygen supply to the heart. An increase in ventricular filling would increase oxygen demand and result in increased anginal pain.DIF: Cognitive Level: AnalysisREF: pp. 443TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 44: Anticoagulant, Antiplatelet, and Thrombolytic Drugs

Test Bank

Multiple Choice

428. A patient has been receiving heparin while in the hospital to treat deep vein thromboses and will be discharged home with a prescription for enoxaparin [Lovenox]. The nurse provides teaching for the nursing student who asks about the advantages of enoxaparin over heparin. Which statement by the student indicates a need for further teaching?
- “Enoxaparin does not require coagulation monitoring.”
 - “Enoxaparin has greater bioavailability than heparin.”
 - “Enoxaparin is more cost-effective than heparin.”
 - “Enoxaparin may be given using a fixed dosage.”

ANS: C

Low-molecular-weight (LMW) heparins have higher bioavailability and longer half-lives, so routine coagulation monitoring is not necessary and fixed dosing is possible. LMW heparins are more expensive, however, so this statement indicates a need for further teaching.DIF: Cognitive Level: AnalysisREF: pp. 459TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

429. A patient is receiving heparin postoperatively to prevent deep vein thrombosis. The nurse notes that the patient has a blood pressure of 90/50 mm Hg and a heart rate of 98 beats/minute. The patient's most recent aPTT is greater than 90 seconds. The patient reports lumbar pain. The nurse will request an order for:
- a repeat aPTT to be drawn immediately.
 - analgesic medication.
 - changing heparin to aspirin.
 - protamine sulfate.

ANS: D

Heparin overdose may cause hemorrhage, which can be characterized by low blood pressure, tachycardia, and lumbar pain. Protamine sulfate should be given, and the heparin should be discontinued. An aPTT may be drawn later to monitor the effectiveness of protamine sulfate. Analgesics are not indicated because the lumbar pain is likely caused by adrenal hemorrhage. Aspirin will only increase the risk of hemorrhage. DIF: Cognitive Level: Application REF: pp. 459 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

430. A nursing student who is preparing to care for a postoperative patient with deep vein thrombosis asks the nurse why the patient must take heparin rather than warfarin. Which response by the nurse is correct?
- "Heparin has a longer half-life."
 - "Heparin has fewer adverse effects."
 - "The onset of warfarin is delayed."
 - "Warfarin prevents platelet aggregation."

ANS: C

Warfarin is not useful for treating existing thromboses or for emergencies because the onset of action is delayed. Heparin has a shorter half-life and has more side effects. Warfarin does not prevent platelet aggregation. DIF: Cognitive Level: Analysis REF: pp. 455 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

431. A postoperative patient reports pain in the left lower extremity. The nurse notes swelling in the lower leg, which feels warm to the touch. The nurse will anticipate giving which medication?
- Aspirin
 - Clopidogrel [Plavix]
 - Enoxaparin [Lovenox]
 - Warfarin [Coumadin]

ANS: C

Enoxaparin is a low-molecular-weight heparin and is used in situations requiring rapid onset of anticoagulant effects, such as massive DVT. Aspirin, clopidogrel, and warfarin are useful for primary prevention but are not used when rapid anticoagulation is required. DIF: Cognitive Level: Analysis REF: pp. 459 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

432. A patient who is taking warfarin [Coumadin] has just vomited blood. The nurse notifies the provider, who orders laboratory work revealing a PT of 42 seconds and an INR of 3.5. The nurse will expect to administer:
- phytonadione (vitamin K1) 1 mg IV over 1 hour.
 - phytonadione (vitamin K1) 2.5 mg PO.
 - protamine sulfate 20 mg PO.
 - protamine sulfate 20 mg slow IV push.

ANS: A

Vitamin K1 is given for warfarin overdose and may be given IV in an emergency. To reduce the incidence of an anaphylactoid reaction, it should be infused slowly. In a nonemergency situation, it would be appropriate to give vitamin K1 orally. Protamine sulfate is used for heparin overdose. DIF: Cognitive Level: Analysis REF: pp. 463 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

433. A patient is admitted to the emergency department with chest pain. An electrocardiogram shows changes consistent with an evolving myocardial infarction. The patient's cardiac enzymes are pending. The nurse caring for this patient will expect to:
- administer aspirin when cardiac enzymes are completed.
 - give alteplase [Activase] within 2 hours.
 - give tenecteplase [TNKase] immediately.
 - obtain an order for an INR.

ANS: B

When alteplase is given within 2 hours after symptom onset, the death rate for MI has been shown to be 5.4%, compared with 9.4% if given 4 to 6 hours after symptom onset. ASA may be given at the first sign of MI; it is not necessary to wait for cardiac enzyme results. Tenecteplase may be given more than 2 hours after onset of symptoms. Obtaining an order for an INR is not indicated. DIF: Cognitive Level: Application REF: pp. 471 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

434. A patient who takes warfarin for atrial fibrillation undergoes hip replacement surgery. On the second postoperative day, the nurse assesses the patient and notes an oxygen saturation of 83%, pleuritic chest pain, shortness of breath, and hemoptysis. The nurse will contact the provider to report possible and request an order for .
- congestive heart failure; furosemide [Lasix]
 - hemorrhage; vitamin K (phytonadione)
 - myocardial infarction; tissue plasminogen activator (tPA)
 - pulmonary embolism; heparin

ANS: D

This patient is exhibiting signs of pulmonary embolism. Heparin is used when rapid onset of anticoagulants is needed, as with pulmonary embolism. The patient would have respiratory cracks and a cough with congestive heart failure. Hemorrhage involves a decrease in blood pressure, bruising, and lumbar pain. The patient has pleuritic pain, which is not consistent with the chest pain of a myocardial infarction. DIF: Cognitive Level: Analysis REF: pp. 457 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

435. A patient with atrial fibrillation is receiving warfarin [Coumadin]. The nurse notes that the patient's INR is 2.7. Before giving the next dose of warfarin, the nurse will notify the provider and:
- administer the dose as ordered.
 - request an order to decrease the dose.
 - request an order to give vitamin K (phytonadione).
 - request an order to increase the dose.

ANS: A

This patient has an INR in the appropriate range, which is 2 to 3 for most patients and 2.5 to 3.5 for some, so no change in warfarin dosing is necessary. It is not correct to request an order to either decrease or increase the dose of warfarin. It is not necessary to give vitamin K, which is an antidote for warfarin toxicity. DIF: Cognitive Level: Analysis REF: pp. 461 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

436. A postoperative patient will begin anticoagulant therapy with rivaroxaban [Xarelto] after knee replacement surgery. The nurse performs a history and learns that the patient is taking erythromycin. The patient's creatinine clearance is 50 mL/minute. The nurse will:
- administer the first dose of rivaroxaban as ordered.
 - notify the provider to discuss changing the patient's antibiotic.
 - request an order for a different anticoagulant medication.
 - request an order to increase the dose of rivaroxaban.

ANS: B

Patients with impaired renal function who are taking macrolide antibiotics will experience increased levels of rivaroxaban, increasing the risk of bleeding. It is correct to discuss using a different antibiotic if possible. The nurse should not administer the dose without discussing the situation with the provider. The patient's renal impairment is minor; if it were more severe, using a different anticoagulant might be appropriate. It is not correct to increase the dose of rivaroxaban. DIF: Cognitive Level: Analysis REF: pp. 467 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

437. A patient who is taking clopidogrel [Plavix] calls the nurse to report black, tarry stools and coffee-ground emesis. The nurse will tell the patient to:
- ask the provider about using aspirin instead of clopidogrel.
 - consume a diet high in vitamin K.
 - continue taking the clopidogrel until talking to the provider.
 - stop taking the clopidogrel immediately.

ANS: C

Patients who experience bleeding should be warned not to stop taking the clopidogrel until the prescriber says they should, since abrupt withdrawal may precipitate a thrombotic event. Taking aspirin with an active GI bleed is contraindicated. Warfarin is a vitamin K inhibitor; consuming extra vitamin K will not reverse the effects of clopidogrel. DIF: Cognitive Level: Application REF: pp. 469 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

438. A patient has been taking warfarin [Coumadin] for atrial fibrillation. The provider has ordered dabigatran etexilate [Pradaxa] to replace the warfarin. The nurse teaches the patient about the change in drug regimen. Which statement by the patient indicates understanding of the teaching?
- "I may need to adjust the dose of dabigatran after weaning off the warfarin."
 - "I should continue to take the warfarin after beginning the dabigatran until my INR is greater than 3."
 - "I should stop taking the warfarin 3 days before starting the dabigatran."
 - "I will stop taking the warfarin and will start taking the dabigatran when my INR is less than 2."

ANS: D

When switching from warfarin to dabigatran, patients should stop taking the warfarin and begin taking the dabigatran when the INR is less than 2. It is not correct to begin taking the dabigatran before stopping the warfarin. While warfarin is stopped before beginning the dabigatran, the decision to start taking the dabigatran is based on the patient's INR and not on the amount of time

that has elapsed.DIF: Cognitive Level: ApplicationREF: pp. 461TOP: Nursing Process: Planning
MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral
Therapies

439. A 50-year-old female patient asks a nurse about taking aspirin to prevent heart disease. The patient does not have a history of myocardial infarction. Her cholesterol and blood pressure are normal, and she does not smoke. What will the nurse tell the patient?
- Aspirin is useful only for preventing a second myocardial infarction.
 - She should ask her provider about using a P2Y₁₂ ADP receptor antagonist.
 - She should take one 81-mg tablet per day to prevent myocardial infarction.
 - There is most likely no protective benefit for patients her age.

ANS: D

ASA is used for primary prevention of myocardial infarction (MI) in men and in women older than 65 years. Aspirin for primary prevention may be used in women ages 55 to 79 years when the potential benefit of a reduction in MI outweighs the potential harm of increased GI hemorrhage. This patient has no previous history of MI, so the use of ASA is not indicated. ASA is useful for primary prevention, but only when indicated by cardiovascular risk, based on age, gender, cholesterol levels, blood pressure, and smoking status. A P2Y₁₂ ADP receptor antagonist is used as secondary prevention. This patient should not begin taking ASA unless her risk factors change, or until she is 65 years old.DIF: Cognitive Level: AnalysisREF: pp. 468TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

440. A patient who takes warfarin [Coumadin] is brought to the emergency department after accidentally taking too much warfarin. The patient's heart rate is 78 beats/minute and the blood pressure is 120/80 mm Hg. A dipstick urinalysis is normal. The patient does not have any obvious hematoma or petechiae and does not complain of pain. The nurse will anticipate an order for:
- vitamin K (phytonadione).
 - protamine sulfate.
 - a PTT.
 - a PT and an INR.

ANS: D

This patient does not exhibit any signs of bleeding from a warfarin overdose. The vital signs are stable, there are no hematomas or petechiae, and the patient does not have pain. A PT and INR should be drawn to evaluate the anticoagulant effects. Vitamin K may be given if laboratory values indicate overdose. Protamine sulfate is given for heparin overdose. PTT evaluation is used to monitor heparin therapy.DIF: Cognitive Level: AnalysisREF: pp. 461TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

441. A nurse caring for a patient receiving heparin therapy notes that the patient has a heart rate of 98 beats/minute and a blood pressure of 110/72 mm Hg. The patient's fingertips are purplish in color. A stat CBC shows a platelet count of less than 100,000 mm³. The nurse will:
- administer oxygen and notify the provider.
 - discontinue the heparin and notify the provider.
 - request an order for protamine sulfate.
 - request an order for vitamin K (phytonadione).

ANS: B

This patient is showing signs of heparin-induced thrombocytopenia, so the heparin should be discontinued immediately and the provider should be notified. The purplish color of the fingertips is caused by thrombosis, not hypoxia, so oxygen is not indicated. This patient may need continued anticoagulation therapy, so a request for protamine sulfate is not correct. Heparin is not a vitamin K inhibitor. DIF: Cognitive Level: Evaluation REF: pp. 458 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

442. A patient will begin taking dabigatran etexilate [Pradaxa] to prevent stroke. The nurse will include which statement when teaching this patient?
- Dabigatran should be taken on an empty stomach to improve absorption.
 - It is important not to crush, chew, or open capsules of dabigatran.
 - The risk of bleeding with dabigatran is less than that with warfarin [Coumadin].
 - To remember to take dabigatran twice daily, a pill organizer can be useful.

ANS: B

Patients should be taught to swallow capsules of dabigatran intact; absorption may be increased as much as 75%, increasing the risk of bleeding, if the capsules are crushed, chewed, or opened. Dabigatran may be taken with or without food. The risk of bleeding is not less than that of warfarin. Dabigatran is unstable when exposed to moisture, so using a pill organizer is not recommended. DIF: Cognitive Level: Application REF: pp. 466 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

443. A patient is admitted to the hospital with unstable angina and will undergo a percutaneous coronary intervention. Which drug regimen will the nurse expect to administer to prevent thrombosis in this patient?
- Aspirin, clopidogrel, omeprazole
 - Aspirin, heparin, abciximab [ReoPro]
 - Enoxaparin [Lovenox], prasugrel [Effient], warfarin [Coumadin]

- d. Heparin, alteplase, abciximab [ReoPro]

ANS: B

Abciximab, combined with ASA and heparin, is approved for IV therapy for patients undergoing PCI. DIF: Cognitive Level: Analysis REF: pp. 470 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

444. A patient who has taken warfarin [Coumadin] for a year begins taking carbamazepine. The nurse will anticipate an order to:

- decrease the dose of carbamazepine.
- increase the dose of warfarin.
- perform more frequent aPTT monitoring.
- provide extra dietary vitamin K.

ANS: B

Carbamazepine is a powerful inducer of hepatic drug-metabolizing enzymes and can accelerate warfarin degradation. The warfarin dose should be increased if the patient begins taking carbamazepine. Decreasing the dose of carbamazepine is not indicated. It is not necessary to perform more frequent aPTT monitoring or to add extra vitamin K. DIF: Cognitive Level: Analysis REF: pp. 467 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

445. A nurse has just received an order for tenecteplase [TNKase] for a patient experiencing an acute myocardial infarction. The nurse should administer this drug:

- by bolus injection.
- by infusion pump over 24 hours.
- slowly over 90 minutes.
- via monitored, prolonged infusion.

ANS: A

Tenecteplase [TNKase] is given by bolus injection. Tissue plasminogen activator (tPA) must be infused over 90 minutes. Because tenecteplase is given by bolus injection, an infusion pump is not required. Although the patient should be monitored, tenecteplase does not require a prolonged infusion time. DIF: Cognitive Level: Comprehension REF: pp. 457 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

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Chapter 45: Drugs for Deficiency Anemias

Test Bank

Multiple Choice

446. A nurse is taking a medication history on a newly admitted patient. The patient reports taking folic acid and vitamin B12. The nurse notifies the provider because of the concern that folic acid can:
- cause fetal malformation.
 - mask the signs of vitamin B12 deficiency.
 - negatively affect potassium levels.
 - worsen megaloblastic anemia.

ANS: B

Folic acid can reverse the hematologic effects of vitamin B12 deficiency, but it does not reverse the neurologic effects, so it is important to determine the degree of B12 deficiency to treat it. Folic acid does not cause fetal malformation; in fact, it can help prevent neural tube defects. Folic acid does not worsen megaloblastic anemia. Folic acid does not affect potassium levels. DIF: Cognitive Level: Analysis REF: pp. 481 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

447. A nurse is caring for a patient after hip replacement surgery. The patient has been receiving iron replacement therapy for 2 days. The nurse notes that the patient's stools appear black. The patient is pale and complains of feeling tired. The patient's heart rate is 98 beats/minute, respirations are 20 breaths/minute, and the blood pressure is 100/50 mm Hg. The nurse will contact the provider to:
- report possible gastrointestinal hemorrhage.
 - request a hemoglobin and hematocrit (H&H).
 - request an order for a stool guaiac.
 - suggest giving a hypertonic fluid bolus.

ANS: B

This patient is showing signs of iron deficiency anemia, as manifested by tachycardia and pallor. Because this patient's blood pressure is low, the anemia probably has occurred secondary to blood loss, a common occurrence with hip replacement surgery. The first response should be to obtain an H&H to assess the anemia. GI hemorrhage is not a concern in this patient; black stools are an expected effect of oral iron administration. A stool guaiac is not indicated. If the patient has blood loss that is causing hypotension, an isotonic fluid bolus and packed red blood cells (PRBCs) are indicated to treat this. DIF: Cognitive Level: Analysis REF: pp. 474 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

448. A 12-year-old female patient is admitted to the hospital before sinus surgery. The nurse preparing to care for this patient notes that the admission hemoglobin is 10.2 gm/dL, and the hematocrit is 32%. The nurse will ask the child's parents which question about their daughter?
- “Does she eat green, leafy vegetables?”
 - “Has she begun menstruating?”
 - “Is she a vegetarian?”
 - “Is there a chance she might be pregnant?”

ANS: B

The most common cause of iron deficiency anemia in adolescent females is heavy periods, so asking about menses is an appropriate first question when evaluating the cause of low iron in young females. Iron deficiency only rarely occurs because of poor dietary intake. Although pregnancy is not unheard of in 12-year-old girls, a question about possible pregnancy should not be the first question asked. DIF: Cognitive Level: Application REF: pp.474 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

449. A patient with renal failure is undergoing chronic hemodialysis. The patient's hemoglobin is 10.6 gm/dL. The provider orders sodium–ferric gluconate complex (SFGC [Ferrlecit]). What will the nurse expect to do?
- Administer the drug intravenously with erythropoietin.
 - Give a test dose before each administration of the drug.
 - Have epinephrine on hand to treat anaphylaxis if needed.
 - Infuse the drug rapidly to achieve maximum effects quickly.

ANS: A

SFGC is given parenterally for iron deficiency anemia in patients undergoing chronic hemodialysis. It is always used in conjunction with erythropoietin to stimulate the production of red blood cells (RBCs). A test dose is given only with the initial dose and is not necessary with subsequent doses. Anaphylaxis is not a common side effect. The drug should be infused slowly. DIF: Cognitive Level: Application REF: pp. 478 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

450. A patient tells a nurse that she is thinking about getting pregnant and asks about nutritional supplements. What will the nurse recommend?
- A balanced diet high in green vegetables and grains
 - 400 to 800 mg of folic acid per day
 - A multivitamin with iron
 - Vitamin B12 supplements

ANS: B

The current recommendation is that all women of childbearing age receive folic acid supplementation to prevent the development of neural tube defects that can occur early in pregnancy. Dietary folic acid is not sufficient to provide this amount. Iron supplements are given when pregnancy occurs and are not necessary before becoming pregnant. Vitamin B12 supplements are not recommended. DIF: Cognitive Level: Application REF: pp. 481 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

451. A patient who has recently immigrated to the United States from an impoverished country appears malnourished. The patient's folic acid levels are low, and the vitamin B12 levels are normal. The nurse expects this patient's treatment to include:
- a diet high in folic acid.
 - intramuscular folic acid.
 - oral folic acid and vitamin B12.
 - oral folic acid supplements.

ANS: A

If a folic acid deficiency is caused by poor diet, it should be corrected with dietary measures, not supplements. IM or oral supplements of folic acid are not indicated. Vitamin B12 is not recommended. DIF: Cognitive Level: Application REF: pp. 482 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

452. A patient is admitted to the hospital. The patient's initial laboratory results reveal megaloblastic anemia. The patient complains of tingling of the hands and appears confused. The nurse suspects what in this patient?
- Celiac disease
 - Folic acid deficiency
 - Iron deficiency anemia
 - Vitamin B12 deficiency

ANS: D

When patients present with megaloblastic anemia, it is essential to distinguish between folic acid deficiency and vitamin B12 deficiency. If neurologic deficits are observed, vitamin B12 deficiency is more likely to be the cause. This patient does not have signs of celiac disease. Iron deficiency anemia would be indicated by a low hemoglobin and hematocrit. DIF: Cognitive Level: Analysis REF: pp. 482 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

453. A nurse is reviewing a patient's most recent blood count and notes that the patient has a hemoglobin of 9.6 gm/dL and a hematocrit of 33%. The nurse will notify the provider and will expect initial treatment to include:
- determining the cause of the anemia.
 - giving intravenous iron dextran.
 - giving oral carbonyl iron [Feosol].
 - teaching about dietary iron.

ANS: A

Before therapy for iron deficiency anemia is started, the cause must be determined so that the appropriate treatment is given. Oral iron is safer and, most of the time, as effective as parenteral iron, so IV iron is not an initial choice. Oral iron will be given once the cause of the deficiency has been determined. Patients who are iron deficient should be taught about dietary iron, but this is not part of the initial treatment when a deficiency is detected. DIF: Cognitive Level: Application REF: pp. 477 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

454. What are the indications for administration of a parenteral iron preparation?
Select all that apply.
- Blood loss of 750 mL/week
 - Celiac disease with anemia
 - History of alcoholism
 - Intestinal disease impairing absorption
 - Megaloblastic anemia

ANS: A , B , D

Patients who have lost 750 mL/week of iron cannot absorb enough oral iron, so parenteral iron is indicated for these patients. Patients with celiac disease or other diseases that impair iron absorption must receive parenteral iron. Patients with a history of alcoholism are generally deficient in folic acid. Megaloblastic anemia is a symptom of vitamin B12 and/or folic acid deficiency. DIF: Cognitive Level: Analysis REF: pp. 478 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

455. A patient was given a 30-day supply of Feosol and has been taking the drug for 4 weeks for iron deficiency anemia. The patient's initial hemoglobin was 8.9 gm/dL. The nurse notes that the hemoglobin has risen to 9.7 gm/dL. What will the nurse ask the patient about?
- Dietary iron intake
 - Gastrointestinal (GI) upset
 - Whether stools have been tarry or black
 - Whether the prescription needs to be refilled

ANS: D

When therapy is successful, the hemoglobin level increases by 2 gm/dL within 1 month. If the hemoglobin does not increase as expected, patients should be asked about compliance. If a patient reports that the prescription does not need to be refilled, the medication probably has not been taken as prescribed. Dietary iron intake is not a part of iron replacement therapy but is an important part of the prevention of anemia. GI upset and tarry, black stools are expected side effects of iron products. DIF: Cognitive Level: Evaluation REF: pp. 478 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

456. The patient with which of the following is most at risk for folic acid deficiency?

- a. Alcoholism
- b. Sprue
- c. Gastrectomy
- d. Peptic ulcer disease

ANS: A

The patient most at risk for folic acid deficiency secondary to a poor diet is a patient with a history of alcoholism. Malabsorption secondary to intestinal disease is another indication for folic acid therapy, but these patients are not most at risk. DIF: Cognitive Level: Application REF: pp. 482 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

457. A patient is receiving oral iron for iron deficiency anemia. Which antibiotic drug, taken concurrently with iron, would most concern the nurse?

- a. Tetracycline
- b. Cephalosporin
- c. Metronidazole [Flagyl]
- d. Penicillin

ANS: A

Coadministration of tetracycline and iron reduces absorption of both iron and tetracycline. Cephalosporin, metronidazole, and penicillin have no significant drug-to-drug interaction with iron. DIF: Cognitive Level: Application REF: pp. 476 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

458. A patient with vitamin B12 deficiency is admitted with symptoms of hypoxia, anemia, numbness of hands and feet, and oral stomatitis. The nurse expects the prescriber to order which of the following therapies?

- a. IM cyanocobalamin and folic acid
- b. IM cyanocobalamin and antibiotics
- c. PO cyanocobalamin and folic acid
- d. PO cyanocobalamin and blood transfusions

ANS: A

This patient is showing signs of more severe vitamin B12 deficiency with neurologic symptoms; therefore, cyanocobalamin should be given parenterally along with folic acid. Antibiotics are indicated only when signs of infection are present. Oral cyanocobalamin is not recommended. DIF: Cognitive Level: Application REF: pp. 480 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

459. A patient who has been prescribed oral ferrous sulfate reports taking extra doses for the past few months. The patient's serum iron level is 560 mcg/dL. What will the nurse expect the provider to order for this patient?
- a. Discontinuing the ferrous sulfate and rechecking the iron level in 1 month
 - b. Gastric lavage and treatment for acidosis and shock
 - c. Giving oral deferasirox [Exjade]
 - d. Giving parenteral deferoxamine [Desferal]

ANS: D

If the plasma level of iron is high (above 500 mcg/dL), it should be lowered with parenteral deferoxamine. This level is toxic and must be treated. Gastric lavage is used if unabsorbed tablets are present. Oral deferasirox is used for chronic overload caused by blood transfusions. DIF: Cognitive Level: Application REF: pp. 476 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

460. A patient is diagnosed with moderate vitamin B12 deficiency. The nurse reviews the laboratory work and notes that the plasma B12 is low; also, a Schilling test reveals B12 malabsorption. The provider orders oral cyanocobalamin 500 mcg/day. The nurse will contact the provider to:
- a. discuss IM dosing.
 - b. request an order for folic acid.
 - c. suggest an increased dose.
 - d. suggest platelet transfusion therapy.

ANS: C

Patients with vitamin B12 deficiency associated with B12 malabsorption need increased doses of oral cyanocobalamin of 1000 to 10,000 mcg/day. It is not necessary to give this drug intramuscularly. Folic acid is indicated when B12 deficiency is severe. Platelets are given when B12 deficiency is severe. DIF: Cognitive Level: Analysis REF: pp. 480 TOP: Nursing Process:

Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 46: Drugs for Diabetes Mellitus

Test Bank

Multiple Choice

461. The nurse working on a high-acuity medical-surgical unit is prioritizing care for four patients who were just admitted. Which patient should the nurse assess first?
- The NPO patient with a blood glucose level of 80 mg/dL who just received 20 units of 70/30 Novolin insulin.
 - The patient with a pulse of 58 beats/minute who is about to receive digoxin [Lanoxin].
 - The patient with a blood pressure of 136/92 mm Hg who complains of having a headache.
 - The patient with an allergy to penicillin who is receiving an infusion of vancomycin [Vancocin].

ANS: A

The NPO patient with hypoglycemia who just received 70/30 Novolin insulin takes priority, because this patient needs to consume a good source of glucose immediately or perhaps the NPO status will be discontinued for this shift. The digoxin may be withheld for the patient with a pulse of 58 beats/minute, but this is not a priority action. The patient with a headache needs to be followed up, but because the blood pressure is 136/92 mm Hg, the headache is probably not caused by hypertension. The patient with an allergy to penicillin will not have a reaction to the vancomycin. DIF: Cognitive Level: Analysis REF: p. 494 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

462. A patient with type 1 diabetes recently became pregnant. The nurse plans a blood glucose testing schedule for her. What is the recommended monitoring schedule?
- Before each meal and before bed.
 - In the morning for a fasting level and at 4:00 PM for the peak level.
 - Six or seven times a day.
 - Three times a day, along with urine glucose testing.

ANS: C

A pregnant patient with type 1 diabetes must have frequent blood sugar monitoring (e.g., six or seven times a day) to manage both the patient and the fetus so that no teratogenic effects occur. Monitoring the blood sugar level before meals and at bedtime is not significant enough to provide the necessary glycemic control. Morning and 4:00 PM monitoring is not enough to provide glycemic control. Urine glucose testing is not sensitive enough to aid glycemic control, and

monitoring three times a day is not enough. DIF: Cognitive Level: Application REF: p. 486 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

463. Which statement is correct about the contrast between acarbose and miglitol?
- Miglitol has not been associated with hepatic dysfunction.
 - With miglitol, sucrose can be used to treat hypoglycemia.
 - Miglitol is less effective in African Americans.
 - Miglitol has no gastrointestinal side effects.

ANS: A

Unlike acarbose, miglitol has not been associated with hepatic dysfunction. Sucrose should not be used to treat hypoglycemia with miglitol. Miglitol is more effective in African-American patients. Miglitol has gastrointestinal side effects. DIF: Cognitive Level: Application REF: p. 504 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

464. A nurse is educating the staff nurses about ketoacidosis. To evaluate the group's understanding, the nurse asks, "Which sign or symptom would not be consistent with ketoacidosis?" The group gives which correct answer?
- Blood glucose level of 600 mg/dL
 - Blood glucose level of 60 mg/dL
 - Acidosis
 - Ketones in the urine

ANS: B

A patient with diabetic ketoacidosis (DKA) has a high glucose level (at least 500 mg/dL or higher); therefore, a glucose level of 60 mg/dL would not be consistent with DKA. A blood glucose level of 600 mg/dL, acidosis, and ketones in the urine are consistent with DKA. DIF: Cognitive Level: Analysis REF: p. 486 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

465. The nurse assesses a newly diagnosed patient for short-term complications of diabetes. What does this assessment include?
- Evaluation for hyperglycemia, hypoglycemia, and ketoacidosis.
 - Cranial nerve testing for peripheral neuropathy.
 - Pedal pulse palpation for arterial insufficiency.
 - Auscultation of the carotids for bruits associated with atherosclerosis.

ANS: A

High blood sugar, low blood sugar, and ketoacidosis are short-term complications of diabetes. Microvascular and macrovascular complications, such as peripheral neuropathy, are long-term complications of diabetes. Arterial insufficiency and atherosclerosis also are long-term complications of diabetes. DIF: Cognitive Level: Application REF: p. 496 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

466. A patient with type 1 diabetes is eating breakfast at 7:30 AM. Blood sugars are on a sliding scale and are ordered before a meal and at bedtime. The patient's blood sugar level is 317 mg/dL. Which formulation of insulin should the nurse prepare to administer?
- No insulin should be administered
 - NPH
 - 70/30 mix
 - Lispro [Humalog]

ANS: D

Regular insulin is indicated for sliding scale coverage. Insulin is definitely indicated for this high blood sugar level. NPH is used for scheduled insulin doses and is a longer-acting insulin. A 70/30 mix is also used for scheduled insulin coverage. DIF: Cognitive Level: Application REF: p. 495 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

467. A patient with type 1 diabetes who takes insulin reports taking propranolol for hypertension. Why is the nurse concerned?
- The beta blocker can cause insulin resistance.
 - Using the two agents together increases the risk of ketoacidosis.
 - Propranolol increases insulin requirements because of receptor blocking.
 - The beta blocker can mask the symptoms of hypoglycemia.

ANS: D

Beta blockers can delay awareness of and response to hypoglycemia by masking signs associated with stimulation of the sympathetic nervous system (e.g., tachycardia, palpitations) that hypoglycemia normally causes. Furthermore, beta blockade impairs glycogenolysis, which is one means by which the body can counteract a fall in blood glucose; beta blockers, therefore, can worsen insulin-induced hypoglycemia. Propranolol does not cause insulin resistance. The incidence of DKA is not increased by concurrent use of propranolol and insulin. Insulin requirements are not increased because of receptor blocking by propranolol. DIF: Cognitive Level: Analysis REF: p. 498 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

468. A nurse provides dietary counseling for a patient newly diagnosed with type 1 diabetes. Which instruction should be included?
- “You may eat any foods you want and cover the glucose increase with sliding scale, regular insulin.”
 - “Most of the calories you eat should be in the form of protein to promote fat breakdown and preserve muscle mass.”
 - “Your total caloric intake should not exceed 1800 calories in a 24-hour period.”
 - “You should use a carbohydrate counting approach to maintain glycemic control.”

ANS: D

Patients with diabetes should be given intensive insulin therapy education using either a carbohydrate counting or experience-based estimation approach in achieving glycemic control. A patient with diabetes cannot eat any foods desired and then cover the glucose increase with a sliding scale of regular insulin. Evidence suggests that there is not an ideal percentage of calories that should be ingested from carbohydrate, fat, or protein. Every patient with diabetes must be assessed individually to determine the number of total calories the person should have daily. The total caloric intake should be spread evenly throughout the day, with meals spaced 4 to 5 hours apart. DIF: Cognitive Level: Application REF: p. 487 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

469. A patient with type 1 diabetes reports mixing NPH and regular insulin to allow for one injection. What should the nurse tell the patient?
- This is an acceptable practice.
 - These two forms of insulin are not compatible and cannot be mixed.
 - Mixing these two forms of insulin may increase the overall potency of the products.
 - NPH insulin should only be mixed with insulin glargine.

ANS: A

NPH insulin is the only insulin suitable for mixing with short-acting insulins, such as insulin aspart [NovoLog]. These insulins are compatible and are mixed frequently for management of diabetics. The overall potency of each insulin is not increased by mixing them. Insulin glargine cannot be mixed with any other insulin for administration. DIF: Cognitive Level: Analysis REF: p. 495 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

470. Which statement is accurate about the long-term complications of diabetes?
- Long-term complications are almost always the result of hypoglycemia and ketoacidosis.
 - The complication rates for patients with optimally controlled type 2 diabetes are the same as for those whose disease is not optimally controlled.
 - Optimal control of type 1 diabetes produces excessive episodes of life-threatening hypoglycemia.

- d. Optimal control of both types of diabetes reduces the risk of eye, kidney, and nerve damage.

ANS: D

In both types of diabetes, optimal control of the disease slows the development of microvascular complications. Short-term complications are more apt to result from hypoglycemia and ketoacidosis. Patients with type 2 diabetes have fewer complications if their blood sugar level is optimally controlled. Hypoglycemia does not occur more frequently in patients with optimally controlled type 1 diabetes. DIF: Cognitive Level: Comprehension REF: p. 496 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

471. An elderly patient who has type 2 diabetes has a history of severe hypoglycemia. The patient's spouse asks the nurse what the optimal A1c level is for the patient. Which is correct?
- Between 6.5 and 7.0
 - Below 7.0
 - Below 8.0
 - Between 7.0 and 8.5

ANS: C

For patients with a history of severe hypoglycemia and those with a limited life expectancy or advanced micro- and macrovascular complications, the target A1c level should be below 8.0. For most other patients with diabetes, the target is 7.0 and below. DIF: Cognitive Level: Analysis REF: p. 489 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

472. An adolescent patient recently attended a health fair and had a serum glucose test. The patient telephones the nurse and says, "My level was 125 mg/dL. Does that mean I have diabetes?" What is the nurse's most accurate response?
- "Unless you were fasting for longer than 8 hours, this does not necessarily mean you have diabetes."
 - "At this level, you probably have diabetes. You will need an oral glucose tolerance test this week."
 - "This level is conclusive evidence that you have diabetes."
 - "This level is conclusive evidence that you do not have diabetes."

ANS: A

If a person has not fasted for 8 hours, a blood sugar level of 125 mg/dL would be considered normal, because it is less than 200 mg/dL for a random sampling. Also, a person must have positive outcomes on two separate days to be diagnosed with diabetes. This patient does not need to have an oral glucose tolerance test, because the 125 mg/dL reading is so far below 200 mg/dL, which would require further work-up. No conclusive evidence indicates that this patient has diabetes, because the random sample value is so low, and the patient has not had two separate tests on

different days. However, this also is not conclusive evidence that the patient does not have diabetes. DIF: Cognitive Level: Analysis REF: p. 487 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

473. A patient who has type 2 diabetes will begin taking glipizide [Glucotrol]. Which statement by the patient is concerning to the nurse?

- a. "I will begin by taking this once daily with breakfast."
- b. "It is safe to drink grapefruit juice while taking this drug."
- c. "I may continue to have a glass of wine with dinner."
- d. "I will need to check my blood sugar once daily or more."

ANS: C

Glipizide is a sulfonylurea antidiabetic agent and can cause a disulfiram-like reaction when combined with alcohol. Patients should be taught to avoid alcohol while taking this medication. The initial dosing is once daily with breakfast. There is no drug interaction with grapefruit juice. Patients will need to monitor their blood glucose. DIF: Cognitive Level: Analysis REF: p. 503 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

474. What is the most reliable measure for assessing diabetes control over the preceding 3-month period?

- a. Self-monitoring blood glucose (SMBG) graph report
- b. Patient's report
- c. Fasting blood glucose level
- d. Glycosylated hemoglobin level

ANS: D

The glycosylated hemoglobin level tells much about what the plasma glucose concentration has been, on average, over the previous 2 to 3 months. The SMBG graph report is done by the patient and indicates each blood sugar level the patient has on a daily basis. It is not as reliable as the glycosylated hemoglobin level, because the equipment used might not be accurate and the testing may not reflect actual measurements 100% of the time. The patient's report of blood sugar levels is not considered as accurate as the glycosylated hemoglobin level for the same reason that the SMBG is not. One fasting blood glucose level indicates the patient's blood sugar level for that one time when it was obtained. DIF: Cognitive Level: Application REF: p. 490 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

475. Insulin glargine is prescribed for a hospitalized patient who has diabetes. When will the nurse expect to administer this drug?

- a. Approximately 15 to 30 minutes before each meal
- b. In the morning and at 4:00 PM
- c. Once daily at bedtime
- d. After meals and at bedtime

ANS: C

Glargine insulin is indicated for once-daily subcutaneous administration to treat adults and children with type 1 diabetes and adults with type 2 diabetes. According to the package labeling, the once-daily injection should be given at bedtime. Glargine insulin should not be given more than once a day, although some patients require bid dosing to achieve a full 24 hours of basal coverage. DIF: Cognitive Level: Application REF: p. 495 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies **Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.**

Chapter 47: Drugs for Thyroid Disorders

Test Bank

Multiple Choice

476. A patient with hypothyroidism begins taking PO levothyroxine [Synthroid]. The nurse assesses the patient at the beginning of the shift and notes a heart rate of 62 beats/minute and a temperature of 97.2°F. The patient is lethargic and difficult to arouse. The nurse will contact the provider to request an order for which drug?
- a. Beta blocker
 - b. Increased dose of PO levothyroxine
 - c. Intravenous levothyroxine
 - d. Methimazole [Tapazole]

ANS: C

Intravenous administration of levothyroxine is used for myxedema coma. This patient is showing signs of severe hypothyroidism, or myxedema. A beta blocker is useful in patients who show signs of hyperthyroidism to minimize cardiac effects. Because the half-life of oral levothyroxine is so long, increasing the PO dose will not provide immediate relief of this patient's symptoms. Methimazole is used to treat hyperthyroidism. DIF: Cognitive Level: Evaluation REF: p. 516 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

477. A patient has been taking levothyroxine for several years and reports that “for the past 2 weeks, the drug does not seem to work as well as before.” What will the nurse do?
- a. Ask the patient when the prescription was last refilled.
 - b. Expect the patient to have an elevated temperature and tachycardia.

- c. Suggest that the patient begin taking calcium supplements.
- d. Tell the patient to try taking the medication with food.

ANS: A

Not all levothyroxine preparations have the same drug bioavailability; therefore, if a patient is experiencing differing effects, the pharmacist may have switched brands. Asking a patient about a recent refill may help to explain why the drug has different effects. An elevated temperature and tachycardia would be signs of toxicity, not of a decrease in effectiveness. Calcium supplements and food would only interfere with absorption and further reduce the drug's effectiveness. DIF: Cognitive Level: Analysis REF: p. 516 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

478. A nurse is teaching a patient who will begin taking methimazole [Tapazole] for Graves disease about the medication. Which statement by the patient indicates understanding of the teaching?
- a. "Because of the risk for liver toxicity, I will need frequent liver function tests."
 - b. "I should report a sore throat or fever to my provider if either occurs."
 - c. "I will need a complete blood count every few months."
 - d. "It is safe to get pregnant while taking this medication."

ANS: B

Agranulocytosis is rare but can occur with methimazole, so patients should report signs of infection, such as a sore throat or fever. Liver toxicity is not a side effect, so liver function tests are not indicated. Because agranulocytosis often develops rapidly, periodic blood counts do not guarantee early detection. Methimazole is contraindicated in the first trimester of pregnancy. DIF: Cognitive Level: Application REF: p. 518 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

479. A patient is admitted to the hospital and will begin taking levothyroxine [Synthroid]. The nurse learns that the patient also takes warfarin [Coumadin]. The nurse will notify the provider to discuss the dose.
- a. reducing; levothyroxine
 - b. reducing; warfarin
 - c. increasing; levothyroxine
 - d. increasing; warfarin

ANS: B

Levothyroxine accelerates the degradation of vitamin K–dependent clotting factors, which enhances the effects of warfarin. Patients taking warfarin who start taking levothyroxine may need to have their warfarin dose reduced. It is not correct to increase or decrease the levothyroxine dose or to increase the warfarin dose. DIF: Cognitive Level: Application REF: p. 516 TOP: Nursing

Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

480. The nurse prepares a patient with Graves disease for radioactive iodine (^{131}I) therapy. Which statement made by the patient best demonstrates understanding of ^{131}I therapy?
- “I will have to isolate myself from my family for 1 week so that I do not expose them to radiation.”
 - “This drug will be taken up by the thyroid gland and will destroy the cells to reduce my hyperthyroidism.”
 - “This drug will help reduce my cold intolerance and weight gain.”
 - “I will need to take this drug on a daily basis for at least 1 year.”

ANS: B

Iodine-131 can be used to destroy thyroid tissue in patients with hyperthyroidism; no further teaching is necessary. The patient does not need to isolate himself from others. The treatment will not reduce intolerance to cold, nor will it affect weight gain. The patient will not need the treatment daily. DIF: Cognitive Level: Application REF: p. 519 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

481. A nurse caring for a patient notes that the patient has a temperature of 104°F and a heart rate of 110 beats/minute. The patient's skin is warm and moist, and the patient complains that the room is too warm. The patient appears nervous and has protuberant eyes. The nurse will contact the provider to discuss:
- cretinism.
 - Graves disease.
 - myxedema.
 - Plummer disease.

ANS: B

The signs and symptoms in this patient are consistent with hyperthyroidism, and because the patient's eyes are protuberant, they also are consistent with Graves disease. Cretinism is hypothyroidism in children. Myxedema is severe hypothyroidism. Plummer disease is a hyperthyroidism condition without exophthalmos. DIF: Cognitive Level: Analysis REF: p. 514 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

482. The nurse is caring for a pregnant patient recently diagnosed with hypothyroidism. The patient tells the nurse she does not want to take medications while she is pregnant. What will the nurse explain to this patient?
- Hypothyroidism is a normal effect of pregnancy and usually is of no consequence.

- b. Neuropsychologic deficits in the fetus can occur if the condition is not treated.
- c. No danger to the fetus exists until the third trimester.
- d. Treatment is required only if the patient is experiencing symptoms.

ANS: B

Maternal hypothyroidism can result in permanent neuropsychologic deficits in the child. Hypothyroidism is not a normal effect of pregnancy and is a serious condition that can affect both mother and fetus. The greatest danger to the fetus occurs in the first trimester, because the thyroid does not fully develop until the second trimester. Early identification is essential. Symptoms often are vague. Treatment should begin as soon as possible, or mental retardation and other developmental problems may occur. DIF: Cognitive Level: Application REF: p. 514 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

483. A patient has a free T4 level of 0.6 ng/dL and a free T3 level of 220 pg/dL. The patient asks the nurse what these laboratory values mean. How will the nurse respond?
- a. "These laboratory values indicate that you may have Graves disease."
 - b. "These results suggest you may have hyperthyroidism."
 - c. "We will need to obtain a total T4 and a total T3 to tell for sure."
 - d. "We will need to obtain a TSH level to better evaluate your diagnosis."

ANS: D

A free T4 level of less than 0.9 ng/dL and a free T3 level of less than 230 pg/dL are consistent with hypothyroidism, but measurement of the thyroid-stimulating hormone (TSH) level is necessary to distinguish primary hypothyroidism from secondary hypothyroidism. Total T3 and T4 levels are not as helpful as free T3 and T4 levels. These laboratory values indicate hypothyroidism, not hyperthyroid conditions such as Graves disease. DIF: Cognitive Level: Analysis REF: p. 512 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

484. An older adult patient is diagnosed with hypothyroidism. The initial free T4 level is 0.5 mg/dL, and the TSH level is 8 microunits/mL. The prescriber orders levothyroxine [Levothroid] 100 µg/day PO. What will the nurse do?
- a. Administer the medication as ordered.
 - b. Contact the provider to discuss giving the levothyroxine IV.
 - c. Request an order to give desiccated thyroid (Armour Thyroid).
 - d. Suggest that the provider lower the dose.

ANS: D

In older adult patients, initial dosing of levothyroxine should start low and be increased gradually. A typical starting dose for an elderly patient is 25 to 50 mcg/day. It is not correct to administer the medication without questioning the provider. Unless the patient has signs of myxedema, there is

no need to give the medication IV. Desiccated thyroid is no longer used except in patients who have been taking it long term. DIF: Cognitive Level: Analysis REF: p. 517 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

485. A patient in her twenties with Graves disease who takes methimazole [Tapazole] tells a nurse that she is trying to conceive and asks about disease management during pregnancy. What will the nurse tell her?

- a. Methimazole is safe to take throughout pregnancy.
- b. Propylthiouracil should be taken throughout her pregnancy.
- c. The patient should discuss changing to propylthiouracil from now until her second trimester with her provider.
- d. The patient should discuss therapy with iodine-131 instead of medications with her provider.

ANS: C

Methimazole is not safe during the first trimester of pregnancy, because it is associated with neonatal hypothyroidism, goiter, and cretinism; however, it is safe in the second and third trimesters. Propylthiouracil is recommended for pregnant patients only in the first trimester and during lactation only if a thionamide is absolutely necessary. Iodine-131 is used in women older than 30 years who have not responded to medication therapy and is contraindicated during pregnancy. DIF: Cognitive Level: Application REF: p. 518 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

486. A nurse is teaching a patient who has been diagnosed with hypothyroidism about levothyroxine [Synthroid]. Which statement by the patient indicates a need for further teaching?

- a. "I should not take heartburn medication without consulting my provider."
- b. "I should report insomnia, tremors, and an increased heart rate to my provider."
- c. "If I take a multivitamin with iron, I should take it 4 hours after the Synthroid."
- d. "If I take calcium supplements, I may need to decrease my dose of Synthroid."

ANS: D

Patients taking calcium supplements should take these either 4 hours before or after taking levothyroxine, because they interfere with levothyroxine absorption. Many heartburn medications contain calcium, so patients should consult their provider before taking them. Insomnia, tremors, and tachycardia are signs of levothyroxine toxicity and should be reported. Iron also interferes with levothyroxine absorption, so dosing should be 4 hours apart. DIF: Cognitive Level: Application REF: p. 516 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

487. A 1-year-old child with cretinism has been receiving 8 mcg/kg/day of levothyroxine [Synthroid]. The child comes to the clinic for a well-child checkup. The nurse will expect the provider to:

- a. change the dose of levothyroxine to 6 mcg/kg/day.
- b. discontinue the drug if the child's physical and mental development are normal.
- c. increase the dose to accommodate the child's increased growth.
- d. stop the drug for 4 weeks and check the child's TSH level.

ANS: A

In the treatment of cretinism, thyroid dosing decreases with age. For infants 6 to 12 months of age, the dose is 6 mcg/kg/day. At 1 year of age, the dose is reduced to 5 to 6 mcg/kg/day. For all children, treatment should continue for 3 years. It is incorrect to increase the dose with age. After 3 years of therapy, the patient undergoes a trial of 4 weeks without the drug, followed by assessment of the TSH and T4 levels, to determine whether the drug can be discontinued. DIF: Cognitive Level: Application REF: p. 517 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

488. A nurse obtaining an admission history on an adult patient notes that the patient has a heart rate of 62 beats/minute, a blood pressure of 105/62 mm Hg, and a temperature of 96.2°F. The patient appears pale and complains of always feeling cold and tired. The nurse will contact the provider to discuss tests for which condition?

- a. Cretinism
- b. Graves disease
- c. Hypothyroidism
- d. Plummer disease

ANS: C

This patient is showing signs of hypothyroidism: a low heart rate, low temperature, pale skin, and feeling cold and tired. In adults, thyroid deficiency is called hypothyroidism. In children, thyroid deficiency is called cretinism. Graves disease and Plummer disease are conditions caused by thyroid excess. DIF: Cognitive Level: Analysis REF: p. 513 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

489. A patient arrives in the emergency department with a heart rate of 128 beats/minute and a temperature of 105°F. The patient's skin feels hot and moist. The free T4 level is 4 ng/dL, the free T3 level is 685 pg/dL, and the TSH level is 0.1 microunits/mL. The nurse caring for this patient will expect to administer:

- a. intravenous levothyroxine.
- b. iodine-131 (¹³¹I).
- c. methimazole [Tapazole].

- d. propylthiouracil (PTU).

ANS: D

Propylthiouracil is used for patients experiencing thyroid storm, and this patient is showing signs of that condition. Levothyroxine is given IV for hypothyroidism. ¹³¹I is used in patients over 30 years of age who have not responded to other therapies for hyperthyroidism. Methimazole is used long term to treat hyperthyroidism, but PTU is more useful for emergency treatment. DIF: Cognitive Level: Application REF: p. 518 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 48: Estrogens and Progestins: Basic Pharmacology and Noncontraceptive Applications

Test Bank

Multiple Choice

490. A postmenopausal patient who has had a hysterectomy and who has a family history of coronary heart disease reports experiencing vaginal dryness and pain with intercourse but tells the nurse that she does not want to take hormones because she is afraid of adverse effects. The nurse will suggest that the woman ask her provider about:
- Depo Provera.
 - Estraderm.
 - low-dose estrogens.
 - Premarin vaginal.

ANS: D

Estrogens for intravaginal administration are used for local effects, primarily to treat vulval and vaginal atrophy. Because these preparations bypass the liver, the total dose is reduced and there is a lower risk of systemic effects. Depo Provera is a progesterone and is not indicated. Transdermal estrogen is used to treat hot flashes. Low-dose estrogens still have systemic effects. DIF: Cognitive Level: Application REF: p. 525 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

491. A 50-year-old postmenopausal patient who has had a hysterectomy has moderate to severe vasomotor symptoms and is discussing estrogen therapy (ET) with the nurse. The patient is concerned about adverse effects of ET. The nurse will tell her that:
- an estrogen-progesterone product will reduce side effects.
 - an intravaginal preparation may be best for her.
 - side effects of ET are uncommon among women her age.
 - transdermal preparations have fewer side effects.

ANS: D

Transdermal preparations of estrogen have fewer adverse effects, use lower doses of estrogen, and have less fluctuation of estrogen levels than do oral preparations. Progesterone is contraindicated in women who have undergone hysterectomy. Intravaginal preparations are most useful for treating local estrogen deficiency such as vaginal and vulvar atrophy. Side effects of ET are the same at the patient's age as for other women using ET. DIF: Cognitive Level: Application REF: p. 525 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

492. A patient who will begin combination estrogen/progestin therapy (EPT) for menopause asks the nurse why she cannot take an estrogen-only preparation. The patient has not had a hysterectomy, has a slightly increased risk of cardiovascular disease, and has mild osteopenia. The nurse will tell her that the progestin is necessary to:

- a. decrease her risk of endometrial cancer.
- b. increase bone resorption to prevent fractures.
- c. lower her risk of myocardial infarction (MI).
- d. prevent deep vein thrombosis (DVT).

ANS: A

In patients who still have a uterus, progestin is necessary to reduce the risk of endometrial carcinoma. Progestins do not have effects on bone density and do not decrease risk of MI or DVT. DIF: Cognitive Level: Application REF: p. 524 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

493. A nurse provides teaching to a patient who has had a hysterectomy and is about to begin hormone therapy to manage menopausal symptoms. Which statement by the patient indicates understanding of the teaching?

- a. "Because I am not at risk for uterine cancer, I can take hormones indefinitely."
- b. "I can take estrogen to reduce my risk of cardiovascular disease."
- c. "I should take the lowest effective dose for the shortest time needed."
- d. "I will need a progestin/estrogen combination since I have had a hysterectomy."

ANS: C

For patients who have undergone hysterectomy, progestin is unnecessary; estrogen-only preparations still carry increased risk of breast cancer and should be taken in the lowest effective dose for the shortest time possible. Even though uterine cancer is no longer a possibility, breast cancer is still a risk. Studies have shown no protection against coronary heart disease but increased risk of stroke and breast cancer with estrogens. DIF: Cognitive Level: Application REF: p. 527 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

494. A patient with osteopenia asks a nurse about the benefits of hormone therapy in preventing osteoporosis. Which statement by the nurse is correct?
- “Estrogen can help reverse bone loss.”
 - “Hormone therapy increases bone resorption.”
 - “Hormone therapy does not decrease fracture risk.”
 - “When hormone therapy is discontinued, bone mass is quickly lost.”

ANS: D

Benefits of HT for patients with osteopenia are not permanent; bone loss resumes when HT is discontinued. HT does not reverse bone loss that has already occurred. HT reduces bone resorption. HT can decrease fracture risk by a small amount. DIF: Cognitive Level: Application REF: p. 524 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

495. The nurse is providing patient education about the application of transdermal estrogen spray. Which statement made by the patient best demonstrates understanding of the application of this medication? “I should apply this medication to my:
- waistline and shoulders.”
 - abdomen and arms.”
 - breasts and abdomen.”
 - thighs and calves.”

ANS: D

The top of the thighs and the back of the calves are the preferred sites for application of the transdermal spray. The waistline and abdomen are used for the patches. The gel is applied to arms. Breasts are never used for application of transdermal estrogen. DIF: Cognitive Level: Application REF: p. 525 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

496. A nurse provides teaching to a group of nursing students about the risks and benefits of hormone therapy (HT), including estrogen therapy (ET) and combination estrogen/progestin therapy (EPT). Which statement by a student indicates understanding of the teaching?
- “ET can provide protection against coronary heart disease and reverse osteoporosis.”
 - “EPT is generally safer than ET, especially in women who have undergone hysterectomies.”
 - “In women with established coronary heart disease, EPT can protect against myocardial infarction.”
 - “Principal benefits of ET are suppression of menopausal symptoms and prevention of bone loss.”

ANS: D

ET can be used to suppress menopausal symptoms and to prevent osteoporosis, but it carries risks of breast cancer and stroke, while conferring no preventive benefit for coronary heart disease. ET does not reverse osteoporosis but may help prevent it. EPT is not safer than ET; progestins appear to increase the risk of breast cancer. EPT does not prevent myocardial infarction in patients with coronary heart disease. DIF: Cognitive Level: Application REF: p. 527 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

497. A patient who is at risk for osteoporosis will begin taking the selective estrogen receptor modulator raloxifene [Evista]. Which statement will the nurse include when teaching this patient about the medication?
- Raloxifene reduces the risk of thromboembolism.
 - The drug is associated with an increased risk of breast cancer.
 - Use of this drug increases the risk of endometrial carcinoma.
 - Vasomotor symptoms are a common side effect of this drug.

ANS: D

Raloxifene can induce hot flashes in patients taking this drug. It increases the risk for thromboembolism. It protects against breast cancer and does not pose a risk of uterine cancer. DIF: Cognitive Level: Application REF: p. 526 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies
Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 49: Birth Control

Test Bank

Multiple Choice

498. A patient is taking a combination oral contraceptive (OC) and tells the nurse that she is planning to undergo knee replacement surgery in 2 months. What will the nurse recommend for this patient?
- The patient should ask her provider about an OC with less progestin.
 - The patient should discuss an alternative method of birth control prior to surgery.
 - The patient should request an OC containing less estrogen after surgery.
 - The patient should take the OC at bedtime after her surgery to reduce side effects.

ANS: B

Patients taking an OC who undergo surgery in which immobilization increases the risk of postoperative thrombosis should stop taking the OC at least 4 weeks prior to surgery. The patient

should discuss an alternate method of birth control with her provider. Estrogen, not progestin, increases the risk of thrombosis. The estrogen-containing OC should be stopped 4 weeks prior to surgery. Taking the OC at bedtime does not decrease the risk. DIF: Cognitive Level: Application REF: p. 538 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

499. A patient calls a family planning clinic and tells the nurse that her vaginal ring, which has been in place for 2 weeks, came out sometime during the night while she was sleeping. The nurse will instruct her to:

- a. clean the ring with warm water, reinsert it, and use condoms for 7 days.
- b. discard the ring and insert a new ring after 1 week has passed.
- c. discard the ring and insert a new one to begin a new cycle.
- d. wash the ring in hot, soapy water, and reinsert it.

ANS: A

If a ring is expelled before 3 weeks have passed, it can be reinserted after being washed in warm water. If the ring has been out longer than 3 hours, backup contraception should be used for 7 days. Because this ring was expelled while the patient was sleeping, using backup contraception is prudent. Discarding the ring is not indicated if it can be cleaned. The ring should not be washed in hot water. DIF: Cognitive Level: Application REF: p. 543 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

500. An adolescent female patient with multiple sexual partners asks a nurse about birth control methods. The patient tells the nurse she tried oral contraceptives once but often forgot to take her pills. The nurse will recommend discussing which contraceptive method with the provider?

- a. An intrauterine device with a spermicide
- b. DMPA (Depo-Provera) and condoms
- c. Tubal ligation and condoms
- d. Progestin-only oral contraceptives

ANS: B

This patient has demonstrated a previous history of nonadherence, so a long-acting contraceptive would be more effective for her. Because she has multiple sexual partners, she should use a condom for protection against STDs. An IUD is not indicated for her; patients with multiple sexual partners who use IUDs are at greater risk for STDs. Tubal ligation carries surgical risks and should not be used by young women because it is irreversible. Progestin-only oral contraceptives must be taken every day. DIF: Cognitive Level: Application REF: p. 535 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

501. A nurse working in a family planning clinic is teaching a class on intrauterine devices (IUDs). Which patient should be advised against using an IUD for contraception?
- A 45-year-old married woman with four children.
 - A 30-year-old monogamous married woman.
 - An 18-year-old woman with multiple sexual partners.
 - A 35-year-old woman with a history of rosacea.

ANS: C

Women at risk for sexually transmitted diseases (STDs) should not use an IUD, because the risk of infection is higher. Women who have multiple sexual partners are especially at risk for STDs. Monogamous married women are less apt to contract STDs. Women with rosacea can use an IUD. DIF: Cognitive Level: Application REF: p. 535 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

502. A patient at increased risk for thromboembolic disorders will begin taking a progestin-only oral contraceptive. Which statement by the patient indicates understanding of how this oral contraceptive works?
- “I will need to use backup contraception if I miss a pill.”
 - “Irregular bleeding is an indication that I should stop using this drug.”
 - “The mini-pill is safer than combination OCs and is just as effective.”
 - “The progestin-only mini-pill will prevent me from ovulating.”

ANS: A

When a patient taking a progestin-only OC misses one or more pills, backup contraception should always be used for at least 2 days. Irregular bleeding occurs but is not an indication to stop using the drug, although many women do because of the inconvenience. The mini-pill is slightly safer than combination OCs but not as effective. The mini-pill is a weak inhibitor of ovulation. DIF: Cognitive Level: Application REF: p. 543 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

503. A nurse is discussing various ways to obtain a medical abortion with a patient. Which statement by the patient best demonstrates understanding of mifepristone (RU 486) [Mifeprex]? “This drug is most effective if I use it:
- before the first missed menstrual period.”
 - the day after unprotected intercourse.”
 - within 7 weeks of conception.”
 - immediately after ovulation.”

ANS: C

Mifepristone is most effective if it is used within 7 weeks of conception. The timing specified in the other responses is incorrect. DIF: Cognitive Level: Application REF: p. 547 TOP: Nursing

Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

504. A patient has been taking a progestin-only, or “minipill,” OC for 3 months and reports spotting and irregular menstrual cycles. The nurse will:
- question the patient about any possible missed doses of the pill.
 - reassure the patient that this is normal with this form of contraception.
 - recommend that she take a pregnancy test to rule out pregnancy.
 - suggest that she use a backup form of contraception until these symptoms resolve.

ANS: B

Patients taking the progestin-only OC may expect irregular bleeding, including spotting and irregular periods. This symptom does not indicate lack of compliance with the regimen. A pregnancy test is not indicated. It is not necessary to use a backup form of contraception. DIF: Cognitive Level: Application REF: p. 543 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

505. A patient has been experiencing side effects with a combination oral contraceptive, and her provider has ordered a different combination product. The nurse will instruct the patient to do what?
- Begin taking the new product immediately.
 - Change products at the beginning of her next cycle.
 - Stop taking the old OC 1 week before starting the new OC.
 - Use an alternate method of contraception for 1 month before starting the new OC.

ANS: B

When changing one combination OC for another, the change is best made at the beginning of a new cycle. It is not correct to begin taking the new product immediately; to stop the old product 1 week before starting the new product; or to use an alternate method of birth control between regimens. DIF: Cognitive Level: Application REF: p. 537 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

506. A nurse is teaching a community education class on contraceptives. The nurse tells the class that if spermicides containing nonoxynol-9 are used, the patient should take special precautions, because these spermicides have been linked to:
- human papillomavirus (HPV) infections.
 - spontaneous abortions.
 - endometrial cancer.
 - increased transmission of the human immunodeficiency virus (HIV).

ANS: D

Spermicides that contain nonoxynol-9 have been linked to the increased transmission of HIV. Spermicides containing nonoxynol-9 have not been linked to HPV infections, spontaneous abortions, or endometrial cancer. DIF: Cognitive Level: Application REF: p. 545 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

507. A patient is taking a combination oral contraceptive (OC) and reports breast tenderness, edema, and occasional nausea. What will the nurse recommend?

- a. The patient should ask her provider about an OC with less progestin.
- b. The patient should discuss an alternate method of birth control.
- c. The patient should request an OC containing less estrogen.
- d. The patient should take the OC at bedtime to reduce side effects.

ANS: C

Breast tenderness, edema, and nausea are associated with estrogen; women experiencing these side effects may benefit from an OC with a lower estrogen dose. Lowering the progestin will not decrease these symptoms. It is not necessary to change birth control methods if side effects can be managed by altering the estrogen dose. Taking the OC at bedtime will not affect the symptoms. DIF: Cognitive Level: Application REF: p. 536 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

508. A patient calls the nurse to report that she forgot to take a combination OC pill during the third week of her cycle. She tells the nurse that she missed another pill earlier that week. The nurse will tell her to:

- a. continue the pack, skip the inert pills, and use an additional form of contraception for 7 days.
- b. not to worry, because up to 7 days can be missed without an increased risk of pregnancy.
- c. take a pill immediately, continue the pack, and use an additional form of contraception for 1 month.
- d. take a pill now, continue the pack, skip the placebo pills, and start a new pack on week 4.

ANS: D

If one or two pills are missed during the second or third week of a 28-day cycle, the patient should be instructed to take one pill as soon as possible, continue the pack, skip the placebo pills, and go straight to a new pack. It is not necessary to use an alternative form of contraception. If three or more pills are missed, the risk of pregnancy increases. DIF: Cognitive Level: Application REF: p. 540 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

509. A patient has just purchased a 1-year supply of 28-day-cycle oral contraceptives. She tells the nurse she wishes she had planned things better, because she has calculated that her period will begin during her upcoming honeymoon. What will the nurse suggest?
- She should discard the inert pills and start a new pack during the honeymoon.
 - She should discontinue the oral contraceptives and use an alternative form of birth control.
 - She should discuss a prescription for an extended-cycle product with her provider.
 - She should discuss DMPA (Depo-Provera) injections in addition to the OC with her provider.

ANS: A

OC users can achieve an extended-cycle schedule by discarding the inert pills and beginning a new pack for up to four cycles. It is not necessary to discontinue OCs. Because this woman has already purchased a 1-year supply, using the 28-day-cycle product as described is appropriate. If this woman opts for a long-term product, she should discontinue the OC. DIF: Cognitive Level: Application REF: p. 540 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

510. A nurse working in a family planning clinic is preparing to administer a first dose of intramuscular DMPA [Depo-Provera] to a young adult patient. The woman tells the nurse she has just finished her period. What will the nurse do?
- Administer the injection today and counsel backup contraception for 7 days.
 - Administer the injection today and tell her that protection is immediate.
 - Obtain a pregnancy test to rule out pregnancy before administering the drug.
 - Schedule an appointment for her to receive the injection in 3 weeks.

ANS: D

To ensure that patients are not pregnant when they receive DMPA, the first injection should be given during the first 5 days of a normal menstrual period. DIF: Cognitive Level: Application REF: p. 544 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

511. A patient who is taking a combination oral contraceptive begins taking carbamazepine. After several weeks, the patient tells the nurse she has begun experiencing spotting during her cycle. What will the nurse tell her to do?
- Change to condoms instead of oral contraceptives.
 - Discuss an oral contraceptive with increased estrogen.
 - Request a decreased dose of carbamazepine.
 - Stop taking the oral contraceptive immediately.

ANS: B

Carbamazepine induces hepatic cytochrome P450 and thus accelerates the metabolism of oral contraceptives. Spotting is a sign of reduced OC blood levels; patients experiencing this symptom may need an increased estrogen dose. If the dose of OC is not changed, the woman may use condoms along with the OC. Reducing the dose of carbamazepine is not correct. Discontinuing the OC immediately is not correct. DIF: Cognitive Level: Application REF: p. 540 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

512. A woman has been taking a progestin-only oral contraceptive and will begin using a vaginal ring. The nurse will teach the patient to insert the ring:
- the day the last pill is taken and use backup contraception for 7 days.
 - 1 week before taking the last pill.
 - 1 to 5 days after taking the last pill and use backup contraception for 2 days.
 - within 7 days after taking the last pill.

ANS: A

When patients who have been using a progestin-only OC begin using a vaginal ring, they should be instructed to insert the ring on the last day of the pill and use backup contraception for 7 days. DIF: Cognitive Level: Application REF: p. 543 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

513. A nurse is teaching an adolescent female patient about 28-day monophasic combination oral contraceptives. The provider has instructed the patient to begin taking the pills on the first Sunday after the onset of her next period. What will the nurse tell the patient?
- “If breakthrough spotting occurs, you should begin taking a new pack of pills.”
 - “Protection from pregnancy will begin immediately.”
 - “Use another form of contraception for the next month.”
 - “You may take the pills at different times of day.”

ANS: C

When beginning oral contraceptives, it is important that the patient use another form of contraception for the first month, because protection is not immediate. Breakthrough spotting is common and is not an indication for starting a new cycle. Protection from pregnancy is not immediate. It is important to take the pills at the same time each day. DIF: Cognitive Level: Application REF: p. 540 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Chapter 50: Androgens

Test Bank

Multiple Choice

514. A nurse is teaching a male adult patient about the use of testosterone gel. Which statement by the patient indicates an understanding of the teaching?
- “I should apply this to my forearms and neck after showering.”
 - “I should keep treated areas exposed to the air so that they can dry.”
 - “I should not let my child touch the gel to prevent behavioral problems.”
 - “I should not swim or bathe for 3 to 4 hours after applying the gel.”

ANS: C

Testosterone administered via gels can be transferred to others by skin-to-skin contact. In children, virilization can occur, as well as aggressive behaviors. The gel should be applied to clean, dry skin on the upper arms, shoulders, or abdomen and should be covered with clothing. Swimming and bathing are allowed 5 to 6 hours after application. DIF: Cognitive Level: Application REF: p. 553 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

515. A 12-year-old male patient diagnosed with hypogonadism will begin testosterone injections. What will the nurse include when teaching the family about this therapy?
- Annual x-rays of the hands and wrists are necessary to monitor epiphyseal closure.
 - Gynecomastia may occur and is a common side effect.
 - Injections are given every 2 to 4 weeks for 3 to 4 years.
 - Use of this drug may lead to prostate cancer later in life.

ANS: C

For the treatment of male hypogonadism, patients receive IM injections of testosterone every 2 to 4 weeks for 3 to 4 years. Evaluation for epiphyseal closure should be done with radiographs every 6 months, not annually. Gynecomastia is a rare side effect that usually occurs in patients taking testosterone in high doses. Testosterone only accelerates the growth of prostate cancer when it occurs; it does not cause it. DIF: Cognitive Level: Application REF: p. 551 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

516. An adolescent male patient is beginning androgen therapy for delayed puberty. His parents ask the nurse when this treatment may be stopped. The nurse will offer which response?
- After 3 to 4 years of therapy
 - If acne and facial hair develop
 - When complete sexual maturation has occurred
 - When testicular enlargement occurs

ANS: D

Testosterone therapy is used to treat delayed maturity, but only for a limited course. Testicular enlargement is the first change associated with puberty and is a sign that puberty has begun. Males with hypogonadism need treatment for 3 to 4 years. Acne and facial hair are common side effects. Attaining complete sexual maturation is not necessary. DIF: Cognitive Level: Application REF: p. 552 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

517. A 14-year-old male patient has not begun puberty. His parents tell the nurse that their son does not want to go to school, because he gets teased. The nurse learns that the boy's father did not begin puberty until age 16 years. Laboratory tests on this child do not reveal true hypogonadism. What will the nurse tell these parents when they ask what can be done for their son?
- "A limited course of androgen therapy may be prescribed, but it is not necessary."
 - "He will eventually begin puberty, so this is nothing to worry about."
 - "He will probably have to receive injections of androgens for 3 to 4 years."
 - "The risk of accelerated growth plate closure is too great to warrant androgen therapy."

ANS: A

Although treatment is not required in this patient, the psychologic effects of delayed puberty indicate a limited course of androgen therapy. Telling the parents not to worry does not address their concerns. This patient will not be a candidate for long-term androgen replacement therapy. Limited treatment can minimize the risk of epiphyseal closure, especially with close monitoring and radiographs. DIF: Cognitive Level: Application REF: p. 551 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

518. A nurse is providing education to a patient who is beginning therapy with AndroGel testosterone gel. Which statement made by the patient demonstrates a need for further teaching?
- "I should not shower or swim for at least 5 to 6 hours after application."
 - "I should avoid direct skin-to-skin contact with my spouse where the medication was applied."
 - "I should have my blood drawn for laboratory tests in 14 days."
 - "I should apply the medication to my genitals for best results."

ANS: D

The medication should be applied to the arms, shoulders, and abdomen, not to the genitalia; this statement indicates a need for further teaching. The patient should be instructed not to shower, bathe, or swim for 5 to 6 hours after applying the medication. The patient should be instructed to keep areas where the medication was applied covered to prevent direct skin-to-skin contact with

others. The patient should be advised to return to the clinic within 2 weeks for blood tests.DIF: Cognitive Level: ApplicationREF: p. 551TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

519. A clinic nurse is assessing an adolescent male patient who has been receiving androgen therapy for hypogonadism via a transdermal patch. The patient's last clinic visit was 4 weeks earlier. Which part of the interval history is of most concern to the nurse?
- Five-pound weight gain
 - Increased growth of pubic hair
 - Rash at the site of the patch
 - Presence of acne

ANS: A

Patients receiving testosterone may experience edema secondary to sodium and water retention. Treatment involves discontinuing the drug and giving diuretics if needed. Masculinization of both females and males may occur and boys may experience growth of pubic hair, which is an expected effect. Patients may develop a sensitivity rash at the site of transdermal application. Acne is an expected effect.DIF: Cognitive Level: ApplicationREF: p. 555TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

520. A nurse provides teaching for a female patient with anemia who has had cancer chemotherapy and who will begin treatment with testosterone. Which statement by the patient indicates understanding of the teaching?
- “Facial hair may develop with this drug but will go away over time.”
 - “I may experience an increase in breast size while taking this drug.”
 - “Testosterone may increase my high-density lipoprotein (HDL) cholesterol and reduce my low-density lipoprotein (LDL) cholesterol.”
 - “Testosterone treats anemia by stimulating the synthesis of a renal hormone.”

ANS: D

Testosterone can be used to treat refractory anemias in men and women. It works by stimulating the synthesis of erythropoietin, a renal hormone that stimulates the production of red blood cells. Virilization effects can be permanent if the hormone is not withdrawn, so patients developing facial hair and other signs should be told to report this to the provider. Breast enlargement occurs in males taking this drug. Testosterone reduces HDL cholesterol and increases LDL cholesterol.DIF: Cognitive Level: ApplicationREF: p. 552TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

521. A nurse is obtaining a history and reviewing the chart of an adult male patient who has been taking oral androgens. Which assessment would warrant notifying the provider?

- a. Acne and increased facial hair
- b. Breast enlargement
- c. Increased libido
- d. Nausea, anorexia, and fatigue

ANS: D

Nausea, anorexia, and fatigue can indicate hepatotoxicity and should be reported to the provider. Virilization effects, gynecomastia, and an increase in libido are common, expected effects. DIF: Cognitive Level: Application REF: p. 555 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

522. An adult male patient will begin androgen therapy for testicular failure. Which statement by the patient indicates understanding of the treatment regimen?
- a. "I will need to have x-rays of my hands and feet every 6 months."
 - b. "My libido may improve while I am taking this medication."
 - c. "Taking this drug may lead to the development of prostate cancer."
 - d. "This will restore fertility, so I can have a child."

ANS: B

Treatment with androgen replacement therapy in patients with testicular failure helps to restore libido. A side effect of androgens is premature epiphyseal closure; this is not a concern in adults, so radiographs to evaluate this are not indicated. Androgens can promote the growth of prostate cancer when it occurs, but they do not cause it. Androgens do not restore fertility. DIF: Cognitive Level: Application REF: p. 551 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

523. A 14-year-old male patient who plays football is admitted to the hospital. The nurse notes that the patient has short stature for his age according to a standard growth chart. The patient is muscular, has a deep voice, and needs to shave. The nurse notifies the provider of these findings. Which test will the nurse expect the provider to order?
- a. Coagulation studies
 - b. Complete blood count (CBC) with differential
 - c. Liver function tests and serum cholesterol
 - d. Serum glucose and hemoglobin A1c

ANS: C

Adverse effects of androgen abuse can cause hepatotoxicity and an elevated serum cholesterol level, with a decrease in HDL cholesterol and an increase in LDL cholesterol. Blood coagulation is not affected. A CBC is not indicated. Serum glucose and hemoglobin A1c levels are not indicated. DIF: Cognitive Level: Application REF: p. 554 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 51: Drugs for Erectile Dysfunction and Benign Prostatic Hyperplasia

Test Bank

Multiple Choice

524. A patient receiving transurethral alprostadil asks about intracavernous administration. Which information would be included in the explanation?
- Transurethral administration has fewer side effects.
 - Transurethral administration helps increase arterial flow to the penis.
 - The desired effect can be achieved with only 0.1 mL of the medication.
 - The required dose is much smaller with transurethral administration.

ANS: A

Transurethral administration has fewer side effects than intracavernous administration of alprostadil. Both intracavernous and transurethral administration lead to increased arterial blood flow to the penis. The dosage of alprostadil ranges from 125 to 1000 mcg, which is higher than the dose required for intracavernous administration (5 to 40 mcg).DIF: Cognitive Level: ApplicationREF: pp. 563TOP: Alprostadil administration MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

525. A patient with erectile dysfunction is prescribed sildenafil (Viagra) 50 mg PRN. Which assessment finding would be most concerning?
- Blood pressure reading of 118/76
 - Patient notes erection lasting 3 hours
 - Patient reports of blurred vision
 - Snoring now wakens the patient's wife

ANS: D

All the assessment findings are indicative of potential side effects of sildenafil. However, snoring that has worsened indicates intensification of obstructive sleep apnea, which can lead to airway obstruction. This patient report would be most concerning.DIF: Cognitive Level: ApplicationREF: pp. 561TOP: Sildenafil adverse reactions MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

526. A patient with erectile dysfunction is prescribed tadalafil (Cialis) 2.5 mg daily. Which medication history finding would indicate the need to discontinue this prescription?
- Labetolol 25 mg PO BID

- b. Nitrofurantoin 100 mg daily
- c. Carvedilol 6.25 mg twice daily
- d. Nitro-tab 0.4 mg sublingual PRN

ANS: D

Use of PDE-5 inhibitors is contraindicated in patients receiving nitrate preparations due to the risk of profound hypotension. Labetolol is administered for hypertension. Carvedilol is administered for chronic heart failure. Tadalafil should be used with caution in these patients, but may still be administered. Nitrofurantoin is an antimicrobial that does not affect tadalafil administration. DIF: Cognitive Level: Application REF: pp. 562 TOP: Contraindications for PDE-5 inhibitors MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

527. A patient prescribed dutasteride 2 weeks ago presents with continued complaints of urinary hesitancy. Which action is most appropriate?
- a. Obtain a urine sample.
 - b. Double the daily dose.
 - c. Perform a prostate examination.
 - d. Document these findings.

ANS: D

It may take up to 1 month for the effects of dutasteride to take effect. The patient should be educated about the time taken for positive effects to be achieved. A urine sample would not be necessary. Doubling the dose is not appropriate because the medication has not had sufficient time to take effect. A prostate examination may be performed, but would not reveal findings related to the use of dutasteride. DIF: Cognitive Level: Application REF: pp. 565 TOP: Effects of dutasteride MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

528. Which finding would indicate that terazosin has been effective for a patient with BPH?
- a. Decreased prostate size
 - b. Increased urinary frequency
 - c. Improved urinary hesitation
 - d. Decreased serum PSA levels

ANS: C

Terazosin is an alpha1-adrenergic antagonist. These medications relax the smooth muscles of the bladder neck to improve urinary symptoms experienced with BPH. They do not decrease the size of the prostate. Increased urinary frequency is a sign of worsening BPH, not improvement. DIF: Cognitive Level: Application REF: pp. 565 TOP: Positive effects of terazosin MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

529. A patient receiving doxazosin presents for a routine evaluation. Which assessment finding would be most concerning?
- Blood pressure 96/58
 - Dizziness when standing
 - Increased nasal congestion
 - Diminished ejaculate volume

ANS: A

Hypotension, dizziness, and nasal congestion are all adverse effects of doxazosin, an alpha-1-adrenergic antagonist. However, hypotension would be the most concerning because it can lead to inadequate peripheral tissue perfusion. Diminished ejaculate volume is seen with administration of 5-alpha-reductase inhibitors, not with doxazosin administration. DIF: Cognitive Level: Application REF: pp. 567 TOP: Adverse effects of doxazosin MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

530. After educating a patient about administration of papaverine plus phentolamine for erectile dysfunction, which statement made by the patient indicates a need for further teaching?
- “I can expect rapid onset of an erection.”
 - “I will take the pill 30 minutes before sex.”
 - “I should get up from my seat slowly when taking this.”
 - “I will notify the provider if I feel hard areas on my penis.”

ANS: B

Papaverine plus phentolamine is administered as an intracavernous injection, not as an oral pill. The patient should be educated about the correct route of administration. Desired effect may be achieved quickly with administration. Adverse effects of administration include orthostatic hypotension and fibrotic nodules in the corpus cavernosum from injection. The patient should be educated about these effects and ways to prevent complications, such as rising slowly from a seated position to prevent dizziness. DIF: Cognitive Level: Application REF: pp. 563 TOP: Papaverine plus phentolamine administration MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 52: Review of the Immune System

Test Bank

Multiple Choice

531. A patient who breastfeeds her infant asks the nurse about the immunity the infant receives from breast milk. What does the nurse tell the patient about immunity through breastfeeding?

- a. "The immunity protects the infant from hypersensitivity reactions."
- b. "The immunity provides phagocytes to help the infant fight infections."
- c. "The immunity results from the transfer of IgA through the breast milk."
- d. "The immunity protects the infant from respiratory and gastrointestinal (GI) microbes."

ANS: C

IgA crosses breast milk and, in the GI tract, where it is not absorbed, provides passive immunity to microbes. Infants do not receive protection from hypersensitivity reactions through breast milk. Phagocytes are not transmitted through breast milk. Infants are not protected from respiratory microbes via breast milk. DIF: Cognitive Level: Analysis REF: p. 574 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

532. A nurse is caring for a patient infected with the human immunodeficiency virus (HIV). Which finding would most concern the nurse?
- a. High level of macrophages
 - b. Low neutrophil count
 - c. Low red blood cell (RBC) count
 - d. Very low helper T lymphocyte count

ANS: D

The nurse understands that this patient may be vulnerable to opportunistic infections, especially if there were an indication of the HIV conversion to acquired immunodeficiency syndrome (AIDS). A very low helper T lymphocyte count would most concern the nurse, because the helper T cells are essential to the immune system, and people with AIDS have a low or deficient count. A high level of macrophages could indicate an inflammatory response. A low RBC count may indicate anemia. A low neutrophil count can be caused by multiple conditions, but a high count most likely indicates an infection. DIF: Cognitive Level: Analysis REF: p. 572 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

533. A nurse is teaching a nursing student about a specific acquired immunity system. Which statement by the student indicates a need for further teaching?
- a. "Cell-mediated immunity and humoral immunity are both types of specific acquired immune responses."
 - b. "Each exposure to an antigen causes a faster, more intense response."
 - c. "Immune responses occur only after exposure to a foreign substance."
 - d. "The skin is a factor in specific acquired immunity."

ANS: D

The skin is a physical barrier that confers natural immunity. It is not a factor in specific acquired immunity. Cell-mediated and humoral immunity are both types of specific acquired immunity. In

specific acquired immunity, each exposure to an antigen evokes a more intense response more quickly. Specific acquired immunity occurs only after initial exposure to an antigen. DIF: Cognitive Level: Analysis REF: p. 571 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

534. A patient has a Type IV hypersensitivity (delayed-type hypersensitivity) response to an infection. The nurse understands which two types of cells are necessary for this response?
- Antigen-presenting cells and mast cells
 - Cytolytic T lymphocytes and target cells
 - Immunoglobulin cells and dendritic cells
 - Infected macrophages and CD4 helper T cells

ANS: D

The object of Type IV hypersensitivity (delayed-type hypersensitivity) is to rid the body of bacteria that replicate within macrophages. The macrophage activates the CD4 cell, which in turn activates the macrophage. The other cells listed are not a part of this response. DIF: Cognitive Level: Application REF: p. 578 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

535. A nurse is reviewing the immune system with a group of nursing students. One student asks about the difference between cell-mediated immunity and humoral immunity. What should the nurse reply?
- “Humoral immunity does not involve helper T cells in the immune response.”
 - “Humoral immunity does not have a role in hypersensitivity reactions.”
 - “Humoral immunity requires cytolytic T cells that attack antigens directly.”
 - “Humoral immunity uses cells produced by B lymphocytes in the immune response.”

ANS: D

Humoral immunity refers to immunity mediated by antibodies, which are produced by B lymphocytes. Helper T cells have an essential role in antibody production by B cells. The antibody immunoglobulin E plays a role in hypersensitivity reactions. Cytolytic T cells do not produce antibodies; they are key players in cellular immunity. DIF: Cognitive Level: Analysis REF: p. 571 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

536. A nurse is caring for a patient who has undergone organ transplantation. Because the sequence of amino acids in the major histocompatibility complex (MHC) molecules of the donor is different from that of the patient, the nurse will expect to administer which class of drugs?
- Antibiotics

- b. Antihistamines
- c. Immune globulins
- d. Immunosuppressants

ANS: D

The MHC molecules from one individual are recognized as foreign by the immune system of another individual; therefore, when an attempt is made to transplant organs between individuals who are not identical twins, immune rejection of the transplant is likely. Immunosuppressants are given to counter this response. Antibiotics are used to destroy bacteria. Antihistamines block hypersensitivity reactions. Immune globulins are given to confer passive immunity when specific acquired immunity has not yet developed a response. DIF: Cognitive Level: Application REF: p. 576 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

537. A nurse is teaching a group of nursing students about antibodies. The nurse correctly explains which type of response is triggered when antigens bind to antibodies on mast cells or basophils?

- a. Acquired immune response
- b. Autoimmune response
- c. Hypersensitivity reaction
- d. Transplant rejection

ANS: C

When antigens bind to antibodies on mast cells and basophils, chemical mediators of hypersensitivity reactions are released. Although hypersensitivity is an acquired response, mast cells and basophils do not play a role in other acquired responses. An autoimmune response occurs when the immune system fails to discriminate between self and nonself. Transplant rejection occurs when the MHC molecules of the donor are different from those of the patient. DIF: Cognitive Level: Analysis REF: p. 573 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

538. Which statement is true about helper T cells?

- a. They are useful but are not essential to immune responses.
- b. They do not play a role in antibody production.
- c. They have highly specific receptors to antigens on their surface.
- d. They prevent CD4 molecules from attaching to antigens.

ANS: C

Helper T cells have highly specific cell surface receptors that recognize individual antigens. Helper T cells play an essential role in several functions of the immune response. They have an essential role in the production of antibodies by B cells. They carry CD4 molecules on their surface and are

also referred to as CD4 cells.DIF: Cognitive Level: AnalysisREF: p. 572TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

539. A nurse is teaching a group of nursing students about immunoglobulins. Which statement by a student indicates a need for further teaching?

- a. "IgD provides a first line of defense against microbes entering the body through the lungs."
- b. "IgE plays a role in hypersensitivity reactions and responses to parasites."
- c. "IgG and IgM participate in the complement response to promote target-cell lysis."
- d. "Neonatal immunity is the result of IgG crossing the placenta."

ANS: A

IgD serves as a receptor for antigen recognition on B cells, which is the only place it is found. IgE is involved in hypersensitivity responses and responses to parasites. IgG and IgM are involved in complement responses. IgG crosses the placenta and confers passive immunity on the fetus.DIF: Cognitive Level: AnalysisREF: p. 576TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

540. A nurse is discussing the role of antibodies in the complement system with a group of nursing students. Which statement by a student is correct?

- a. "Antibodies activate the complement cascade by turning on the alternative pathway."
- b. "Antibodies that are free in solution can activate the complement system."
- c. "Antibodies flag target cells to be lysed by membrane attack complexes."
- d. "Antibody receptors are nonspecific to antigenic determinants."

ANS: C

Lysis of target cells that have been tagged with antibodies is the most dramatic effect of the complement system. Antibodies activate the complement cascade by turning on the classical pathway. C1 cannot bind with free antibodies. Antibody receptors are specific to antigen determinants.DIF: Cognitive Level: AnalysisREF: p. 578TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

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Chapter 53: Childhood Immunization

Test Bank

Multiple Choice

541. The nurse at a public health infant immunization clinic is acting as a preceptor for a nursing student. To assess the student's understanding of vaccinations, the nurse asks the student where the hepatitis B vaccine (HepB) should be administered. The student would be correct to respond that the hepatitis B vaccine should be administered in the:
- dorsogluteal muscle in an adult.
 - anterolateral thigh in infants.
 - ventrogluteal muscle in adolescents.
 - deltoid of toddlers.

ANS: B

The HepB vaccine should be administered in the anterolateral thigh in infants and children. The vaccine should be administered in the deltoid of adults and adolescents. The vaccine should not be administered in the deltoid of toddlers, because they have little muscle in that location. DIF: Cognitive Level: Application REF: p. 587 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

542. A clinic nurse receives a phone call from a parent who states that a 2-month-old infant has a severe cough, a low-grade fever, and a runny nose that have lasted over a week. What will the nurse ask the parent?
- Whether the infant has had the first set of vaccines
 - Whether the infant received a hepatitis B vaccine as a newborn
 - Whether the infant attends day care
 - Whether there is a family history of respiratory disorders

ANS: A

This infant may have pertussis, for which the primary symptoms are low-grade fever, persistent cough, and runny nose. Infants who have not received the first set of immunizations, including the DTaP vaccine, are especially vulnerable to this disease. The hepatitis B vaccine does not protect against these symptoms. Asking about day care may be important for evaluating exposure, but differentiating between the cough of pertussis and other coughs is best done by determining immunization status. A family history of respiratory disorders may indicate whether the symptoms are related to a chronic lung disease, but these do not usually manifest at 2 months of age. DIF: Cognitive Level: Application REF: p. 584 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Health Promotion and Maintenance

543. A nurse at an immunization clinic is providing vaccines to children. The parent of a child waiting to receive vaccines tells the nurse that the child has an immune deficiency disorder. The nurse understands which vaccine should not be administered to this child?
- Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine
 - Haemophilus influenzae type b (Hib) vaccine
 - Polio injection

d. Varicella virus vaccine

ANS: D

The varicella vaccine should be avoided by individuals who are immunocompromised, which includes those infected with the human immunodeficiency virus (HIV) and those who have a congenital immunodeficiency. The DTaP vaccine, Hib vaccine, and polio injection may be administered to immunocompromised individuals, because these are not live vaccines. DIF: Cognitive Level: Analysis REF: p. 591 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

544. A nurse is preparing to administer vaccines to a 1-year-old child. The parents ask the nurse to give the child acetaminophen before administering the vaccine to reduce the pain. Which response by the nurse is correct?

- a. "Children do not remember pain, so it is not necessary to give acetaminophen."
- b. "The small needles used to inject the vaccines cause hardly any discomfort."
- c. "You can apply a topical anesthetic when you get home to reduce pain from the injection."
- d. "Your child's immune response may not be as effective if I give acetaminophen before the vaccine."

ANS: D

Giving analgesic/antipyretic medications before or shortly after vaccines can reduce the immune response, so giving them to prevent pain or fever is not recommended. Children do remember pain, and it is important to provide other comfort measures and to give the injections rapidly. Small needles cause less discomfort, and it is important to reassure the parents about this; however, it is more important to explain why acetaminophen is not recommended. Topical anesthetics are useful before giving the injections, not afterwards. DIF: Cognitive Level: Application REF: p. 582 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

545. An immigrant child is in the clinic for MMR vaccination. The nurse learns that the child has recently received an immune globulin injection for a viral infection, currently has an upper respiratory infection with a temperature of 100°F, and has a recent history of thrombocytopenia, which has resolved. What does the nurse tell the child's parents?

- a. "The vaccine is contraindicated in this child because of the history of thrombocytopenia."
- b. "The child should be brought back for the vaccine when the temperature is back to normal."
- c. "The child is at increased risk of developing autism from this vaccine."
- d. "The vaccine must be postponed for 3 months after administration of the immune globulin."

ANS: D

The MMR vaccine should be postponed in children who have received immunoglobulins, because the immunoglobulin contains antibodies against the viruses in the vaccine. Thrombocytopenia is

not a contraindication to the MMR vaccine. A low-grade temperature is not a contraindication. There is no link between receiving the MMR vaccine and the development of autism.DIF: Cognitive Level: ApplicationREF: p. 589TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

546. An otherwise healthy child receives a varicella virus vaccine. Three weeks later the parent calls to report that the child has a mild case of chickenpox and wonders how this could happen after the vaccination. What will the nurse tell the parent?
- “A varicella-like rash can occur after the vaccine is given.”
 - “The vaccine was probably ineffective.”
 - “This represents a serious vaccine side effect.”
 - “Give the child aspirin to treat any fever that may occur.”

ANS: A

Children who receive the varicella vaccine may sometimes develop a mild, local varicella-like rash within a month of receiving the vaccine. This rash does not indicate that the vaccine was ineffective, and it is not a serious side effect. Because of the association with Reye syndrome, children should not take aspirin or other salicylates for 6 weeks after receiving the vaccine.DIF: Cognitive Level: ApplicationREF: p. 591TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

547. A 3-year-old child who has asthma is in the clinic for a well-child checkup. The nurse notes that the child is up to date for the DTaP, hepatitis A, hepatitis B, and the MMR vaccines but has only had one each of the Hib, the rotavirus, and the PCV13 vaccines. Which vaccine(s) will the nurse anticipate administering to this child?
- Hib and rotavirus vaccines
 - PCV13
 - PCV13 and Hib
 - Rotavirus

ANS: B

The PCV13 should be given to all children under the age of 2 years and to all healthy children between ages 2 and 5 years, especially those who have conditions such as chronic lung disease that put them at high risk of serious pneumococcal disease. The Hib vaccine is only given up to age 15 months. The rotavirus vaccine is not given after 32 weeks of age.DIF: Cognitive Level: AnalysisREF: p. 592TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

548. A 1-year-old child receives the MMR vaccine. The next day, the child’s parent calls the nurse to report that the child has a temperature of 103°F. What will the nurse do?

- a. File an adverse event report with the Vaccine Adverse Event Reporting System (VAERS).
- b. Notify the child's provider that thrombocytopenia is likely to occur.
- c. Reassure the parent that fever can occur with the MMR vaccine.
- d. Tell the parent to take the child to the emergency department.

ANS: C

The MMR vaccine can have several adverse effects, including fever up to 103°F; this is not considered a serious effect and does not warrant filing an adverse event report with VAERS. Thrombocytopenia is a rare but serious side effect of the MMR vaccine but is not associated with fever. There is no need to have the parent take the child to the emergency department. DIF: Cognitive Level: Application REF: p. 586 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

549. The parents of an infant who will be attending day care tell the nurse that they do not want their child vaccinated against rotavirus because an older cousin developed intussusception after receiving this vaccine. Which response by the nurse is correct?
- a. "Intussusception is much less serious than getting the disease."
 - b. "It was probably just a coincidental reaction to the vaccine."
 - c. "The newer vaccines for rotavirus are not associated with intussusception."
 - d. "Your child will have herd immunity and will not need the vaccine."

ANS: C

The rotavirus vaccine product RotaShield was withdrawn because of the high rate of intussusception associated with it. The two products currently on the market—RotaTeq and Rotarix—do not carry a risk for intussusception. Intussusception can be life-threatening, so telling parents it is less serious than the disease is incorrect. Intussusception was not merely a coincidental reaction. Herd immunity is not guaranteed. DIF: Cognitive Level: Application REF: p. 594 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

550. A 4½-year-old child who has been receiving high-dose systemic glucocorticoids for several months comes to a clinic for school immunizations, which usually include the DTaP vaccine; varicella virus vaccine [Varivax]; the measles, mumps, and rubella virus (MMR) vaccine; and the inactivated poliovirus vaccine (IPV). The clinic nurse will expect to administer which vaccines to this child?
- a. All four school immunizations
 - b. DTaP and IPV only
 - c. DTaP, OPV, and Varivax only
 - d. DTaP and IPV, along with immunoglobulins

ANS: B

Children who are immunocompromised should not receive live virus vaccines, including the MMR vaccine and Varivax. Children taking high-dose systemic glucocorticoids are immunocompromised and should not receive the vaccine until therapy is stopped and normal glucocorticoid production returns. The oral polio vaccine (OPV) contains live virus and is contraindicated. Immunoglobulins are not indicated unless children are exposed to the diseases themselves. DIF: Cognitive Level: Application REF: p. 582 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

551. The parent of a 2-month-old infant who has just received the first dose of DTaP asks the nurse about expected reactions to the vaccine. The nurse will respond by saying that:

- a. "mild reactions, including a low-grade fever, are common."
- b. "most children do not experience any reaction."
- c. "seizures are common and may require anticonvulsant medication."
- d. "the most common reaction is a rash that develops into itchy vesicles."

ANS: A

Mild reactions to the first dose of the DTaP vaccine are common and most often are manifested by a low-grade fever, fretfulness, drowsiness, and local reactions of swelling and redness. At least 50% of children experience reactions. Seizures are not common. Itchy vesicles do not appear with the DTaP vaccine. DIF: Cognitive Level: Application REF: p. 589 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

552. The parent of a child who attends day care questions the need for Varivax. What will the nurse tell the parent?

- a. "Chickenpox is not as contagious as other communicable diseases."
- b. "The child will be protected by herd immunity and does not need the vaccine."
- c. "Varicella is an uncomfortable disease, but it is not that serious."
- d. "Varicella in adults can have serious consequences."

ANS: D

Varicella tends to cause more severe symptoms in adults than in children; adults have a 10-fold greater likelihood of hospitalization and a 20-fold increase in deaths. Chickenpox is highly contagious. Even with herd immunity, because of the degree of contagiousness, spread is likely. Varicella can be serious, even in children. DIF: Cognitive Level: Application REF: p. 585 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

553. A 1-year-old child is scheduled to receive the MMR vaccine, pneumococcal vaccine (PCV), Varivax, and hepatitis A vaccine. The child's parents request that the MMR vaccine not be given, saying that, even though there is no demonstrated link with autism, they are still concerned about toxic levels of mercury in the vaccine. Which response by the nurse is correct?

- a. "Most U.S.-made vaccines have zero to low amounts of mercury."
- b. "Other vaccine preparations contain mercury as well."
- c. "Thimerosal is a nontoxic form of mercury."
- d. "You can get more mercury from breast milk and many foods on the market."

ANS: A

Because of concerns about mercury levels, most U.S.-made vaccines contain either zero or very low amounts of mercury. Some multidose vials of flu vaccine still contain thimerosal, but even that is a very low amount. Telling parents that other vaccines contain mercury will increase their suspicion about vaccines and further reduce their trust. Thimerosal is a mercury-based preservative and thus has the same toxicity as mercury. Although it is true that mercury is found in breast milk and other foods, telling parents this belittles their concerns about the vaccines. DIF: Cognitive Level: Application REF: p. 582 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

554. A 11-year-old boy received all childhood immunizations before attending school as a kindergartner. Which vaccines are recommended for this child at his current age?
- a. DTaP, MCV4, Varivax
 - b. PCV-23, Td, MMR
 - c. Tdap, MCV4, HPV
 - d. Tdap, Varivax, hepatitis B

ANS: C

At age 11, both males and females should receive a booster of diphtheria, tetanus, and pertussis (Tdap); the Menactra vaccine against meningitis (MCV4); and the human papillomavirus (HPV) vaccine. A Varivax booster is not recommended at this age. The PCV-23 vaccine is indicated only in high-risk patients. The Tdap can be given, but a vaccine with a pertussis component is preferred. The MMR is not given at this age. The hepatitis B vaccine is not given at this age. DIF: Cognitive Level: Application REF: p. 583 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Health Promotion and Maintenance

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 54: Antihistamines

Test Bank

Multiple Choice

555. A provider has ordered intravenous promethazine [Phenergan] for an adult patient postoperatively to prevent nausea and vomiting (N/V). What will the nurse do?
- a. Administer the drug at a rate of 25 mg/minute or more to achieve maximum effects.

- b. Contact the provider to suggest using dimenhydrinate [Dramamine] instead.
- c. Ensure that the IV is infusing freely through a large-bore needle.
- d. Monitor the patient closely for cardiac dysrhythmias.

ANS: C

Promethazine can cause severe local tissue injury if it extravasates into tissues, so the medication should be administered in an IV that is flowing freely through a large-bore needle. The drug should be administered at a rate of 25 mg/minute or less. Dimenhydrinate is indicated for motion sickness, not postoperative N/V. Cardiac dysrhythmias were a concern with two antihistamines no longer on the market, astemizole and terfenadine. DIF: Cognitive Level: Application REF: p. 601 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

556. A 5-year-old child is brought to the emergency department after ingesting diphenhydramine [Benadryl]. The child is uncoordinated and agitated. The nurse observes that the child's face is flushed, the temperature is 37.1°C, and the heart rate is 110 beats/minute. The nurse will expect to:

- a. administer atropine to reverse the adverse effects.
- b. apply ice packs to stop the flushing.
- c. give activated charcoal to absorb the drug.
- d. prepare to provide mechanical ventilation.

ANS: C

In acute toxicity, patients present with agitation, a flushed face, tachycardia, and uncoordinated movements. There is no specific antidote, so drug removal is the focus of treatment, starting with activated charcoal to absorb the drug, followed by a cathartic to enhance excretion. Atropine would cause an increase in the heart rate. Application of ice packs is recommended for hyperthermia and not for flushing. The child's temperature is normal. Mechanical ventilation is not indicated with this presentation of symptoms, although cardiovascular collapse may eventually develop. DIF: Cognitive Level: Application REF: p. 601 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

557. A 5-year-old child with seasonal allergies has been taking 2.5 mL of cetirizine [Zyrtec] syrup once daily. The parents tell the nurse that the child does not like the syrup, and they do not think that the drug is effective. The nurse will suggest they discuss which drug with their child's health care provider?

- a. Cetirizine [Zyrtec] 5-mg chewable tablet once daily
- b. Loratadine [Claritin] 10-mg chewable tablet once daily
- c. Fexofenadine [Allegra] syrup 5 mL twice daily
- d. Desloratadine [Clarinex] 5-mg rapid-disintegrating tablet once daily

ANS: A

The child is receiving a low dose of cetirizine and can receive up to 5 mg/day in either a single dose or two divided doses. Cetirizine is available in a chewable tablet, which this child may tolerate better, so the parents should be encouraged to explore this option with their provider. The loratadine 10-mg chewable tablet is approved for children 6 years and older. Fexofenadine would be safe for this child, but it is unlikely that the syrup would be any better than the cetirizine syrup. Desloratadine is not approved for children under the age of 12 years. DIF: Cognitive Level: Application REF: p. 602 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

558. A patient will begin taking fexofenadine [Allegra] for hay fever. The nurse teaching this patient will tell the patient that:
- fexofenadine should be taken with food to prevent gastrointestinal (GI) symptoms.
 - the medication may be taken once or twice daily.
 - tolerance to sedation will occur in a few weeks.
 - with renal impairment, this drug should be taken every other day.

ANS: B

Fexofenadine may be given 60 mg twice daily or 180 mg once daily. Fexofenadine does not need to be given with food. Sedation is not a common side effect of fexofenadine. There is no caution to reduce the dosage or increase the dosing interval in patients with renal impairment who take fexofenadine. DIF: Cognitive Level: Application REF: p. 602 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

559. A pregnant patient asks the nurse if she can take antihistamines for seasonal allergies during her pregnancy. What will the nurse tell the patient?
- Antihistamines should be avoided unless absolutely necessary.
 - Second-generation antihistamines are safer than first-generation antihistamines.
 - Antihistamines should not be taken during pregnancy but may be taken when breastfeeding.
 - The margin of safety for antihistamines is clearly understood for pregnant patients.

ANS: A

Antihistamines are pregnancy Category C, with debate currently occurring regarding degree of effects on the fetus. They should be avoided unless absolutely necessary. All antihistamines have adverse effects on the fetus. Antihistamines can be excreted in breast milk. The margin of safety of antihistamines in pregnancy is not clear, so these agents should be avoided unless a clear benefit of treatment outweighs any risks. DIF: Cognitive Level: Application REF: p. 601 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

560. A patient tells a nurse that antihistamines help relieve cold symptoms and wants to know why they are not recommended or prescribed for this purpose. The nurse tells the patient that antihistamines provide only mild relief from some cold symptoms by:
- anticholinergic properties that decrease rhinorrhea.
 - blocking H1 receptors in nasal passages.
 - reducing secretions at H2 receptor sites.
 - having sedative effects, which help patients rest and sleep.

ANS: B

Histamine does not mediate cold symptoms, so antihistamines do not provide relief through H1 blockade. Their anticholinergic effects at muscarinic receptor sites can moderately reduce rhinorrhea, so some patients may experience some relief of this symptom. H1-receptor sites do not play a role in cold symptoms. H2-receptor sites do not play a role in cold symptoms. Sedative side effects do not alleviate cold symptoms. DIF: Cognitive Level: Application REF: p. 600 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

561. A patient who has chronic allergies takes loratadine [Claritin] and develops a severe reaction to bee stings. The patient asks the nurse why the antihistamine did not prevent the reaction. What will the nurse say?
- “Allergy symptoms that are severe are caused by mediators other than histamine.”
 - “H1 blockers do not prevent the release of histamine from mast cells and basophils.”
 - “Second-generation H1 blockers contain less active drug and do not work in severe reactions.”
 - “Severe allergic reactions occur through actions on muscarinic receptors.”

ANS: A

Severe allergic reactions with symptoms of anaphylaxis are caused by mediators other than histamine, so the benefits of antihistamines are limited. H1 blockers do not block the release of histamine, but this is why they are not effective in anaphylaxis. Second-generation agents are as effective as first-generation agents in allergic reactions mediated by histamine; neither is effective for treating anaphylaxis. DIF: Cognitive Level: Application REF: p. 598 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

562. An 18-month-old child develops an urticarial reaction after a transfusion. The prescriber orders intravenous promethazine [Phenergan]. What will the nurse do?
- Give the medication as ordered.
 - Monitor the child for bronchoconstriction.
 - Question the order.
 - Request an order to give the drug orally.

ANS: C

Promethazine can cause severe respiratory depression, especially in very young patients; it is contraindicated in children younger than 2 years. The medication should not be given as ordered. It is not safe to give the drug and then monitor for bronchoconstriction. The drug is not safe in this age group when given orally. DIF: Cognitive Level: Application REF: p. 600 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

563. A prescriber orders hydroxyzine [Vistaril] for a patient with acute urticaria. The nurse will include which information when teaching the patient about this drug?
- The drug will reduce redness and itching but not edema.
 - This antihistamine is not likely to cause sedation.
 - The patient should avoid drinking alcohol while taking the drug.
 - The patient should report shortness of breath while taking the drug.

ANS: C

Hydroxyzine is a first-generation antihistamine and has sedative effects, so patients should be cautioned not to consume alcohol while taking the drug. In capillary beds, antihistamines reduce edema, itching, and redness. This antihistamine causes sedation. It is not associated with respiratory depression at therapeutic doses. DIF: Cognitive Level: Application REF: p. 601 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

564. A family is preparing for travel and the parents report that their 5-year-old child has frequent motion sickness. The nurse will tell the parents to ask the provider about which antihistamine to help prevent symptoms?
- Desloratadine [Clarinet]
 - Dimenhydrinate [Dramamine]
 - Hydroxyzine [Vistaril]
 - Promethazine [Phenergan]

ANS: B

Some antihistamines, including dimenhydrinate and promethazine, are labeled for use in motion sickness. Promethazine, however, is contraindicated in children under age 2 years and should be used with caution in children older than 2 years because of the risks for severe respiratory depression. Desloratadine and hydroxyzine are not used for motion sickness. DIF: Cognitive Level: Application REF: p. 599 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

565. A patient has seasonal allergies and needs an antihistamine to control symptoms. The patient likes to have wine with dinner occasionally and wants to know which antihistamine will be the safest to take. The nurse will tell the patient to discuss which medication with the provider?

- a. Cetirizine [Zyrtec]
- b. Fexofenadine [Allegra]
- c. Levocetirizine [Xyzal]
- d. Loratadine [Claritin]

ANS: B

Fexofenadine is the least sedating of the second-generation antihistamines and so is the least likely to have synergistic effects with alcohol. Cetirizine, levocetirizine, and loratadine all have sedative side effects to some extent and thus would be less safe. DIF: Cognitive Level: Analysis REF: p. 601 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

566. A nurse is teaching a group of nursing students about antihistamines. Which statement by a student indicates an understanding of the mechanism of action of the antihistamines?

- a. "Antihistamines block H1 receptors to prevent actions of histamine at these sites."
- b. "Antihistamines block release of histamine from mast cells and basophils."
- c. "H1 antagonists can bind to H1 receptors, H2 receptors, and muscarinic receptors."
- d. "First-generation antihistamines are more selective than second-generation antihistamines."

ANS: A

Antihistamines block H1 receptors to prevent the actions of histamine. They do not block the release of histamine. H1 antagonists do not bind to H2 receptors; they do bind to muscarinic receptors. Second-generation antihistamines are more selective than first-generation antihistamines. DIF: Cognitive Level: Application REF: p. 598 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 55: Cyclooxygenase Inhibitors: Nonsteroidal Anti-inflammatory Drugs and Acetaminophen

Test Bank

Multiple Choice

567. A nurse is providing medication teaching for a patient who will begin taking diclofenac [Voltaren] gel for osteoarthritis in both knees and elbows. Which statement by the patient indicates understanding of the teaching?
- “Because this is a topical drug, liver toxicity will not occur.”
 - “I should cover areas where the gel is applied to protect them from sunlight.”
 - “I will apply equal amounts of gel to all affected areas.”
 - “The topical formulation has the same toxicity as the oral formulation.”

ANS: B

Diclofenac is available in topical and oral preparations. Patients should be warned to protect treated areas from sunlight. Side effects occur, such as liver toxicity, even with topical dosing. Patients should apply smaller amounts to the upper extremities. Systemic toxicity is lower with topical formulations. DIF: Cognitive Level: Application REF: p. 613 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

568. An older male patient with an increased risk of MI is taking furosemide [Lasix] and low-dose aspirin. The patient is admitted to the hospital, and the nurse notes an initial blood pressure of 140/80 mm Hg. The patient has had a 10-pound weight gain since a previous admission 3 months earlier. The patient has voided only a small amount of concentrated urine. The serum creatinine and blood urea nitrogen (BUN) levels are elevated. The nurse will contact the provider to discuss:
- adding an antihypertensive medication.
 - obtaining serum electrolytes.
 - ordering a potassium-sparing diuretic.
 - withdrawing the aspirin.

ANS: D

This patient shows signs of renal impairment, as evidenced by weight gain despite the use of diuretics, decreased urine output, hypertension, and elevated serum creatinine and BUN. ASA can cause acute, reversible renal impairment and should be withdrawn. Hypertensive medications do not treat the underlying cause. Serum electrolytes are not indicated. Addition of a potassium-sparing diuretic is not indicated. DIF: Cognitive Level: Application REF: p. 607 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

569. A woman who has arthritis is breastfeeding her infant and asks the nurse if it is safe to take NSAIDs while nursing. What will the nurse tell this patient?
- NSAIDs are safe to take while breastfeeding.
 - NSAIDs are not safe, even in small amounts.
 - She should take only COX-2 inhibitors while breastfeeding.

- d. She should request a prescription for narcotic analgesics.

ANS: A

NSAIDs are safe and may be taken while breastfeeding. It is not necessary to use a COX-2 inhibitor while breastfeeding. Narcotics cross breast milk and should be used cautiously while breastfeeding. DIF: Cognitive Level: Application REF: p. 609 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

570. A nurse is teaching a group of nursing students about cyclooxygenase (COX) inhibitors. A student asks the nurse about characteristics of COX-1 inhibitors. Which statement by the nurse is true?

- a. "COX-1 inhibitors protect against colorectal cancer."
- b. "COX-1 inhibitors protect against myocardial infarction and stroke."
- c. "COX-1 inhibitors reduce fever."
- d. "COX-1 inhibitors suppress inflammation."

ANS: B

COX-1 inhibitors have beneficial effect of reducing platelet aggregation and thus reducing the risk of myocardial infarction and stroke. COX-2 inhibitors protect against colorectal cancer, reduce inflammation, and reduce fever. DIF: Cognitive Level: Analysis REF: p. 603 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

571. A patient who is taking acetaminophen for pain wants to know why it does not cause gastrointestinal upset, as do other over-the-counter pain medications. The nurse will explain that this is most likely because of which property of acetaminophen?

- a. It does not inhibit cyclooxygenase.
- b. It has minimal effects at peripheral sites.
- c. It is more similar to opioids than to nonsteroidal anti-inflammatory drugs (NSAIDs).
- d. It is selective for cyclooxygenase-2.

ANS: B

The differences between the effects of acetaminophen and aspirin are thought to result from selective inhibition of cyclooxygenase; acetaminophen has only minimal effects on cyclooxygenase at peripheral sites, which may explain why acetaminophen does not have adverse GI, renal, and antiplatelet effects. Acetaminophen is a selective COX inhibitor. It is not more similar to opioids than NSAIDs. It is not selective for COX-2. DIF: Cognitive Level: Application REF: p. 616 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

572. A nurse is caring for a patient who has been taking low-dose aspirin for several days. The nurse notes that the patient has copious amounts of watery nasal secretions and an urticarial rash. The nurse will contact the provider to discuss:
- administering epinephrine.
 - changing to a first-generation NSAID.
 - reducing the dose of aspirin.
 - giving an antihistamine.

ANS: A

Aspirin can cause a hypersensitivity reaction in some patients. This may start with profuse watery rhinorrhea and progress to generalized urticaria, bronchospasm, laryngeal edema, and shock. It is not a true anaphylactic reaction, because it is not mediated by the immune system. Epinephrine is the treatment of choice. Patients with sensitivity to ASA often also have sensitivity to NSAIDs; the first indication with this patient is to treat the potential life-threatening effect, not to change the medication. Reduction of the dose of ASA is not indicated, because this reaction is not dose dependent. Antihistamines are not effective, because this is not an allergic reaction. DIF: Cognitive Level: Application REF: p. 608 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

573. A nurse is providing teaching for an adult patient with arthritis who has been instructed to take ibuprofen [Motrin] for discomfort. Which statement by the patient indicates a need for further teaching?
- “I may experience tinnitus with higher doses of this medication.”
 - “I may take up to 800 mg 4 times daily for pain.”
 - “I should limit alcohol intake to fewer than three drinks a day.”
 - “I will take this medication with meals to help prevent stomach upset.”

ANS: A

NSAIDs do not cause salicylism and therefore do not cause tinnitus with higher doses. The maximum dose for adults is 3200 mg/day, or 800 mg 4 times/day. Patients taking NSAIDs should be cautioned to limit alcohol intake. Taking NSAIDs with meals helps prevent GI upset. DIF: Cognitive Level: Application REF: p. 608 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

574. A patient has been receiving intravenous ketorolac 30 mg every 6 hours for postoperative pain for 4 days. The patient will begin taking oral ketorolac 10 mg every 4 to 6 hours to prepare for discharge in 1 or 2 days. The patient asks the nurse whether this drug will be prescribed for management of pain after discharge. The nurse will respond by telling the patient that the provider will prescribe a(n):
- different nonsteroidal anti-inflammatory drug for home management of pain.
 - fixed-dose opioid analgesic/nonsteroidal anti-inflammatory medication.

- c. lower dose of the oral ketorolac for long-term pain management.
- d. intranasal preparation of ketorolac for pain management at home.

ANS: A

Ketorolac is not indicated for chronic or minor pain and should not be used longer than 5 days. Patients discharged home will be instructed to use other NSAIDs for pain. A fixed-dose opioid/NSAID is not indicated. Low-dose ketorolac would not be used, because 5 days would have passed. The intranasal therapy would not be indicated after 5 days. DIF: Cognitive Level: Application REF: p. 614 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

575. A pregnant patient in her third trimester asks the nurse whether she can take aspirin for headaches. Which response by the nurse is correct?

- a. "Aspirin is safe during the second and third trimesters of pregnancy."
- b. "Aspirin may cause premature closure of the ductus arteriosus in your baby."
- c. "Aspirin may induce premature labor and should be avoided in the third trimester."
- d. "You should use a first-generation nonsteroidal anti-inflammatory medication."

ANS: B

Aspirin poses risks to the pregnant patient and her fetus, including premature closure of the ductus arteriosus. ASA is not safe, especially in the third trimester, because it can cause anemia and can contribute to postpartum hemorrhage. ASA does not induce labor but can prolong labor by inhibiting prostaglandin synthesis. NSAIDs have similar effects and also should be avoided. DIF: Cognitive Level: Application REF: p. 608 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

576. An adolescent is brought to the emergency department by a parent who reports that the patient took a whole bottle of extended-release acetaminophen tablets somewhere between 8 and 10 hours ago. The nurse will anticipate administering which of the following?

- a. Acetylcysteine [Mucomyst]
- b. Activated charcoal
- c. Hemodialysis
- d. Respiratory support

ANS: A

The nurse should anticipate giving acetylcysteine, because it is the specific antidote for acetaminophen overdose. It is 100% effective when given within 8 to 10 hours after ingestion and may still have some benefit after this interval. Activated charcoal is effective only if given before the medication is absorbed, so it must be given much sooner. Hemodialysis is not indicated. Respiratory support is used for ASA overdose. DIF: Cognitive Level: Application REF: p. 618 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

577. A patient who takes aspirin for rheumatoid arthritis is admitted to the hospital complaining of headache and ringing in the ears. The plasma salicylate level is 300 µg/mL, and the urine pH is 6.0. What will the nurse do?
- Increase the aspirin dose to treat the patient's headache.
 - Notify the provider of possible renal toxicity.
 - Prepare to provide respiratory support, because the patient shows signs of overdose.
 - Withhold the aspirin until the patient's symptoms have subsided.

ANS: D

This patient shows signs of salicylism, which occurs when ASA levels climb just slightly above the therapeutic level. Salicylism is characterized by tinnitus, sweating, headache, and dizziness. Tinnitus is an indication that the maximum acceptable dose has been achieved. Toxicity occurs at a salicylate level of 400 mcg/mL or higher. ASA should be withheld until the symptoms subside and then should be resumed at a lower dose. Increasing the dose would only increase the risk of toxicity. Signs of renal impairment include oliguria and weight gain, which are not present in this patient. This patient has salicylism, not salicylate toxicity, so respiratory support measures are not indicated. DIF: Cognitive Level: Application REF: p. 608 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

578. A patient tells the nurse that she takes aspirin for menstrual cramps, but she does not feel that it works well. What will the nurse suggest?
- The patient should avoid any type of COX inhibitor because of the risk of Reye syndrome.
 - The patient should increase the dose to a level that suppresses inflammation.
 - The patient should use a first-generation nonsteroidal anti-inflammatory medication instead.
 - The patient should use acetaminophen because of its selective effects on uterine smooth muscle.

ANS: C

Aspirin (ASA) has analgesic effects for joint pain, muscle pain, and headache, but it is relatively ineffective against visceral pain, including uterine smooth muscle pain, for which NSAIDs are indicated. The risk of Reye syndrome is associated with the use of ASA in children to treat fever. Increasing the ASA dose to anti-inflammatory levels is useful for rheumatic fever, tendonitis, and bursitis. Acetaminophen is not effective for dysmenorrhea. DIF: Cognitive Level: Application REF: p. 605 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

579. A nurse is teaching a nursing student who wants to know how aspirin and nonaspirin first-generation NSAIDs differ. Which statement by the student indicates a need for further teaching?
- “Unlike aspirin, first-generation NSAIDs cause reversible inhibition of cyclooxygenase.”
 - “NSAIDs do not increase the risk of myocardial infarction and stroke; however, unlike ASA, they do not provide protective benefits against those conditions.”
 - “Unlike aspirin, first-generation NSAIDs do not carry a risk of hypersensitivity reactions.”
 - “Unlike aspirin, first-generation NSAIDs cause little or no suppression of platelet aggregation.”

ANS: C

Nonaspirin first-generation NSAIDs carry a risk of hypersensitivity reactions similar to the risk posed by ASA. These agents cause reversible COX inhibition, whereas ASA causes irreversible COX inhibition. NSAIDs do not provide protective benefits for myocardial infarction or stroke, as does ASA. Nonaspirin first-generation NSAIDs do cause suppression of platelet aggregation, but the suppression is reversible. DIF: Cognitive Level: Application REF: p. 610 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

580. A patient who takes daily doses of aspirin is scheduled for surgery next week. The nurse should advise the patient to:
- continue to use aspirin as scheduled.
 - reduce the aspirin dosage by half until after surgery.
 - stop using aspirin immediately.
 - stop using aspirin 3 days before surgery.

ANS: C

Aspirin must be withdrawn at least 1 week before surgery. Aspirin cannot be continued as scheduled, because the risk for bleeding is too great. An interval of 3 days is not long enough for the bleeding effects of aspirin to be reversed. Cutting the dose in half would not reduce the effects of bleeding associated with aspirin use. DIF: Cognitive Level: Application REF: p. 607 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 56: Glucocorticoids in Nonendocrine Disorders

Test Bank

Multiple Choice

581. A nurse is teaching a group of nursing students why glucocorticoids are preferred over nonsteroidal anti-inflammatory drugs in the treatment of inflammation. Which statement by a student indicates a need for further teaching?
- “Glucocorticoids act by multiple mechanisms and have more anti-inflammatory effects than NSAIDs.”
 - “Glucocorticoids have fewer side effects than nonsteroidal anti-inflammatory drugs.”
 - “Glucocorticoids help avert damage to tissues from lysosomal enzymes.”
 - “Glucocorticoids reduce the immune component of inflammation.”

ANS: B

Glucocorticoids have many side effects. They are used because of their multiple mechanisms of action, including their ability to limit tissue damage caused by the inflammatory process and suppression of the immune component of inflammation. DIF: Cognitive Level: Analysis REF: p. 622 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

582. A nurse is discussing glucocorticoids with a group of nursing students. Which statement by a student indicates understanding of the teaching?
- “Glucocorticoids have both endocrine and nonendocrine uses.”
 - “Patients treated for adrenocortical insufficiency receive pharmacologic doses.”
 - “Pharmacologic effects are achieved with low doses of glucocorticoids.”
 - “Physiologic doses are used to treat inflammatory disorders.”

ANS: A

Glucocorticoids have applications for both endocrine and nonendocrine disorders. Adrenocortical insufficiency requires physiologic, or low-dose, treatment. Pharmacologic doses are used when large doses are required, such as to suppress inflammation. Physiologic doses are used to treat endocrine disorders. DIF: Cognitive Level: Application REF: p. 619 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

583. A nurse tells a nursing student that the glucocorticoids given for rheumatoid arthritis are nearly identical to substances produced naturally by the body. The student remarks that the drug must be very safe. Which response by the nurse is correct?
- “As long as the drug is taken as prescribed, side effects usually do not occur.”
 - “By interrupting the inflammatory process, these drugs inhibit side effects.”
 - “Side effects can occur and are dependent on the dose and duration of treatment.”
 - “The negative feedback loop prevents side effects.”

ANS: C

When taken in pharmacologic doses, as for inflammatory disorders, glucocorticoids can cause an array of serious adverse effects. When glucocorticoids are given in pharmacologic doses, side effects can occur even when the drugs are taken as prescribed. Interruption of the inflammatory process causes some of the adverse effects. The negative feedback loop does not inhibit side effects. DIF: Cognitive Level: Application REF: p. 622 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Pharmacologic and Parenteral Therapies

584. The prescriber orders 20 mg of hydrocortisone orally once each day. The nurse will make sure the drug is scheduled to be administered at what time?

- a. 8:00 AM
- b. 12:00 PM
- c. 4:00 PM
- d. 9:00 PM

ANS: A

To allow the adrenals to recover, the hydrocortisone dose should be administered before 9:00 AM. The other times are incorrect for oral administration of daily hydrocortisone. DIF: Cognitive Level: Application REF: p. 626 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

585. A nurse is teaching a patient who has taken glucocorticoids for over a year about glucocorticoid withdrawal. Which statement by the patient indicates a need for further teaching?

- a. "I should reduce the dose by half each day until I stop taking the drug."
- b. "I will need to have cortisol levels monitored during the withdrawal process."
- c. "The withdrawal schedule may take several months."
- d. "If I have surgery, I may need to take the drug for a while, even after I have stopped."

ANS: A

Glucocorticoid therapy can suppress adrenal function, so withdrawal should be done slowly to allow recovery of adrenal function. Reducing the dose of a glucocorticoid by half each day is not recommended. Patients should have their cortisol levels monitored to determine when therapy can be stopped. The withdrawal schedule may take several months. Patients who have stopped the drug may still experience adrenal insufficiency in times of physiologic stress, such as surgery. DIF: Cognitive Level: Application REF: p. 625 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

586. A 60-year-old female patient is about to begin long-term therapy with a glucocorticoid. Which of the following will be important for minimizing the risk of osteoporosis?

- a. Baseline vitamin D level

- b. Calcium and vitamin D supplements
- c. Estrogen therapy
- d. Skeletal x-rays before treatment

ANS: B

Calcium and vitamin D supplements can help minimize the patient's risk of developing osteoporosis. A baseline vitamin D level is not recommended. Estrogen therapy can help in postmenopausal women, but its risks outweigh its benefits. Patients should undergo evaluation of the bone mineral density of the lower spine, not skeletal x-rays. DIF: Cognitive Level: Analysis REF: p. 627 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

587. A patient taking high doses of a glucocorticoid develops weakness in the muscles of the upper arms and in the legs. What will the nurse do?
- a. Contact the provider to ask about reducing the dose.
 - b. Encourage the patient to restrict sodium intake.
 - c. Reassure the patient that this is an expected side effect.
 - d. Tell the patient to stop taking the drug.

ANS: A

High-dose glucocorticoid therapy can cause myopathy, manifesting as weakness. If muscle weakness occurs, the dose should be reduced. Reducing the sodium intake is recommended to minimize sodium and water retention. Muscle weakness is not an expected side effect, because it indicates myopathy. It is incorrect to tell the patient to stop taking the drug, because a glucocorticoid must be withdrawn slowly to allow time for recovery of adrenal function. DIF: Cognitive Level: Application REF: p. 623 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

588. A clinic patient who has been taking a glucocorticoid for arthritis for several months remarks to the nurse, "It is a good thing my symptoms are better, because my mother has been quite ill, and I have to take care of her." The patient's blood pressure is 100/60 mm Hg. The nurse will report this to the provider and ask about:
- a. reducing the patient's dose.
 - b. using every-other-day dosing.
 - c. increasing the patient's dose.
 - d. tapering the dose.

ANS: C

Because of their adrenal suppression, patients taking glucocorticoids long-term require increased doses at times of stress and even for a time after stopping the drug until adrenal function returns. This patient's lower blood pressure is an indication that glucocorticoid levels may be depleted. Reducing the dose would only exacerbate the patient's problems. Every-other-day dosing is used

early in glucocorticoid therapy to reduce adrenal suppression, but it would not be useful now. Tapering of doses is used to allow adrenal function to recover as the drug is discontinued. DIF: Cognitive Level: Application REF: p. 625 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

589. A woman who is breastfeeding is prescribed a low pharmacologic dose of a glucocorticoid and asks the nurse about potential effects on her infant. What will the nurse tell her about this medication?

- a. "At this dose, the concentration in your breast milk is safe."
- b. "Contact your provider to discuss lowering the dose."
- c. "There will be reversible side effects for your baby."
- d. "This drug is likely to cause growth retardation in your baby."

ANS: A

Women who are nursing may take physiologic or low pharmacologic doses of glucocorticoids without achieving concentrations in breast milk that affect the nursing infant. It is not necessary to lower the dose. Since there are negligible levels, there are no effects on the infant. Large pharmacologic doses can cause growth retardation and other adverse effects in the infant. DIF: Cognitive Level: Application REF: p. 622 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

590. A patient who is a long-distance runner has been diagnosed with rheumatoid arthritis in both knees and will begin glucocorticoid therapy. When teaching the patient about the medication, the nurse will include what information?

- a. "By reducing inflammation, this drug will slow the progression of your disease."
- b. "Glucocorticoids are used as adjunctive therapy during acute flare-ups."
- c. "Oral glucocorticoids cause less toxicity than intra-articular injections."
- d. "You may resume running when the pain and swelling improve."

ANS: B

Glucocorticoids are used as adjunctive therapy to treat acute exacerbations of rheumatoid arthritis. Glucocorticoids reduce pain and inflammation but do not alter the course of the disease. Oral glucocorticoids produce side effects similar to those of all glucocorticoids, but they are absorbed more rapidly and completely than intra-articular injections. Patients should be warned against overactivity even though their pain has been reduced, because they can further injure their joints. DIF: Cognitive Level: Application REF: p. 621 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

591. A patient who has been taking a glucocorticoid for several months arrives in the clinic. The nurse notes that the patient's cheeks appear full and that a prominent hump of fat is present on the upper back. The nurse will ask the provider to order which test(s)?
- Liver function tests
 - Serum electrolytes
 - Tuberculin skin test
 - Vitamin D levels

ANS: B

This patient shows signs of iatrogenic Cushing syndrome, which may include serum electrolyte disturbances; therefore, the electrolyte levels should be monitored. Liver function tests, tuberculin skin testing, and vitamin D levels are not indicated. DIF: Cognitive Level: Application REF: p. 624 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

592. A patient is about to receive prednisone for tendonitis. The nurse reviewing the chart would be concerned about which of the following in the patient's medical history?
- Asthma and allergic rhinitis
 - Gouty arthritis
 - Seborrheic dermatitis
 - Systemic fungal infection

ANS: D

Glucocorticoids are contraindicated in patients with a history of systemic fungal infections. Glucocorticoids are used to treat asthma, allergic rhinitis, gout, and seborrheic dermatitis. DIF: Cognitive Level: Application REF: p. 626 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

593. A patient taking a glucocorticoid for arthritis reports feeling bloated. The nurse notes edema of the patient's hands and feet. Which action by the nurse is correct?
- Ask the patient about sodium intake.
 - Obtain a blood glucose level.
 - Suggest the patient limit potassium intake.
 - Tell the patient to stop taking the drug.

ANS: A

Because of their mineralocorticoid activity, glucocorticoids can cause sodium and water retention and potassium loss. Asking about the sodium intake can help the nurse evaluate this patient. Although glucocorticoids can affect glucose tolerance, this patient does not have signs of hyperglycemia. Patients with sodium and water retention should be encouraged to increase their potassium intake. Telling a patient to stop taking the drug is incorrect, because a glucocorticoid

must be withdrawn slowly to allow time for recovery of adrenal function.DIF: Cognitive Level: ApplicationREF: p. 625TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

594. A child is to begin long-term glucocorticoid therapy. The parents ask the nurse about the effects of this drug on the child's growth. Which response by the nurse is correct?
- "A smaller dose may be indicated for your child."
 - "Ask your provider about every-other-day dosing."
 - "Long-acting glucocorticoid preparations should prevent growth suppression."
 - "Oral glucocorticoids rarely cause growth suppression."

ANS: B

Growth retardation can be minimized with alternate-day dosing of glucocorticoids. Giving smaller doses does not prevent this effect with long-term therapy. Long-acting glucocorticoids do not prevent this effect. Oral glucocorticoids have the same side effects.DIF: Cognitive Level: ApplicationREF: p. 623TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

595. A patient who has arthritis has been taking ibuprofen [Motrin] and a glucocorticoid medication. The patient reports having tarry stools but denies gastric pain. Which action by the nurse is correct?
- Contact the provider to discuss ordering an antiulcer medication.
 - Counsel the patient to use over-the-counter antacids.
 - Reassure the patient not to worry unless there is gastric pain.
 - Tell the patient to stop taking the glucocorticoid immediately.

ANS: A

Glucocorticoid therapy, especially when combined with NSAIDs, can increase the risk of gastric ulcer and possibly GI bleeding. Treatment with antiulcer medications is indicated, but not with OTC antacids, since the provider needs to be aware of this adverse effect. Gastric pain is usually decreased because of the glucocorticoids, so absence of gastric pain is not reassuring. The glucocorticoid should be withdrawn slowly, not immediately.DIF: Cognitive Level: ApplicationREF: p. 624TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

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Chapter 57: Drug Therapy of Rheumatoid

Arthritis Test Bank

Multiple Choice

596. A patient about to begin therapy with etanercept has a positive tuberculin skin test. A chest radiograph is negative. The nurse will expect this patient to:
- begin taking antituberculosis drugs at the beginning of treatment with etanercept.
 - have periodic chest radiographs during treatment with etanercept.
 - have regular monitoring of symptoms to detect active tuberculosis.
 - undergo tuberculosis treatment prior to beginning etanercept treatment.

ANS: D

Since tuberculosis (TB) in a patient taking etanercept is often extrapulmonary and disseminated, it is important to test all patients for TB. Those who test positive for latent TB should be treated for TB before etanercept treatment is begun. It is not correct to begin TB treatment concurrently with etanercept treatment. Latent TB must be treated and not monitored. DIF: Cognitive Level: Application REF: p. 636 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

597. A child who has juvenile idiopathic arthritis and who has been taking methotrexate [Rheumatrex] will begin a course of abatacept [Orencia]. What will the nurse include when teaching the child's family about this drug?
- That abatacept and methotrexate must both be taken to be effective
 - To continue getting vaccinations during therapy with abatacept
 - That signs of infection may warrant immediate discontinuation of abatacept
 - That a tumor necrosis factor (TNF) antagonist may be added if this therapy is not effective

ANS: C

Abatacept suppresses immune function and can increase the risk of serious infection. Parents should report any signs of infection, which may warrant discontinuation of abatacept. Abatacept may be taken alone. Abatacept may blunt the effectiveness of vaccines, and vaccines should be up to date prior to therapy and may need to be delayed until 3 months after therapy. Live vaccines should be avoided. Abatacept should not be given with TNF antagonists because of the increased risk of serious infections. DIF: Cognitive Level: Analysis REF: p. 639 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

598. A patient will begin taking hydroxychloroquine [Plaquenil] for rheumatoid arthritis. The patient is currently taking high-dose NSAIDs and methotrexate. What will the nurse teach the patient?
- That an eye examination is necessary at the beginning of therapy with this drug
 - That the dose of NSAIDs may be decreased when beginning hydroxychloroquine
 - To obtain tests of renal and hepatic function while taking this drug
 - To stop taking methotrexate when starting hydroxychloroquine

ANS: A

Hydroxychloroquine can cause retinal damage so an eye examination is necessary at the onset of treatment as well as every 6 months during treatment. Patients taking other drugs should continue to take those when beginning treatment with hydroxychloroquine since full therapeutic effects take months to develop. Renal and hepatic toxicity are not concerns. The drug is usually combined with methotrexate. DIF: Cognitive Level: Application REF: p. 634 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

599. A patient will begin taking etanercept [Enbrel] for severe rheumatoid arthritis. The patient has been taking methotrexate [Rheumatrex]. The patient asks if the etanercept is stronger than the methotrexate. The nurse will tell the patient that etanercept
- a. has synergistic effects with
 - b. helps reduce adverse effects associated with
 - c. is better at delaying progression of joint damage than
 - d. has fewer adverse effects than

ANS: C

Etanercept has been shown to reduce symptoms in patients with moderate to severe RA who have not responded to methotrexate. It does not have synergistic effects with methotrexate or reduce adverse effects of methotrexate. It has many adverse effects. DIF: Cognitive Level: Application REF: p. 636 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

600. A patient with rheumatoid arthritis is taking leflunomide [Arava] and an oral contraceptive. She tells the nurse she would like to get pregnant. What will the nurse tell her?
- a. That leflunomide is not dangerous during the first trimester of pregnancy.
 - b. That plasma levels of leflunomide will drop rapidly when she stops taking it.
 - c. To ask her provider about an 11-day course of cholestyramine.
 - d. To stop taking leflunomide when she stops using contraception.

ANS: C

Leflunomide is contraindicated during pregnancy. Patients desiring pregnancy must follow a three-step protocol that includes stopping the drug, taking cholestyramine to chelate the leflunomide, and ensuring that leflunomide drug levels are below 20 µg/L before getting pregnant. Leflunomide is teratogenic and is not safe during pregnancy. Plasma levels of leflunomide may take 2 years to drop without using cholestyramine. It is not correct to stop taking leflunomide without following the protocol. DIF: Cognitive Level: Application REF: p. 634 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

601. A patient is beginning therapy with oral methotrexate [Rheumatrex] for rheumatoid arthritis. The nurse will teach this patient about the importance of:
- having routine renal and hepatic function tests.
 - limiting folic acid consumption.
 - reporting alopecia and rash.
 - taking the medication on a daily basis.

ANS: A

Periodic tests of renal and liver function are mandatory for patients taking methotrexate. Patients taking methotrexate should take folic acid supplements. Alopecia and rash are not worrisome side effects. Methotrexate is taken once weekly. DIF: Cognitive Level: Application REF: p. 633 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

602. A nurse is discussing the administration of an intravenous infusion of rituximab (Rituxan) with a nursing student. Which statement by the student indicates a need for further education about the care of a patient receiving this drug?
- “Angioedema and hypersensitivity may occur, but they are usually self-limiting and mild.”
 - “I should be prepared to administer epinephrine, glucocorticoids, and oxygen if needed.”
 - “I will administer an antihistamine and acetaminophen before beginning the infusion.”
 - “I will monitor this patient’s blood pressure, respiratory rate, and oxygen saturation closely.”

ANS: A

Rituximab can cause severe infusion-related hypersensitivity reactions. Nurses should be prepared to administer epinephrine, steroids, and O₂ if needed. Antihistamines and acetaminophen are given before infusion. Close monitoring of vital signs and oxygenation are indicated. DIF: Cognitive Level: Application REF: p. 637 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

603. A patient who has been diagnosed with rheumatoid arthritis (RA) for 1 month and has generalized symptoms is taking high-dose nonsteroidal anti-inflammatory drugs (NSAIDs) and an oral glucocorticoid. The provider has ordered methotrexate [Rheumatrex]. The patient asks the nurse why methotrexate is necessary since pain and swelling have been well controlled with the other medications. The nurse will tell the patient that:
- a methotrexate regimen can reduce overall costs and side effects of treatment.
 - starting methotrexate early can help delay joint degeneration.
 - starting methotrexate now will help increase life expectancy.
 - with methotrexate, doses of NSAIDs can be reduced to less toxic levels.

ANS: B

Current guidelines for treatment of RA recommend starting a disease-modifying antirheumatic drug (DMARD) early—within 3 months of diagnosis for most patients—in order to delay joint degeneration. Methotrexate may take up to 3 to 6 weeks to be at therapeutic levels, so NSAIDs and glucocorticoids should be continued until this occurs. Methotrexate is expensive and has more toxic side effects. Patients taking methotrexate have been shown in some data to have decreased life expectancy. Patients may eventually be able to stop taking NSAIDs altogether. DIF: Cognitive Level: Application REF: p. 630 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 58: Drug Therapy of

Gout Test Bank

Multiple Choice

604. A patient who has gout will begin taking febuxostat [Uloric] and colchicine. What will the nurse include when teaching this patient about this drug regimen?
- “You are taking both drugs in order to prevent hepatic side effects.”
 - “You may stop taking the febuxostat after your uric acid levels decrease.”
 - “You will have to take both drugs indefinitely to treat your symptoms.”
 - “You will stop taking the colchicine within 6 months after starting therapy.”

ANS: D

At the beginning of therapy with febuxostat, symptoms of gout may flare, so colchicine or NSAIDs are given for up to 6 months to alleviate this. The combination does not prevent effects on the liver. The febuxostat will be given indefinitely. DIF: Cognitive Level: Application REF: p. 647 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

605. A patient with chronic gout is admitted to the hospital for treatment for an infection. The patient is receiving allopurinol and ampicillin. The nurse is preparing to administer medications and notes that the patient has a temperature of 101° F and a rash. What will the nurse do?
- Withhold the allopurinol and notify the prescriber of the drug reaction.
 - Withhold the ampicillin and contact the provider to request a different antibiotic.
 - Request an order for an antihistamine to minimize the drug side effects.
 - Suggest giving a lower dose of the allopurinol while giving ampicillin.

ANS: A

Allopurinol can cause a hypersensitivity syndrome, which is characterized by a rash and fever. If these occur, the drug should be discontinued immediately. The combination of ampicillin and allopurinol increases the risk of this reaction; if it occurs, the allopurinol, not the ampicillin, should be discontinued. Antihistamines are not indicated. Lowering the dose of allopurinol is not indicated. DIF: Cognitive Level: Application REF: p. 647 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

606. A patient with chronic gout has an acute gouty episode and is admitted to the hospital. The patient has been taking nonsteroidal anti-inflammatory drugs for several months. The prescriber plans to begin therapy with probenecid. What will the nurse do?
- Give the medication as ordered and observe the patient closely for gastrointestinal side effects.
 - Request an order to lower the dose of the nonsteroidal anti-inflammatory drug.
 - Restrict the patient's fluid intake to minimize the risk of renal injury.
 - Suggest delaying the probenecid therapy until the acute episode has subsided.

ANS: D

Probenecid may exacerbate acute episodes of gout, so treatment with this drug should be delayed until the acute attack has passed. Probenecid has mild GI effects. Lowering the dose of the NSAID is not recommended. Patients should increase their fluid intake to minimize the risk of renal injury. DIF: Cognitive Level: Application REF: p. 647 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

607. A patient is being treated with warfarin [Coumadin] to prevent thrombus. The patient develops hyperuricemia, and the provider orders allopurinol [Zyloprim]. The nurse will contact the provider to discuss the dose.
- increasing; allopurinol
 - increasing; warfarin
 - reducing; allopurinol
 - reducing; warfarin

ANS: D

Allopurinol can inhibit hepatic drug-metabolizing enzymes and thus delay the inactivation of other drugs. This is a particular concern in patients taking warfarin; therefore, the warfarin dose should be reduced when allopurinol is also used. It is not correct to increase the allopurinol dose, increase the warfarin dose, or reduce the allopurinol dose. DIF: Cognitive Level: Application REF: p. 647 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

608. A patient who will begin taking colchicine for gout reports taking nonsteroidal anti-inflammatory drugs, simvastatin, amoxicillin, and digoxin. What will the nurse do?

- a. Contact the provider to discuss using a different antibiotic while this patient is taking colchicine.
- b. Notify the provider about the potential risk of muscle injury when simvastatin is taken with colchicine.
- c. Request an order for cardiorespiratory monitoring because the patient is taking digoxin.
- d. Suggest that the nonsteroidal anti-inflammatory drugs (NSAIDs) be withdrawn during colchicine therapy.

ANS: B

Colchicine can cause rhabdomyolysis, and this risk is increased in patients who also take simvastatin or other statin drugs. Amoxicillin does not interact with colchicine. The side effects of digoxin are not increased by concurrent use with colchicine. NSAIDs can safely be taken with colchicine. DIF: Cognitive Level: Application REF: p. 644 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

609. A patient who is hospitalized for an acute gout attack has received several doses of hourly oral colchicine but still reports moderate to severe pain. As the nurse prepares to administer the next dose, the patient begins vomiting. What will the nurse do?
- a. Contact the provider to discuss giving a lower dose of colchicine.
 - b. Hold the medication and notify the prescriber.
 - c. Explain that this is a common side effect that will soon stop.
 - d. Request an order for an antiemetic so that the next dose of colchicine may be given.

ANS: B

Colchicine should be discontinued immediately, regardless of the status of the joint pain, if gastrointestinal (GI) symptoms occur. The patient's symptoms indicate injury to the GI endothelium. Once damage begins to occur, lowering the dose is not indicated. GI toxicity will not abate over time. An antiemetic may be useful for stopping the vomiting; however, continued administration of the drug can lead to further damage to the GI endothelium. DIF: Cognitive Level: Analysis REF: p. 644 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

610. A patient with gout who has increasingly frequent acute gouty attacks will begin receiving allopurinol [Zyloprim] and colchicine. The nurse will include which statement when teaching the patient about this drug regimen?
- a. "Allopurinol helps reduce the gastrointestinal side effects of colchicine."
 - b. "Allopurinol reduces the likelihood of gouty episodes that usually occur with initial colchicine therapy."
 - c. "The colchicine is given to enhance the effects of the allopurinol."
 - d. "You will take both drugs initially and then stop taking the colchicine."

ANS: D

Colchicine is used for prophylaxis when urate-lowering drugs, such as allopurinol, are initiated, because gouty episodes have a tendency to increase during this time. Patients start with both drugs, and ultimately the colchicine is withdrawn. Allopurinol does not affect the GI side effects caused by colchicine. Allopurinol may precipitate an acute gouty attack when treatment is begun; colchicine is given to prevent a gouty episode. Colchicine does not enhance the effects of allopurinol. DIF: Cognitive Level: Application REF: p. 647 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

611. A patient has had three gouty flare-ups in the past year. Which drug class will the nurse expect the provider to order for this patient?

- a. Colchicine
- b. Glucocorticoids
- c. Nonsteroidal anti-inflammatory drugs
- d. Urate-lowering drugs

ANS: D

The provider will order a urate-lowering drug for this patient. The medication should be diluted and administered with 20 mL of sterile sodium chloride and administered over 5 minutes or longer. DIF: Cognitive Level: Analysis REF: p. 646 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

612. A patient is admitted for treatment of gout that has been refractory to treatment with allopurinol and probenecid. The patient is taking colchicine, and the prescriber orders pegloticase [Krystexxa]. Before administering this drug, the nurse will expect to:

- a. administer an antihistamine and a glucocorticoid.
- b. discontinue the colchicine.
- c. increase the dose of colchicine.
- d. prepare to administer a bronchodilator if needed.

ANS: A

Because pegloticase poses a risk of triggering anaphylaxis, patients should be pretreated with an antihistamine and a glucocorticoid. Colchicine is indicated at the initiation of treatment with pegloticase to reduce the intensity of gout flare-ups. Bronchodilators are not indicated. DIF: Cognitive Level: Application REF: p. 647 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 59: Drugs Affecting Calcium Levels and Bone Mineralization

Test Bank

Multiple Choice

613. A nurse provides teaching for a woman who will begin taking supplemental calcium. Which statement by the woman indicates understanding of the teaching?
- “Chewable calcium tablets are not absorbed well and are not recommended.”
 - “I should not take more than 600 mg of calcium at one time.”
 - “I should take enough supplemental calcium to provide my total daily requirements.”
 - “If I take calcium with green, leafy vegetables, it will increase absorption.”

ANS: B

To help ensure adequate absorption of calcium, no more than 600 mg should be consumed at one time. Chewable calcium tablets are recommended because of their more consistent bioavailability. The amount of supplemental calcium should be enough to compensate for what is not consumed in the diet and should not constitute the total amount needed per day. Green, leafy vegetables reduce the absorption of calcium. DIF: Cognitive Level: Application REF: p. 656 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

614. A nurse is preparing to administer IV calcium chloride to a patient with a low serum calcium level. Which drug on the patient’s medication record, administered concurrently, would require additional patient monitoring by the nurse?
- Digoxin [Lanoxin]
 - Furosemide [Lasix]
 - Lorazepam [Ativan]
 - Pantoprazole [Protonix]

ANS: A

Parenteral calcium may cause severe bradycardia in patients taking digoxin; therefore, the heart rate should be monitored closely. Concurrent administration of calcium chloride and pantoprazole, lorazepam, or furosemide is not known to lead to drug interactions. DIF: Cognitive Level: Analysis REF: p. 671 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

615. A nurse is providing teaching for a patient with osteoporosis who has just switched from alendronate [Fosamax] to zoledronate [Reclast]. Which statement by the patient indicates a need for further teaching?
- “I will need to have blood tests periodically while taking this drug.”
 - “I will only need a dose of this medication every 1 to 2 years.”

- c. "This drug is less likely to cause osteonecrosis of the jaw."
- d. "This drug is only given intravenously."

ANS: C

Zoledronate has an increased risk of osteonecrosis of the jaw, as does alendronate. The patient is correct to identify the need for periodic blood tests. Zoledronate is given only every 1 to 2 years and is given only intravenously. DIF: Cognitive Level: Application REF: p. 663 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

616. A patient with severe glucocorticoid-induced osteoporosis will start therapy with teriparatide [Forteo]. What will the nurse expect to administer?
- a. 20 µg once daily subQ
 - b. 20 µg twice daily subQ
 - c. 10 µg once daily subQ
 - d. 10 µg twice daily subQ

ANS: A

The dose of teriparatide for all indications is 20 mcg once daily subQ. DIF: Cognitive Level: Comprehension REF: p. 665 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

617. A nurse is discussing the role of vitamin D in calcium regulation with a nursing student. Which statement by the student indicates a need for further teaching?
- a. "Adequate amounts of vitamin D occur naturally in the diet."
 - b. "Vitamin D3 is preferred over vitamin D2."
 - c. "Vitamin D can promote bone decalcification."
 - d. "Vitamin D increases the absorption of calcium and phosphorus from the intestine."

ANS: A

Vitamin D does not occur naturally in the diet. Adequate amounts are gained through fortified foods, supplements, and exposure to sunlight. Vitamin D3 is preferred. If calcium intake is not sufficient, vitamin D can promote bone decalcification. Vitamin D acts to increase the absorption of calcium and phosphorus from the intestine. DIF: Cognitive Level: Application REF: p. 657 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

618. A postmenopausal patient develops osteoporosis. The patient asks the nurse about medications to treat this condition. The nurse learns that the patient has a family history of breast cancer. The nurse will suggest discussing which medication with the provider?

- a. Estrogen estradiol
- b. Pamidronate [Aredia]
- c. Raloxifene [Evista]
- d. Teriparatide [Forteo]

ANS: C

Raloxifene is a selective estrogen receptor modulator (SERM) that has estrogenic effects in some tissues and antiestrogenic effects in others. It can preserve bone mineral density while protecting against breast and endometrial cancers. Estrogen promotes breast cancer and would not be indicated. Pamidronate and teriparatide are not protective against breast cancer. DIF: Cognitive Level: Application REF: p. 664 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

619. A patient has severe Paget disease of the bone. The patient asks the nurse what can be done to alleviate the pain. The nurse will suggest that the patient discuss the use of which medication with the provider?

- a. Alendronate [Fosamax]
- b. Calcifediol [25-Hydroxy-D3]
- c. Calcitonin-salmon [Miacalcin]
- d. Long-acting NSAIDs

ANS: C

Calcitonin-salmon is the drug of choice for rapid relief of pain associated with Paget disease. Alendronate, calcifediol, and NSAIDs are not indicated. DIF: Cognitive Level: Analysis REF: p. 659 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

620. A patient with metastatic cancer has had several fractures secondary to bone metastases. The provider orders denosumab [Xgeva]. What will the nurse teach this patient?

- a. Denosumab may delay healing of these fractures.
- b. Denosumab should be given subcutaneously every 12 months.
- c. Denosumab will improve hypocalcemia.
- d. Unlike bisphosphonates, denosumab does not increase osteonecrosis of the jaw (ONJ).

ANS: A

Because denosumab suppresses bone turnover, fracture healing may be delayed. Denosumab is given every 6 months. Denosumab can exacerbate hypocalcemia. Denosumab can increase the incidence of ONJ. DIF: Cognitive Level: Application REF: p. 666 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

621. A patient taking risedronate IR [Actonel] for osteoporosis reports experiencing diarrhea and headaches. What will the nurse tell this patient?
- These are common side effects of this drug.
 - These symptoms indicate serious toxicity.
 - The patient should discuss taking risedronate DR [Atelvia] with the provider.
 - The medication should be taken after a meal to reduce symptoms.

ANS: A

Diarrhea and headaches are common adverse effects of risedronate IR. These symptoms do not indicate toxicity. The side effects of Atelvia are similar to those of Actonel. Taking the medication after a meal will not reduce these effects. DIF: Cognitive Level: Application REF: p. 662 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

622. A 55-year-old female patient asks a nurse about calcium supplements. The nurse learns that the patient consumes two servings of dairy products each day. The patient's serum calcium level is 9.5 mg/dL. The serum vitamin D level is 18 ng/mL. The nurse will recommend adding ___ daily and IU of vitamin D3 each day.
- 1200 mg of calcium once; 10,000
 - 1500 mg of calcium twice; 1000
 - 600 mg of calcium once; 10,000
 - 600 mg of calcium twice; 2000

ANS: C

Women older than 50 years need 1200 mg of calcium per day. This patient is getting 600 mg/day. She should add 600 mg/day to compensate for what she does not get in her diet, because the amount of a supplement should be enough to make up the difference. Her vitamin D level is low, so she needs a vitamin D supplement. To treat deficiency, adults older than 19 years should get 10,000 IU/day. An additional intake of 1200 mg of calcium once daily is too much calcium. An additional intake of 1500 mg of calcium twice daily is too much calcium, and 1000 IU of vitamin D is not enough to treat deficiency. An additional intake of 600 mg of calcium twice daily is too much calcium, and 2000 IU of vitamin D is not sufficient to treat deficiency. DIF: Cognitive Level: Application REF: p. 654 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

623. A patient who has developed postmenopausal osteoporosis will begin taking alendronate [Fosamax]. The nurse will teach this patient to take the drug:
- at bedtime to minimize adverse effects.
 - for a maximum of 1 to 2 years.
 - while sitting upright with plenty of water.
 - with coffee or orange juice to increase absorption.

ANS: C

Alendronate can cause esophagitis, and this risk can be minimized if the patient takes the drug with water while in an upright position. Taking the drug at bedtime is not indicated. The drug may be taken up to 5 years before re-evaluation is indicated. Coffee and orange juice reduce the absorption of alendronate and should be delayed for 30 minutes after taking the drug. DIF: Cognitive Level: Application REF: p. 661 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

624. A patient is taking alendronate [Fosamax] to treat Paget disease. The patient asks the nurse why calcium supplements are necessary. The nurse will tell the patient that calcium supplements are necessary to:

- a. reduce the likelihood of atrial fibrillation.
- b. maximize bone resorption of calcium.
- c. minimize the risk of esophageal cancer.
- d. prevent hyperparathyroidism.

ANS: D

Alendronate can induce hyperparathyroidism in patients with Paget disease; calcium supplementation can prevent this effect. Giving calcium does not reduce the incidence of atrial fibrillation, maximize bone resorption of calcium, or minimize the risk of esophageal cancer. DIF: Cognitive Level: Application REF: p. 661 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

625. A patient who takes teriparatide [Forteo] administers it subcutaneously with a prefilled pen injector. The patient asks why she must use a new pen every 28 days when there are doses left in the syringe. Which is the correct response by the nurse?

- a. "Go ahead and use the remaining drug; I know it is so expensive."
- b. "The drug may not be stable after 28 days."
- c. "You are probably not giving the drug accurately."
- d. "You should be giving the drug more frequently."

ANS: B

Teriparatide is supplied in 3-mL injectors. The pen should be stored in the refrigerator and discarded after 28 days, even if some drug remains in the syringe. Although the drug is expensive, it is not correct to use what is in the syringe after 28 days. Drug may be left in the syringe even with correct dosing. DIF: Cognitive Level: Application REF: p. 665 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

626. A patient reports experiencing weakness, fatigue, nausea, vomiting, constipation, and nocturia. Total serum calcium is 10.5 mg/dL. A dipstick urinalysis shows a positive result for protein. When questioned, the patient reports taking vitamin D and calcium supplements. The nurse will counsel the patient to:

- a. reduce the amount of vitamin D and stop taking the calcium.
- b. discuss taking calcitonin-salmon [Fortical] with the provider.
- c. stop both supplements and discuss the use of a diuretic with the provider.
- d. stop taking vitamin D, reduce the amount of calcium, and increase the fluid intake.

ANS: D

Vitamin D toxicity can occur, and early responses include the symptoms described. Patients should be counseled to stop taking vitamin D, reduce their calcium intake, and increase their fluid intake. It is not correct to reduce the vitamin D intake and the calcium intake. Calcitonin-salmon is not indicated. A diuretic is indicated when hypercalciuria is severe. DIF: Cognitive Level: Application REF: p. 658 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

627. A postmenopausal patient is at high risk for developing osteoporosis. The patient's prescriber orders raloxifene [Evista], and the nurse provides teaching about this drug. Which statement by the patient indicates understanding of the teaching?

- a. "I may experience breast tenderness while taking this drug."
- b. "I may experience fewer hot flashes while taking this drug."
- c. "I should discontinue this drug several weeks before any surgery."
- d. "I should walk as much as possible during long airline flights."

ANS: D

Like estrogen, raloxifene increases the risk of deep vein thrombosis. Patients taking this drug should be cautioned to take walks on long flights or whenever they must sit for long periods. The drug does not increase breast tenderness or decrease hot flashes. There is no need to discontinue this drug before surgery. DIF: Cognitive Level: Application REF: p. 672 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

628. A nurse is providing education to a patient who will begin taking alendronate [Fosamax]. Which complication should the patient be instructed to report immediately?

- a. Difficulty swallowing
- b. Dizziness
- c. Drowsiness
- d. Pallor

ANS: A

Esophagitis is the most serious adverse effect of alendronate, sometimes resulting in ulceration. The nurse should instruct the patient to report difficulty swallowing immediately, because it can be a sign of esophageal injury. Dizziness is not an adverse effect of alendronate. Drowsiness is not a symptom associated with alendronate. Pallor is not a symptom associated with alendronate. DIF: Cognitive Level: Application REF: p. 661 TOP: Nursing Process:

Implementation

MSC: NCLEX

Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 60: Drugs for Asthma and Chronic Obstructive Pulmonary Disease

Test Bank

Multiple Choice

629. A patient with asthma is admitted to an emergency department with a respiratory rate of 22 breaths/minute, a prolonged expiratory phase, tight wheezes, and an oxygen saturation of 90% on room air. The patient reports using fluticasone [Flovent HFA] 110 µg twice daily and has used 2 puffs of albuterol [Proventil HFA], 90 mcg/puff, every 4 hours for 2 days. The nurse will expect to administer which drug?
- Four puffs of albuterol, oxygen, and intravenous theophylline
 - Intramuscular glucocorticoids and salmeterol by metered-dose inhaler
 - Intravenous glucocorticoids, nebulized albuterol and ipratropium, and oxygen
 - Intravenous theophylline, oxygen, and fluticasone (Flovent HFA) 220 mcg

ANS: C

Patients using inhaled glucocorticoids should be given IV or oral glucocorticoids for acute exacerbations. During asthma flares, nebulized albuterol with ipratropium may be better tolerated and more effective. Oxygen is indicated, because oxygen saturations are low despite the increased work of breathing. Increasing the dose of albuterol and giving theophylline are not indicated. Salmeterol is a long-term beta agonist and is not useful in an acute attack. DIF: Cognitive Level: Analysis REF: p. 689 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

630. A patient with stable COPD is prescribed a bronchodilator medication. Which type of bronchodilator is preferred for this patient?
- A long-acting inhaled beta2 agonist
 - An oral beta2 agonist
 - A short-acting beta2 agonist
 - An intravenous

methylxanthine ANS: A

LABAs are preferred over SABAs for COPD. Oral beta2 agonists are not first-line therapy. Although theophylline, a methylxanthine, was once standard therapy in COPD, it is no longer recommended. It is used only if beta2 agonists are not available. DIF: Cognitive Level: Application REF: p. 690 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

631. A patient with COPD is prescribed tiotropium [Spiriva]. After the initial dose, the patient reports only mild relief within 30 minutes. What will the nurse tell the patient?
- “You may have another dose in 4 hours.”
 - “You may need to take two inhalations instead of one.”
 - “You should have peak effects in about 6 hours.”
 - “You should see improved effects within the next week.”

ANS: D

Tiotropium shows therapeutic effects in about 30 minutes, with improved bronchodilation occurring with subsequent doses, up to 8 days. The medication is given once daily, with inhalation of one capsule. Peak effects occur in 3 hours. DIF: Cognitive Level: Application REF: p. 686 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

632. A patient with asthma comes to a clinic for treatment of an asthma exacerbation. The patient’s medication history lists an inhaled glucocorticoid, montelukast [Singulair], and a SABA as needed via MDI. The nurse assesses the patient and notes a respiratory rate of 18 breaths/minute, a heart rate of 96 beats/minute, and an oxygen saturation of 95%. The nurse auscultates mild expiratory wheezes and equal breath sounds bilaterally. What will the nurse do?
- Contact the provider to request a systemic glucocorticoid.
 - Contact the provider to suggest using a long-acting beta2 agonist.
 - Evaluate the need for teaching about MDI use.
 - Question the patient about how much albuterol has been used.

ANS: D

To determine the next course of action, it is important to assess the drugs given before these symptoms were observed. Patients who continue to wheeze after using a SABA need systemic glucocorticoids and nebulized albuterol. If a SABA has not been used, that will be the first intervention. LABAs are not used for exacerbations. If a patient reports using a SABA without good results, evaluating the MDI technique may be warranted. DIF: Cognitive Level: Application REF: p. 689 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

633. A parent asks a nurse about growth suppression resulting from the use of an inhaled glucocorticoid in children. What will the nurse tell the parent?
- Growth may be slowed, but eventual adult height will not be reduced.
 - The growth rate is not impaired, but overall height will be reduced.
 - The growth rate slows while the drug is used and only resumes when the drug is stopped.
 - Long-term use of the drug results in a decrease in adult height.

ANS: A

Glucocorticoids can slow growth in children and adolescents, but they do not reduce the eventual adult height. The growth rate will return to normal within a year, even when the drug is continued. Long-term use does not affect the eventual adult height. DIF: Cognitive Level: Application REF: p. 678 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

634. A patient who uses an inhaled glucocorticoid for chronic asthma calls the nurse to report hoarseness. What will the nurse do?
- Ask whether the patient is rinsing the mouth after each dose.
 - Request an order for an antifungal medication.
 - Suggest that the patient be tested for a bronchial infection.
 - Tell the patient to discontinue use of the glucocorticoid.

ANS: A

The most common side effects of inhaled glucocorticoids are oropharyngeal candidiasis and dysphonia. To minimize these, patients should be advised to gargle after each administration. Antifungal medications are used after a fungal infection has been diagnosed. Hoarseness is not a sign of a bronchial infection. There is no need to discontinue the glucocorticoid. DIF: Cognitive Level: Application REF: p. 678 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

635. A young adult woman will begin using an inhaled glucocorticoid to treat asthma. The nurse will teach this patient about the importance of which action?
- Lowering her calcium intake and increasing her vitamin D intake
 - Participating in weight-bearing exercises on a regular basis
 - Taking oral glucocorticoids during times of acute stress
 - Using two reliable forms of birth control to prevent pregnancy

ANS: B

Like oral glucocorticoids, inhaled glucocorticoids can promote bone loss in premenopausal women. Patients should be encouraged to participate in weight-bearing exercises to help minimize this side effect. Patients should increase both their calcium and vitamin D intakes. Patients taking oral glucocorticoids need increased steroids in times of stress. It is not necessary to use two reliable

forms of birth control.DIF: Cognitive Level: ApplicationREF: p. 678TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

636. A 7-year-old child with asthma uses a daily inhaled glucocorticoid and an albuterol MDI as needed. The provider has added montelukast [Singulair] to the child's regimen. Which statement by the child's parent indicates understanding of this medication?
- "I may notice mood changes in my child."
 - "I should give this medication twice daily."
 - "I will give my child one 4-mg chewable tablet daily."
 - "This drug can alleviate symptoms during an acute attack."

ANS: A

Montelukast is given as an adjunct to inhaled glucocorticoids to help prevent inflammation. Some patients have reported mood changes when taking this drug, so parents should be warned of this effect. The medication is given once daily. The dose for a 7-year-old child is 5 mg daily. The drug does not treat symptoms of an acute attack.DIF: Cognitive Level: ApplicationREF: p. 680TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

637. A child is receiving a combination albuterol/ipratropium [DuoNeb] inhalation treatment. The patient complains of a dry mouth and sore throat. What will the nurse do?
- Contact the provider to report systemic anticholinergic side effects.
 - Discontinue the aerosol treatment immediately.
 - Notify the provider of a possible allergic reaction.
 - Reassure the patient that these are expected side effects.

ANS: D

The most common adverse effects of this combination drug are dry mouth and irritation of the pharynx. The patient should be reassured that these are common and minor effects. Systemic anticholinergic side effects are rare. It is not necessary to discontinue the medication. Patients with peanut allergy may have severe anaphylactic reactions, but the patient's symptoms are not those associated with anaphylaxis.DIF: Cognitive Level: AnalysisREF: p. 686TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Safe and Effective Care Environment: Management of Care

638. A patient with stable COPD receives prescriptions for an inhaled glucocorticoid and an inhaled beta2-adrenergic agonist. Which statement by the patient indicates understanding of this medication regimen?
- "I should use the glucocorticoid as needed when symptoms flare."

- b. "I will need to use the beta2-adrenergic agonist drug daily."
- c. "The beta2-adrenergic agonist suppresses the synthesis of inflammatory mediators."
- d. "The glucocorticoid is used as prophylaxis to prevent exacerbations."

ANS: D

Inhaled glucocorticoids are used daily to prevent acute attacks. They are not used PRN. The beta2- adrenergic agonist drugs should not be used daily; they are used to treat symptoms as needed. They do not suppress mediators of inflammation. DIF: Cognitive Level: Application REF: p. 690 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

639. A patient with severe, chronic COPD uses an inhaled LABA/glucocorticoid but continues to have frequent exacerbation of symptoms. The nurse will contact the provider to discuss:
- a. adding roflumilast [Daliresp] once daily.
 - b. changing to oral theophylline twice daily.
 - c. prescribing oral steroids once daily.
 - d. Using an ipratropium/albuterol combination twice daily.

ANS: A

For patients with chronic, severe COPD, the risk of exacerbations may be reduced with roflumilast. Theophylline is used only when other bronchodilators are not effective. Oral steroids are not indicated for this use. Ipratropium is used to treat bronchospasm in COPD. DIF: Cognitive Level: Analysis REF: p. 691 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

640. Which medication should be used for asthma patients as part of step 1 management?
- a. Combination inhaled glucocorticoids/long-acting beta2 agonists
 - b. Inhaled low-dose glucocorticoids
 - c. Long-acting beta2 agonists
 - d. Short-acting beta2 agonists

ANS: D

Patients needing step 1 management have intermittent, mild symptoms and can be managed with a SABA as needed. Combination inhaled glucocorticoids/LABAs are used for step 3 management. Inhaled low-dose glucocorticoids are used for step 2 management. LABAs, along with inhaled glucocorticoids, are used for step 3 management. DIF: Cognitive Level: Analysis REF: p. 689 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

641. A nurse is teaching a group of nursing students about the different formulations of beta2-adrenergic agonist medications. Which statement by a student indicates understanding of the teaching?
- “Beta2-adrenergic agonists provide quick relief via any formulation.”
 - “Long-acting beta2 agonists may be used alone to prevent attacks.”
 - “Short-acting beta2 agonists are usually given by nebulizer.”
 - “Oral beta2 agonists are not useful for short-term treatment.”

ANS: D

Oral beta2 agonists are used only for long-term control. All formulations vary; long-acting beta2 agonists (LABAs) and oral preparations are used for long-term control, whereas short-acting beta2 agonists (SABAs) are useful for acute episodes. LABAs are used in conjunction with inhaled glucocorticoids to prevent attacks. SABAs may be given by MDI or nebulizer and usually are given by MDI. DIF: Cognitive Level: Application REF: p. 682 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

642. A nurse and a nursing student are reviewing the care of a 30-kg patient who will receive intravenous aminophylline. Which statement by the student indicates an understanding of the administration of this medication?
- “After the loading dose has been given, the patient will receive 6 mg/kg/hour.”
 - “Dosing is titrated based on the serum theophylline levels.”
 - “If the patient’s serum theophylline level is less than 15 mcg/mL, the rate should be reduced.”
 - “The patient will receive a loading dose of 180 mg over 5 minutes.”

ANS: B

Dosing for aminophylline is based on each patient’s serum theophylline levels. The loading dose usually is 6 mg/kg; after that, the maintenance infusion is titrated according to the theophylline levels. A serum theophylline level of 15 mcg/mL is within the therapeutic range, so dosing would not need to change. The patient’s total loading dose will be 180 mg, but infusions should never be given at a rate faster than 25 mg/minute. DIF: Cognitive Level: Application REF: p. 685 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

643. A patient with persistent, frequent asthma exacerbations asks a nurse about a long-acting beta2-agonist medication. What will the nurse tell this patient?
- LABAs are safer than short-acting beta2 agonists.
 - LABAs can be used on an as-needed basis to treat symptoms.
 - LABAs reduce the risk of asthma-related deaths.
 - LABAs should be combined with an inhaled glucocorticoid.

ANS: D

LABAs can increase the risk of asthma-related deaths when used improperly; this risk is minimized when LABAs are combined with an inhaled glucocorticoid. LABAs are not safer than SABAs, and they are not used PRN. LABAs increase the risk of asthma-related deaths. DIF: Cognitive Level: Application REF: p. 682 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

644. A patient who has been newly diagnosed with asthma is referred to an asthma clinic. The patient reports daily symptoms requiring short-acting beta₂-agonist treatments for relief. The patient has used oral glucocorticoids three times in the past 3 months and reports awakening at night with symptoms about once a week. The patient's forced expiratory volume in 1 second (FEV₁) is 75% of predicted values. The nurse will expect this patient to be started on which regimen?

- a. Daily low-dose inhaled glucocorticoid/LABA with a SABA as needed
- b. Daily low-dose inhaled glucocorticoid and a SABA as needed
- c. Daily medium-dose inhaled glucocorticoid/LABA combination
- d. No daily medications; just a SABA as needed

ANS: A

This patient has moderate persistent asthma, which requires step 3 management for initial treatment. Step 3 includes daily inhalation of a low-dose glucocorticoid/LABA combination supplemented with a SABA as needed. A daily low-dose glucocorticoid with an as-needed SABA is used for step 2 management. A daily medium-dose glucocorticoid/LABA is used for step 4 management. Patients requiring step 1 management do not need daily medications. DIF: Cognitive Level: Application REF: p. 689 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

645. A patient has just received a prescription for fluticasone/salmeterol [Advair Diskus]. What will the nurse include as part of the teaching for this patient about the use of this device?

- a. "You do not need good hand–lung coordination to use this device."
- b. "You will begin to inhale before activating the device."
- c. "You will need to use a spacer to help control the medication."
- d. "You will take two inhalations twice daily."

ANS: A

The Advair Diskus is a dry powder inhaler and is activated by inhalation; therefore, hand–lung coordination is not required. There is no need for a spacer. Patients who use the Diskus take one inhalation twice daily. DIF: Cognitive Level: Application REF: p. 686 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

646. A patient with asthma will be using a metered-dose inhaler (MDI) for delivery of an inhaled medication. The provider has ordered 2 puffs to be given twice daily. It is important for the nurse to teach this patient that:

- a. the patient should inhale suddenly to receive the maximum dose.
- b. the patient should activate the device and then inhale.
- c. the patient should store the MDI in the refrigerator between doses.
- d. the patient should wait 1 minute between puffs.

ANS: D

When two puffs are needed, an interval of at least 1 minute should separate the first puff from the second. Sudden inhalation can cause bronchospasm. The patient should begin inhaling and then activate the device. There is no need to store the drug in the refrigerator. DIF: Cognitive Level: Application REF: p. 683 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

647. A patient who takes oral theophylline [Theochron] twice daily for chronic stable asthma develops an infection and will take ciprofloxacin. The nurse will contact the provider to discuss:

- a. changing to a different antibiotic.
- b. reducing the theophylline dose.
- c. giving theophylline once daily.
- d. switching from theophylline to a LABA.

ANS: B

Fluoroquinolone antibiotics increase theophylline levels, so the dose of theophylline may need to be reduced to prevent theophylline toxicity. Changing antibiotics, giving the theophylline once daily, and changing to a LABA are not indicated. DIF: Cognitive Level: Application REF: p. 693 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

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Chapter 61: Drugs for Allergic Rhinitis, Cough, and Colds

Test Bank

Multiple Choice

648. A patient who has seasonal allergies in the spring and fall asks the nurse about oral antihistamines. Which response by the nurse is correct?

- a. "Anticholinergic effects are more common with second-generation antihistamines."
- b. "First-generation antihistamines, such as diphenhydramine [Benadryl], are more effective."
- c. "Make sure you take antihistamines only when you have symptoms to minimize side effects."
- d. "You should take oral antihistamines daily during each allergy season to get maximum effects."

ANS: D

Antihistamines are most effective when they are taken prophylactically, and they should be administered on a regular basis throughout the allergy season, even when symptoms are not present. They are less helpful when taken after symptoms appear. Second-generation antihistamines have fewer anticholinergic effects than first-generation antihistamines. First-generation antihistamines are not more effective than second-generation antihistamines. Oral antihistamines are not as effective when given on a PRN basis. DIF: Cognitive Level: Application REF: p. 696 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

649. A patient admitted to the hospital has been using phenylephrine nasal spray [Neo-Synephrine], 2 sprays every 4 hours, for a week. The patient complains that the medication is not working, because the nasal congestion has increased. What will the nurse do?
- a. Request an order for an oral decongestant to replace the intranasal phenylephrine.
 - b. Request an order for an intranasal glucocorticoid to be used while the phenylephrine is withdrawn.
 - c. Tell the patient to increase the dose of phenylephrine to 4 sprays every 4 hours.
 - d. Tell the patient to stop using the phenylephrine and begin using an intranasal antihistamine.

ANS: B

This patient is experiencing rebound congestion, which develops when topical sympathomimetics are used for longer than a few days. Abrupt withdrawal can stop the cycle of rebound congestion but is uncomfortable, so using an intranasal glucocorticoid, beginning 1 week before discontinuing the decongestant, while withdrawing the decongestant, is recommended. An oral decongestant is not recommended. Increasing the dose of the intranasal decongestant will only compound the problem of rebound congestion. Stopping the intranasal decongestant will only increase the congestion; using an intranasal antihistamine will not help with congestion. DIF: Cognitive Level: Application REF: p. 698 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

650. A nurse provides teaching to a patient with allergic rhinitis who will begin using an intranasal glucocorticoid. Which statement by the patient indicates understanding of the teaching?
- a. "If the glucocorticoid causes burning or itching, I should use it every other day."

- b. "I should use a decongestant if necessary before using the glucocorticoid."
- c. "I should use the glucocorticoid whenever I have symptoms."
- d. "I will probably develop systemic effects from the topical glucocorticoid."

ANS: B

Patients using intranasal glucocorticoids should be taught to use a decongestant to unblock nasal passages if needed before using the medication. Intranasal glucocorticoids should be used regularly on a daily basis to achieve optimal effects and not every other day or as needed. Systemic effects from intranasal glucocorticoids can occur but are not likely. DIF: Cognitive Level: Application REF: p. 695 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

651. A patient with allergic rhinitis is taking a compound product of loratadine/pseudoephedrine [Claritin-D] every 12 hours. The patient complains of insomnia. The nurse notes that the patient is restless and anxious. The patient's heart rate is 90 beats/minute, and the blood pressure is 130/85 mm Hg. The nurse will contact the provider to:

- a. discuss using an intranasal glucocorticoid and loratadine [Claritin].
- b. report acute toxicity caused by pseudoephedrine.
- c. suggest using an agent with a sympathomimetic drug only.
- d. suggest using a topical decongestant to minimize systemic symptoms.

ANS: A

This patient is showing central nervous system (CNS) and cardiovascular side effects of the pseudoephedrine. A better option would be to use single-ingredient products for each symptom; an intranasal glucocorticoid and an oral antihistamine are considered first-line treatments. This patient is demonstrating adverse effects but not acute toxicity. Using a sympathomimetic agent would increase the adverse effects, because pseudoephedrine is a sympathomimetic drug. Topical decongestants are not first-line drugs for allergic rhinitis. DIF: Cognitive Level: Application REF: p. 698 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

652. A child who has perennial allergic rhinitis has been using an intranasal glucocorticoid. The provider has ordered montelukast [Singulair] to replace the glucocorticoid because the child has frequent nosebleeds. When teaching this child's parents about montelukast, the nurse will include which statement?

- a. "Montelukast is also effective for treating infectious rhinitis."
- b. "Montelukast may cause behavior changes in your child."
- c. "Montelukast will treat both congestion and rhinitis."
- d. "Montelukast works best when combined with a topical decongestant."

ANS: B

Montelukast can cause rare but serious neuropsychiatric effects in patients, and parents should be warned of this possibility. It is not useful for treating infectious rhinitis. It does not affect congestion. It is not necessary to add a topical decongestant when using this drug for allergic rhinitis. DIF: Cognitive Level: Application REF: p. 700 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Pharmacologic and Parenteral Therapies

653. A patient who has a viral upper respiratory infection reports having a runny nose and a cough that prevents sleep and asks the nurse to recommend an over-the-counter medication. Which medication will the nurse recommend?

- a. Diphenhydramine [Benadryl]
- b. Fexofenadine/pseudoephedrine [Allegra-D]
- c. Guaifenesin [Mucinex]
- d. Phenylephrine drops

ANS: A

Diphenhydramine is effective in suppressing cough and also has sedative effects when used in doses to suppress cough. Fexofenadine/pseudoephedrine is a combination antihistamine/decongestant and will not help with cough. Guaifenesin helps make coughs more productive but will not suppress cough or help with sleep. Phenylephrine drops have decongestant properties. DIF: Cognitive Level: Application REF: p. 701 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

654. A child with seasonal rhinitis has used budesonide [Rhinocort Aqua] for several years. The parents are concerned that the child's rate of growth has slowed. What will the nurse do?

- a. Reassure the parents that this is an expected side effect.
- b. Suggest that the parents discuss using fluticasone [Flonase] with the provider.
- c. Tell the parents to administer the drug only when symptoms are severe.
- d. Tell the parents that antihistamines work as well as intranasal glucocorticoids.

ANS: B

A worrisome systemic effect of intranasal glucocorticoids is suppression of linear growth in children. Although rare, it can occur; however, it is less likely with fluticasone and mometasone, so these two preparations are better options for children. Reassuring parents that this is an expected side effect is incorrect. Intranasal glucocorticoids should be given daily and not as needed. Antihistamines are not as effective as glucocorticoids, because antihistamines work only against one mediator of allergic inflammation. DIF: Cognitive Level: Application REF: p. 695 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

655. A parent asks a nurse to recommend an intranasal decongestant for a 6-year-old child. Which response by the nurse is correct?

- a. "Decongestants are too sedating for children and should not be used."
- b. "Decongestants should not be given to children under 7 years old."
- c. "Decongestant drops are recommended instead of decongestant sprays."
- d. "Decongestant sprays should be used no longer than 5 to 10 days."

ANS: C

Decongestant drops are recommended for children, because the number of drops can be controlled precisely. When sprays are used, the amount given is not well controlled. Decongestants cause CNS excitation. Decongestants may be given to children over the age of 4 years. Intranasal decongestants should not be used for longer than 5 days. DIF: Cognitive Level: Application REF:

p. 699 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

656. A 7-year-old child has a cough, runny nose, congestion, and fever, and the parents ask the nurse to recommend an over-the-counter product. Which response by the nurse is correct?

- a. "Any product will be effective when combined with vitamin C and zinc."
- b. "It is best to use single-agent medications to treat individual symptoms."
- c. "The fever indicates that your child may need an antibiotic; you should call your provider."
- d. "You should ask your provider to prescribe a combination product that will treat multiple symptoms."

ANS: B

Combination medications may provide ingredients that are not needed or may provide ingredients that are either excessive or subtherapeutic. It is best to use single-agent drugs to treat individual symptoms. The efficacy of vitamin C and zinc for treating colds in children has not been established. Fever may accompany viral respiratory infections and not necessarily bacterial infections that need an antibiotic. DIF: Cognitive Level: Application REF: p. 701 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

657. Which medication used for asthma has off-label uses to treat allergic rhinitis?

- a. Diphenhydramine [Benadryl]
- b. Fexofenadine/pseudoephedrine [Allegra-D]
- c. Guaifenesin [Mucinex]
- d. Omalizumab [Xolair]

ANS: D

Omalizumab is a monoclonal antibody directed against IgE that plays a role in the release of inflammatory mediators from mast cells and basophils. It is currently only approved for allergy-

mediated asthma but is being used off-label to treat other allergic symptoms. Diphenhydramine, fexofenadine/pseudoephedrine, and guaifenesin are not used to treat asthma. DIF: Cognitive Level: Knowledge REF: p. 700 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

658. A patient with a cough has been advised to use guaifenesin. The patient asks the nurse to explain the purpose of the drug. The nurse will explain that guaifenesin:

- a. dries secretions to help suppress coughing so patients can rest.
- b. helps stimulate the flow of secretions to increase cough productivity.
- c. helps to relieve chest pain associated with a cough.
- d. stimulates the body's natural immune responses.

ANS: B

Expectorants stimulate the flow of respiratory tract secretions to improve cough productivity. Guaifenesin does not dry secretions, because it does not have anticholinergic effects. Guaifenesin does not alleviate pain associated with cough. Guaifenesin does not stimulate immune responses. DIF: Cognitive Level: Application REF: p. 701 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

659. A parent asks a nurse about giving diphenhydramine [Benadryl] to a child to relieve cold symptoms. Which response by the nurse is correct?

- a. "Benadryl must be given in higher doses to provide relief for cold symptoms."
- b. "Intranasal glucocorticoids are more effective for treating cold symptoms."
- c. "Nasal antihistamines are more effective for treating cold symptoms."
- d. "Because histamine does not cause cold symptoms, Benadryl would not be effective."

ANS: D

Histamine does not contribute to symptoms of infectious rhinitis; therefore, antihistamines are of no use in treating cold symptoms. Giving antihistamines in higher doses does not provide relief for infectious rhinitis. Intranasal glucocorticoids are not useful for infectious rhinitis. Nasal antihistamines are not effective for treating infectious rhinitis. DIF: Cognitive Level: Application REF: p. 696 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

660. A patient asks the nurse what type of medications would be most effective for treating seasonal and perennial rhinitis. Which response by the nurse is correct?

- a. Pseudoephedrine [Sudafed]
- b. Fluticasone propionate [Fluticasone]
- c. Loratadine [Claritin]

d. Intranasal cromolyn sodium [Atrovent]

ANS: B

Intranasal glucocorticoids, such as fluticasone propionate, are the most effective drugs for prevention and treatment, because they prevent or suppress all the major symptoms of allergic rhinitis (congestion, rhinorrhea, sneezing, nasal itching, and erythema). Pseudoephedrine is an oral sympathomimetic used to reduce nasal congestion associated with allergic rhinitis. It has no effect on other symptoms. Loratadine, an oral antihistamine, reduces sneezing, rhinorrhea, and nasal itching only and is less effective than intranasal glucocorticoids. Intranasal cromolyn sodium is moderately effective in the treatment of allergic rhinitis, but the benefits are much less than those of intranasal glucocorticoids. DIF: Cognitive Level: Application REF: p. 695 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

661. What is ipratropium bromide [Atrovent]?

- a. A cholinergic agent used for perennial rhinitis
- b. An anticholinergic used for allergic rhinitis and colds
- c. A medication that is used only in patients with asthma
- d. A drug that is inappropriate for use in patients with allergic rhinitis

ANS: B

Ipratropium bromide is an anticholinergic that is indicated for allergic rhinitis, asthma, and the common cold. The drug reduces rhinorrhea. Ipratropium bromide is an anticholinergic. In addition to asthma, ipratropium bromide can be used for allergic rhinitis and the common cold. Ipratropium bromide can be used for allergic rhinitis. DIF: Cognitive Level: Comprehension REF: p. 700 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

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Chapter 62: Drugs for Peptic Ulcer Disease

Test Bank

Multiple Choice

662. A patient stops taking a proton pump inhibitor (PPI) after 6 weeks of therapy for treatment of peptic ulcer disease. The patient reports symptoms of dyspepsia to the nurse. The nurse will tell this patient to:

- a. come to the clinic to be tested for *Clostridium difficile*.
- b. resume taking the PPI, because long-term therapy is necessary.
- c. resume taking the PPI until symptoms resolve completely.

- d. try an antacid to see whether it relieves these symptoms.

ANS: D

When patients stop taking a PPI, a rebound hypersecretion of gastric acid can cause dyspepsia. This can be managed with an antacid. Although *C. difficile* infection is associated with dose-related increases in PPIs, the symptoms include diarrhea, not dyspepsia, so testing is not indicated for this patient. Resuming the PPI is not indicated, because these symptoms can be managed with antacids. DIF: Cognitive Level: Application REF: p. 711 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

663. When metronidazole [Flagyl] is a component of the *H. pylori* treatment regimen, the patient must be instructed to do what?

- a. Avoid any alcoholic beverages
- b. Avoid foods containing tyramine
- c. Take the drug on an empty stomach
- d. Take the drug with food

ANS: A

The patient should be instructed to avoid alcoholic beverages, because a disulfiram-like reaction can occur if metronidazole is taken with alcohol. Nothing indicates that the patient should avoid foods containing tyramine. Metronidazole may be taken with or without food. DIF: Cognitive Level: Application REF: p. 707 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

664. A patient is diagnosed with Zollinger-Ellison syndrome. Which medication does the nurse expect the provider to order for this patient?

- a. Cimetidine [Tagamet]
- b. Esomeprazole [Nexium]
- c. Ranitidine [Zantac]
- d. Sucralfate [Carafate]

ANS: C

Ranitidine is used to treat Zollinger-Ellison syndrome. Although cimetidine can also be used, ranitidine is more potent and therefore is preferred. Esomeprazole and sucralfate are not indicated. DIF: Cognitive Level: Application REF: p. 709 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

665. A patient who has gastroesophageal reflux disease (GERD) receives a prescription for a proton pump inhibitor (PPI) medication. What will the nurse include when teaching the patient about this drug?
- “The FDA has determined that there is a gastric cancer risk with this drug.”
 - “This drug will be given on a short-term basis only.”
 - “You may experience hypermagnesemia when taking this drug.”
 - “You should report any fever and cough to your provider.”

ANS: D

PPIs can increase the risk of community-acquired and hospital-acquired pneumonia in the first few days of use and patients should be taught to report symptoms to their provider. The FDA has concluded that there is no increased risk of gastric cancer associated with PPIs. PPIs are often used long-term to treat GERD, since the risk of relapse is greater than 80%. There is a risk of hypomagnesemia, not hypermagnesemia, with long-term use. DIF: Cognitive Level: Application REF: p. 711 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

666. An older adult patient with severe gastroesophageal reflux disease (GERD) has had only minimal relief using a histamine₂-receptor antagonist (H₂RA). The patient is to begin taking omeprazole [Prilosec]. What will the nurse teach this patient?
- A complete cure is expected with this medication.
 - Lifestyle changes can be as effective as medication therapy.
 - Long-term therapy may be needed.
 - The medication will be used until surgery can be performed.

ANS: C

Proton pump inhibitors, such as omeprazole, are much better than H₂RAs for treating GERD. For patients with severe GERD, long-term maintenance therapy is recommended. These drugs do not cure GERD; relapse is common when the drugs are discontinued. Lifestyle changes can help but should not be considered a substitute for drugs. Surgery is reserved for young, healthy patients who cannot or will not stick to a drug regimen. DIF: Cognitive Level: Application REF: p. 709 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

667. A patient admitted to the hospital has a history of peptic ulcer disease. The patient takes ranitidine [Zantac] and sucralfate [Carafate]. The patient tells the nurse that discomfort is usually controlled but that symptoms occasionally flare up. What will the nurse do?
- Ask the provider about ordering an endoscopic examination.
 - Contact the provider to discuss serologic testing and an antibiotic.
 - Contact the provider to discuss switching to a proton pump inhibitor.
 - Counsel the patient to avoid beverages containing caffeine.

ANS: B

The recommendation for all patients with gastric or duodenal ulcers and documented *Helicobacter pylori* infection is treatment with antibiotics. The nurse is correct to ask about serologic testing for this organism and to suggest adding an antibiotic to this patient's regimen. An endoscopic examination is not recommended. Changing to a proton pump inhibitor may not change the symptoms. There is no evidence that caffeine contributes to peptic ulcer disease (PUD).DIF: Cognitive Level: ApplicationREF: p. 706TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

668. The nurse is providing education to a patient who has been prescribed both an antacid and cimetidine [Tagamet]. Which instruction should the nurse give the patient about taking the medications?
- “Take the antacid 1 hour after the ranitidine.”
 - “The antacid and ranitidine should be taken at the same time for better effect.”
 - “Take the antacid 15 minutes before the ranitidine.”
 - “Take the antacid 30 minutes after the ranitidine.”

ANS: A

Because antacids raise the gastric pH, they can affect the dissolution and absorption of ranitidine; therefore, 1 hour should separate administration of antacids and ranitidine. Antacids and ranitidine should not be taken at the same time, because dissolution and absorption of ranitidine will be reduced. One hour should separate administration of antacids and ranitidine; intervals of 15 minutes and 30 minutes are not long enough.DIF: Cognitive Level: ApplicationREF: p. 709TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

669. A patient is diagnosed with peptic ulcer disease. The patient is otherwise healthy. The nurse learns that the patient does not smoke and that he drinks 1 or 2 glasses of wine with meals each week. The nurse anticipates that the provider will prescribe which drugs?
- Amoxicillin [Amoxil], clarithromycin, and omeprazole [Prilosec]
 - Amoxicillin [Amoxil], metronidazole [Flagyl], and cimetidine [Tagamet]
 - Clarithromycin, metronidazole [Flagyl], and omeprazole [Prilosec]
 - Tetracycline, cimetidine [Tagamet], and lansoprazole [Prevacid]

ANS: A

The regimen recommended for the treatment of PUD includes two antibiotics and an antisecretory agent. Amoxicillin, clarithromycin, and omeprazole would meet this recommendation. Patients taking metronidazole cannot consume alcohol, as this would precipitate a disulfiram-like reaction. The last option does not include two antibiotics.DIF: Cognitive Level: ApplicationREF: p. 707TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

670. A nursing student is caring for a patient who is taking sucralfate [Carafate] and ciprofloxacin [Cipro] to treat peptic ulcer disease. The student asks the nurse about the pharmacokinetics of sucralfate. Which statement by the student indicates a need for further teaching?
- “Sucralfate adheres to the ulcer and blocks the back-diffusion of hydrogen ions.”
 - “Sucralfate and ciprofloxacin should be administered 1 hour apart.”
 - “Sucralfate does not cause systemic side effects.”
 - “Sucralfate has a moderate acid-neutralizing capacity.”

ANS: D

Sucralfate does not have any acid-neutralizing capacity, so this statement is incorrect. The other statements about sucralfate are correct. DIF: Cognitive Level: Application REF: p. 712 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

671. A 30-year-old male patient will begin a three-drug regimen to treat peptic ulcer disease. The regimen will consist of bismuth subsalicylate, tetracycline, and cimetidine [Tagamet]. The nurse will include which information when teaching this patient about this drug regimen?
- Black discoloration of the tongue and stools should be reported immediately.
 - Central nervous system depression and confusion are likely to occur.
 - Decreased libido, impotence, and gynecomastia are reversible side effects.
 - Staining of the teeth may occur and is an indication for discontinuation of these drugs.

ANS: C

Cimetidine has antiandrogenic effects and can cause decreased libido, impotence, and gynecomastia. These effects are reversible. Black stools and discoloration of the tongue are side effects associated with bismuth but are not harmful. Central nervous system (CNS) depression and confusion are not likely. Staining of the teeth associated with tetracycline use occurs only in developing teeth; it is a problem in children younger than 8 years and in pregnant women because of this risk to the fetus. DIF: Cognitive Level: Application REF: p. 709 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

672. A patient who takes nonsteroidal anti-inflammatory drugs (NSAIDs) for arthritis asks a nurse what can be done to prevent ulcers. The nurse will recommend asking the provider about using which medication?
- Antibiotics
 - Histamine-2 receptor antagonists
 - Proton pump inhibitors

d. Mucosal protectants

ANS: C

Patients taking NSAIDs should use proton pump inhibitors for ulcer prophylaxis. The other agents are not used for prophylaxis. DIF: Cognitive Level: Application REF: p. 710 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

673. A patient newly diagnosed with PUD reports taking low-dose aspirin (ASA) for prevention of cardiovascular disease. The nurse learns that the patient drinks 2 to 3 cups of coffee each day and has a glass of wine with dinner 3 or 4 nights per week. The patient eats three meals a day. The nurse will counsel this patient to:

- a. change the meal pattern to five or six smaller meals per day.
- b. discontinue taking aspirin, because it can irritate the stomach.
- c. stop drinking wine or any other alcoholic beverage.
- d. switch to a decaffeinated coffee and reduce the number of servings.

ANS: A

Consumption of five or six smaller meals a day can reduce fluctuations in the intragastric pH, which may facilitate recovery. ASA should be avoided, along with other NSAIDs except for low-dose ASA used for the prevention of cardiovascular disease. No hard data implicate alcohol as a contributor to PUD. No data indicate that caffeine contributes to PUD. DIF: Cognitive Level: Application REF: p. 706 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

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Chapter 63: Laxatives

Test Bank

Multiple Choice

674. A patient is admitted with lower abdominal pain and nausea. The nurse performing the initial assessment notes that the patient's abdomen is distended and firm, and hypoactive bowel sounds are present. The patient has not had a stool for 3 days. The nurse will contact the provider, who will:

- a. order a bulk-forming laxative.
- b. order extra fluids and fiber.
- c. perform diagnostic tests.
- d. prescribe a cathartic laxative.

ANS: C

Laxatives are contraindicated for patients with abdominal pain, nausea, cramps, or other symptoms of abdominal disease or an acute surgical abdomen. Laxatives should not be used in patients with obstruction or impaction. This patient shows signs of abdominal obstruction, and laxatives could cause a bowel perforation secondary to increased peristalsis. A bulk-forming laxative is contraindicated. Patients with acute abdomens should be kept NPO pending diagnosis. A cathartic laxative is contraindicated. DIF: Cognitive Level: Application REF: p. 716 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

675. A patient reports taking an oral bisacodyl laxative [Dulcolax] for several years. The provider has suggested discontinuing the laxative, but the patient is unsure how to do this. The nurse will tell the patient to:

- a. stop taking the oral laxative and use a suppository until normal motility resumes.
- b. stop taking the laxative immediately and expect no stool for several days.
- c. switch to a bulk-forming laxative, such as methylcellulose [Metamucil].
- d. withdraw from the laxative slowly to avoid a rebound constipation effect.

ANS: B

The first step in breaking the laxative habit is abrupt cessation of laxative use. Bowel movements will be absent for several days after laxative withdrawal. Using a suppository, a bulk-forming laxative, or tapering the laxative only prolongs the habit and prevents normal function from returning. DIF: Cognitive Level: Application REF: p. 722 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

676. A patient with renal disease is scheduled for a colonoscopy. Before the procedure, the nurse will anticipate administering:

- a. glycerin suppository.
- b. magnesium hydroxide (MOM).
- c. polyethylene glycol and electrolytes.
- d. sodium phosphate.

ANS: C

Polyethylene glycol (PEG) plus electrolytes (ELS) is one of two bowel cleansers used before colonoscopy to clear the bowel. PEG-ELS products are preferred, because unlike sodium phosphate, they are isotonic and do not increase the likelihood of dehydration and electrolyte imbalance. Glycerin suppositories and magnesium hydroxide are not used for bowel cleansing. DIF: Cognitive Level: Application REF: p. 720 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

677. The parent of a child with cerebral palsy reports that the child has pebble-like stools most of the time and seems uncomfortable if several days have passed between stools. The nurse will suggest that the parent discuss which medication with the child's provider?
- Bisacodyl [Dulcolax] suppositories
 - Magnesium citrate
 - Methylcellulose [Citrucel]
 - Polyethylene glycol [MiraLax]

ANS: D

Polyethylene glycol is an osmotic laxative widely used for chronic constipation, which this child has, because it provides relief from abdominal discomfort, improves stool consistency, and increases frequency. Bisacodyl is not recommended for long-term use. Magnesium citrate causes increased water loss, and methylcellulose can also cause impaction. DIF: Cognitive Level: Application REF: p. 719 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

678. A patient will undergo a colonoscopy, and the provider has ordered sodium phosphate as a bowel cleanser before the procedure. The nurse reviews the patient's chart and notes that the patient's creatinine clearance and blood urea nitrogen are both elevated. What will the nurse do?
- Reduce the amount of fluid given with the laxative to prevent fluid retention.
 - Request an order to give polyethylene glycol and electrolytes (PEG-ELS) instead.
 - Suggest that the patient reduce the dietary sodium intake.
 - Suggest using a suppository laxative instead.

ANS: B

PEG-ELS solutions provide an isosmotic solution and do not cause dehydration or electrolyte imbalance. They are safe to use in patients with renal impairment or cardiovascular disease. This patient's laboratory values suggest renal impairment. Sodium phosphate products can cause kidney damage; giving them with less fluid only increases this possibility. Reducing the dietary intake of sodium is not recommended. Suppositories are not effective bowel cleansing agents. DIF: Cognitive Level: Application REF: p. 721 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

679. The nurse is caring for an older adult patient after a right hip open reduction internal fixation (ORIF). The patient is taking an opioid every 6 hours as needed for pain. The nurse discusses obtaining an order from the prescriber for which medication?
- Docusate sodium [Colace]
 - GoLYTELY
 - Lactulose
 - Polyethylene glycol [MiraLax]

ANS: A

Oxycodone can be constipating. The patient needs something prophylactically, such as docusate sodium, that can be taken daily to prevent constipation. In addition, the patient's mobility is limited, which can further increase the risk of constipation. GoLYTELY is not indicated for constipation; it is used for cleansing the bowel before diagnostic procedures. Lactulose is not indicated; it typically is used for reducing ammonia levels in hepatic encephalopathy. Polyethylene glycol is indicated for occasional constipation; no information suggests that the patient is constipated. DIF: Cognitive Level: Application REF: p. 718 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

680. A nurse is taking a history on a clinic patient who reports being constipated. Upon further questioning, the nurse learns that the patient's last stool was 4 days ago, that it was of normal, soft consistency, and that the patient defecated without straining. The patient's abdomen is not distended, and bowel sounds are present. The patient reports usually having a stool every 1 to 2 days. What will the nurse do?

- a. Ask about recent food and fluid intake.
- b. Discuss the use of polyethylene glycol [MiraLax].
- c. Recommend a bulk laxative.
- d. Suggest using a bisacodyl [Dulcolax] suppository.

ANS: A

Constipation cannot necessarily be defined by the frequency of bowel movements, because this varies from one individual to another. Constipation is defined in terms of a variety of symptoms, including hard stools, infrequent stools, excessive straining, prolonged effort, and unsuccessful or incomplete defecation. A common cause of constipation is diet, especially fluid and fiber intake; therefore, when changes in stool patterns occur, patients should be questioned about food and fluid intake. Because this patient has only more infrequent stools and is not truly constipated, laxatives are not indicated. DIF: Cognitive Level: Application REF: p. 715 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

681. A nurse receives an order to administer castor oil to a patient. Which action by the nurse is correct?

- a. Administer the medication at bedtime.
- b. Chill the medication and mix it with fruit juice.
- c. Provide teaching about home use of this medication.
- d. Teach the patient that the effects will occur slowly.

ANS: B

Castor oil has an unpleasant taste that can be improved by chilling it and mixing it with fruit juice. The medication acts quickly and should not be given at bedtime. It is only used when prompt

evacuation of intestinal contents is needed, as for radiological procedures, so the patient will not be instructed in home use of the medication and should be taught that the effects will be immediate. DIF: Cognitive Level: Application REF: p. 719 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

682. Which condition would cause the nurse to withhold a PRN order for magnesium hydroxide?
- Chronic renal failure
 - Cirrhosis
 - Hemorrhoids
 - Prostatitis

ANS: A

Magnesium can accumulate to toxic levels in patients with renal dysfunction. The nurse should withhold the medication. Magnesium hydroxide is not contraindicated for patients with hemorrhoids, prostatitis, or cirrhosis. DIF: Cognitive Level: Application REF: p. 719 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

683. A patient has been taking senna [Senokot] for several days, and the nurse notes that the urine is yellowish-brown. What does the nurse know about this symptom?
- It indicates that renal failure has occurred.
 - It is caused by dehydration, which is a laxative side effect.
 - It is a sign of toxicity, indicating immediate withdrawal of the drug.
 - It is an expected, harmless effect of senna.

ANS: D

Systemic absorption of senna, followed by renal excretion, may impart a harmless yellowish-brown or pink color to the urine. This symptom is not an indication of renal failure, dehydration, or toxicity. DIF: Cognitive Level: Analysis REF: p. 719 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

684. A patient with a history of chronic alcohol abuse has been admitted to the unit with cirrhosis. Upon review of the patient's laboratory test results, the nurse notes that the patient's ammonia level is elevated at 218 µg/dL. What medication should the nurse prepare to administer?
- 0.9% NS
 - Docusate sodium [Colace]
 - Lactulose

- d. Polyethylene glycol [MiraLax]

ANS: C

Lactulose is the only laxative known to lower ammonia levels in patients with portal hypertension and hepatic encephalopathy secondary to liver disease. No information suggests that the patient needs fluid or electrolyte replacement. Docusate sodium and polyethylene glycol are not effective at lowering ammonia levels. DIF: Cognitive Level: Analysis REF: p. 720 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

685. A patient's provider has recommended a bulk-forming laxative for occasional constipation.

Which statement by the patient indicates understanding of the teaching about this agent?

- a. "I can take this medication long term."
- b. "I should not take this drug if I have diverticulitis."
- c. "I should take each dose with a full glass of water."
- d. "This drug can cause severe diarrhea."

ANS: C

Bulk-forming laxatives provide insoluble substances that swell in water to both soften and increase the size of the fecal mass. Patients should be taught to take the dose with a full glass of water. Laxatives in general are not recommended for long-term use. Bulk-forming laxatives are safe for patients with diverticulitis. They are often used to treat diarrhea, because they help form the fecal mass. DIF: Cognitive Level: Application REF: p. 717 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

686. A patient has been taking psyllium [Metamucil] two to three times daily for several days. The patient complains of stomach pain but has not had a stool. What will the nurse do?

- a. Ask the patient to drink a full glass of water.
- b. Give another dose of the psyllium.
- c. Request an order for a bisacodyl [Dulcolax] suppository.
- d. Palpate the patient's abdomen and auscultate for bowel sounds.

ANS: D

Psyllium is a bulk-forming laxative and can cause a fecal impaction or obstruction. Abdominal pain can be a sign of impaction or obstruction, so the nurse should assess the patient for this complication. Giving fluids by mouth, administering more laxative, or giving a suppository are all contraindicated if an obstruction has developed and should not be done until this condition is ruled out. DIF: Cognitive Level: Application REF: p. 717 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

687. A 6-year-old child has frequent constipation. The nurse provides teaching after the parent asks the nurse why the provider recommended using laxatives only when needed. Which statement by the parent indicates a need for further teaching?
- “Children who take laxatives regularly can become dehydrated.”
 - “Chronic laxative use can cause electrolyte imbalances.”
 - “Frequent use of laxatives can cause diverticulitis.”
 - “The normal reflex to defecate can be inhibited with overuse of laxatives.”

ANS: C

Laxatives do not cause diverticulitis, although some laxatives can aggravate this condition. Chronic use of laxatives can cause dehydration and electrolyte imbalances and can suppress the normal defecation reflex. DIF: Cognitive Level: Application REF: p. 716 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 64: Other Gastrointestinal

Drugs Test Bank

Multiple Choice

688. A patient with gastroesophageal reflux disease (GERD) is to begin taking oral metoclopramide [Reglan]. The patient asks the nurse about the medication. Which response by the nurse is correct?
- “After 3 months, if the drug is not effective, you may need to increase the dose.”
 - “Metoclopramide may cause hiccups, especially after meals.”
 - “Serious side effects may occur but will stop when the drug is discontinued.”
 - “You should take the drug 30 minutes before each meal and at bedtime.”

ANS: D

Metoclopramide should be given 30 minutes before meals and at bedtime. Metoclopramide should not be used long term, and increasing the dose after 3 months of therapy is not recommended. Metoclopramide is used to treat hiccups; it does not cause hiccups. Tardive dyskinesia is a serious and irreversible side effect. DIF: Cognitive Level: Application REF: p. 735 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

689. A nursing student is discussing with a nurse the plan of care for a patient about to undergo a third round of chemotherapy with cisplatin. Which statement by the nursing student about the treatment of CINV is correct?

- a. "Aprepitant [Emend] will be necessary to treat CINV caused by cisplatin."
- b. "Antiemetics are most effective if given just as the chemotherapy is finished."
- c. "Lorazepam probably would not be helpful for this patient."
- d. "This patient will need intravenous antiemetics for best effects."

ANS: A

CINV caused by cisplatin is maximal 48 to 72 hours after dosing and can persist for 6 to 7 days, so an antiemetic such as aprepitant, which treats delayed emesis, is an important part of antiemetic therapy. Antiemetics should be started 30 minutes before initiation of chemotherapy. Lorazepam should be given to this patient, because the patient has had some experience with chemotherapy and is likely to have anticipatory emesis. There is no benefit to IV over oral dosing unless the patient has ongoing emesis. DIF: Cognitive Level: Application REF: p. 725 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

690. A patient is taking bismuth subsalicylate [Pepto-Bismol] to prevent diarrhea. The nurse performing an assessment notes that the patient's tongue is black. What will the nurse do?
- a. Assess further for signs of gastrointestinal (GI) bleeding.
 - b. Reassure the patient that this is an expected side effect of this drug.
 - c. Request an order for liver function tests to evaluate for hepatotoxicity.
 - d. Withhold the drug, because this is a sign of bismuth overdose.

ANS: B

Bismuth subsalicylate can cause blackening of the tongue and stools, an expected side effect. This finding does not indicate GI bleeding, hepatotoxicity, or drug overdose. DIF: Cognitive Level: Application REF: p. 730 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

691. A nurse is providing education to a patient with ulcerative colitis who is being treated with sulfasalazine [Azulfidine]. Which statement by the patient best demonstrates understanding of the action of sulfasalazine?
- a. "It treats the infection that triggers the condition."
 - b. "It reduces the inflammation."
 - c. "It enhances the immune response."
 - d. "It increases the reabsorption of fluid."

ANS: B

Sulfasalazine reduces the inflammation seen with ulcerative colitis; this statement indicates understanding. Although similar to sulfonamides, sulfasalazine is not used to treat infections; further teaching is needed. Sulfasalazine does not enhance the immune response or increase the reabsorption of fluid; further teaching is needed. DIF: Cognitive Level: Application REF: p.

733TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

692. A nurse is providing teaching to a nursing student about to care for a woman with irritable bowel syndrome with diarrhea (IBS-D) who is receiving alosetron [Lotronex]. Which statement by the student indicates a need for further teaching?
- “I should evaluate the patient’s abdomen for distention and bowel sounds.”
 - “Patients with diverticulitis and IBS-C may take this drug.”
 - “This drug can cause ischemic colitis in some patients.”
 - “This drug is given only to women with severe IBS-D.”

ANS: B

Alosetron is approved for use in women only with diarrhea-predominant IBS; it is contraindicated in patients with diverticulitis. Constipation can be a severe adverse effect, so patients should be assessed for signs of constipation, such as abdominal distention and diminished bowel sounds. Alosetron can cause ischemic colitis. Alosetron is approved for use in women with IBS-D regardless of the severity of the disease.DIF: Cognitive Level: ApplicationREF: p. 732TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

693. A nurse caring for a patient who is undergoing a third round of chemotherapy is preparing to administer ondansetron [Zofran] 30 minutes before initiation of the chemotherapy. The patient tells the nurse that the ondansetron did not work as well the last time as it had the first time. What will the nurse do?
- Administer the ondansetron at the same time as the chemotherapy.
 - Contact the provider to suggest using high-dose intravenous dolasetron [Anzemet].
 - Request an order to administer dexamethasone with the ondansetron.
 - Suggest to the provider that loperamide [Lomotil] be given with the ondansetron.

ANS: C

Ondansetron is a serotonin receptor antagonist; drugs in this class are the most effective drugs available for suppressing nausea and vomiting associated with anticancer drugs. The drug is even more effective when combined with dexamethasone. For best effect, ondansetron should be given 30 minutes before beginning chemotherapy. Dolasetron is similar to ondansetron, but when given intravenously in high doses, it is associated with fatal dysrhythmias. Loperamide is used to treat diarrhea.DIF: Cognitive Level: ApplicationREF: p. 724TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

694. A patient with Crohn disease will begin receiving an initial infusion of infliximab [Remicade]. The nurse explains how this drug works to treat this disease. Which statement by the patient indicates a need for further teaching?

- a. "I may have an increased risk of infections, such as tuberculosis, when taking infliximab."
- b. "I should report chills, fever, itching, and shortness of breath while receiving the infusion."
- c. "This drug sometimes provides a complete cure of inflammatory bowel disease."
- d. "I will take the second dose in 2 weeks, the third dose in 6 weeks, and then a dose every 8 weeks thereafter."

ANS: C

None of the drugs used to treat obstructive bowel disease (OBD) are curative. Patients taking immunomodulators, such as infliximab, have an increased risk of infection, especially opportunistic infections such as TB. Infusion reactions may occur and include chills, fever, itching, and shortness of breath. The induction regimen is 5 mg/kg infused at 0, 2, and 6 weeks, followed by a maintenance regimen every 8 weeks. DIF: Cognitive Level: Application REF: p. 733 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

695. A pregnant patient who is taking ondansetron [Zofran] for morning sickness tells the nurse she is experiencing headache and dizziness. What will the nurse tell her?
- a. It is not safe to take this drug during pregnancy.
 - b. These are common side effects of ondansetron.
 - c. She should stop taking the ondansetron immediately.
 - d. She should report these adverse effects to her provider.

ANS: B

The most common side effects of ondansetron are headache, diarrhea, and dizziness. Ondansetron is used off-label to treat morning sickness. These side effects do not indicate a need to stop taking the drug or to report the side effects to the provider. DIF: Cognitive Level: Application REF: p. 724 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

696. A nurse explains to a nursing student why opioid antidiarrheal medications are classified as drugs with little or no abuse potential. Which statement by the student indicates a need for further teaching?
- a. "Formulations for the treatment of diarrhea have very short half-lives."
 - b. "Opioid antidiarrheal drugs contain other drugs with unpleasant side effects at higher doses."
 - c. "Some opioid antidiarrheal drugs do not cross the blood-brain barrier."
 - d. "Some opioid antidiarrheal medications are not water soluble and cannot be given parenterally."

ANS: A

The half-life of the opioid antidiarrheal drugs is the same as that of the opioid analgesics. The formulations of opioid antidiarrheal medications that are classified with low abuse potential are often combined with atropine, which has unpleasant side effects at higher doses. Some opioid antidiarrheal drugs are formulated so that they do not cross the blood-brain barrier. Others are not water soluble and therefore cannot be dissolved and injected. DIF: Cognitive Level: Analysis REF:

p. 729 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

697. A nurse is caring for a patient with cancer who has been undergoing chemotherapy. The patient has oral mucositis as a result of the chemotherapy, and the provider has ordered palifermin [Kepivance]. Which is an appropriate nursing action when giving this drug?
- Administering the drug as a slow IV infusion.
 - Flushing the IV line with heparin before infusing the drug.
 - Giving the drug within 6 hours of the chemotherapy.
 - Warning the patient about the potential for distortion of taste.

ANS: D

Palifermin is generally well tolerated but commonly causes reactions involving the skin and mouth, including taste distortion. The drug should be given as an IV bolus. Palifermin binds with heparin, so the IV line should not be flushed with heparin before giving palifermin. If the interval between administration of palifermin and the chemotherapeutic drugs is too short, palifermin actually may increase the severity and duration of oral mucositis; therefore, palifermin should be given 24 hours before the chemotherapeutic drugs. DIF: Cognitive Level: Application REF: p. 734 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

698. A patient is being treated for chemotherapy-induced nausea and vomiting (CINV) with ondansetron [Zofran] and dexamethasone. The patient reports getting relief during and immediately after chemotherapy but has significant nausea and vomiting several days after each chemotherapy treatment. What will the nurse do?
- Contact the provider to discuss increasing the dose of ondansetron.
 - Suggest giving prolonged doses of dexamethasone.
 - Suggest adding aprepitant [Emend] to the medication regimen.
 - Tell the patient to ask the provider about changing the ondansetron to aprepitant.

ANS: C

The current regimen of choice for patients taking highly emetogenic drugs consists of three agents: aprepitant plus dexamethasone plus a 5-HT₃ antagonist, such as ondansetron. Aprepitant has a prolonged duration of action and can prevent delayed CINV as well as acute CINV. Increasing the dose of ondansetron will not help treat the delayed CINV. Glucocorticoids should be given intermittently and for short periods to avoid side effects. Changing the ondansetron to aprepitant is not recommended. DIF: Cognitive Level: Application REF: p. 725 TOP: Nursing Process:

Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

699. A patient who is in her first trimester of pregnancy asks the nurse to recommend nonpharmaceutical therapies for morning sickness. What will the nurse suggest?
- Avoiding fatty and spicy foods
 - Consuming extra clear fluids
 - Eating three meals daily
 - Taking foods later in the day

ANS: A

Nausea and vomiting of pregnancy (NVP) can be treated with nondrug measures, including avoiding fatty and spicy foods. Consuming extra fluids does not help with nausea and vomiting (N/V) but may be needed to prevent dehydration. Patients should be advised to eat small portions of food throughout the day rather than three complete meals. "Morning sickness" may actually occur all day, so delaying intake is not recommended. DIF: Cognitive Level: Application REF: p.728 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

700. A nurse is discussing the use of immunosuppressants for the treatment of inflammatory bowel disease (IBD) with a group of nursing students. Which statement by a student indicates understanding of the teaching?
- "Azathioprine [Imuran] helps induce rapid remission of IBD."
 - "Cyclosporine [Sandimmune] can be used to induce remission of IBD."
 - "Cyclosporine [Sandimmune] does not have serious adverse effects."
 - "Methotrexate is used long term to maintain remission of IBD."

ANS: B

Cyclosporine can be given intravenously to induce rapid remission of IBD. Azathioprine has delayed onset of effects up to 6 months and is not used to induce rapid remission. Cyclosporine is a toxic compound that can cause renal impairment, neurotoxicity, and immune suppression. Methotrexate is used to promote short-term remission. DIF: Cognitive Level: Application REF: p. 734 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

701. A patient is receiving intravenous promethazine [Phenergan] 25 mg for postoperative nausea and vomiting. What is an important nursing action when giving this drug?
- Giving the dose as an IV push over 3 to 5 minutes
 - Infusing the dose with microbore tubing and an infusion pump
 - Observing the IV insertion site frequently for patency

- d. Telling the patient to report dry mouth and sedation

ANS: C

If IV administration must be done with this drug, it should be given through a large-bore, freely flowing line. The site should be monitored closely for local burning or pain or any sign of extravasation, which can cause abscess formation, tissue necrosis, and gangrene requiring amputation. Giving the medication as a rapid IV push or through microbore tubing does not adequately slow the infusion or dilute the drug. Dry mouth and sedation are expected side effects of this drug and are not dangerous. DIF: Cognitive Level: Application REF: p. 727 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

702. A patient who has traveler's diarrhea asks the nurse about using loperamide to stop the symptoms. What will the nurse tell the patient about this drug?

- a. "Loperamide is used for moderate to severe symptoms only."
- b. "This drug is useful as prophylaxis to prevent symptoms."
- c. "This drug is only effective to treat certain infectious agents."
- d. "Use of this drug may prolong symptoms by slowing peristalsis."

ANS: D

Loperamide is a nonspecific antidiarrheal that slows peristalsis; by this action, it may delay transit of the causative organism and may prolong the infection. It is used to treat mild symptoms and is used once symptoms start. It is not an antibiotic agent and is nonspecific. DIF: Cognitive Level: Application REF: p. 731 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

703. A patient is preparing to travel to perform missionary work in a region with poor drinking water. The provider gives the patient a prescription for ciprofloxacin [Cipro] to take on the trip. What will the nurse instruct this patient to do?

- a. Combine the antibiotic with an antidiarrheal medication, such as loperamide.
- b. Start taking the ciprofloxacin 1 week before traveling.
- c. Take 1 tablet of ciprofloxacin with each meal for best results.
- d. Use the drug if symptoms are severe or do not improve in a few days.

ANS: D

Traveler's diarrhea is generally caused by *Escherichia coli*; treatment is usually unnecessary, because the disease runs its course in a few days. If symptoms are severe or prolonged, an antibiotic, such as ciprofloxacin, may be helpful. Patients should be instructed to take it only if needed. Antidiarrheal medications may just slow the export of the organism and prolong the course of the disease, but they may be used when symptoms are mild for relief from discomfort. Prophylactic treatment with antibiotics is not recommended. Ciprofloxacin is given twice daily, not with meals. DIF: Cognitive Level: Application REF: p. 730 TOP: Nursing Process: Planning

MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

704. A patient who experiences motion sickness is about to go on a cruise. The prescriber orders transdermal scopolamine [Transderm Scop]. The patient asks the nurse why an oral agent is not ordered. The nurse will explain that the transdermal preparation:
- can be applied as needed at the first sign of nausea.
 - has less intense anticholinergic effects than the oral form.
 - is less sedating than the oral preparation.
 - provides direct effects, because it is placed close to the vestibular apparatus of the ear.

ANS: B

The transdermal system of scopolamine is preferred, because it may have less intense anticholinergic effects than oral or subcutaneous dosing. Antinausea medications for motion sickness are more effective if given prophylactically than after symptoms begin. Sedation side effects are similar with all forms. Placement near the ear does not cause the medication to absorb directly into the vestibular apparatus. DIF: Cognitive Level: Application REF: p. 729 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

705. A nurse is admitting a patient to the hospital who reports having recurrent, crampy abdominal pain followed by diarrhea. The patient tells the nurse that the diarrhea usually relieves the pain and that these symptoms have occurred daily for the past 6 months. The patient undergoes a colonoscopy, for which the findings are normal. The nurse will plan to teach this patient to:
- use antispasmodic medications.
 - avoid food containing lactose and gluten.
 - keep a food, stress, and symptom diary.
 - use antidiarrheal drugs to manage symptoms.

ANS: C

This patient shows signs of irritable bowel syndrome (IBS), which can be managed with drug and nondrug therapies. Patients should be taught to keep a log to identify foods and stressors that trigger symptoms. Antispasmodic medications frequently are used, but there is no clear evidence of their benefit. Patients with malabsorption disorders may need to avoid lactose or gluten but only if indicated. Antidiarrheal drugs do not have clear benefits, even though they are commonly used. DIF: Cognitive Level: Application REF: p. 731 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies
Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 65: Vitamins

Test Bank

Multiple Choice

706. A patient who is known to be a heavy drinker is brought to the emergency department with ataxia and confusion. The patient cannot remember the events of the previous day. The examination reveals nystagmus, and the patient reports having double vision. The nurse will expect to administer which vitamin to this patient?

- a. Ascorbic acid (vitamin C) IV
- b. Intramuscular pyridoxine (vitamin B6)
- c. Intravenous thiamine (vitamin B1)
- d. Nicotinic acid (niacin) PO

ANS: C

Alcoholics who are malnourished have a form of thiamine deficiency called Wernicke-Korsakoff syndrome, which is characterized by nystagmus, diplopia, ataxia, confusion, and short-term memory loss. Parenteral thiamine is indicated for treatment. Ascorbic acid is given to treat vitamin C deficiency, or scurvy. Pyridoxine is given for vitamin B6 deficiency, also common in alcoholics, but this patient does not have the symptoms of seborrheic dermatitis and peripheral neuropathy. Nicotinic acid is used for niacin deficiency, which is characterized by severe dry, rough skin. DIF: Cognitive Level: Application REF: p. 743 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

707. A patient who is malnourished has scaling, cracked skin on the arms and face. The patient is irritable, anxious, and has difficulty sleeping. The patient complains of soreness of the tongue and mouth. When teaching this patient about vitamin therapy for this disorder, the nurse will tell the patient to report which side effects?

- a. Abdominal cramps and diarrhea
- b. Flushing, dizziness, and nausea
- c. Migraine headaches
- d. Numbness of feet and hands

ANS: B

This patient shows signs of niacin deficiency. Side effects of niacin deficiency include flushing, dizziness, and nausea secondary to vasodilation. Abdominal cramps, diarrhea, migraines, and numbness of extremities are not side effects of niacin deficiency. DIF: Cognitive Level: Analysis REF: p. 742 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

708. A nursing student asks a nurse working in the newborn nursery how vitamin K deficiency is treated in newborns. Which response by the nurse is correct?

- a. "A newborn infant's intestinal flora will produce vitamin K."
- b. "If coagulation studies show a bleeding disorder, oral menadione is given."
- c. "Menadione is given intravenously shortly after delivery."
- d. "Phytonadione is given intramuscularly immediately after delivery."

ANS: D

A normal infant is born vitamin K deficient, and all infants are given an IM injection of phytonadione immediately after delivery. Newborns have not developed the intestinal flora needed to produce sufficient amounts of vitamin K. Menadione is not used in infants because of the increased risk of hyperbilirubinemia associated with its use. DIF: Cognitive Level: Application REF: p. 741 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

709. A nurse is discussing nutrition with a patient who expresses concern about not always consuming vitamins in amounts consistent with the recommended dietary allowances (RDAs). What will the nurse tell this patient?
- a. The RDA is only an estimate of the amount of vitamins required and does not represent a scientific number.
 - b. The RDA is the amount of vitamin needed by 50% of the population regardless of age or gender.
 - c. The RDA represents the highest amount that can be consumed safely, so amounts less than this can be sufficient.
 - d. The RDA represents an average, so low intake one day can be compensated for by increased amounts on another day.

ANS: D

The recommended dietary allowance is the average daily dietary intake sufficient to meet the nutrient requirements of nearly all healthy individuals. Because it represents an average, a low amount one day can be compensated for by an increased amount on another day. The RDA values are determined through extensive experimental data and are not estimates. The estimated average requirement (EAR) is the level that meets the nutritional requirements of 50% of healthy individuals. The tolerable upper intake level (UL) is the highest average daily intake that can be consumed without risk of adverse effects. DIF: Cognitive Level: Analysis REF: p. 737 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

710. The nurse is assessing a patient who is malnourished and has a history of poor nutrition. The patient reports difficulty seeing at night. This patient is likely to be deficient in which fat-soluble vitamin?
- a. A (retinol)
 - b. D

- c. E (alpha-tocopherol)
- d. K

ANS: A

Vitamin A is needed for dark adaptation; night blindness often is the first indication of deficiency. Night blindness is not a sign of deficiency of vitamins D, E, or K. DIF: Cognitive Level: Application REF: p. 738 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

711. Which B vitamin deficiency is associated with cheilosis, glossitis, vascularization of the cornea, and itchy dermatitis of the scrotum and vulva?
- a. Niacin (nicotinic acid)
 - b. Pyridoxine (vitamin B6)
 - c. Riboflavin (vitamin B2)
 - d. Thiamine (vitamin B1)

ANS: C

Riboflavin deficiency produces the symptoms described and can be treated with riboflavin supplements. These signs do not indicate deficiencies of niacin, pyridoxine, or thiamine. DIF: Cognitive Level: Application REF: p. 743 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

712. A child is diagnosed with rickets. The nurse knows that this child is most likely deficient in which vitamin?
- a. Niacin (nicotinic acid)
 - b. Thiamin (vitamin B1)
 - c. Vitamin C (ascorbic acid)
 - d. Vitamin D

ANS: D

Vitamin D plays a critical role in the regulation of the metabolism of calcium and phosphorus. Classic effects of deficiency are rickets in children and osteomalacia in adults. Niacin, thiamin, and vitamin C do not play a role in the prevention of rickets. DIF: Cognitive Level: Analysis REF: p. 740 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

713. A patient will begin taking iron supplements to treat anemia. The nurse will recommend that the patient take the iron with which food to facilitate absorption?
- a. Cereal
 - b. Dairy products

- c. Orange juice
- d. Red meats

ANS: C

Orange juice is a good source of vitamin C, and vitamin C facilitates the absorption of iron. Cereals often are fortified with iron but do not facilitate its absorption. Calcium interferes with the absorption of iron. Red meats are a natural source of iron. DIF: Cognitive Level: Analysis REF: p. 742 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

714. A pregnant patient is discussing nutrition and vitamin supplements with the nurse. Which statement by the patient indicates an understanding of the use of nutrition and supplements during pregnancy?
- a. "I can get adequate folic acid by consuming foods fortified with synthetic folate."
 - b. "I need reduced amounts of vitamin C while pregnant to lower my risk of hemorrhage."
 - c. "I should take vitamin K so my baby will not be vitamin K deficient at birth."
 - d. "Excessive amounts of vitamin A [retinol] can cause birth defects in my baby."

ANS: D

Vitamin A in high doses can cause birth defects, so pregnant women should be cautioned about exceeding the UL and probably the RDA for vitamin A while pregnant. Pregnant women need to take 400 to 800 mg of supplemental folic acid in addition to that in food. Vitamin C deficiency, not excess, can lead to bleeding disorders. Maternal intake of vitamin K will not prevent infants from being born vitamin K deficient. DIF: Cognitive Level: Application REF: p. 738 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

715. A patient asks how she can consume optimal amounts of folate, because she is trying to get pregnant. The nurse will advise this patient to do what?
- a. Eat foods naturally high in folate.
 - b. Stop worrying because folate is present in many foods.
 - c. Take synthetic folate on an empty stomach.
 - d. Take synthetic folate in addition to foods high in folate.

ANS: D

All women of childbearing age need 400 to 800 mg of synthetic folate in addition to dietary sources to help prevent neural tube defects in the fetus. The bioavailability of synthetic folate is increased in the presence of food. Dietary folate is not sufficient to prevent neural tube defects, even when these foods are consumed in increased amounts. Taking folate on an empty stomach reduces the amount absorbed. DIF: Cognitive Level: Application REF: p. 744 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

716. A patient with hyperlipidemia has been told by the provider to take extra niacin. The nurse will tell the patient to:

- a. increase servings of poultry, fish, and cereals.
- b. take nicotinamide supplements.
- c. take nicotinic acid supplements.
- d. take tryptophan supplements.

ANS: C

Nicotinic acid is given in high doses to treat hyperlipidemia. Increasing dietary niacin is not sufficient to treat hyperlipidemia. Nicotinamide does not affect plasma lipoproteins. Dietary tryptophan is converted by the body into nicotinic acid, but not in sufficient amounts to treat hyperlipidemia. DIF: Cognitive Level: Application REF: p. 742 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

717. An adult who has been self-medicating, using nutritional therapy for an elevated cholesterol level, complains of repeated episodes of flushing. The nurse suspects that the patient has been taking:

- a. niacin.
- b. thiamine.
- c. riboflavin.
- d. pyridoxine.

ANS: A

Niacin is used to reduce cholesterol levels. When taken in large doses, nicotinic acid can cause vasodilation, with resultant flushing, dizziness, and nausea. Flushing is not a side effect of thiamine, riboflavin, or pyridoxine because they do not cause vasodilation. DIF: Cognitive Level: Application REF: p. 743 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

718. A nurse is caring for a patient who recently immigrated from a third world country. The patient is thin and appears malnourished. The nurse notes that the patient has loose and missing teeth, gingivitis, and bleeding gums. The patient has multiple sores and ecchymoses. The nurse will expect the provider to order:

- a. cyanocobalamin (vitamin B12).
- b. high-dose nicotinic acid.
- c. intramuscular thiamine for 1 to 2 weeks.
- d. intravenous ascorbic acid.

ANS: D

This patient has scurvy with acute, severe symptoms, and needs intravenous vitamin C. The patient does not have signs of vitamin B12 deficiency, niacin deficiency, or thiamine deficiency. DIF: Cognitive Level: Application REF: p. 742 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 66: Drugs for Weight Loss

Test Bank

Multiple Choice

719. A nurse is teaching a patient who is about to begin drug therapy with orlistat [Xenical]. The patient, whose BMI is 28, has hypertension and type 2 diabetes mellitus. Which statement by the patient indicates understanding of the teaching?
- “Dark urine and light-colored stools are expected side effects with this drug.”
 - “I should stop taking this drug once my blood pressure and serum glucose have stabilized.”
 - “I will need to take a multivitamin containing fat-soluble vitamins every day.”
 - “If I have fatty or oily stools or fecal incontinence I should stop taking this drug.”

ANS: C

Because orlistat works by reducing fat absorption, fat-soluble vitamins are not absorbed as well. Patients should take a multivitamin containing vitamins A, D, E, and K. The increased fat is lost in stools, resulting in fatty, oily stools, and fecal incontinence. These are expected side effects but are not dangerous and can be managed with bulk-forming laxatives. Orlistat is used for long-term weight loss and should be given up to 2 years to sustain weight loss. Dark urine and light-colored stools indicate possible liver damage and the need to discontinue the drug until liver damage has been ruled out. DIF: Cognitive Level: Application REF: p. 750 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

720. A patient will begin taking phentermine and topiramate [Osymia] to help with weight loss and asks the nurse why the second ingredient is necessary. Which is the correct response by the nurse?
- “Topiramate helps reduce the risk of seizures that can occur with phentermine.”
 - “Topiramate helps produce feelings of satiety to augment the drug effects.”
 - “Topiramate increases the appetite suppression caused by phentermine.”
 - “Topiramate increases the rate of weight loss by acting as a stimulant.”

ANS: B

Topiramate is an antiseizure medication that acts to induce a sense of satiety in patients taking the combination product. It is not given for its antiseizure properties. Phentermine causes appetite suppression. Topiramate does not act as a stimulant. DIF: Cognitive Level: Application REF: p. 753 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

721. A nurse is counseling a group of patients who are beginning a weight-loss diet. The nurse discusses the role of exercise in weight management. Which statement by a patient indicates a need for further teaching?
- “Exercise has a greater role in weight-loss maintenance than in weight loss itself.”
 - “Exercise helps by reducing abdominal fat and improving cardiovascular fitness.”
 - “Once I lose weight, I can reduce the amount of time per week I exercise.”
 - “I should begin with at least 30 minutes of exercise per day, 5 days/week.”

ANS: C

Exercise is most useful for weight maintenance after weight loss has occurred; the amount of exercise recommended after weight loss has occurred is greater than for weight loss itself, so this statement indicates a need for further teaching. The other statements are all correct. DIF: Cognitive Level: Application REF: p. 749 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

722. A nurse is teaching a group of patients about weight management options. Which statement by the patient indicates a need for further teaching?
- “Although some drugs often show benefits, these benefits do not outweigh the risks.”
 - “Antiobesity drugs should be used only as adjuncts to a comprehensive weight loss program of diet and exercise.”
 - “Most patients regain lost weight when antiobesity drugs are discontinued.”
 - “The side effects of most of these drugs are too uncomfortable to maintain compliance.”

ANS: A

Several new drugs have shown promise in promoting weight loss, but they are not on the market because the benefits are not significant enough to offset possible risks. A few of these drugs have a high abuse potential, but most have a low abuse potential. Side effects of these drugs that affect comfort have been minor for the most part. DIF: Cognitive Level: Application REF: p. 749 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

723. A patient asks a nurse which weight-loss diet is most effective. Which response by the nurse is appropriate?

- a. "Low-fat diets may be easiest for weight loss, because fat has a higher concentration of calories than proteins and carbohydrates."
- b. "Most diets do not work very well for long-term maintenance, so you should ask your provider about medications to lose weight."
- c. "You should be able to lose 30 to 40 pounds in the first 6 months of an effective weight-loss diet."
- d. "You should select a diet that has a higher fat ratio to prevent hunger between meals."

ANS: A

For patients watching calories, a low-fat diet makes sense, because fats have a higher concentration of calories per ounce. Drugs are used as adjuncts to weight-loss diets and are reserved for people at increased health risks who have not been able to lose weight after a 6-month program of diet and exercise. The goal for weight loss in the first 6 months is 10% of total body weight. A diet with a higher fat ratio does not necessarily reduce between-meal hunger. DIF: Cognitive Level: Application REF: p. 749 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

724. A patient who has received a prescription for orlistat [Xenical] for weight loss asks the nurse how the drug works. The nurse will tell the patient that orlistat works by:
- a. altering how the body stores energy.
 - b. reducing the body's absorption of fats.
 - c. increasing the body's metabolic rate.
 - d. suppressing the appetite.

ANS: B

Orlistat works by altering the absorption of fats. It does not affect how energy is stored, the metabolic rate, or the appetite. DIF: Cognitive Level: Application REF: p. 750 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

725. A nurse is working with a group of patients. One patient states, "My goal is to reduce my weight from 280 pounds to 230 pounds in 6 months." Which response by the nurse would be most appropriate for this patient?
- a. "Most weight loss occurs in the first 6 months, so you should try to reduce your weight to 200 pounds."
 - b. "Safe and maintainable weight loss should be about 10% of body weight in 6 months."
 - c. "That is a realistic goal for your weight-reduction program."
 - d. "Weight loss of more than 20 pounds in 6 months could be dangerous."

ANS: B

Safe weight loss should be about 10% of body weight in 6 months (i.e., 28 pounds for this patient). A loss of 50 pounds in 6 months is unsafe for this patient. Advising the patient to aim for a weight

loss of 80 pounds in the first 6 months is less realistic than a reduction of 50 pounds and may harm the patient. Weight loss of more than 20 pounds in 6 months is not dangerous, because it falls within the guideline of 10% of body fat (i.e., 28 pounds for this patient).DIF: Cognitive Level: ApplicationREF: p. 749TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

726. A patient has been taking phentermine and topiramate [Osymia] for 6 months for weight loss. The nurse weighs the patient and notes a 3% weight loss since beginning the drug. The nurse will expect the prescriber to:

- a. continue the current dosage for 4 more weeks.
- b. discontinue the drug.
- c. increase the drug dosage.
- d. switch to another nonamphetamine agent.

ANS: B

If a patient who is taking phentermine and topiramate has not lost 5% of weight by 6 months, the drug should be discontinued. Patients losing only 3% or less by 3 months of therapy may benefit from an increased or continued dose. Switching to another nonamphetamine produce is not recommended.DIF: Cognitive Level: ApplicationREF: p. 751TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

727. A female patient with diabetes who is obese will begin taking lorcaserin [Belviq] to help with weight loss. What will the nurse include when teaching this patient about this drug?

- a. "This drug is safe to take if you become pregnant."
- b. "This drug does not have serious adverse effects."
- c. "You may need to check your blood glucose levels more often."
- d. "You will need to increase your insulin dose to prevent hyperglycemia."

ANS: C

About 30% of patients with diabetes will experience an increase in hypoglycemic episodes when taking lorcaserin. It is classified as Pregnancy Risk Category X and should not be taken by women who are pregnant. It has uncommon, but severe adverse effects. Since it can cause hypoglycemia, patients will not likely have to increase insulin doses.DIF: Cognitive Level: ApplicationREF: p. 750TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

728. A 50-year-old patient with a body mass index (BMI) of 26 and a waist circumference (WC) of 37 who smokes asks a nurse about drugs for weight loss. She tells the nurse, "I keep trying to eat less, but it does not work." What will the nurse do?

- a. Ask her to begin keeping a log of her food intake and activities.
- b. Counsel her to quit smoking to reduce her health risk.
- c. Suggest she begin walking every day to increase the number of calories burned.
- d. Tell her she is a candidate for drug therapy and suggest she contact her provider.

ANS: A

Drug therapy can be used for people at increased health risk, such as this woman, but only as an adjunct to diet and exercise and only after a 6-month diet and exercise regimen has failed. The first step should be to ask the patient to keep a log of intake and activity so that she is aware of how many calories she consumes and how many she burns. Counseling her to quit smoking is appropriate in terms of overall health but does not address her current concern. Exercise without diet is not effective, although exercise is a useful adjunct to diet modification. The patient is not a candidate for drug therapy until she has tried a diet and exercise program for 6 months. DIF: Cognitive Level: Application REF: p. 749 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

729. Which statement by a patient about to begin taking orlistat [Xenical] for weight loss therapy indicates an understanding of this drug's actions?
- a. "I can eat as much as I want and still lose weight."
 - b. "I should avoid fat-soluble vitamin supplements while taking this drug."
 - c. "If I take a bulk-forming laxative, I can reduce the incidence of fecal incontinence."
 - d. "If I take the drug 4 times daily instead of twice daily, I will lose weight faster."

ANS: C

Because orlistat reduces fat absorption, stools often are fatty or oily, and fecal incontinence can occur. Bulk-forming laxatives can help with this side effect. For orlistat to be effective, patients still need to adopt a reduced-calorie diet with a 30% fat content. Patients should take fat-soluble vitamin supplements to replace those lost in stools. Taking the drug more often does not increase weight loss. DIF: Cognitive Level: Application REF: p. 750 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

730. A nurse performing an admission history on a patient learns that the patient is taking orlistat [Xenical], warfarin [Coumadin], and levothyroxine [Synthroid]. What will the nurse do?
- a. Contact the provider to discuss increasing the warfarin dose.
 - b. Give the levothyroxine at least 4 hours before giving the orlistat.
 - c. Suggest that the patient avoid fatty foods while taking these medications.
 - d. Tell the patient to take the orlistat on an empty stomach.

ANS: B

Orlistat may cause hypothyroidism in patients taking levothyroxine; these two drugs should be administered at least 4 hours apart. The vitamin K deficiency that can occur with orlistat may

compound the effects of warfarin, so coagulation should be monitored; it is more likely that the warfarin dose would need to be reduced. The patient may still consume foods containing fat, as long as fat accounts for about 30% of the total intake. Orlistat should be taken with food.DIF: Cognitive Level: ApplicationREF: p. 750TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies
Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 67: Complementary and Alternative Therapies

Test Bank

Multiple Choice

731. The nurse is obtaining a history from a patient who discloses daily use of St. John's wort in addition to prescription drugs. Which effect of this dietary supplement would most concern the nurse?
- It accelerates the metabolism of some drugs.
 - It enhances the effects of digoxin.
 - It counteracts the effects of CNS depressants.
 - It increases the risk of bleeding.

ANS: A

St. John's wort has the potential to interact with many drugs through three different mechanisms. One mechanism, induction of P450, accelerates the metabolism of many drugs, causing loss of therapeutic effects. St. John's wort reduces the effects of digoxin, because P-glycoprotein transports drugs out of tubular cells of the kidney and into the urine, greatly reducing digoxin levels. St. John's wort does not counteract the beneficial effects of CNS depressants; it can actually intensify the effects of serotonin. St. John's wort is not known to increase the risk of bleeding.DIF: Cognitive Level: ApplicationREF: p. 767TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

732. A nurse is performing a preoperative drug history on a patient who is admitted to the hospital for surgery. To evaluate the risk of hemorrhage, the nurse will ask the patient about antiplatelet and anticoagulant medications as well as which dietary supplement?
- Coenzyme Q-10
 - Ginkgo biloba
 - Ma huang (ephedra)
 - St. John's wort

ANS: B

Ginkgo biloba can suppress platelet aggregation and will increase the risk of bleeding in patients taking antiplatelet medications and anticoagulants. Coenzyme Q-10, Ma huang, and St. John's wort

do not have antiplatelet actions.DIF: Cognitive Level: ApplicationREF: p. 762TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

733. A patient in her twenties has frequent urinary tract infections, and her prescriber suggests drinking cranberry juice. She asks the nurse how drinking this can help. The nurse will tell her that cranberry juice:

- a. acidifies the urine to slow the growth of the bacteria.
- b. helps treat established infections.
- c. prevents bacteria from adhering to the urinary tract wall.
- d. reduces the odor of the urine.

ANS: C

Cranberry juice helps prevent UTIs by preventing bacteria from adhering to the urinary tract wall. It does not acidify the urine or treat established infections. It can reduce odor, but this action does not contribute to decreased infections.DIF: Cognitive Level: ApplicationREF: p. 759TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

734. A patient asks a nurse how to know whether dietary supplements are safe. The nurse will tell this patient that:

- a. any standards addressing safety merely regulate labeling and manufacturing processes.
- b. manufacturers must provide the FDA with efficacy claims prior to marketing their supplements.
- c. the DSHEA requires labeling that prohibits claims of treatment of specific diseases or conditions.
- d. the FDA must approve dietary supplements prior to marketing them in the United States.

ANS: A

Dietary supplements are regulated under the Dietary Supplement Health and Education Act of 1994 (DSHEA). This special category exempts them from the scrutiny applied to foods and drugs. A set of standards issued by the FDA in 2007 is designed to ensure that supplements are devoid of adulterants, contaminants, and impurities and that labels reflect the contents—these standards do not ensure safety and efficacy. Efficacy claims must be provided but are not required to prove these claims; a claim to efficacy does not guarantee safety. Regulations prohibiting disease-specific claims do not ensure safety. The FDA does not approve dietary supplements prior to marketing.DIF: Cognitive Level: AnalysisREF: p. 755TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

735. A patient admitted to the emergency department with abdominal pain tells the nurse he has been taking kava. Which action is the nurse's priority at this time?

- a. Review liver function studies.
- b. Assess breath sounds and respiratory effort.
- c. Monitor cardiovascular status.
- d. Review complete blood count results.

ANS: A

Kava can cause severe liver injury and, in some cases, require liver transplantation. This patient has abdominal pain, which can be the result of liver damage, so liver function tests should be reviewed. Kava does not affect the respiratory system, the cardiovascular system, or the blood-forming organs. DIF: Cognitive Level: Analysis REF: p. 768 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

736. A patient will begin taking immunosuppressant drugs for rheumatoid arthritis. The nurse will caution this patient to avoid which dietary supplement?
- a. Black cohosh
 - b. Echinacea
 - c. Feverfew
 - d. Glucosamine

ANS: B

Echinacea stimulates the immune system so it should not be used in patients with autoimmune disease such as RA; it also compromises the effectiveness of immunosuppressive drugs. Black cohosh, feverfew, and glucosamine are not contraindicated in patients with RA. DIF: Cognitive Level: Application REF: p. 759 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

737. A nursing student asks a nurse what the NMBER system that rates dietary supplements means. The nurse responds that the NMBER system:
- a. describes the chemistry, toxicology, pharmacology, and uses of supplements.
 - b. helps consumers evaluate the safety and efficacy of products.
 - c. provides free information about clinical trials and epidemiologic studies of products.
 - d. provides funding for research on complementary and alternative medicine.

ANS: B

The Natural Medicines Brand Evidence-Based Rating (NMBER) system offers evidence-based ratings for over 60,000 supplement products based on scientific evidence of safety and efficacy. Information from this system does not describe the chemistry, toxicology, pharmacology, and uses of the products or describe data from clinical trials. There is a fee for use of this system. The system does not fund research on these products. DIF: Cognitive Level: Analysis REF: p. 767 TOP: Nursing

Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

738. A nurse discusses ginger root with a pregnant patient who asks about the risks and benefits of using ginger root to treat morning sickness during pregnancy. Which statement by the patient indicates a need for further teaching?
- “Ginger root can cause GI disturbance in high doses.”
 - “Ginger root can decrease my risk of bleeding.”
 - “Ginger root is effective in treating morning sickness.”
 - “Ginger root may affect fetal sex hormones.”

ANS: B

Ginger root can increase the risk of bleeding in patients taking other anticoagulant or antiplatelet drugs. In high doses, it can cause GI disturbances. It has been shown to be effective in treating morning sickness. It may affect fetal sex hormones. DIF: Cognitive Level: Application REF: p. 762 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

739. A patient will begin taking drugs for hyperlipidemia. The patient asks about using flaxseed supplements to increase fiber. What will the nurse tell this patient?
- Not to use defatted flaxseed
 - That flaxseed helps with the absorption of medications
 - That flaxseed is not recommended
 - To take the flaxseed 1 hour before taking the drug

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 68: Basic Principles of Antimicrobial Therapy

Test Bank

Multiple Choice

740. A patient has a viral sinus infection, and the provider tells the patient that antibiotics will not be prescribed. The patient wants to take an antibiotic and asks the nurse what possible harm could occur by taking an antibiotic. Which response by the nurse is correct?
- “Antibiotics are mutagenic and can produce changes that cause resistance.”
 - “Even normal flora can develop resistance and transfer this to pathogens.”
 - “Host cells become resistant to antibiotics with repeated use.”
 - “Patients who overuse antibiotics are more likely to have nosocomial infections.”

ANS: B

Antibiotics make conditions favorable for the overgrowth of microbes with acquired resistance. Normal flora, present at all times, can develop resistance and can transfer this resistance to pathogens if they occur. Even when pathogens are not present, antibiotic use can promote resistance in the future. Antibiotics are not mutagenic. Host cells are not affected. Antibiotic use does not increase the risk of nosocomial infection in a particular patient but does increase resistance in resident organisms in a particular hospital. DIF: Cognitive Level: Application REF: p. 773 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

741. An older adult patient with chronic obstructive pulmonary disease (COPD) develops bronchitis. The patient has a temperature of 39.5° C. The nurse will expect the provider to:
- obtain a sputum culture and wait for the results before prescribing an antibiotic.
 - order empiric antibiotics while waiting for sputum culture results.
 - treat symptomatically, because antibiotics are usually ineffective against bronchitis.
 - treat the patient with more than one antibiotic without obtaining cultures.

ANS: B

Patients with severe infections should be treated while culture results are pending. If a patient has a severe infection or is at risk of serious sequelae if treatment is not begun immediately, it is not correct to wait for culture results before beginning treatment. Until a bacterial infection is ruled out, treating symptomatically is not indicated. Treating without obtaining cultures is not recommended. DIF: Cognitive Level: Application REF: p. 774 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

742. The nurse is caring for a patient on a medical-surgical unit who has a fever of unknown origin. The prescriber has ordered a broad-spectrum antibiotic. Which intervention is the priority?
- Administering the antibiotic immediately
 - Administering antipyretics as soon as possible
 - Delaying administration of the antibiotic until the culture results are available
 - Obtaining all cultures before the antibiotic is administered

ANS: D

It is essential that samples of exudates and body fluids (in this case, blood cultures) be obtained for culture before initiation of treatment. Administration of the antibiotic is important but not more important than obtaining specimens for culture. Antipyretics may be indicated, but the priority is obtaining specimens for culture. Treatment may be initiated before the test results are available. DIF: Cognitive Level: Application REF: p. 774 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

743. The nurse has been caring for a patient who has been taking antibiotics for 3 weeks. Upon assessing the patient, the nurse notices the individual has developed oral thrush. What describes the etiology of the thrush?

- a. Antibiotic resistance
- b. Community-acquired infection
- c. Nosocomial infection
- d. Superinfection

ANS: D

Oral thrush is a manifestation of a superinfection. The development of thrush is not a symptom of antibiotic resistance. Oral thrush typically is not a community-acquired infection. The development of thrush is not a nosocomial infection. DIF: Cognitive Level: Application REF: p. 773 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

744. A child has received amoxicillin [Amoxil] for three previous ear infections, but a current otitis media episode is not responding to treatment. The nurse caring for this child suspects that resistance to the bacterial agent has occurred by which microbial mechanism?

- a. Alteration of drug target molecules
- b. Antagonist production
- c. Drug inactivation
- d. Reduction of drug concentration at the site of action

ANS: C

Drug inactivation can occur when microbes produce drug-metabolizing enzymes. Penicillin-resistant organisms, including many that cause otitis media, produce penicillinase. Alteration of drug target molecules, drug inactivation, and reduction of the drug concentration occur with other antimicrobials. DIF: Cognitive Level: Application REF: p. 771 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

745. A recent campaign, initiated by the Centers for Disease Control (CDC), to delay the emergence of antibiotic resistance in hospitals, has what as one of its objectives?

- a. Allowing patients to stop antibiotics when symptoms subside
- b. Allowing prescribers to develop their own prescribing guidelines
- c. Increased adherence to prescribed antibiotics
- d. Increased use of antibiotics among parents of young children

ANS: C

The CDC initiative has identified three objectives to help delay the emergence of resistance to antibiotics in hospitals. One of the objectives is to increase adherence to prescribed antibiotics among users. Allowing patients to stop using antibiotics before the prescription ends is not one of the objectives and may increase the risk of resistance. Other objectives include ensuring that prescribers adhere to appropriate prescribing guidelines instead of developing their own and decreasing antibiotic use among parents of small children. DIF: Cognitive Level: Comprehension REF: p. 774 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

746. A nursing student asks a nurse to clarify the differences between the mechanisms of spontaneous mutation and conjugation in acquired resistance of microbes. What will the nurse say?
- Conjugation results in a gradual increase in resistance.
 - Conjugation results in random changes in the microbe's DNA.
 - Spontaneous mutation leads to resistance to only one antimicrobial agent.
 - Spontaneous mutation can transfer DNA from one organism to another.

ANS: C

Spontaneous mutation generally confers resistance to only one drug. Conjugation can occur quickly; spontaneous mutation is gradual. Spontaneous mutation is random; conjugation is not. Conjugation can occur with the transfer of DNA from one organism to another. DIF: Cognitive Level: Analysis REF: p. 773 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

747. A patient has a localized skin infection, which is most likely caused by a gram-positive cocci. Until the culture and sensitivity results are available, the nurse will expect the provider to order a -spectrum agent.
- broad; systemic
 - broad; topical
 - narrow; systemic
 - narrow; topical

ANS: D

When infections are treated before the causative agent has been identified, and after cultures have been obtained, antibiotics may be used based on the knowledge of which microbes are most likely to cause infection at that particular site. Because this is a localized infection, a topical agent is recommended. Unless the infection is very serious, a narrow-spectrum antibiotic is best. DIF: Cognitive Level: Analysis REF: p. 770 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

748. A parent asks a nurse if the provider will prescribe an antibiotic for a child who attends school with several children who have strep throat. The child is complaining of a sore throat and has a fever. What will be the nurse's response?
- "Because strep throat is likely, your child should be treated empirically."
 - "With good hand washing, your child should not get strep throat."
 - "Your child probably has strep throat, so your provider will order an antibiotic."
 - "Your child should come to the clinic to have a throat culture done today."

ANS: D

Whenever possible, the infecting organism should be identified before antibiotics are started, even if there is a strong suspicion that a particular organism is present. The nurse is correct in telling the parent to bring the child to the clinic for a throat culture. Fever and sore throat have other causes, so it is not correct to treat this child empirically, especially because these symptoms are not severe or life-threatening. Although good hand washing is always indicated, this child already has symptoms and needs to be evaluated. Antibiotics should not be started until indicated by cultures. DIF: Cognitive Level: Application REF: p. 774 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

749. The nurse is teaching a nursing student about the mechanism by which antimicrobial agents achieve selective toxicity. Which statement by the student indicates a need for further teaching?
- "Some agents disrupt the bacterial cell wall."
 - "Some agents act to block the conversion of para-aminobenzoic acid (PABA) to folic acid."
 - "Some agents cause phagocytosis of bacterial cells."
 - "Some agents weaken the cell wall, causing cell wall lysis."

ANS: C

Antimicrobial agents do not cause phagocytosis of bacterial cells. They do disrupt and weaken the bacterial cell wall; because human cells do not have cell walls, antimicrobial agents are not toxic to human cells. Some agents block the conversion of PABA to folic acid; humans do not synthesize folic acid and are not harmed by this process. DIF: Cognitive Level: Analysis REF: p. 770 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

ANS: D

Flaxseed may reduce the absorption of conventional drugs and should be taken 1 hour prior to or 2 hours after taking drugs. Defatted flaxseed is not recommended for patients with hyperlipidemia. It does not help with the absorption of medications. It has shown efficacy in reducing cholesterol and LDL. DIF: Cognitive Level: Application REF: p. 761 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 69: Drugs That Weaken the Bacterial Cell Wall I: Penicillins

Test Bank

Multiple Choice

750. A patient is about to receive penicillin G for an infection that is highly sensitive to this drug. While obtaining the patient's medication history, the nurse learns that the patient experienced a rash when given amoxicillin [Amoxil] as a child 20 years earlier. What will the nurse do?
- Ask the provider to order a cephalosporin.
 - Reassure the patient that allergic responses diminish over time.
 - Request an order for a skin test to assess the current risk.
 - Suggest using a desensitization schedule to administer the drug.

ANS: C

Allergy to penicillin can decrease over time; therefore, in patients with a previous allergic reaction who need to take penicillin, skin tests can be performed to assess the current risk. Until this risk is known, changing to a cephalosporin is not necessary. Reassuring the patient that allergic responses will diminish is not correct, because this is not always the case; the occurrence of a reaction must be confirmed with skin tests. Desensitizing schedules are used when patients are known to be allergic and the drug is required anyway. DIF: Cognitive Level: Application REF: p. 788 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

751. A patient has an infection caused by *Pseudomonas aeruginosa*. The prescriber has ordered piperacillin and amikacin, both to be given intravenously. What will the nurse do?
- Make sure to administer the drugs at different times using different IV tubing.
 - Suggest giving larger doses of piperacillin and discontinuing the amikacin.
 - Suggest that a fixed-dose combination of piperacillin and tazobactam [Zosyn] be used.
 - Watch the patient closely for allergic reactions, because risk is increased with this combination.

ANS: A

When penicillins are present in high concentrations they interact with aminoglycosides and inactivate the aminoglycoside; therefore, these two drugs should never be mixed in the same IV solution. The drugs should be given at different times with different tubing. In the treatment of *Pseudomonas* infections, extended-spectrum penicillins, such as piperacillin, usually are given in conjunction with an antipseudomonal aminoglycoside, such as amikacin; therefore, suggesting a larger dose of piperacillin and discontinuation of the amikacin is incorrect. Zosyn is not

recommended. The risk of allergic reactions does not increase with this combination of drugs. DIF: Cognitive Level: Application REF: p. 789 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

752. A child with an ear infection is not responding to treatment with amoxicillin [Amoxil]. The nurse will expect the provider to order:

- a. amoxicillin–clavulanic acid [Augmentin].
- b. ampicillin.
- c. nafcillin.
- d. penicillin G [Benzylpenicillin].

ANS: A

Beta-lactamase inhibitors are drugs that inhibit bacterial beta-lactamases. These drugs are always given in combination with a penicillinase-sensitive penicillin. Augmentin contains amoxicillin and clavulanic acid and is often used when patients fail to respond to amoxicillin alone. Ampicillin is similar to amoxicillin, but amoxicillin is preferred and, if drug resistance occurs, ampicillin is equally ineffective. Pharmaceutical chemists have developed a group of penicillins that are resistant to inactivation by beta-lactamases (e.g., nafcillin), but these drugs are indicated only for penicillinase-producing strains of staphylococci. Penicillin G would be as ineffective as amoxicillin if beta-lactamase is present. DIF: Cognitive Level: Application REF: p. 789 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

753. A patient is receiving intravenous potassium penicillin G, 2 million units to be administered over 1 hour. At 1900, the nurse notes that the dose hung at 1830 has infused completely. What will the nurse do?

- a. Assess the skin at the infusion site for signs of tissue necrosis.
- b. Observe the patient closely for confusion and other neurotoxic effects.
- c. Request an order for serum electrolytes and cardiac monitoring.
- d. Watch the patient's actions and report any bizarre behaviors.

ANS: C

Although penicillin G is the least toxic of all antibiotics, certain adverse effects may be caused by compounds coadministered with penicillin. When large doses of potassium penicillin G are administered rapidly, hyperkalemia can occur, which can cause fatal dysrhythmias. When penicillin G is administered IM, tissue necrosis occurs with inadvertent intra-arterial injection. Confusion, seizures, and hallucinations can occur if blood levels of the drug are too high. Bizarre behaviors result with large IV doses of procaine penicillin G. DIF: Cognitive Level: Application REF: p. 787 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

754. A nurse transcribes a new prescription for potassium penicillin G given intravenously (IV) every 8 hours and gentamicin given IV every 12 hours. Which is the best schedule for administering these drugs?
- Give the penicillin at 0800, 1600, and 2400; give the gentamicin [Garamycin] at 1800 and 0600.
 - Give the penicillin at 0800, 1600, and 2400; give the gentamicin [Garamycin] at 1200 and 2400.
 - Give the penicillin at 0600, 1400, and 2200; give the gentamicin [Garamycin] at 0600 and 1800.
 - Give the penicillin every 8 hours; give the gentamicin [Garamycin] simultaneously with two of the penicillin doses.

ANS: A

Gentamicin should never be administered concurrently with penicillin, because they will interact, and the penicillin may inactivate the aminoglycoside. All the other options show concurrent administration. DIF: Cognitive Level: Application REF: p. 789 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

755. A nurse assisting a nursing student with medications asks the student to describe how penicillins (PCNs) work to treat bacterial infections. The student is correct in responding that penicillins:
- disinhibit transpeptidases.
 - disrupt bacterial cell wall synthesis.
 - inhibit autolysins.
 - inhibit host cell wall function.

ANS: B

PCNs weaken the cell wall, causing bacteria to take up excessive amounts of water and subsequently rupture. PCNs inhibit transpeptidases and disinhibit autolysins. PCNs do not affect the cell walls of the host. DIF: Cognitive Level: Comprehension REF: p. 783 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

756. A patient has an infection caused by *Streptococcus pyogenes*. The prescriber has ordered dicloxacillin PO. What will the nurse do?
- Administer the medication as ordered.
 - Contact the provider to suggest giving the drug IV.
 - Question the need for a penicillinase-resistant penicillin.
 - Suggest ordering vancomycin to treat this infection.

ANS: C

Penicillinase-resistant penicillins have been developed for use against penicillinase-producing strains of staphylococci. These drugs have a very narrow antimicrobial spectrum and should be used only for such infections. *S. pyogenes* can be treated with penicillin G. The nurse should question the order. It is incorrect to contact the provider to ask for IV dosing. This infection can be treated with penicillin G and not with vancomycin. DIF: Cognitive Level: Application REF: p. 788 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

757. The parent of an infant with otitis media asks the nurse why the prescriber has ordered amoxicillin [Amoxil] and not ampicillin [Unasyn]. What will the nurse tell the parent?
- Amoxicillin is a broader-spectrum antibiotic than ampicillin.
 - Amoxicillin is not inactivated by beta-lactamases.
 - Ampicillin is associated with more allergic reactions.
 - Ampicillin is not as acid stable as amoxicillin.

ANS: D

Amoxicillin and ampicillin are similar in structure and actions but differ primarily in acid stability. Amoxicillin is more acid stable and, when administered orally, results in higher blood levels than can be obtained with equivalent doses of ampicillin. The two drugs have the same spectrum, both are inactivated by beta-lactamases, and both can cause allergic reactions. DIF: Cognitive Level: Application REF: p. 789 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

758. A child with otitis media has had three ear infections in the past year. The child has just completed a 10-day course of amoxicillin [Amoxil] with no improvement. The parent asks the nurse why this drug is not working, because it has worked in the past. What will the nurse tell the patient?
- “Amoxicillin is too narrow in spectrum.”
 - “The bacteria have developed a three-layer cell envelope.”
 - “The bacteria have developed penicillin-binding proteins (PBPs) that have a low affinity for penicillins.”
 - “The bacteria have synthesized penicillinase.”

ANS: D

Beta-lactamases are enzymes that cleave the beta-lactam ring and render the PCN inactive. This resistance is common with organisms that cause ear infections. Amoxicillin is a broad-spectrum antibiotic. A three-layer cell envelope occurs in gram-negative bacteria. Some bacterial strains, including methicillin-resistant *Staphylococcus aureus* (MRSA), develop PBPs with a low affinity for penicillins. MRSA is not a common cause of otitis media. DIF: Cognitive Level: Application REF: p. 783 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

759. A patient with no known drug allergies is receiving amoxicillin [Amoxil] PO twice daily. Twenty minutes after being given a dose, the patient complains of shortness of breath. The patient's blood pressure is 100/58 mm Hg. What will the nurse do?
- Contact the provider and prepare to administer epinephrine.
 - Notify the provider if the patient develops a rash.
 - Request an order for a skin test to evaluate possible PCN allergy.
 - Withhold the next dose until symptoms subside.

ANS: A

This patient is showing signs of an immediate penicillin allergy, that is, one that occurs within 2 to 30 minutes after administration of the drug. The patient is showing signs of anaphylaxis, which include laryngeal edema, bronchoconstriction, and hypotension; these must be treated with epinephrine. This is an emergency, and the provider must be notified immediately, not when other symptoms develop. It is not necessary to order skin testing. The patient must be treated immediately, and subsequent doses should not be given. DIF: Cognitive Level: Application REF: p. 788 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

760. A patient with an infection caused by *Pseudomonas aeruginosa* is being treated with piperacillin. The nurse providing care reviews the patient's laboratory reports and notes that the patient's blood urea nitrogen and serum creatinine levels are elevated. The nurse will contact the provider to discuss:
- adding an aminoglycoside.
 - changing to penicillin G.
 - reducing the dose of piperacillin.
 - ordering nafcillin.

ANS: C

Patients with renal impairment should receive lower doses of piperacillin than patients with normal renal function. Aminoglycosides are nephrotoxic. Penicillin G and nafcillin are not effective against *Pseudomonas* infections. DIF: Cognitive Level: Application REF: p. 790 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

761. A nurse is preparing to administer intramuscular penicillin to a patient who is infected with *Treponema pallidum* and notes that the order is for sodium penicillin G. Which action is correct?
- Administer the drug as prescribed.
 - Contact the provider to discuss administering the drug intravenously.

- c. Contact the provider to discuss changing the drug to benzathine penicillin G.
- d. Request an order for piperacillin instead of penicillin G.

ANS: C

The procaine and benzathine penicillin salts are absorbed slowly and are considered repository preparations. When benzathine penicillin G is injected IM, penicillin G is absorbed for weeks and is useful only against highly sensitive organisms such as *T. pallidum*. Sodium penicillin G is absorbed rapidly, with peak effects in 15 minutes. Administering the drug IV will not yield repository effects. Piperacillin is not used for *T. pallidum* IC.DIF: Cognitive Level: AnalysisREF:

p. 786TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

762. A nurse is discussing methicillin-resistant *Staphylococcus aureus* (MRSA) with a group of nursing students. Which statement by a student correctly identifies the basis for MRSA resistance?
- a. “MRSA bacteria have developed PBPs with a low affinity for penicillins.”
 - b. “MRSA bacteria produce penicillinases that render penicillin ineffective.”
 - c. “MRSA occurs because of host resistance to penicillins.”
 - d. “MRSA strains replicate faster than other *Staphylococcus aureus* strains.”

ANS: A

MRSA strains have a unique mechanism of resistance, which is the production of PBPs with a low affinity for penicillins and all other beta-lactam antibiotics. MRSA resistance is not related to beta-lactamase production. MRSA resistance refers to bacterial and not host resistance. The resistance of MRSA strains is not related to speed of replication.DIF: Cognitive Level: AnalysisREF: p. 784TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 70: Drugs That Weaken the Bacterial Cell Wall II: Other Drugs

Test Bank

Multiple Choice

763. A patient will be discharged home to complete treatment with intravenous cefotetan with the assistance of a home care nurse. The home care nurse will include which instruction when teaching the patient about this drug treatment?
- a. Abstain from alcohol consumption during therapy.
 - b. Avoid dairy products while taking this drug.
 - c. Take an antihistamine if a rash occurs.

- d. Use nonsteroidal anti-inflammatory drugs (NSAIDs), not acetaminophen, for pain.

ANS: A

Two cephalosporins, including cefotetan, can induce a state of alcohol intolerance and cause a disulfiram-like reaction when alcohol is consumed; therefore, patients should be advised to avoid alcohol. It is not necessary to avoid dairy products. Patients who experience a rash should report this to their provider. Cefotetan can also promote bleeding, so drugs that inhibit platelet aggregation should be avoided. DIF: Cognitive Level: Application REF: p. 793 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

764. A patient who has cystic fibrosis has a *Pseudomonas aeruginosa* infection and the provider has ordered aztreonam [Cayston]. What will the nurse teach this patient about administration of this drug?
- a. Administer the drug intramuscularly twice daily.
 - b. Give a daily dose every day for 28 days and then stop.
 - c. Inhale the powdered drug as ordered three times each day.
 - d. Use the nebulizer to administer the drug three times daily.

ANS: D

Cayston is a form of aztreonam formulated for inhalation administration for patients with cystic fibrosis who have *P. aeruginosa* lung infections. The reconstituted powder is given using a nebulizer system three times daily for 28 days followed by 28 days off. This form of the drug is not given IM. The dose is three times daily. The drug is reconstituted and administered via a nebulizer. DIF: Cognitive Level: Application REF: p. 800 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

765. A patient who is receiving a final dose of intravenous (IV) cephalosporin begins to complain of pain and irritation at the infusion site. The nurse observes signs of redness at the IV insertion site and along the vein. What is the nurse's priority action?
- a. Apply warm packs to the arm, and infuse the medication at a slower rate.
 - b. Continue the infusion while elevating the arm.
 - c. Select an alternate intravenous site and administer the infusion more slowly.
 - d. Request central venous access.

ANS: C

These signs indicate thrombophlebitis. The nurse should select an alternative IV site and administer the infusion more slowly. The IV should not be continued in the same site, because necrosis may occur. A central line would be indicated only for long-term administration of antibiotics. DIF: Cognitive Level: Application REF: p. 793 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

766. A woman complains of burning on urination and increased frequency. The patient has a history of frequent urinary tract infections (UTIs) and is going out of town in 2 days. To treat the infection quickly, the nurse would expect the health care provider to order:

- a. aztreonam [Azactam].
- b. fosfomycin [Monurol].
- c. trimethoprim/sulfamethoxazole [Bactrim].
- d. vancomycin [Vancocin].

ANS: B

Fosfomycin has been approved for single-dose therapy of UTIs in women. Vancomycin and aztreonam are not indicated for UTIs. Bactrim is indicated for UTIs, but administration of a single dose is not therapeutic. DIF: Cognitive Level: Application REF: p. 800 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

767. The nurse is caring for a patient who is receiving vancomycin [Vancocin]. The nurse notes that the patient is experiencing flushing, rash, pruritus, and urticaria. The patient's heart rate is 120 beats/minute, and the blood pressure is 92/57 mm Hg. The nurse understands that these findings are consistent with:

- a. allergic reaction.
- b. red man syndrome.
- c. rhabdomyolysis.
- d. Stevens-Johnson syndrome.

ANS: B

Rapid infusion of vancomycin can cause flushing, rash, pruritus, urticaria, tachycardia, and hypotension, a collection of symptoms known as red man syndrome. Rhabdomyolysis is not associated with the administration of vancomycin. The patient's symptoms may seem to indicate an allergic reaction, but this is specifically red man syndrome. The symptoms are not those of Stevens-Johnson syndrome, which manifests as blisters or sores (or both) on the lips and mucous membranes after exposure to the sun. DIF: Cognitive Level: Application REF: p. 797 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

768. A provider has ordered ceftriaxone 4 g once daily for a patient with renal impairment. What will the nurse do?

- a. Administer the medication as prescribed.
- b. Contact the provider to ask about giving the drug in divided doses.
- c. Discuss increasing the interval between doses with the provider.

- d. Discuss reducing the dose with the provider.

ANS: A

Unlike other cephalosporins, ceftriaxone is eliminated largely by the liver, so dosage reduction is unnecessary in patients with renal impairment. Giving the drug in divided doses, increasing the interval between doses, and reducing the dose are not necessary. DIF: Cognitive Level: Application REF: p. 792 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

769. A patient has a skin infection and the culture reveals methicillin-resistant *Staphylococcus aureus* (MRSA). What is an appropriate treatment for this patient?
- a. Cefaclor
 - b. Cefazolin
 - c. Cefotaxime
 - d. Ceftaroline

ANS: D

Ceftaroline is a fifth-generation cephalosporin with a spectrum similar to third-generation cephalosporins but also with activity against MRSA. Cefaclor is a second-generation cephalosporin. Cefazolin is a first-generation cephalosporin. Cefotaxime is a third-generation cephalosporin. DIF: Cognitive Level: Knowledge REF: p. 791 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

770. A nurse is teaching a nursing student what is meant by “generations” of cephalosporins. Which statement by the student indicates understanding of the teaching?
- a. “Cephalosporins are assigned to generations based on their relative costs to administer.”
 - b. “Cephalosporins have increased activity against gram-negative bacteria with each generation.”
 - c. “First-generation cephalosporins have better penetration of the cerebrospinal fluid.”
 - d. “Later generations of cephalosporins have lower resistance to destruction by beta-lactamases.”

ANS: B

With each progression from first-generation agents to fifth-generation agents, the cephalosporins show increased activity against gram-negative organisms, increased resistance to destruction by beta-lactamases, and increased ability to reach the CSF. Cost is not a definitive factor. First-generation drugs have less penetration of the CSF. Resistance to destruction by beta-lactamases increases with increasing generations. DIF: Cognitive Level: Analysis REF: p. 791 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

771. A prescriber has ordered cefoxitin for a patient who has an infection caused by a gram-negative bacterium. The nurse taking the medication history learns that the patient experienced a maculopapular rash when taking amoxicillin [Amoxil] several years earlier. What will the nurse do?
- Administer the cefoxitin and observe for any side effects.
 - Give the cefoxitin and have epinephrine and respiratory support available.
 - Request an order for a different, nonpenicillin, noncephalosporin antibiotic.
 - Request an order to administer a skin test before giving the cefoxitin.

ANS: A

Because of structural similarities between penicillins (PCNs) and cephalosporins, a few patients allergic to one drug type will be allergic to the other drug type, although this is rare. For patients with mild PCN allergy, such as rash, cephalosporins can be used with minimal concern, so it is correct to administer the drug and monitor for side effects. It is unnecessary to prepare for anaphylaxis, to give another class of drug, or to administer a skin test. DIF: Cognitive Level: Application REF: p. 793 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

772. A patient receiving a cephalosporin develops a secondary intestinal infection caused by *Clostridium difficile*. What is an appropriate treatment for this patient?
- Adding an antibiotic, such as vancomycin [Vancocin], to the patient's regimen
 - Discontinuing the cephalosporin and beginning metronidazole [Flagyl]
 - Discontinuing all antibiotics and providing fluid replacement
 - Increasing the dose of the cephalosporin and providing isolation measures

ANS: B

Patients who develop *C. difficile* infection (CDI) as a result of taking cephalosporins or other antibiotics need to stop taking the antibiotic in question and begin taking either metronidazole or vancomycin. Adding one of these antibiotics without withdrawing the cephalosporin is not indicated. CDI must be treated with an appropriate antibiotic, so stopping all antibiotics is incorrect. Increasing the cephalosporin dose would only aggravate the CDI. DIF: Cognitive Level: Application REF: p. 798 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

773. Which cephalosporin may be used to treat meningitis?
- Cefaclor
 - Cefazolin
 - Cefoxitin
 - Cefotaxime

ANS: D

Cefotaxime has increased ability to reach the cerebrospinal fluid (CSF) and to treat meningitis. Cefaclor, cefazolin, and cefoxitin do not reach effective concentrations in the CSF. DIF: Cognitive Level: Analysis REF: p. 792 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

774. A patient is to undergo orthopedic surgery, and the prescriber will order a cephalosporin to be given preoperatively as prophylaxis against infection. The nurse expects the provider to order which cephalosporin?
- First-generation cephalosporin
 - Second-generation cephalosporin
 - Third-generation cephalosporin
 - Fourth-generation cephalosporin

ANS: A

First-generation cephalosporins are widely used for prophylaxis against infection in surgical patients, because they are as effective, less expensive, and have a narrower antimicrobial spectrum than second-, third-, and fourth-generation cephalosporins. DIF: Cognitive Level: Application REF: p. 793 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 71: Bacteriostatic Inhibitors of Protein Synthesis

Test Bank

Multiple Choice

775. A patient recently began receiving clindamycin [Cleocin] to treat an infection. After 8 days of treatment, the patient reports having 10 to 15 watery stools per day. What will the nurse tell this patient?
- The provider may increase the clindamycin dose to treat this infection.
 - This is a known side effect of clindamycin, and the patient should consume extra fluids.
 - The patient should stop taking the clindamycin now and contact the provider immediately.
 - The patient should try taking Lomotil or a bulk laxative to minimize the diarrheal symptoms.

ANS: C

Clostridium difficile-associated diarrhea (CDAD) is the most severe toxicity of clindamycin; if severe diarrhea occurs the patient should be told to stop taking clindamycin immediately and to contact the provider so that treatment with vancomycin or metronidazole can be initiated.

Increasing the dose of clindamycin will not treat this infection. Consuming extra fluids while still taking the clindamycin is not correct, because CDAD can be fatal if not treated. Taking Lomotil or bulk laxatives only slows the transit of the stools and does not treat the cause. DIF: Cognitive Level: Application REF: p. 807 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

776. A child has been receiving chloramphenicol for a Neisseria meningitidis central nervous system (CNS) infection. The nurse administers the dose and subsequently notes that the child has vomited and appears dusky and gray in color. The child's abdomen is distended. What will the nurse do?

- a. Contact the provider for an order to obtain a chloramphenicol level.
- b. Notify the provider that the child's meningitis is worsening.
- c. Recognize this as initial signs of a C. difficile infection.
- d. Stop the infusion immediately and notify the provider.

ANS: D

Gray syndrome is a potentially fatal toxicity associated with chloramphenicol use. When symptoms occur, the drug should be stopped immediately. Lower chloramphenicol levels may prevent gray syndrome, but lowering the dose will not stop symptoms once they have appeared. These are not signs of worsening meningitis or a C. difficile infection. DIF: Cognitive Level: Analysis REF: p. 810 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

777. A patient is diagnosed with periodontal disease, and the provider orders oral doxycycline [Periostat]. The patient asks the purpose of the drug. What is the nurse's response?

- a. "It is used because of its anti-inflammatory effects."
- b. "It inhibits collagenase to protect connective tissue in the gums."
- c. "It reduces bleeding and the pocket depth of oral lesions."
- d. "It suppresses bacterial growth in the oral mucosa."

ANS: B

Two tetracyclines are used for periodontal disease. Doxycycline inhibits collagenase, which destroys connective tissue in the gums. It is not used for anti-inflammatory effects. Minocycline is used to reduce bleeding and pocket depth and to inhibit bacterial growth. DIF: Cognitive Level: Application REF: p. 801 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

778. To prevent yellow or brown discoloration of teeth in children, tetracyclines should not be given:

- a. to children once the permanent teeth have developed.

- b. to patients taking calcium supplements.
- c. to pregnant patients after the fourth month of gestation.
- d. with dairy products or antacids.

ANS: C

Tetracyclines bind to calcium in developing teeth, resulting in yellow or brown discoloration. They should not be given to pregnant women after the fourth month of gestation, because they will cause staining of deciduous teeth in the fetus. In children, discoloration occurs when tetracyclines are given between the ages of 4 and 8 years, because this is when permanent teeth are developing. Tetracycline binds with calcium, so absorption is diminished when the drug is given with calcium supplements, dairy products, or calcium-containing antacids; however, this does not affect tooth development. DIF: Cognitive Level: Application REF: p. 802 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

779. A nurse is teaching a nursing student about dalfopristin/quinupristin [Synercid]. Which statement by the student indicates an understanding of the teaching?

- a. "Patients should stop taking the drug if they experience joint and muscle pain."
- b. "Patients taking this drug should have blood tests performed frequently."
- c. "Patients who are allergic to penicillin should not take this drug."
- d. "This drug will be administered intravenously over a 30- to 60-minute period."

ANS: B

Patients taking dalfopristin/quinupristin should have blood levels measured twice the first week and then weekly thereafter to assess for hepatotoxicity. Joint and muscle pain are not an indication for withdrawing the drug. There is no cross-sensitivity to penicillin. The drug is given intravenously over a period of at least 1 hour. DIF: Cognitive Level: Analysis REF: p. 810 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

780. A nurse is providing education about tetracycline [Sumycin]. Which statement by the patient best demonstrates understanding of the administration of this medication?

- a. "I should not take this medication with milk or other dairy products."
- b. "I should not worry if I experience an acne-like rash with this medication."
- c. "I should take an antacid, such as Tums, if I experience gastrointestinal distress."
- d. "I should take this antibiotic with a calcium supplement to improve absorption."

ANS: A

The patient should avoid taking the medication with dairy products to help prevent chelation. An acne-like reaction would indicate an allergic response. Taking the medication with calcium-containing antacids or supplements should be avoided, because this also leads to chelation. DIF:

Cognitive Level: Application REF: p. 802 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

781. A hospitalized patient who is taking demeclocycline [Declomycin] reports increased urination, fatigue, and thirst. What will the nurse do?
- Contact the provider to report potential toxic side effects.
 - Notify the provider to discuss changing the medication to doxycycline.
 - Perform bedside glucometer testing to evaluate the serum glucose level.
 - Provide extra fluids and reassure the patient that these are expected side effects.

ANS: D

Demeclocycline stimulates urine flow and sometimes is used to treat patients with syndrome of inappropriate antidiuretic hormone secretion (SIADH). The patient should be reassured that increased urination, fatigue, and thirst are known side effects of demeclocycline. It is not correct to notify the provider of toxic side effects or to request another tetracycline. Glucometer testing is not necessary, because the increased urination is not related to an elevated blood glucose level. DIF: Cognitive Level: Application REF: p. 804 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

782. A nurse is providing teaching for a patient who will begin taking clarithromycin ER [Biaxin XL] to treat a *Helicobacter pylori* infection. Which statement by the patient indicates understanding of the teaching?
- “I may experience distorted taste when taking this medication.”
 - “I should take 1 tablet twice daily for 10 days.”
 - “I should take this medication on an empty stomach.”
 - “This medication does not interact with other drugs.”

ANS: A

Clarithromycin is available in an extended-relief preparation as Biaxin XL. Biaxin can cause distortion of taste, so patients should be warned of this side effect. Biaxin XL should be taken once and not twice daily. Biaxin should be taken with food. Biaxin interacts with other drugs by inhibiting hepatic metabolism of those drugs. DIF: Cognitive Level: Application REF: p. 806 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

783. A patient is to begin taking doxycycline to treat a rickettsial infection. Which statement by the patient indicates a need for teaching about this drug?
- “I should consult my provider before using laxatives or antacids while taking this drug.”
 - “I should not take a calcium supplement or consume dairy products with this drug.”
 - “I should take this drug with food to ensure more complete absorption.”

- d. "If I get diarrhea, I should stop taking the drug and let my provider know immediately."

ANS: C

Absorption of tetracyclines is reduced in the presence of food. The tetracyclines form insoluble chelates with calcium, iron, magnesium, aluminum, and zinc, so patients should not take tetracyclines with dairy products, calcium supplements, or drugs containing these minerals. Patients who experience diarrhea should stop taking the drug and notify the provider so they can be tested for *C. difficile* infection. DIF: Cognitive Level: Application REF: p. 804 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

784. A patient received 500 mg of azithromycin [Zithromax] at 0800 as a first dose. What are the usual amount and time of the second dose of azithromycin?
- 250 mg at 2000 the same day
 - 500 mg at 2000 the same day
 - 250 mg at 0800 the next day
 - 500 mg at 0800 the next day

ANS: C

Azithromycin generally is given as 500 mg on the first day and then 250 mg/day for the next 4 days, so the second dose would be 24 hours after the first dose. DIF: Cognitive Level: Application REF: p. 806 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

785. A child with an upper respiratory infection caused by *B. pertussis* is receiving erythromycin ethylsuccinate. After 2 days of treatment, the parent asks the nurse why the child's symptoms have not improved. Which response by the nurse is correct?
- "Erythromycin eliminates the bacteria that causes the infection, but not the toxin that causes the symptoms."
 - "We may need to add penicillin or another antibiotic to increase the antimicrobial spectrum."
 - "We will need to review the culture sensitivity information to see whether a different antibiotic is indicated."
 - "Your child may have developed a superinfection that we need to culture and treat."

ANS: A

Erythromycin is the drug of first choice for treating pertussis infections. Because symptoms are caused by a bacterial toxin and not by the bacteria itself, the drug eliminates the bacteria but does little to alter the course of the disease. It is given to lower infectivity. It is not necessary to add another antibiotic, review the sensitivity information, or look for a superinfection. DIF: Cognitive Level: Application REF: p. 805 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

786. A patient develops CDAD. Which antibiotic is recommended for treating this infection?

- a. Chloramphenicol
- b. Clindamycin [Cleocin]
- c. Linezolid [Zyvox]
- d. Vancomycin

ANS: D

Vancomycin and metronidazole are the drugs of choice for treating CDAD. DIF: Cognitive Level: Analysis REF: p. 807 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

787. A 6-week-old infant who has not yet received immunizations develops a severe cough. While awaiting nasopharyngeal culture results, the nurse will expect to administer which antibiotic?

- a. Clindamycin [Cleocin]
- b. Doxycycline [Vibramycin]
- c. Erythromycin ethylsuccinate
- d. Penicillin G

ANS: C

Erythromycin is the drug of first choice for infections caused by *Bordetella pertussis*, the causative agent of whooping cough. Infants who have not received their first set of immunizations are at increased risk of pertussis. Clindamycin, doxycycline, and penicillin are not recommended. DIF: Cognitive Level: Application REF: p. 805 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

788. A patient is taking erythromycin ethylsuccinate for a chlamydial infection and develops vaginal candidiasis. The prescriber orders ketoconazole to treat the superinfection. What will the nurse do?

- a. Administer the erythromycin and the ketoconazole as ordered.
- b. Contact the provider to discuss changing to a different antifungal medication.
- c. Contact the provider to discuss increasing the dose of erythromycin.
- d. Contact the provider to suggest using erythromycin stearate.

ANS: B

Erythromycin can prolong the QT interval when present in large concentrations. When erythromycin is combined with a CYP3A4 inhibitor, such as ketoconazole, the risk of sudden cardiac death increases fivefold. The nurse should discuss changing the antifungal medication to one that is not a CYP3A4 inhibitor. It is not correct to give the ketoconazole without questioning

the order. Increasing the dose of erythromycin would increase the risk of QT prolongation. Changing to a different preparation of erythromycin would not alter the risk. DIF: Cognitive Level: Application REF: p. 806 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

789. A patient who has been taking linezolid [Zyvox] for 6 months develops vision problems. What will the nurse do?

- a. Reassure the patient that this is a harmless side effect of this drug.
- b. Tell the patient that blindness is likely to occur with this drug.
- c. Tell the patient that this symptom is reversible when the drug is discontinued.
- d. Tell the patient to take tyramine supplements to minimize this effect.

ANS: C

Linezolid is associated with neuropathy, including optic neuropathy. This is a reversible effect that will stop when the drug is withdrawn. Reassuring the patient that this is a harmless side effect is not correct. It is not an indication that blindness will occur. Tyramine supplements are not indicated. DIF: Cognitive Level: Analysis REF: p. 808 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

790. A pregnant adolescent patient asks the nurse whether she should continue to take her prescription for tetracycline [Sumycin] to clear up her acne. Which response by the nurse is correct?

- a. "Tetracycline can be harmful to the baby's teeth and should be avoided."
- b. "Tetracycline is safe to take during pregnancy."
- c. "Tetracycline may cause allergic reactions in pregnant women."
- d. "Tetracycline will prevent asymptomatic urinary tract infections."

ANS: A

Tetracyclines can cause discoloration of deciduous teeth of infants if taken by the mother after the fourth month of gestation. Tetracyclines should not be given to pregnant women. Tooth discoloration can be prevented if the drugs are not taken by pregnant women or by children under 8 years of age. Tetracycline is not appropriate for a pregnant patient. Pregnancy does not precipitate an allergic response to tetracycline. Tetracycline should not be used to prevent urinary tract infections (UTIs), especially in pregnant women. DIF: Cognitive Level: Application REF: p. 802 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

791. A patient with severe community-acquired pneumonia has been prescribed telithromycin [Ketek]. Which aspect of the patient's medical history is of concern to the nurse?

- a. Anemia

- b. Myasthenia gravis
- c. Renal disease
- d. Streptococcus pneumoniae infection

ANS: B

Telithromycin is a macrolide antibiotic used only for CAP. Patients with myasthenia gravis may experience rapid muscle weakness after taking the drug, and some have died from respiratory failure, so patients with MG should not take this drug. This drug does not have significant myelosuppression, so anemia is not a concern. The drug causes liver injury, so liver disease, and not renal disease, is a concern. Telithromycin is indicated for treatment of S. pneumoniae. DIF: Cognitive Level: Analysis REF: p. 809 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

792. Which side effect of clindamycin [Cleocin] causes the most concern and may warrant discontinuation of the drug?

- a. Diarrhea
- b. Headache
- c. Nausea
- d. Vomiting

ANS: A

CDAD is a serious, sometimes fatal suprainfection associated with clindamycin. Patients with diarrhea should notify their prescriber immediately and discontinue the drug until this condition has been ruled out. Headache, nausea, and vomiting do not warrant discontinuation of the drug and are not associated with severe side effects. DIF: Cognitive Level: Analysis REF: p. 807 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

793. A patient who is taking doxycycline for a serious infection contacts the nurse to report anal itching. The nurse will contact the provider to discuss:

- a. adding an antihistamine to the patient's drug regimen.
- b. ordering liver function tests to test for hepatotoxicity.
- c. prescribing an antifungal drug to treat a superinfection.
- d. testing the patient for a C. difficile secondary infection.

ANS: C

A superinfection occurs secondary to suppression of drug-sensitive organisms. Overgrowth with fungi, especially Candida albicans, is common and may occur in the mouth, pharynx, vagina, or bowel. Anal itching is a sign of such an infection, not a sign of hepatotoxicity. Antihistamines will not treat the cause. C. difficile infection is characterized by profuse, watery diarrhea. DIF: Cognitive Level: Analysis REF: p. 803 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 72: Aminoglycosides: Bactericidal Inhibitors of Protein Synthesis

Test Bank

Multiple Choice

794. A patient is receiving gentamicin once daily. A nursing student asks the nurse how the drug can be effective if given only once a day. The nurse explains drug dosing schedules for aminoglycosides. Which statement by the student indicates a need for further teaching?
- “Gentamicin has a longer half-life than other aminoglycosides.”
 - “Large doses given once daily yield higher peak levels.”
 - “The postantibiotic effect lasts for several hours.”
 - “There is less risk of ototoxicity and nephrotoxicity with large daily doses.”

ANS: A

When a daily dose is given once daily instead of divided into 2 or 3 doses, a higher peak level can be achieved. The higher peak, along with the fact that aminoglycosides have a postantibiotic effect, means that the bacterial kill is just as great with one dose as with 2 or 3 doses per day. When a single daily dose is given, the risk of toxicity is reduced. Gentamicin does not have a longer half-life than other aminoglycosides. DIF: Cognitive Level: Application REF: p. 815 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

795. A nurse is explaining to nursing students why a cephalosporin is used in conjunction with an aminoglycoside for a patient with an infection. Which statement by a student indicates understanding of the teaching?
- “Cephalosporins enhance the actions of aminoglycosides by weakening bacterial cell walls.”
 - “Cephalosporins prevent neuromuscular blockade associated with aminoglycosides.”
 - “Cephalosporins prolong the postantibiotic effects of the aminoglycosides so doses can be decreased.”
 - “Cephalosporins reduce bacterial resistance to aminoglycosides.”

ANS: A

Cephalosporins, penicillins, and vancomycin can be used in conjunction with aminoglycosides; these drugs weaken the bacterial cell wall and enhance the bactericidal actions of aminoglycosides. Cephalosporins do not prevent neuromuscular blockade. They do not prolong the postantibiotic effects of aminoglycosides. They do not affect bacterial resistance. DIF: Cognitive Level: Application REF: p. 817 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

796. A patient is receiving tobramycin three times daily. A tobramycin peak level is 4.5 and the trough is 1.2. What will the nurse do?
- Give the next dose as ordered.
 - Hold the next dose and notify the provider.
 - Monitor the patient for signs of nephrotoxicity.
 - Tell the patient to report tinnitus.

ANS: A

These levels are within normal limits, so the next dose may be given safely. It is not necessary to withhold the next dose. These levels do not indicate any increased risk of nephrotoxicity or ototoxicity. DIF: Cognitive Level: Application REF: p. 815 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

797. A patient is receiving tobramycin three times daily. The provider has ordered a trough level with the 8:00 AM dose. The nurse will ensure that the level is drawn at what time?
- 4:00 AM
 - 7:00 AM
 - 7:45 AM
 - 8:45 AM

ANS: C

When a patient is receiving divided doses of an aminoglycoside, the trough level should be drawn just before the next dose; therefore, 7:45 AM would be the appropriate time. It would not be appropriate to draw a trough at the other times listed. DIF: Cognitive Level: Analysis REF: p. 817 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

798. A patient is diagnosed with a lung infection caused by *P. aeruginosa*. The culture and sensitivity report shows sensitivity to all aminoglycosides. The nurse knows that the rate of resistance to gentamicin is common in this hospital. The nurse will expect the provider to order which medication?
- Amikacin [Amikin]
 - Gentamicin
 - Paromomycin
 - Tobramycin

ANS: A

When resistance to gentamicin and tobramycin is common, amikacin is the drug of choice for initial treatment of aminoglycoside-sensitive infections. Gentamicin would not be indicated, because resistance is more likely to develop. Paromomycin is used only for local effects within the intestine and is given orally. Tobramycin is not indicated, because organisms can more readily develop resistance. DIF: Cognitive Level: Application REF: p. 817 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

799. A patient who takes the loop diuretic ethacrynic acid is given intravenous gentamicin for an infection. After several days of treatment with gentamicin, the nurse reviews the patient's most recent laboratory results and notes a gentamicin trough of 2.1 µg/mL and normal blood urea nitrogen (BUN) and serum creatinine levels. The nurse will question the patient about:

- a. gastrointestinal (GI) symptoms.
- b. headache, dizziness, or vertigo.
- c. presence of rash.
- d. urine output.

ANS: B

Ethacrynic acid has ototoxic properties, and patients who take this drug with an aminoglycoside have an increased risk of ototoxicity, especially when trough levels of the aminoglycoside are elevated. A trough level of 2.1 mcg/mL is above normal limits for gentamicin, so this patient should be asked about early signs of ototoxicity. There is no indication to evaluate for GI symptoms, rash, or urine output. DIF: Cognitive Level: Application REF: p. 817 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

800. A nurse is preparing to administer a dose of gentamicin to a patient who is receiving the drug three times daily. The nurse will monitor levels.

- a. peak
- b. peak and trough
- c. serum drug
- d. trough

ANS: B

When divided doses of aminoglycosides are given, it is important to measure both peak and trough levels of the drug, because it is more difficult to achieve therapeutic peaks in lower doses without causing toxicity. Trough levels are drawn when single-dosing regimens are used, because high peak levels are guaranteed. DIF: Cognitive Level: Application REF: p. 817 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

801. A patient who has been receiving intravenous gentamicin for several days reports having had a headache for 2 days. The nurse will request an order to:

- a. discontinue the gentamicin.
- b. obtain a gentamicin trough before the next dose is given.
- c. give an analgesic to control headache discomfort.
- d. obtain renal function tests to evaluate for potential nephrotoxicity.

ANS: A

A persistent headache may be a sign of developing ototoxicity, and since ototoxicity is largely irreversible, gentamicin should be withdrawn at the first sign of developing ototoxicity. A gentamicin trough should be obtained before the next dose is given when high gentamicin levels are suspected. Analgesics are not indicated until a serious cause of the headache has been ruled out. A headache is an early sign of ototoxicity, not nephrotoxicity. DIF: Cognitive Level: Application REF: p. 816 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

802. A patient shows signs and symptoms of conjunctivitis. Which aminoglycoside would the nurse expect to be ordered?

- a. Amikacin [Amikin]
- b. Kanamycin [Kantrex]
- c. Neomycin [Neomycin]
- d. Paromomycin [Humatin]

ANS: C

Neomycin is used for topical treatment of infections of the eye, ear, and skin. Amikacin, kanamycin, and paromomycin are not topical treatments and are not indicated for eye infections. DIF: Cognitive Level: Application REF: p. 818 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

803. A patient is admitted to the unit for treatment for an infection. The patient receives IV amikacin [Amikin] twice a day. When planning for obtaining a peak aminoglycoside level, when should the nurse see that the blood is drawn?

- a. 30 minutes after the IV infusion is complete
- b. 1 hour after the IV infusion is complete
- c. 1 hour before administration of the IV infusion
- d. A peak level is not indicated with twice-daily dosing.

ANS: A

When divided daily doses are used, blood samples for measurement of peak levels are drawn 1 hour after IM injection and 30 minutes after completion of an IV infusion. This medication is administered IV, so blood draws must follow 30 minutes after infusion to obtain peak levels.

Measurement of peak levels is unnecessary only when a single daily dose is used. DIF: Cognitive Level: Application REF: p. 817 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

804. A patient is diagnosed with an infection caused by *Staphylococcus aureus*, and the prescriber orders intravenous gentamicin and penicillin (PCN). Both drugs will be given twice daily. What will the nurse do?
- Administer gentamicin, flush the line, and then give the penicillin.
 - Give the gentamicin intravenously and the penicillin intramuscularly.
 - Infuse the gentamicin and the penicillin together to prevent fluid overload.
 - Request an order to change the penicillin to vancomycin.

ANS: A

Gentamicin should not be infused with penicillins in the same solution, because PCN inactivates gentamicin; therefore, the nurse should give one first, flush the line, and then give the other. The nurse cannot give a drug IM when it is ordered IV without an order from the prescriber. These two drugs should not be infused in the same solution. There is no indication for changing the PCN to vancomycin; that should be done for serious infections. DIF: Cognitive Level: Application REF: p. 816 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

805. A patient has a *Pseudomonas aeruginosa* infection that is sensitive to aminoglycosides, and the prescriber orders gentamicin. The patient tells the nurse that a friend received amikacin [Amikin] for a similar infection and wonders why amikacin was not ordered. What will the nurse tell the patient?
- “Amikacin is given when infectious agents are resistant to other aminoglycosides.”
 - “Amikacin is more vulnerable to inactivation by bacterial enzymes.”
 - “Amikacin is a narrow-spectrum drug and will probably not work for this infection.”
 - “Gentamicin is less toxic to the ears and the kidneys.”

ANS: A

Resistance to amikacin is uncommon at this point; to minimize the emergence of amikacin-resistant bacteria, this drug is reserved for infections in which resistance to other aminoglycosides has developed. Amikacin is the least susceptible to inactivation by bacterial enzymes. Amikacin is a broad-spectrum antibiotic. All aminoglycosides are ototoxic and nephrotoxic. DIF: Cognitive Level: Application REF: p. 813 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

806. A patient who has been taking gentamicin for 5 days reports a headache and dizziness. What will the nurse do?

- a. Request an order for a gentamicin peak level.
- b. Suspect ototoxicity and notify the prescriber.
- c. Tell the patient to ask for help with ambulation.
- d. Tell the patient to report any tinnitus.

ANS: B

Headache and dizziness are signs of ototoxicity, and the prescriber should be notified. A peak level is not indicated; it is more important to know the trough level. Telling the patient to ask for help with ambulation and to report tinnitus should both be done, but neither one is the priority nursing action. DIF: Cognitive Level: Application REF: p. 816 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

807. A nurse preparing to administer intravenous gentamicin to a patient notes that the dose is half the usual dose for an adult. The nurse suspects that this is because this patient has a history of:
- a. antibiotic resistance.
 - b. interpatient variation.
 - c. liver disease.
 - d. renal disease.

ANS: D

The aminoglycosides are eliminated primarily by the kidneys, so in patients with renal disease, doses should be reduced or the dosing interval should be increased to prevent toxicity. Patients with antibiotic resistance would be given amikacin. Interpatient variation may occur but cannot be known without knowing current drug levels. Aminoglycosides are not metabolized by the liver, so liver disease would not affect drug levels. DIF: Cognitive Level: Application REF: p. 817 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

808. A patient who is taking gentamicin and a cephalosporin for a postoperative infection requests medication for mild postsurgical pain. The nurse will expect to administer which of the following medications?
- a. Acetaminophen
 - b. Aspirin
 - c. Ibuprofen
 - d. Morphine

ANS: A

Gentamicin and cephalosporins are both nephrotoxic. This patient should avoid taking other potentially nephrotoxic drugs. Acetaminophen is not nephrotoxic and may be given for mild pain. Aspirin and ibuprofen are both nephrotoxic. Morphine is not nephrotoxic but is not indicated for mild pain. DIF: Cognitive Level: Application REF: p. 817 TOP: Nursing Process: Evaluation

MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

809. A patient is receiving an intraperitoneal aminoglycoside during surgery. To reverse a serious side effect of this drug, the nurse may expect to administer which agent?
- Amphotericin B
 - Calcium gluconate
 - Neuromuscular blocker
 - Vancomycin

ANS: B

Aminoglycosides can inhibit neuromuscular transmission, especially during intraperitoneal or intrapleural instillation, and this risk is increased when neuromuscular blocking agents and general anesthetics are given. Calcium can reverse neuromuscular blockade. Amphotericin B, additional neuromuscular blockers, and vancomycin are not indicated. DIF: Cognitive Level: Analysis REF:

p. 816 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

810. A nurse is reviewing the culture results of a patient receiving an aminoglycoside. The report reveals an anaerobic organism as the cause of infection. What will the nurse do?
- Contact the provider to discuss an increased risk of aminoglycoside toxicity.
 - Continue giving the aminoglycoside as ordered.
 - Request an order for a different class of antibiotic.
 - Suggest adding a penicillin to the patient's drug regimen.

ANS: C

Aminoglycosides are not effective against anaerobic microbes, so another class of antibiotics is indicated. There is no associated increase in aminoglycoside toxicity with anaerobic infection. The aminoglycoside will not be effective, so continuing to administer this drug is not indicated. Adding another antibiotic is not useful, because the aminoglycoside is not necessary. DIF: Cognitive Level: Application REF: p. 813 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 73: Sulfonamides and

Trimethoprim Test Bank

Multiple Choice

811. A patient with second-degree burns is treated with silver sulfadiazine [Silvadene]. A nursing student asks the nurse about the differences between silver sulfadiazine and mafenide [Sulfamylon], because the two are similar products, and both contain sulfonamides. What does the nurse tell the student about silver sulfadiazine?
- It causes increased pain when the medication is applied.
 - It has a broader spectrum of antimicrobial sensitivity.
 - It has antibacterial effects related to release of free silver.
 - It suppresses renal excretion of acid, causing acidosis.

ANS: C

Silver sulfadiazine has antibacterial effects primarily related to the release of free silver and not to the sulfonamide portion of the molecule. Unlike mafenide, silver sulfadiazine reduces pain when applied. Silver sulfadiazine and mafenide have similar antibacterial effects. Because silver sulfadiazine does not suppress renal excretion of acid, it has fewer systemic effects. DIF: Cognitive Level: Application REF: p. 822 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

812. A nurse teaches a patient about sulfonamides. Which statement by the patient indicates a need for further teaching?
- “I need to drink extra fluids while taking this medication.”
 - “I need to use sunscreen when taking this drug.”
 - “I should call my provider if I develop a rash while taking this drug.”
 - “I should stop taking this drug when my symptoms are gone.”

ANS: D

Patients should always be advised to complete the prescribed course of the antibiotic even when symptoms subside. Patients should also understand the need to drink 8 to 10 glasses of water a day, to use sunscreen, and to notify the provider if they develop a rash. DIF: Cognitive Level: Application REF: p. 821 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

813. A patient will be discharged from the hospital with a prescription for TMP/SMZ [Bactrim]. When providing teaching for this patient, the nurse will tell the patient that it will be important to:
- drink 8 to 10 glasses of water every day.
 - eat foods that are high in potassium.
 - take the medication with food.
 - take folic acid supplements.

ANS: A

TMP/SMZ can injure the kidneys, because it causes deposition of sulfonamide crystals in the kidneys. Patients should be advised to drink 8 to 10 glasses of water a day to maintain a urine flow of 1200 mL in adults. Trimethoprim can cause hyperkalemia, so consuming extra potassium is unnecessary. The medication should be taken on an empty stomach. It is not necessary to consume extra folic acid, because mammalian cells use dietary folate and do not have to synthesize it; it is the process of folic acid synthesis that is altered by sulfonamides. DIF: Cognitive Level: Application REF: p. 821 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

814. A nurse is caring for an African-American patient who has been admitted to the unit for long-term antibiotic therapy with sulfonamides. The patient develops fever, pallor, and jaundice. The nurse would be correct to suspect that the patient has developed:

- a. Stevens-Johnson syndrome.
- b. kernicterus.
- c. hepatotoxicity.
- d. hemolytic anemia.

ANS: D

Sulfonamides can cause hemolytic anemia in patients of African-American and Mediterranean origin, usually because of a genetic deficiency. Red cell lysis can produce fever, pallor, and jaundice, and patients should be observed for these signs. The patient's signs and symptoms are not characteristics of Stevens-Johnson syndrome or hepatotoxicity. The patient's signs and symptoms are not characteristic of kernicterus, which occurs in newborns. DIF: Cognitive Level: Analysis REF: p. 821 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

815. A pregnant patient is treated with trimethoprim/sulfamethoxazole (TMP/SMZ) [Bactrim] for a urinary tract infection at 32 weeks' gestation. A week later, the woman delivers her infant prematurely. The nurse will expect to monitor the infant for:

- a. birth defects.
- b. hypoglycemia.
- c. rash.
- d. kernicterus.

ANS: D

Kernicterus is a disorder in newborns caused by deposition of bilirubin in the brain. Sulfonamides promote kernicterus by displacing bilirubin from plasma proteins. Sulfonamides should not be given to infants under 2 months of age or to pregnant women after 32 weeks' gestation. Sulfonamides do not cause birth defects or hypoglycemia. Serious rashes may occur but are not the primary concern in the newborn. DIF: Cognitive Level: Application REF: p. 821 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

816. A nurse is caring for a patient who takes an ACE inhibitor and an ARB medication who will begin taking TMP/SMZ to treat a urinary tract infection. Which serum electrolyte will the nurse expect to monitor closely?

- a. Calcium
- b. Chloride
- c. Potassium
- d. Sodium

ANS: C

Trimethoprim suppresses renal excretion of potassium, increasing the risk of hyperkalemia. Patients at greatest risk are those taking high doses of trimethoprim and those taking other drugs that elevate potassium, including ACE inhibitors and ARB medications. Trimethoprim does not affect other serum electrolytes. DIF: Cognitive Level: Application REF: p. 823 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

817. A nurse is obtaining a drug history from a patient about to receive sulfadiazine. The nurse learns that the patient takes warfarin, glipizide, and a thiazide diuretic. Based on this assessment, the nurse will expect the provider to:

- a. change the antibiotic to TMP/SMZ.
- b. increase the dose of the glipizide.
- c. monitor the patient's electrolytes closely.
- d. monitor the patient's coagulation levels.

ANS: D

Sulfonamides interact with several drugs and through metabolism-related interactions can intensify the effects of warfarin. Patients taking both should be monitored closely for bleeding tendencies. Changing to the combination product will not help, because sulfonamides are still present. Sulfonamides intensify glipizide levels, so this drug may actually need to be reduced. Trimethoprim, not sulfonamides, raises potassium levels. DIF: Cognitive Level: Application REF: p. 821 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

818. A patient with bronchitis is taking TMP/SMZ, 160/800 mg orally, twice daily. Before administering the third dose, the nurse notes that the patient has a widespread rash, a temperature of 103° F, and a heart rate of 100 beats/minute. The patient looks ill and reports not feeling well. What will the nurse do?

- a. Administer the dose and request an order for an antipyretic medication.
- b. Withhold the dose and request an order for an antihistamine to treat the rash.

- c. Withhold the dose and notify the provider of the symptoms.
- d. Request an order for intravenous TMP/SMZ, because the patient is getting worse.

ANS: C

The most severe hypersensitivity reaction with TMP/SMZ is Stevens-Johnson syndrome, which manifests with fever, malaise, and rash. The drug should be discontinued immediately if a rash occurs. Requesting an antipyretic while giving the drug is incorrect. Giving antihistamines is not indicated. Giving TMP/SMZ intravenously would make the reaction worse. DIF: Cognitive Level: Application REF: p. 820 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

819. A patient with type 2 diabetes mellitus takes glipizide. The patient develops a urinary tract infection, and the prescriber orders TMP/SMZ. What will the nurse tell the patient?
- a. Patients with diabetes have an increased risk of an allergic reaction.
 - b. Patients taking TMP/SMZ may need increased doses of glipizide.
 - c. The patient should check the blood glucose level more often while taking TMP/SMZ.
 - d. The patient should stop taking the glipizide while taking the TMP/SMZ.

ANS: C

Sulfonamides can intensify the effects of some drugs, including glipizide, which is a sulfonylurea- type hypoglycemic medication. These drugs may require a reduction in dose to prevent toxicity. Patients should monitor their blood glucose more closely. There is no increase in allergic reactions to TMP/SMZ in patients who are diabetic. Patients taking TMP/SMZ may need reduced doses of glipizide but should not stop taking the drug. DIF: Cognitive Level: Application REF: p. 821 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

820. A patient who is taking immunosuppressant medications develops a urinary tract infection. The causative organism is sensitive to sulfonamides and to another, more expensive antibiotic. The prescriber orders the more expensive antibiotic. The nursing student assigned to this patient asks the nurse why the more expensive antibiotic is being used. Which response by the nurse is correct?
- a. "Immunosuppressed patients are folate deficient."
 - b. "Patients who are immunosuppressed are more likely to develop resistance."
 - c. "Sulfonamides are bacteriostatic and depend on host immunity to work."
 - d. "Sulfonamides intensify the effects of immunosuppression."

ANS: C

Sulfonamides are usually bacteriostatic and require intact host defenses for complete elimination of infection. Immunosuppressed patients are not necessarily folate deficient. There is no increased likelihood of developing bacterial resistance in immunosuppressed patients. Sulfonamides do not affect immunosuppression. DIF: Cognitive Level: Analysis REF: p. 819 TOP: Nursing Process:

Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

821. A nurse is discussing microbial resistance among sulfonamides and trimethoprim with a nursing student. Which statement by the student indicates a need for further teaching?
- “Bacterial resistance to trimethoprim is relatively uncommon.”
 - “Resistance among gonococci, streptococci, and meningococci to sulfonamides is high.”
 - “Resistance to both agents can occur by spontaneous mutation of organisms.”
 - “Resistance to sulfonamides is less common than resistance to trimethoprim.”

ANS: D

There is less microbial resistance to trimethoprim than there is to sulfonamides. Bacterial resistance to trimethoprim is relatively uncommon. Gonococcal, streptococcal, and meningococcal resistance to sulfonamides is especially high. For both agents, resistance can develop by spontaneous mutation. DIF: Cognitive Level: Application REF: p. 823 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

822. A patient with a urinary tract infection is given a prescription for TMP/SMZ. When reviewing the drug with the patient, the nurse learns that the patient has type 1 diabetes mellitus and consumes alcohol heavily. What will the nurse do?
- Contact the provider to request a different antibiotic for this patient.
 - Obtain frequent blood glucose determinations while giving TMP/SMZ.
 - Suggest that the patient take a potassium supplement while taking TMP/SMZ.
 - Tell the patient to avoid excessive fluid intake while taking TMP/SMZ.

ANS: A

Alcoholics are likely to be folate deficient and have an increased risk of megaloblastic anemia when taking TMP/SMZ, so withholding this drug in this population is recommended. TMP/SMZ shares hypersensitivity reactions with oral sulfonylurea-type hypoglycemics that are used with type 2 diabetes mellitus, so it is not necessary to assess the blood glucose level more often. TMP/SMZ can cause hyperkalemia, so potassium supplements are contraindicated. Patients taking TMP/SMZ should consume more fluids to maintain renal blood flow and prevent renal damage. DIF: Cognitive Level: Application REF: p. 824 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential
Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 74: Drug Therapy of Urinary Tract Infections

Test Bank

Multiple Choice

823. A patient with a history of renal calculi has fever, flank pain, and bacteriuria. The nurse caring for this patient understands that it is important for the provider to:
- begin antibiotic therapy after urine culture and sensitivity results are available.
 - give prophylactic antibiotics for 6 weeks after the acute infection has cleared.
 - initiate immediate treatment with broad-spectrum antibiotics.
 - refer the patient for intravenous antibiotics and hospitalization.

ANS: A

Patients with renal calculi are more likely to have complicated urinary tract infections that have less predictable microbiologic etiologies. Because the symptoms are mild, it is important first to obtain a culture and sensitivity to assist with antibiotic selection. If symptoms worsen, a broad-spectrum antibiotic may be started until sensitivity information is available. Intravenous antibiotics are indicated for severe pyelonephritis. Long-term prophylaxis is not indicated unless this patient develops frequent reinfection. DIF: Cognitive Level: Application REF: p. 828 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

824. A 30-year-old male patient reports having two to four urinary tract infections a year. What will the nurse expect to teach this patient?
- “Make sure you void after intercourse and drink extra fluids to stay well hydrated.”
 - “We will treat each infection as a separate infection and treat with short-course therapy.”
 - “You will need to take a low dose of medication for 6 months to prevent infections.”
 - “You will need to take antibiotics for 4 to 6 weeks each time you have an infection.”

ANS: C

This patient has reinfection of his urinary tract at a rate of more than three per year, which is an indication for long-term prophylaxis. Voiding after intercourse is a good teaching point for sexually active women to prevent urinary infections, but it is not a sufficient preventive measure for recurrent infections in men. Short-course therapy may be used for each occurrence of infection if the reinfection rate is less than three per year. Long-term treatment for individual infections is recommended if relapse occurs or if infections do not clear with shorter-term therapy. DIF: Cognitive Level: Application REF: p. 828 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

825. A patient has a positive urine culture 1 week after completion of a 3-day course of antibiotics. The nurse anticipates that the prescriber will:
- begin a 2-week course of antibiotics.
 - evaluate for a structural abnormality of the urinary tract.
 - initiate long-term prophylaxis with low-dose antibiotics.
 - treat the patient with intravenous antibiotics.

ANS: A

Patients who develop a subsequent urinary tract infection after treatment are treated in a stepwise fashion, beginning with a longer course of antibiotics. The next steps would be to begin a 4- to 6-week course of therapy, followed by a 6-month course of therapy if that is unsuccessful. If urinary tract infections are thought to be caused by other complicating factors, an evaluation for structural abnormalities may be warranted. Unless the infections are severe or are complicated, intravenous antibiotics are not indicated. DIF: Cognitive Level: Application REF: p. 829 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

826. A young, nonpregnant female patient with a history of a previous urinary tract infection is experiencing dysuria, urinary urgency and frequency, and suprapubic pain of 3 days' duration. She is afebrile. A urine culture is positive for more than 100,000/mL of urine. The nurse caring for this patient knows that which treatment is most effective?
- A 14-day course of amoxicillin with clavulanic acid [Augmentin]
 - A 7-day course of ciprofloxacin [Cipro]
 - A single dose of fosfomycin [Monurol]
 - A 3-day course of trimethoprim/sulfamethoxazole [Bactrim]

ANS: D

Short-course therapy is recommended for uncomplicated, community-acquired lower urinary tract infections. The short course is more effective than a single dose, and compared with longer-course therapies, it is less costly, has fewer side effects, and is more likely to foster compliance. Amoxicillin with clavulanic acid is a second-line drug used for pyelonephritis. Fosfomycin is a second-line drug and can be useful in patients with drug allergies. DIF: Cognitive Level: Application REF: p. 828 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

827. A patient who is taking nitrofurantoin calls the nurse to report several side effects. Which side effect of this drug causes the most concern and would require discontinuation of the medication?
- Anorexia, nausea, and vomiting
 - Brown-colored urine
 - Drowsiness
 - Tingling of the fingers

ANS: D

Tingling of the fingers can indicate peripheral neuropathy, which can be an irreversible side effect of nitrofurantoin. The other side effects are not serious and can be reversed. DIF: Cognitive Level: Application REF: p. 830 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

828. Before giving methenamine [Hiprex] to a patient, it is important for the nurse to review the patient's history for evidence of which problem?
- Elevated blood urea nitrogen and creatinine
 - History of reactions to antibiotic agents
 - Possibility of pregnancy
 - Previous resistance to antiseptic agents

ANS: A

Methenamine should not be given to patients with renal impairment, because crystalluria can occur. There is no cross-reactivity between methenamine and antibiotic agents. Methenamine is safe for use during pregnancy. There is no organism drug resistance to methenamine. DIF: Cognitive Level: Application REF: p. 831 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

829. A pregnant female patient with bacteriuria, suprapubic pain, urinary urgency and frequency, and a low-grade fever is allergic to sulfa, ciprofloxacin, and amoxicillin. The nurse knows that the best alternative for treating this urinary tract infection is with:
- cephalexin [Keflex].
 - fosfomycin [Monurol].
 - methenamine [Hiprex].
 - nitrofurantoin [Macrochantin].

ANS: C

Methenamine is an excellent second-line drug for this patient and is indicated because of the patient's multiple drug sensitivities. It is safe in pregnancy, and there is no drug resistance. Nitrofurantoin has potential harmful effects on the fetus and should not be used during pregnancy. Single-dose regimens are not recommended in pregnant women. Cephalexin can have cross-reactivity with amoxicillin. DIF: Cognitive Level: Application REF: p. 831 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

830. The parent of a 5-year-old child who has had four urinary tract infections in the past year asks the nurse why the provider doesn't just order an antibiotic for the child's current symptoms of low-grade fever, flank pain, and dysuria since these are similar symptoms as before. Which is the most important reason given by the nurse?
- "Your child may need to be hospitalized for treatment."
 - "Your child may need a urine culture before and after treatment."
 - "Your child may need tests to assess for urinary tract abnormalities."
 - "Your child may need additional medications, such as urinary tract antiseptics."

ANS: C

Children with recurrent urinary tract infections should be assessed for underlying urinary tract abnormalities to help determine a possible cause for recurrence. This child has mild fever and therefore may not require hospitalization. Urine cultures are important when treating patients with recurrent UTI prophylactically, but this is not the most important consideration. Urinary tract antiseptics are used to treat uncomplicated lower urinary tract infections. DIF: Cognitive Level: Analysis REF: p. 830 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

831. Which patient with a urinary tract infection will require hospitalization and intravenous antibiotics?

- a. A 5-year-old child with a fever of 100.5° F, dysuria, and bacteriuria
- b. A pregnant woman with bacteriuria, suprapubic pain, and fever
- c. A young man with dysuria, flank pain, and a previous urinary tract infection
- d. An older adult man with a low-grade fever, flank pain, and an indwelling catheter

ANS: D

The patient with an indwelling catheter and signs of pyelonephritis shows signs of a complicated UTI, which is best treated with intravenous antibiotics. Three other patients show signs of uncomplicated urinary tract infections that are not severe and can be treated with oral antibiotics. DIF: Cognitive Level: Analysis REF: p. 828 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

832. A 20-year-old female patient has suprapubic discomfort, pyuria, dysuria, and bacteriuria greater than 100,000/mL of urine. Which are the most likely diagnosis and treatment?

- a. Uncomplicated lower urinary tract infection treatable with short-course therapy
- b. Complicated lower urinary tract infection treatable with single-dose therapy
- c. Uncomplicated upper urinary tract infection requiring 14 days of oral antibiotics
- d. Complicated upper urinary tract infection requiring parenteral antibiotics

ANS: A

These are symptoms of uncomplicated cystitis, which is a lower urinary tract infection that can be treated with a short course of antibiotics. Short-course therapy is more effective than single-dose therapy and is preferred. A complicated lower urinary tract infection would be associated with some predisposing factor, such as renal calculi, an obstruction to the flow of urine, or an indwelling catheter. Upper urinary tract infections often include severe flank pain, fever, and chills. DIF: Cognitive Level: Analysis REF: p. 827 TOP: "Nursing Process: Assessment, Nursing Process: Planning" MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

833. An older male patient comes to the clinic with complaints of chills, malaise, myalgia, localized pain, dysuria, nocturia, and urinary retention. The nurse would most likely suspect that the patient has:
- acute cystitis.
 - urinary tract infection.
 - pyelonephritis.
 - prostatitis.

ANS: D

The nurse should suspect prostatitis, which is manifested by high fever, chills, malaise, myalgia, and localized pain, and may also be manifested by dysuria, nocturia, and urinary urgency, frequency, and retention. Clinical manifestations of acute cystitis include dysuria, urinary urgency and frequency, suprapubic discomfort, pyuria, and bacteriuria. Urinary tract infections are very general and are classified by their location. Pyelonephritis is characterized by fever, chills, severe flank pain, dysuria, and urinary frequency and urgency, as well as by pyuria and bacteriuria. DIF: Cognitive Level: Application REF: p. 829 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

834. A patient presents to the emergency department with complaints of chills, severe flank pain, dysuria, and urinary frequency. The patient has a temperature of 102.9° F, a pulse of 92 beats/minute, respirations of 24 breaths/minute, and a blood pressure of 119/58 mm Hg. The nurse would be correct to suspect that the patient shows signs and symptoms of:
- acute cystitis.
 - urinary tract infection.
 - pyelonephritis.
 - prostatitis.

ANS: C

The nurse should suspect pyelonephritis. Pyelonephritis is characterized by fever, chills, severe flank pain, dysuria, urinary urgency and frequency, and pyuria and bacteriuria. Clinical manifestations of acute cystitis include dysuria, urinary urgency and frequency, suprapubic discomfort, pyuria, and bacteriuria. Urinary tract infections (UTIs) are very general and are classified by their location. These symptoms are specific to pyelonephritis. Prostatitis is manifested by high fever, chills, malaise, myalgia, localized pain, and various UTI symptoms, but not by severe flank pain. DIF: Cognitive Level: Analysis REF: p. 828 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

835. A pregnant patient with fever, flank pain, and chills has a history of two previous bladder infections before getting pregnant. She is allergic to several antibiotics. She reports having taken methenamine successfully in the past. What will the nurse tell her?
- “This agent is not effective against infections of the upper urinary tract.”

- b. "This antiseptic agent is safe for use during pregnancy and has no drug resistance."
- c. "This drug is linked to many serious birth defects and is not recommended during pregnancy."
- d. "You will need to take this medication with meals to avoid gastric upset."

ANS: A

Methenamine is safe for use during pregnancy and would be an excellent choice for this patient if she had a lower urinary tract infection. However, it is not an effective agent for upper urinary tract infection, because it is a prodrug that must break down into ammonia and formaldehyde to be effective. There is not enough time for formaldehyde to form in the kidneys, so it is not effective in the upper tract. Nitrofurantoin is linked to serious birth defects and also must be given with food to prevent gastrointestinal problems. DIF: Cognitive Level: Analysis REF: p. 831 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 75: Antimycobacterial

Agents Test Bank

Multiple Choice

836. A patient is about to begin treatment for latent tuberculosis. The patient is an alcoholic, has difficulty complying with drug regimens, and has mild liver damage. What will the nurse tell this patient?
- a. "You must stop drinking before adequate treatment can begin."
 - b. "You must take isoniazid with close monitoring of hepatic function."
 - c. "You must take rifampin daily for 4 months."
 - d. "You will begin a regimen of isoniazid and rifampin."

ANS: B

Isoniazid has an increased incidence of hepatotoxicity, especially when given with alcohol. Patients who consume alcohol or who have liver damage should receive isoniazid with caution and should have close monitoring of liver function. It is unrealistic to ask the alcoholic to stop drinking to undergo treatment. Rifampin is toxic to the liver, especially in alcoholics. Giving both drugs would only increase the risk of hepatotoxicity. DIF: Cognitive Level: Application REF: p. 846 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

837. A patient comes to a clinic for tuberculosis medications 2 weeks after beginning treatment with a four-drug induction phase. The patient's sputum culture remains positive, and no drug resistance is noted. At this point, the nurse will expect the provider to:

- a. change the regimen to a two-drug continuation phase.
- b. continue the four-drug regimen and recheck the sputum in 2 weeks.
- c. obtain a chest radiograph and consider adding another drug to the regimen.
- d. question the patient about adherence to the drug regimen.

ANS: B

In patients with positive pretreatment sputum test results, sputum should be evaluated every 2 to 4 weeks until cultures are negative and then monthly thereafter. In the absence of drug resistance, treatment with the same regimen should continue. Sputum cultures should become negative in over 90% of patients in 3 or more months. The induction phase should last 2 months, so this patient should remain on a four-drug regimen. It is not necessary to order a chest radiograph or to add another drug at this stage of treatment. The patient is stable and has not developed symptoms that cause concern, so the patient does not need to be questioned about adherence. DIF: Cognitive Level: Application REF: p. 836 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

838. A nurse reads a tuberculin skin test on a patient and notes a 6- to 7-mm area of induration. The patient is a young adult who has recently immigrated from a country with a high prevalence of tuberculosis. The patient has no other risk factors. The nurse will expect the provider to:

- a. begin treating this patient with a two-drug regimen of isoniazid and rifampin.
- b. order a chest radiograph and a sputum culture to assess for active tuberculosis.
- c. order a nucleic acid amplification test of the patient's sputum.
- d. reassure the patient that this is not considered a positive test result.

ANS: D

This patient has a moderate risk of tuberculosis; the area of induration would have to be 10 mm or greater to be considered a positive skin test result. Without other clinical signs, there is no indication to treat this patient or to perform diagnostic testing, so a chest x-ray or sputum cultures are not recommended. DIF: Cognitive Level: Application REF: p. 837 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

839. A patient newly diagnosed with tuberculosis asks the nurse why oral medications must be given in the clinic. The nurse will tell the patient that medications are given in the clinic so that:

- a. clinic staff can observe adherence to drug regimens.
- b. nurses can monitor for drug toxicities.
- c. providers can adjust doses as needed.
- d. the staff can ensure that the U.S. Food and Drug Administration (FDA) regulations are met.

ANS: A

Adherence to drug regimens is a serious problem in the treatment of TB. Directly observed therapy (DOT) combined with intermittent dosing helps ensure adherence and increases the chance of success. Patients report drug side effects to providers; it is not necessary to give drugs in the clinic to monitor this. Doses are adjusted based on response to treatment and not on DOT. The FDA regulations do not require DOT. DIF: Cognitive Level: Application REF: p. 835 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

840. A patient is about to begin treatment with isoniazid. The nurse learns that the patient also takes phenytoin [Dilantin] for seizures. The nurse will contact the provider to discuss:
- increasing the phenytoin dose.
 - reducing the isoniazid dose.
 - monitoring isoniazid levels.
 - monitoring phenytoin levels.

ANS: D

Isoniazid is a strong inhibitor of three cytochrome P450 enzymes, and inhibition of these enzymes can raise the levels of other drugs, including phenytoin. Patients taking phenytoin should have the levels of this drug monitored, and the dose should be reduced if appropriate. Reducing the dose of isoniazid is not indicated. It is not necessary to monitor isoniazid levels. DIF: Cognitive Level: Application REF: p. 846 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

841. A healthcare worker who is asymptomatic has a screening TST result of 10 mm of induration during a pre-employment physical. What will the nurse reading this test tell the patient?
- “This is a negative test, so you are cleared for employment.”
 - “You have latent TB and will need to take isoniazid for 6 to 9 months.”
 - “You need to have a chest radiograph and a sputum culture.”
 - “You will begin taking a four-drug regimen to treat tuberculosis.”

ANS: C

This patient has a moderate risk and a positive skin test result. Before beginning treatment for latent TB, active TB must be ruled out with chest X-rays and sputum cultures. This is not a negative test result in a moderate-risk individual. Latent TB needs to be confirmed with diagnostic testing. Treatment will not begin until tests have confirmed the diagnosis. DIF: Cognitive Level: Application REF: p. 846 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

842. A patient is about to begin therapy with ethambutol. The nurse knows that, before initiating treatment with this drug, it is important to obtain which test(s)?

- a. Color vision and visual acuity
- b. Complete blood cell (CBC) count
- c. Hearing testing and a tympanogram
- d. Hepatic function tests

ANS: A

Optic neuritis is a dose-related adverse effect of ethambutol. Patients receiving this drug should have color vision and visual acuity testing before therapy starts and periodically thereafter. A CBC, hearing evaluations, and hepatic function testing are not recommended. DIF: Cognitive Level: Application REF: p. 843 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

843. A patient with HIV who takes protease inhibitors develops tuberculosis and will begin treatment. Which drug regimen will be used for this patient?
- a. Isoniazid, pyrazinamide, ethambutol + rifabutin
 - b. Isoniazid, pyrazinamide, ethambutol
 - c. Isoniazid, rifampin, pyrazinamide, ethambutol
 - d. Isoniazid + rifabutin

ANS: A

Patients with HIV who take protease inhibitors are susceptible to drug interactions with rifampin, which accelerates the metabolism of protease inhibitors. Rifabutin can be substituted for rifampin in patients with HIV, because the degree of acceleration of this metabolism is less. A three-drug regimen would increase drug resistance, as would a two-drug regimen. DIF: Cognitive Level: Application REF: p. 836 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

844. Which patient should begin treatment for tuberculosis?
- a. A patient with HIV and a tuberculin skin test result of a 4-mm region of induration
 - b. A recent immigrant from a country with a high prevalence of TB with a 10-mm region of induration
 - c. A patient with no known risk factors who has a job-related tuberculin skin test result of a 12-mm area of induration
 - d. An intravenous drug abuser with a tuberculin skin test result of a 5-mm region of induration

ANS: B

The immigrant is considered to be at moderate risk, meaning that a 10-mm area of induration on a tuberculin skin test (TST) is considered a positive result. After being evaluated for active TB, this patient should be treated for latent TB. A patient with HIV is considered high risk, but this patient has a negative TST result of less than 5 mm. For a low-risk patient receiving a screening TST for a job, the area of induration must be 15 mm or greater to be considered a positive result. An IV

drug abuser is in the moderate-risk category; an area of induration of 10 mm or greater is needed to be considered a positive TST result.DIF: Cognitive Level: ApplicationREF: p. 837 TOP: Nursing Process: DiagnosisMSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

845. A patient is beginning treatment for active tuberculosis (TB) in a region with little drug-resistant TB. Which treatment regimen will be used initially?
- Isoniazid and pyrazinamide
 - Isoniazid, pyrazinamide, and ethambutol
 - Rifampin, pyrazinamide, and ethambutol
 - Isoniazid, rifampin, pyrazinamide, and ethambutol

ANS: D

The induction phase of treatment for patients in a region without drug resistance is the same as for patients who are human immunodeficiency virus (HIV) negative or HIV positive and includes isoniazid, rifampin, pyrazinamide, and ethambutol. It is not correct to begin with two drugs. The three-drug regimen is used for inductions in areas with resistance to either isoniazid or rifampin.DIF: Cognitive Level: ApplicationREF: p. 836 TOP: Nursing Process: PlanningMSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

846. A patient with high-risk factors for tuberculosis will begin therapy for latent TB with isoniazid and rifampin. The nurse learns that this patient takes oral contraceptives. The nurse will counsel this patient to discuss with her provider.
- another birth control method
 - reducing the rifampin dose
 - reducing the isoniazid dose
 - increasing the oral contraceptive dose

ANS: A

Rifampin induces cytochrome P450 enzymes and can accelerate the metabolism of many drugs, including oral contraceptive pills (OCPs). Women taking OCPs should consider a nonhormonal form of birth control. Reducing the dose of rifampin or isoniazid is not indicated. Increasing the OCP dose is not recommended.DIF: Cognitive Level: ApplicationREF: p. 846 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

847. A hospitalized patient is being treated for tuberculosis with a drug regimen that includes pyrazinamide. The patient complains of pain in the knee and shoulder joints. The nurse will contact the provider to request an order for:
- ibuprofen.

- b. renal function tests.
- c. discontinuation of the pyrazinamide.
- d. measurement of uric acid levels.

ANS: A

Polyarthralgias occur in 40% of patients during the initial phase of treatment with pyrazinamide and can be managed with a nonsteroidal anti-inflammatory drug (NSAID). Renal function tests and uric acid levels are not indicated. Unless the pain cannot be managed with NSAIDs, there is no need to reduce the dose of pyrazinamide. DIF: Cognitive Level: Application REF: p. 843 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

848. A patient has been taking isoniazid for 4 months for latent tuberculosis. The patient reports bilateral tingling and numbness of the hands and feet, as well as feeling clumsy. The nurse expects the provider to:

- a. discontinue the isoniazid.
- b. lower the isoniazid dose and add rifampin.
- c. order pyridoxine 100 mg per day.
- d. recheck the tuberculin skin test to see whether it worsens.

ANS: C

Patients sometimes develop peripheral neuropathy, characterized by paresthesias, clumsiness, and muscle aches. If these occur, they may be reversed by administering pyridoxine (vitamin B6). It is not necessary to discontinue the isoniazid. Lowering the isoniazid dose and adding rifampin is not indicated. Rechecking the TST is not indicated. DIF: Cognitive Level: Application REF: p. 845 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

849. A patient who has drug-sensitive tuberculosis has completed 2 months of the standard four-drug therapy and asks the nurse how long he will have to take medication. Which response by the nurse is correct?

- a. "As long as you remain symptomatic, you will not have to take more medication."
- b. "The four-drug regimen will continue for 3 more months."
- c. "You will have to take maintenance drugs indefinitely."
- d. "You will need to take only two drugs for the next 4 months."

ANS: D

Patients with drug-sensitive tuberculosis take four drugs for 2 months during the induction phase, followed by two drugs for 4 months in the continuation phase. Drug therapy does not stop after the induction phase, even for asymptomatic patients. Although drug therapy is prolonged, it is not indefinite. DIF: Cognitive Level: Application REF: p. 845 TOP: Nursing Process:

Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

850. A patient who is being treated for HIV infection has a 5-mm area of induration after a routine TST. The patient's chest radiograph is normal, and there are no other physical findings. The nurse will expect this patient to begin treatment with which drugs?
- Isoniazid and rifabutin
 - Isoniazid and rifampin
 - Isoniazid and rifapentine
 - Isoniazid and pyrazinamide

ANS: A

Rifabutin is used off-label as an alternative to rifampin to treat TB in patients with HIV, because it has less impact on the metabolism of protease inhibitors. The effects of rifapentine on protease inhibitors are similar to those of rifampin. Pyrazinamide is not indicated. DIF: Cognitive Level: Application REF: p. 836 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

851. A patient who is taking drugs to treat HIV has tuberculosis and has been on a four-drug regimen for 3 months without improvement in symptoms. Which drug will the nurse anticipate that the provider will add to this patient's regimen?
- bedaquiline [Sirturo]
 - capreomycin [Capastat Sulfate]
 - ethionamide [Trecator]
 - pyridoxine

ANS: A

Bedaquiline is a newer, highly effective anti-TB drug that does not accelerate the metabolism of HIV drugs and is used for multi-drug resistant TB. Capreomycin is a second-line drug used for drug-resistant TB, but is not as effective as bedaquiline. Ethionamide is a second-line drug that is less well tolerated of all anti-TB agents and is used only when there is no alternative. Pyridoxine is given to prevent peripheral neuritis in patients taking isoniazid. DIF: Cognitive Level: Analysis REF: p. 844 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

852. A nurse is performing a physical assessment on a patient with tuberculosis who takes rifampin [Rifadin]. What would be an expected finding?
- Crystalluria
 - Myopathy
 - Peripheral neuropathy

- d. Red-orange–tinged urine

ANS: D

Urine tinged red-orange is a normal finding associated with rifampin's adverse effects. Peripheral neuropathy, myopathy, and crystalluria are not manifestations of adverse effects of rifampin. DIF: Cognitive Level: Application REF: p. 842 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

853. A patient is about to begin treatment for latent tuberculosis with a short course of daily rifampin. The patient asks why rifapentine [Priftin] cannot be used, because it can be given twice weekly. What will the nurse tell this patient about rifapentine?

- a. It is more toxic than rifampin.
- b. It is not approved for treatment of latent TB.
- c. It is not well absorbed and thus not as effective.
- d. It will stain contact lenses orange.

ANS: B

Rifapentine is indicated only for pulmonary TB. Rifapentine's toxicity is similar to that of rifampin. Rifapentine is well absorbed. Both drugs stain contact lenses. DIF: Cognitive Level: Analysis REF: p. 841 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 76: Miscellaneous Antibacterial Drugs

Test Bank

Multiple Choice

854. A nurse is preparing to administer an antibiotic to a patient with methicillin-resistant *Staphylococcus aureus* (MRSA). The nurse would expect the health care provider to order which antibiotic?

- a. Daptomycin [Cubicin]
- b. Levofloxacin [Levaquin]
- c. Norfloxacin [Noroxin]
- d. Ciprofloxacin [Cipro]

ANS: A

Daptomycin is active against MRSA. Levofloxacin and norfloxacin are not approved to treat MRSA. Ciprofloxacin is a poor choice for staphylococcal infections, including MRSA. DIF:

Cognitive Level: Application REF: p. 852 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

855. A patient who is taking calcium supplements receives a prescription for ciprofloxacin [Cipro] for a urinary tract infection. The nurse will teach this patient to:
- consume extra fluids while taking the ciprofloxacin to prevent hypercalciuria.
 - stop taking the calcium supplements while taking the ciprofloxacin.
 - take the two medications together to increase the absorption of both.
 - take the calcium either 6 hours before or 2 hours after taking the ciprofloxacin.

ANS: D

Cationic compounds, including calcium supplements, can reduce the absorption of ciprofloxacin, so proper interval dosing is necessary. Consuming extra fluids is not indicated. With proper interval dosing, it is not necessary to discontinue the calcium while giving the ciprofloxacin. These two medications should not be given together. DIF: Cognitive Level: Application REF: p. 851 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

856. A nurse is preparing to administer oral ofloxacin to a patient. While taking the patient's medication history, the nurse learns that the patient takes warfarin and theophylline. The correct action by the nurse is to request an order to:
- reduce the dose of ofloxacin.
 - increase the dose of ofloxacin.
 - increase the dose of theophylline.
 - monitor coagulation levels.

ANS: D

Ofloxacin increases plasma levels of warfarin, so coagulation tests should be monitored. The ofloxacin dose should not be reduced or increased. Ofloxacin does not affect theophylline levels. DIF: Cognitive Level: Application REF: p. 851 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

857. A 65-year-old patient who receives glucocorticoids for arthritis is admitted to the hospital for treatment of a urinary tract infection. The prescriber has ordered intravenous ciprofloxacin [Cipro]. Before administering the third dose of this drug, the nurse reviews the bacterial culture report and notes that the causative organism is *Escherichia coli*. The bacterial sensitivity report is pending. The patient complains of right ankle pain. What will the nurse do?
- Withhold the dose of ciprofloxacin and notify the provider of the patient's symptoms.
 - Instruct the patient to exercise the right foot and ankle to minimize the pain.
 - Question the patient about the consumption of milk and any other dairy products.

- d. Request an order to increase this patient's dose of glucocorticoids.

ANS: A

A rare but serious adverse effect associated with fluoroquinolones is tendon rupture, and those at highest risk are children, patients older than 60 years, transplant patients, and any patients taking glucocorticoids. Any pain in either heel should be reported and the drug should be discontinued. Patients should be instructed not to exercise until tendonitis has been ruled out. Dairy products can reduce the absorption of ciprofloxacin, so this is not a concern with this patient. Because the pain may be caused by tendonitis associated with ciprofloxacin, it is not correct to request an increase in the glucocorticoid dosing. DIF: Cognitive Level: Application REF: p. 850 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

858. A provider orders intravenous moxifloxacin [Avelox] for a patient who has sinusitis. Before administering the drug, the nurse will review this patient's chart for:

- a. a history of asthma.
- b. concurrent use of digoxin.
- c. concurrent use of warfarin.
- d. recent serum electrolyte levels.

ANS: D

Moxifloxacin prolongs the QT interval and poses a risk of serious dysrhythmias. Patients with hypokalemia have an increased risk, so serum electrolyte levels should be monitored. Having a history of asthma is not significant. Moxifloxacin does not alter digoxin or warfarin levels. DIF: Cognitive Level: Application REF: p. 851 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

859. A patient will receive oral ciprofloxacin [Cipro] to treat a urinary tract infection. The nurse provides teaching for this patient. Which statement by the patient indicates a need for further teaching?

- a. "I may have abdominal pain and nausea, but these are usually mild."
- b. "I should take this medication with food or milk to improve absorption."
- c. "I should stop taking the medication immediately if I experience heel pain."
- d. "I will need to use sunscreen every time I go outdoors."

ANS: B

Dairy products inhibit the absorption of ciprofloxacin, so they should be avoided. Abdominal pain and nausea and vomiting are common and usually mild. Patients should stop taking the drug if heel pain occurs until tendonitis has been ruled out. Photosensitivity can occur, so sunscreen should be used. DIF: Cognitive Level: Application REF: p. 850 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

860. A patient who is receiving intravenous ciprofloxacin for pneumonia develops diarrhea. A stool culture is positive for *Clostridium difficile*. The nurse will expect the provider to:
- add metronidazole [Flagyl].
 - increase the dose of ciprofloxacin.
 - restrict dairy products.
 - switch to gemifloxacin.

ANS: A

C. difficile is resistant to fluoroquinolones; metronidazole is the drug of choice to treat this infection. Metronidazole is lethal only to anaerobic organisms, so the ciprofloxacin should be continued to treat the pneumonia. Increasing the dose of ciprofloxacin is not indicated, because *C. difficile* is resistant to ciprofloxacin. Gemifloxacin is approved for use in respiratory infections. DIF: Cognitive Level: Application REF: p. 852 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

861. The nurse is caring for a patient who will begin receiving intravenous ciprofloxacin [Cipro] to treat pyelonephritis. The nurse learns that the patient has a history of myasthenia gravis. Which action by the nurse is correct?
- Administer the ciprofloxacin and monitor the patient for signs of muscle weakness.
 - Ask the provider whether the ciprofloxacin can be given orally.
 - Request an order for concurrent administration of metronidazole [Flagyl].
 - Suggest that the provider order a different antibiotic for this patient.

ANS: D

Ciprofloxacin and other fluoroquinolones can exacerbate muscle weakness in patients with myasthenia gravis and should not be given to these patients. It is not correct to administer the drug and monitor for this effect. Giving the drug by a different route will not alter this effect. Metronidazole is given when *C. difficile* occurs. DIF: Cognitive Level: Application REF: p. 850 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 77: Antifungal Agents

Test Bank

Multiple Choice

862. A patient is being treated for a systemic fungal infection with amphotericin B [Abelcet] and will be discharged home from the hospital to complete every-other-day infusions of the medication for 6 to 8 weeks. The nurse provides discharge teaching before dismissal. Which statement by the patient indicates a need for further teaching?
- “I may experience headaches and pain in my lower back, legs, and abdomen.”
 - “I may need to take potassium supplements while taking this drug.”
 - “I should take acetaminophen and diphenhydramine before each infusion.”
 - “I will need to have blood drawn for serum creatinine and BUN levels every 3 to 4 days.”

ANS: A

Headaches, lower back pain, leg pain, and abdominal pain occur with intrathecal administration of amphotericin B. Patients taking amphotericin may experience hypokalemia and may need potassium supplements. Acetaminophen and diphenhydramine should be taken to minimize infusion reaction effects. Renal function should be monitored every 3 to 4 days during treatment. DIF: Cognitive Level: Application REF: p. 856 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

863. A child has ringworm of the scalp. A culture of the lesion reveals a dermatophytic infection. The nurse teaching the child’s parents about how to treat this infection will include which statement?
- “Adverse effects of the medication include itching, burning, and erythema.”
 - “Apply the topical medication daily until at least 1 week after the rash is gone.”
 - “Your child will need to take this oral medication for 6 to 8 weeks.”
 - “You will use an antifungal shampoo to treat this infection.”

ANS: C

Tinea capitis is difficult to treat with topical medications; oral griseofulvin, taken for 6 to 8 weeks, is standard therapy. Itching, burning, and erythema are side effects of topical agents. Patients treating tinea corporis, tinea cruris, or tinea pedis are taught to apply medication until 7 days after the rash disappears. Antifungal shampoos are not effective for treating tinea capitis. DIF: Cognitive Level: Application REF: p. 863 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

864. The nurse is preparing to administer amphotericin B intravenously. The nurse will expect to pretreat the patient with which medications?
- Acetaminophen [Tylenol], diphenhydramine [Benadryl], and meperidine [Demerol]
 - Aspirin, diphenhydramine [Benadryl], and meperidine [Demerol]
 - Ibuprofen [Motrin], diphenhydramine [Benadryl], and meperidine [Demerol]
 - Morphine sulfate [Morphine] and acetaminophen

[Tylenol] ANS: A

Optimum pretreatment before the administration of amphotericin B comprises acetaminophen, diphenhydramine, and meperidine (for rigors). Motrin is not suggested as pretreatment. Aspirin is an option, but it may increase kidney damage. Morphine is not indicated in the pretreatment regimen. DIF: Cognitive Level: Analysis REF: p. 856 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

865. A nurse is caring for a patient who has a superficial fungal infection and notes that the provider has ordered 200 mg of ketoconazole [Nizoral] 200 mg PO once daily. Which action by the nurse is correct?

- a. Administer the drug as ordered.
- b. Contact the provider to discuss twice-daily dosing.
- c. Discuss a 400-mg daily drug regimen with the provider.
- d. Request an order for a different antifungal medication.

ANS: D

Because of the risk of serious and potentially fatal hepatic necrosis with oral ketoconazole, it is not recommended for use in treating superficial fungal infections. Another antifungal medication should be ordered. DIF: Cognitive Level: Application REF: p. 860 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

866. A patient is being treated with amphotericin B [Abelcet] for a systemic fungal infection. After several weeks of therapy, the provider orders flucytosine [Ancobon] in addition to the amphotericin. The nurse understands that the rationale for this combination is that it:

- a. broadens the antifungal spectrum.
- b. improves the effectiveness of the amphotericin B.
- c. lowers the dose of amphotericin B and reduces toxicity.
- d. treats fungal central nervous system (CNS) infection.

ANS: C

Amphotericin potentiates the antifungal actions of flucytosine, and combining flucytosine with low-dose amphotericin can produce antifungal effects equivalent to those of high-dose amphotericin. By allowing a reduced dose of amphotericin, the combination also reduces the risk of amphotericin-induced toxicity. Flucytosine does not affect the effectiveness of amphotericin. The combination does not broaden the antifungal spectrum or alter the ability to treat CNS infections. DIF: Cognitive Level: Application REF: p. 857 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

867. A patient will begin taking an immunosuppressant medication. The nurse learns that the patient has a history of frequent candidal infections. The nurse will expect the provider to order which drug as prophylaxis?

- a. Fluconazole [Diflucan]
- b. Ketoconazole
- c. Posaconazole [Noxafil]
- d. Voriconazole [Vfend]

ANS: C

Posaconazole is used as prophylaxis for invasive *Aspergillus* and *Candida* infections in immunocompromised patients. Fluconazole, ketoconazole, and voriconazole are not used prophylactically. DIF: Cognitive Level: Application REF: p. 860 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

868. A provider has ordered oral voriconazole [Vfend] for a patient who has a systemic fungal infection. The nurse obtains a medication history and learns that the patient takes phenobarbital for seizures. The nurse will contact the provider to discuss which possibility?

- a. Administering intravenous voriconazole
- b. Reducing the dose of phenobarbital
- c. Reducing the dose of voriconazole
- d. Using a different antifungal agent

ANS: D

Voriconazole can interact with many drugs. It should not be combined with drugs that are powerful P450 inhibitors, including phenobarbital, because these can reduce the levels of voriconazole. Administering the voriconazole IV will not increase the serum level. It is not correct to reduce the dose of either drug. DIF: Cognitive Level: Application REF: p. 859 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

869. A nurse is discussing intravenous amphotericin B treatment with a nursing student who is about to care for a patient with a systemic fungal infection. Which statement by the student indicates a need for further teaching?

- a. "A test dose of amphotericin B may be given to assess the patient's reaction."
- b. "If I see any precipitate in the IV solution, I should stop the infusion immediately."
- c. "Infusions of amphotericin B should be administered over 1 to 2 hours."
- d. "The IV site should be rotated frequently to reduce the risk of

phlebitis." ANS: C

Infusions of amphotericin B should be given over 2 to 4 hours to minimize phlebitis and cardiovascular reactions; therefore, 1 to 2 hours is incorrect. Test doses are given to evaluate the patient's response. Any precipitate in the IV solution warrants immediate discontinuation of the IV. IV sites should be rotated frequently. DIF: Cognitive Level: Application REF: p. 857 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

870. A patient has come to the clinic with tinea corporis, and the prescriber has ordered clotrimazole. When educating the patient about this medication, the nurse will include which statement?

- a. "Apply the medication over the entire body twice daily for 2 weeks."
- b. "Sun exposure will minimize the drug's effects."
- c. "This drug is effective after a single application."
- d. "Use the medication for at least 1 week after the symptoms have cleared."

ANS: D

The nurse should advise the patient to continue therapy for at least 1 week after the symptoms have cleared up. The medication should be applied only to the affected areas. Sun exposure will not delay the effects of clotrimazole. The drug must be applied twice daily for several weeks. DIF: Cognitive Level: Application REF: p. 863 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

871. A patient has an invasive aspergillosis infection. Which antifungal agent is the drug of choice for this infection?

- a. Amphotericin B
- b. Fluconazole [Diflucan]
- c. Posaconazole [Noxafil]
- d. Voriconazole [Vfend]

ANS: D

Voriconazole has replaced amphotericin B as the drug of choice for treating invasive aspergillosis. Fluconazole, which is fungistatic, is not used to treat aspergillosis. Posaconazole is used for prophylaxis of aspergillosis in immunocompromised patients. DIF: Cognitive Level: Analysis REF:

p. 858 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

872. A patient who is taking ketoconazole tells the nurse that her periods have become irregular.

What will the nurse tell her?

- a. This indicates that she should begin taking oral contraceptives.
- b. This is caused by a reversible effect on estradiol synthesis.

- c. This is a serious side effect that warrants discontinuation of the drug.
- d. This is a sign of hepatic toxicity, and the drug dose should be lowered.

ANS: B

Ketoconazole inhibits steroid synthesis in humans, and in females it reduces estradiol synthesis, causing menstrual irregularities. It is not an indication that oral contraceptive pills (OCPs) are needed. Because it is reversible, there is no indication for withdrawing the drug until treatment is complete. Menstrual irregularities are not a sign associated with hepatotoxicity. DIF: Cognitive Level: Application REF: p. 860 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

873. A patient is receiving intravenous voriconazole [Vfend]. Shortly after the infusion starts, the patient tells the nurse, "Colors look different, and the light hurts my eyes." What will the nurse do?
- a. Observe the patient closely for the development of hallucinations.
 - b. Reassure the patient that these effects will subside in about 30 minutes.
 - c. Stop the infusion and notify the provider of CNS toxicity.
 - d. Tell the patient that this is an irreversible effect of the drug.

ANS: B

Reduced visual acuity, increased brightness, altered color perception, and photophobia are reversible visual disturbances that can occur in 30% of patients receiving voriconazole. These usually begin within 30 minutes of dosing and then diminish over the next 30 minutes. They are not precursors to other effects, such as hallucinations. They do not indicate CNS toxicity. They are reversible. DIF: Cognitive Level: Application REF: p. 859 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

874. A patient with a history of congestive heart failure and renal impairment has esophageal candidiasis. Which antifungal agent would the nurse anticipate giving to this patient?
- a. Amphotericin B [Abelcet]
 - b. Fluconazole [Diflucan]
 - c. Itraconazole [Sporanox]
 - d. Voriconazole [Vfend]

ANS: B

Fluconazole is a drug of choice for treating systemic candidal infections. Amphotericin is nephrotoxic and should not be used in patients with existing renal disease. Itraconazole is a possible alternative agent for treating candidiasis but has serious cardiac side effects. Voriconazole is a drug of first choice for treating aspergillosis but not for candidiasis. DIF: Cognitive Level: Application REF: p. 858 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

875. A patient will begin treatment with posaconazole [Noxafil] to treat oropharyngeal candidiasis that has not responded to fluconazole. The provider has ordered 200 mg three times daily. Which action by the nurse is correct?
- Administer the drug as ordered.
 - Contact the provider to discuss decreasing the dose to twice daily.
 - Discuss a 400-mg twice-daily drug regimen with the provider.
 - Suggest to the provider that this dose may be too high for this indication.

ANS: C

When given for treatment of oropharyngeal candidiasis that is refractory to treatment with itraconazole or fluconazole, the dose is 400 mg twice daily. A dosage regimen of 200 mg three times daily is used for prophylaxis of invasive fungal infections and decreasing this to twice daily is not correct. DIF: Cognitive Level: Application REF: p. 860 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

876. A patient is taking oral ketoconazole [Nizoral] for a systemic fungal infection. The nurse reviews the medication administration record and notes that the patient is also taking omeprazole [Prilosec] for reflux disease. What action should the nurse take?
- Administer the omeprazole 1 hour before the ketoconazole.
 - Administer the omeprazole at least 2 hours after the ketoconazole.
 - Confer with the prescriber about a potential hazardous interaction.
 - The nurse should not administer omeprazole to a patient receiving ketoconazole.

ANS: B

The nurse should administer the omeprazole at least 2 hours after the ketoconazole to prevent a drug-to-drug interaction. Drugs that reduce gastric acidity should be administered no sooner than 2 hours after ingestion of ketoconazole, because they reduce absorption of the drug. There is no need to confer with the prescriber or to refuse to administer the drugs, because ketoconazole and omeprazole do not have a potentially hazardous interaction. DIF: Cognitive Level: Application REF: p. 860 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

877. A nurse is caring for a patient who is receiving amphotericin B [Abelcet] for a systemic fungal infection. In spite of receiving diphenhydramine and acetaminophen before initiation of treatment, the patient has fever and chills with rigors. The nurse will contact the provider to discuss the addition of which drug?
- Aspirin
 - Dantrolene

- c. Hydrocortisone
- d. Omeprazole

ANS: B

Patients receiving amphotericin frequently experience infusion reactions, with fever, chills, rigors, nausea, and headache. Pretreatment with diphenhydramine and acetaminophen can reduce mild reactions. If rigors occur, the patient should receive dantrolene or meperidine. Aspirin would be effective for pretreatment but can increase kidney damage. Hydrocortisone is also effective, but it causes immune suppression. Omeprazole is not indicated. DIF: Cognitive Level: Application REF:

p. 856 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

878. A patient has a systemic candidal infection, and the provider has ordered oral fluconazole [Diflucan] 400 mg on day 1 and 200 mg once daily thereafter. What will the nurse do?

- a. Administer the drug as ordered.
- b. Contact the provider to discuss cutting the dosing in half.
- c. Contact the provider to discuss giving 400 mg on all days.
- d. Contact the provider to discuss giving the drug intravenously.

ANS: A

The dosing for fluconazole for systemic candidal infections is 400 mg on the first day and 200 mg/day each day thereafter. Dosing for oral or esophageal candidal infections is half that for systemic infections. It is not correct to give 400 mg on all days of therapy. Fluconazole is as effective when given orally as it is when given intravenously. DIF: Cognitive Level: Application REF: p. 858 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

879. A patient with histoplasmosis is being treated with itraconazole [Sporanox]. The nurse will teach this patient to report which symptoms?

- a. Gynecomastia and decreased libido
- b. Headache and rash
- c. Nausea, vomiting, and anorexia
- d. Visual disturbances

ANS: C

Itraconazole is associated with rare cases of liver failure, some of which were fatal. Patients should be instructed to report signs of liver toxicity, including nausea, vomiting, and anorexia. Ketoconazole is associated with gynecomastia and libido changes. Headache and rash are associated with fluconazole. Visual disturbances may occur with voriconazole. DIF: Cognitive Level: Application REF: p. 858 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

880. Which superficial mycosis is generally treated with oral antifungal agents?

- a. Tinea capitis
- b. Tinea corporis
- c. Tinea cruris
- d. Tinea pedis

ANS: A

Tinea capitis must be treated with oral agents for 6 to 8 weeks. Tinea corporis, tinea cruris, and tinea pedis may be treated topically. DIF: Cognitive Level: Analysis REF: p. 863 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

881. A nursing student asks a nurse about flucytosine [Ancobon]. Which statement by the nurse is correct?

- a. "Flucytosine has a broad antifungal spectrum."
- b. "Irreversible neutropenia and thrombocytopenia may occur with this drug."
- c. "Resistance is common with this medication."
- d. "Severe hepatic injury is common and limits this drug's use."

ANS: C

The development of resistance during flucytosine therapy is common and is a serious clinical problem. Flucytosine has a narrow antifungal spectrum. Neutropenia and thrombocytopenia may occur but are reversible. Severe hepatic injury is rare; mild and reversible hepatic dysfunction is common. DIF: Cognitive Level: Analysis REF: p. 862 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

882. A nursing student asks a nurse to explain the differences between amphotericin B [Abelcet] and the azoles group of antifungal agents. Which statement by the nurse is correct?

- a. "Amphotericin B can be given orally or intravenously."
- b. "Amphotericin B increases the levels of many other drugs."
- c. "Azoles have lower toxicity than amphotericin B."
- d. "Only the azoles are broad-spectrum antifungal agents."

ANS: C

The azoles class of antifungals is less toxic than amphotericin B. Amphotericin B may only be given parenterally. The azoles, not amphotericin B, inhibit hepatic P450 drug-metabolizing enzymes, so they increase the levels of many other drugs. Both classes are broad-spectrum antifungal agents. DIF: Cognitive Level: Application REF: p. 857 TOP: Nursing Process: Planning

MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 78: Antiviral Agents I: Drugs for Non-HIV Viral Infections

Test Bank

Multiple Choice

883. A patient with HIV and mucocutaneous HSV is being treated with foscarnet after failing treatment with acyclovir. After 2 weeks, the patient's dose is increased to 90 mg/kg over 2 hours from 40 mg/kg over 1 hour. The patient reports numbness in the extremities and perioral tingling. What will the nurse do?
- Notify the provider and request an order for a serum calcium level.
 - Notify the provider of potential foscarnet overdose.
 - Request an order for a creatinine clearance level.
 - Request an order of IV saline to be given before the next dose.

ANS: A

Foscarnet frequently causes hypocalcemia and other electrolyte and mineral imbalances. Paresthesias, numbness in the extremities, and perioral tingling can indicate hypocalcemia, so a calcium level should be drawn. These are not signs of foscarnet overdose. Nephrotoxicity may occur, but these are not signs of renal complications, so a creatinine clearance is not indicated. If nephrotoxicity occurs, prehydration with IV saline is indicated to reduce the risk of renal injury. DIF: Cognitive Level: Application REF: p. 874 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

884. A nurse is teaching a group of nursing students about influenza prevention. Which statement by a student indicates understanding of the teaching?
- "I may develop a mild case of influenza if I receive the vaccine by injection."
 - "I should receive the vaccine every year in October or November."
 - "If I have a cold I should postpone getting the vaccine."
 - "The antiviral medications are as effective as the flu vaccine for preventing the flu."

ANS: B

Influenza vaccine should be given every year in October or November. The vaccine will not cause influenza. Minor illnesses, such as a cold, are not a contraindication for receiving the vaccine. Antiviral medications are not as effective as the flu vaccine in preventing influenza. DIF: Cognitive Level: Application REF: p. 883 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

885. A patient has a positive test for hepatitis C and is admitted to the hospital. The admission laboratory tests reveal a normal ALT, and a liver biopsy is negative for hepatic fibrosis and inflammation. The nurse will prepare this patient for:

- a. dual therapy with pegylated interferon alpha and ribavirin.
- b. no medication therapy at this time.
- c. pegylated interferon alpha only until ALT levels are elevated.
- d. triple drug therapy with pegylated interferon alpha, ribavirin, and boceprevir.

ANS: B

Current recommendations are that treatment is used only for patients with HCV viremia, persistent elevation of ALT, and evidence of hepatic fibrosis and inflammation upon liver biopsy. Dual therapy has been the regimen of choice for patients with the above symptoms, but the addition of a protease inhibitor has been shown to improve outcomes. It is not correct to give pegylated interferon alpha until ALT levels are elevated. Triple drug therapy is used for patients with the above symptoms. DIF: Cognitive Level: Application REF: p. 875 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

886. A patient with HIV contracts herpes simplex virus (HSV), and the prescriber orders acyclovir [Zovirax] 400 mg PO twice daily for 10 days. After 7 days of therapy, the patient reports having an increased number of lesions. The nurse will expect the provider to:

- a. extend this patient's drug therapy to twice daily for 12 months.
- b. give intravenous foscarnet every 8 hours for 2 to 3 weeks.
- c. increase the acyclovir dose to 800 mg PO five times daily.
- d. order intravenous valacyclovir [Valtrex] 1 g PO twice daily for 10 days.

ANS: B

Foscarnet is active against all known herpesviruses and is used in immunocompromised patients with acyclovir-resistant HSV or VZV. This patient is demonstrating resistance to acyclovir, so extending acyclovir therapy or increasing the acyclovir dose will not be effective. Valacyclovir is not approved for use in immunocompromised patients because of the risk for thrombotic thrombocytopenic purpura/hemolytic uremic syndrome. DIF: Cognitive Level: Application REF: p. 873 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

887. A nursing student asks a nurse why pegylated interferon alpha is used instead of regular interferon for a patient with hepatitis C. The nurse will tell the student that pegylated interferon:

- a. decreases the need for additional medications.
- b. has fewer adverse effects than interferon.
- c. is administered less frequently than interferon.

- d. may be given orally to increase ease of use.

ANS: C

Pegylated interferon alpha preparations are preferred because of their convenience and superior efficacy. These preparations may be given once weekly instead of three or more times per week like the regular interferon. Using pegylated interferons does not decrease the need for additional medications. Pegylated interferons have similar adverse effects. Pegylated interferons are not given orally. DIF: Cognitive Level: Application REF: p. 876 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

888. A patient has a positive test for influenza type A and tells the nurse that symptoms began 5 days before being tested. The prescriber has ordered oseltamivir [Tamiflu]. The nurse will tell the patient that oseltamivir:

- a. may decrease symptom duration by 2 or 3 days.
- b. may not be effective because of the delay in starting treatment.
- c. may reduce the severity but not the duration of symptoms.
- d. will alleviate symptoms within 24 hours of the start of therapy.

ANS: B

Oseltamivir is most effective when begun within 2 days after symptom onset. When started within 12 hours of symptom onset, it may decrease duration of symptoms by 2 to 3 days. The drug reduces both symptom severity and symptom duration when used in a timely fashion. It does not rapidly alleviate symptoms. DIF: Cognitive Level: Application REF: p. 884 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

889. A patient who is pregnant has a history of recurrent genital herpesvirus (HSV). The patient asks the nurse what will be done to suppress an outbreak when she is near term. The nurse will tell the patient that:

- a. antiviral medications are not safe during pregnancy.
- b. intravenous antiviral agents will be used if an outbreak occurs.
- c. oral acyclovir [Zovirax] may be used during pregnancy.
- d. topical acyclovir [Zovirax] must be used to control outbreaks.

ANS: C

Oral acyclovir is devoid of serious adverse effects and may be used safely during pregnancy. It is incorrect to tell this patient that antiviral medications are not safe during pregnancy. Oral acyclovir is used to suppress recurrent genital herpes near term; intravenous antiviral medications are not indicated. It is not necessary to rely on topical medications because oral acyclovir is safe. DIF: Cognitive Level: Application REF: p. 868 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

890. A nurse provides teaching for a patient with cytomegalovirus (CMV) retinitis who will receive the ganciclovir ocular implant [Vitrasert]. Which statement by the patient indicates a need for further teaching?
- “My vision may be blurred for 2 to 4 weeks after receiving the implant.”
 - “Surgical placement of the implant is an outpatient procedure.”
 - “The implant will remain in place permanently.”
 - “The implant will slow progression of CMV retinitis.”

ANS: C

Ganciclovir ocular implants must be replaced every 5 to 8 months and do not remain in place permanently. It is correct that vision may be blurred for 2 to 4 weeks after placement of the implant, that placement is an outpatient procedure, and that the implant will slow progression of CMV retinitis. DIF: Cognitive Level: Application REF: p. 872 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

891. A patient has lamivudine-resistant hepatitis B and has been taking entecavir [Baraclude] for 2 years. The patient asks the nurse why the provider has recommended taking the drug for another year. What will the nurse tell the patient?
- “Entecavir can reverse fibrosis and cirrhosis of the liver when taken long term.”
 - “It is necessary to continue taking entecavir to avoid withdrawal symptoms.”
 - “The drug will be given until the infection is completely eradicated.”
 - “You will need to continue taking entecavir to prevent lactic acidosis and hepatotoxicity.”

ANS: A

Recent evidence indicates that, with long-term use (3 years), entecavir can reverse fibrosis and cirrhosis. The drug is not continued to avoid withdrawal symptoms. Patients who stop taking entecavir may experience acute exacerbations of hepatitis B; the disease is not eradicated. Entecavir can cause lactic acidosis and hepatotoxicity; it does not prevent these adverse effects. DIF: Cognitive Level: Application REF: p. 881 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

892. The nurse is caring for a patient receiving intravenous acyclovir [Zovirax]. To prevent nephrotoxicity associated with intravenous acyclovir, the nurse will:
- hydrate the patient during the infusion and for 2 hours after the infusion.
 - increase the patient’s intake of foods rich in vitamin C.
 - monitor urinary output every 30 minutes.
 - provide a low-protein diet for 1 day before and 2 days after the acyclovir infusion.

ANS: A

The nurse should ensure that the patient is hydrated during the acyclovir infusion and for 2 hours after the infusion to prevent nephrotoxicity. Increasing vitamin C would not help prevent nephrotoxicity. Monitoring urine output is important but would not help prevent nephrotoxicity. A low-protein diet is not indicated after an acyclovir infusion. DIF: Cognitive Level: Application REF: p. 870 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

893. A patient comes to the clinic and receives valacyclovir [Valtrex] for a herpes-zoster virus. The nurse instructs the patient to take the medication:
- without regard to meals.
 - without any dairy products.
 - each morning.
 - on an empty stomach.

ANS: A

The patient may take the medication without regard to meals. The patient does not need to avoid dairy products, take the pill only in the morning, or take it on an empty stomach. DIF: Cognitive Level: Application REF: p. 870 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

894. An immunocompromised child is exposed to chickenpox and the provider orders valacyclovir [Valtrex] to be given orally three times daily. The nurse will contact the provider to change this order for which reason?
- Valacyclovir is not used as varicella prophylaxis.
 - The dosage is too high for this indication.
 - The drug may cause serious adverse effects in immunocompromised patients.
 - Valacyclovir is not approved for use in children.

ANS: C

Valacyclovir is approved for use for varicella in immunocompetent children. In immunocompromised patients, it has produced a syndrome known as thrombotic thrombocytopenic purpura/hemolytic uremia syndrome (TTP/HUS). The dosage is fine for immunocompetent children. DIF: Cognitive Level: Application REF: p. 870 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

895. A male patient with hepatitis C will begin triple drug therapy with pegylated interferon alpha 2a [Pegasys], ribavirin [Ribasphere], and boceprevir [Victrelis]. The patient tells the nurse that his wife is pregnant. What will the nurse tell him?

- a. Boceprevir is contraindicated in males whose partners are pregnant.
- b. He should use a barrier contraceptive when having sex.
- c. He should use dual drug therapy with pegylated interferon alpha and ribavirin only.
- d. This combination drug therapy is safe for him to use.

ANS: A

The triple combination is dangerous for pregnant women whose partners are using it, so it is contraindicated for any man whose partner is pregnant. Barrier contraceptives should be used by couples to prevent pregnancy when either partner is taking the triple combination therapy. Ribavirin is teratogenic and is not safe when a partner is pregnant. This combination is not safe for pregnant women whose partners are taking these drugs. DIF: Cognitive Level: Application REF: p. 878 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

896. A female patient who has hepatitis C is being treated with pegylated interferon alpha and ribavirin [Ribasphere]. It will be important for the nurse to teach this patient that:

- a. if she gets pregnant, she should use the inhaled form of ribavirin [Virazole].
- b. if she is taking oral contraceptives, she should also take a protease inhibitor.
- c. she should use a hormonal contraceptive to avoid pregnancy.
- d. she will need a monthly pregnancy test during her treatment.

ANS: D

Ribavirin causes severe fetal injury and is contraindicated during pregnancy. Women taking ribavirin must rule out pregnancy before starting the drug, monthly during treatment, and monthly for 6 months after stopping treatment. Inhaled ribavirin is also embryo lethal and teratogenic. Adding a protease inhibitor will reduce the efficacy of oral contraceptives. Women using ribavirin should use two reliable forms of birth control. DIF: Cognitive Level: Application REF: p. 877 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

897. A patient with hepatitis B begins treatment with adefovir [Hepsera] and asks the nurse how long the drug therapy will last. The nurse will tell the patient that the medication will need to be taken for:

- a. a lifetime.
- b. an indefinite, prolonged period of time.
- c. 48 weeks.
- d. until nephrotoxicity occurs.

ANS: B

Current guidelines recommend treatment only for patients at highest risk; it is unknown whether treatment should continue lifelong. Treatment is usually prolonged, without a specific period of

time. Nephrotoxicity is common but is not the deciding factor when determining length of effective treatment. DIF: Cognitive Level: Application REF: p. 881 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 79: Antiviral Agents II: Drugs for HIV Infection and Related Opportunistic Infections

Test Bank

Multiple Choice

898. The nurse is caring for a patient who is human immunodeficiency virus (HIV) positive and is taking high doses of zidovudine [Retrovir]. The nurse is providing patient education about the adverse effects of the medication. Which statement by the patient demonstrates a need for further teaching?

- a. "I may experience fatigue from anemia."
- b. "I may be more susceptible to infection from neutropenia."
- c. "I may have a deficiency of vitamin B6."
- d. "I may have a deficiency of folic acid."

ANS: C

A deficiency of vitamin B12, not vitamin B6, would be expected; this statement indicates that further teaching is required. With high-dose zidovudine, the patient can expect anemia, neutropenia, and folic acid deficiency. DIF: Cognitive Level: Analysis REF: p. 899 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

899. A nurse is preparing to administer medications to a patient recently started on delavirdine [Rescriptor]. Which concurrent prescription should the nurse question before administration?

- a. Alprazolam [Xanax]
- b. Diphenhydramine [Benadryl]
- c. Morphine
- d. Penicillin

ANS: A

To prevent toxicity from excessive drug levels, patients should not take alprazolam while taking delavirdine. Diphenhydramine, morphine, and penicillin are not contraindicated for patients taking delavirdine. DIF: Cognitive Level: Application REF: p. 900 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

900. The nurse is caring for a patient who is taking a protease inhibitor (PI). Upon review of the laboratory test results, the nurse notes that the patient has newly elevated plasma triglycerides and cholesterol. The nurse expects that the prescriber will manage these levels with:

- a. lovastatin [Mevacor].
- b. simvastatin [Zocor].
- c. modified diet and exercise.
- d. Pancrease.

ANS: C

All PIs can elevate plasma levels of cholesterol and triglycerides. Potential interventions for hyperlipidemia include modified diet, exercise, and lipid-lowering agents. Lovastatin and simvastatin should be avoided, because they can accumulate to dangerous levels. Pancreas is not indicated to lower triglycerides and cholesterol. DIF: Cognitive Level: Application REF: p. 901 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

901. The nurse is preparing to discharge a patient with HIV who will continue to take enfuvirtide [Fuzeon] at home. The nurse is providing patient education about the medication. What information about the administration of enfuvirtide is most appropriate for the patient?

- a. The importance of injecting the drug into two alternating sites daily
- b. How to reconstitute and self-administer a subcutaneous injection
- c. The importance of taking the drug with high doses of vitamin E
- d. Likely drug interactions between enfuvirtide and other antiretroviral drugs

ANS: B

The most appropriate information about the administration of enfuvirtide is how to reconstitute and self-administer a subcutaneous injection. The medication should never be injected into the same site or just between two sites. Vitamin E is not indicated for this medication. Enfuvirtide does not appear to cause significant drug interactions. DIF: Cognitive Level: Application REF: p. 902 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

902. After starting an antiviral protease inhibitor, a patient with HIV telephones the nurse, complaining, "I'm so hungry and thirsty all the time! I'm urinating 10 or 12 times a day." The nurse recognizes these findings to be consistent with:

- a. pancreatic infiltration by HIV.
- b. allergic reaction.
- c. nonadherence to the antiviral regimen.
- d. hyperglycemia.

ANS: D

Protease inhibitors have been associated with hyperglycemia, new-onset diabetes, abrupt exacerbation of existing diabetes, and diabetic ketoacidosis. These symptoms are not consistent with pancreatic infiltration or an allergic reaction. No evidence indicates that the patient is noncompliant. DIF: Cognitive Level: Analysis REF: p. 901 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

903. The nurse is caring for a patient who is HIV positive and is taking zidovudine [Retrovir]. Before administering the medication, the nurse should monitor which laboratory values?
- Ketones in the urine and blood
 - Serum immunoglobulin levels
 - Serum lactate dehydrogenase
 - Complete blood count (CBC)

ANS: D

The nurse should monitor the patient's CBC to determine whether the patient has anemia and neutropenia. Ketones are not an adverse effect of zidovudine. Nothing indicates a need to monitor the immunoglobulin levels or serum lactate dehydrogenase. DIF: Cognitive Level: Application REF: p. 899 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

904. A patient who is taking nelfinavir [Viracept] calls the nurse to report moderate to severe diarrhea. What will the nurse expect the provider to recommend?
- An over-the-counter antidiarrheal drug
 - Immediate discontinuation of the nelfinavir
 - Reducing the dose of nelfinavir by half
 - Taking the nelfinavir with food to avoid side effects

ANS: A

A dose-limiting effect of nelfinavir is moderate to severe diarrhea, which can be managed with OTC antidiarrheal medications. Unless the symptoms become severe, withdrawing the nelfinavir is not indicated. Reducing the dose by half or taking it with food is not indicated. DIF: Cognitive Level: Application REF: p. 901 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

905. A patient taking stavudine [Zerit] telephones the clinic and reports numbness and tingling in the hands and feet. What should the nurse tell the patient?

- a. The numbness is an expected side effect of the medication and will diminish once the drug is withdrawn.
- b. The medication will probably be stopped, and the patient should come into the clinic for further evaluation.
- c. The dose may be too high, and the patient should cut the tablet in half.
- d. The patient should take the medication on a full stomach to reduce absorption of the drug.

ANS: B

The patient has early signs and symptoms of neuropathy, which may resolve if the drug is stopped. The patient should be taught early in treatment to report these symptoms immediately. Numbness is not an expected side effect and these symptoms may diminish once the drug is withdrawn. The patient should never be advised to cut the dose in half unless instructed to do so by a prescriber. Taking the medication on a full stomach will not affect the amount of medication absorbed. DIF: Cognitive Level: Analysis REF: p. 899 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

906. A patient who is taking didanosine [Videx] reports nausea, vomiting, and abdominal pain. What will the nurse recommend to this patient?
- a. "Take the drug with food to minimize these side effects."
 - b. "Stop taking the drug immediately and resume taking it once your symptoms subside."
 - c. "Take the medication in the evening to avoid experiencing these kinds of symptoms."
 - d. "You will need laboratory tests to determine if these are serious effects of the drug."

ANS: D

As with all NRTIs, pancreatitis may occur and may manifest as nausea, vomiting, and abdominal pain. The patient will need evaluation of serum amylase, triglycerides, and calcium. Taking the drug with food or at a different time of day is not indicated. It is not correct to discontinue the drug and to resume it when symptoms subside, since pancreatitis may be fatal. DIF: Cognitive Level: Analysis REF: p. 899 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Reduction of Risk Potential

907. A patient starting therapy with efavirenz [Sustiva] asks about the timing of the medication with regard to meals. What patient education about the administration of this medication should the nurse provide?
- a. The drug must be taken within 30 minutes after a meal.
 - b. The drug is best taken with a high-fat meal.
 - c. The drug can be taken anytime without regard to meals.
 - d. The drug should be taken once daily on an empty stomach.

ANS: D

The nurse should advise the patient that the medication should be taken once daily on an empty stomach. Thirty minutes after a meal is too soon to take the medication. The medication is taken

on an empty stomach, because high-fat meals increase plasma levels by 39% with capsules and by 79% with tablets. The medication must not be taken with high-fat meals. DIF: Cognitive Level: Application REF: p. 900 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

908. The nurse is performing a physical assessment on a patient who is receiving treatment with abacavir, zidovudine, and lamivudine [Trizivir]. The patient complains of fatigue. Upon further assessment, the nurse finds a rash and notes that the patient has a temperature of 101.1°F. What is the nurse's best course of action?

- a. Tell the patient that this is an expected response to these medications and to continue the agents as prescribed.
- b. Have the patient hold the medications and arrange for an immediate evaluation by the prescriber.
- c. Have the patient continue the abacavir but discontinue the other two agents for 3 weeks.
- d. Instruct the patient to continue all three medications and administer an antihistamine for the symptoms.

ANS: B

The patient should discontinue all the medications. Immediate assessment by the provider is required, because the patient is showing early symptoms of a fatal hypersensitivity reaction. This is not an expected response; it indicates a serious reaction, which the patient should report to the prescriber immediately. The patient should not continue the medications for any additional dosages. DIF: Cognitive Level: Analysis REF: p. 899 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

909. The nurse is caring for a patient who is HIV positive and has a previous history of drug and alcohol abuse. The patient is being treated with combination therapies, including didanosine [Videx]. Which laboratory findings would most concern the nurse?

- a. Increased serum amylase and triglycerides and decreased serum calcium
- b. Decreased serum amylase and serum triglycerides and increased serum calcium
- c. Decreased hemoglobin and hematocrit
- d. Increased serum amylase, decreased triglycerides, and increased platelets

ANS: A

The nurse should be concerned about increased serum amylase triglycerides and a decreased serum calcium, which are symptoms of pancreatitis, the major adverse effect of didanosine. The other laboratory test results and assessment findings are not consistent with pancreatitis and are not a concern for the nurse. DIF: Cognitive Level: Application REF: p. 899 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 80: Drug Therapy of Sexually Transmitted Diseases

Test Bank

Multiple Choice

910. A female patient has come to the STD clinic and has been diagnosed with a *Trichomonas vaginalis* infection. What education should be provided to this patient?
- Male partners should always be treated, even if they are asymptomatic.
 - The applicator for the vaginal gel should be washed after each application.
 - The infection is not completely eliminated with the medication.
 - The medication should be taken twice daily for 2 weeks.

ANS: A

The most important information the nurse can provide is that male partners should always be treated, even if they are asymptomatic. Gels are not indicated for *T. vaginalis*; oral medications are. *T. vaginalis* infection can be easily treated with a single dose of metronidazole or tinidazole. Both medications are given as a single dose. DIF: Cognitive Level: Application REF: p. 911 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

911. An adolescent patient comes to the clinic complaining of a burning sensation upon urination and a pus-like discharge from the penis. The nurse is correct to suspect that the patient has which disorder?
- Gonorrhea
 - Herpes simplex
 - Nongonococcal urethritis
 - Syphilis

ANS: A

This patient has signs and symptoms consistent with gonorrhea. Herpes simplex manifests as vesicles on the penis or testes (or both) with a watery discharge. Nongonococcal urethritis results in ulcers on the urethral site. Syphilis is characterized by chancres and skin lesions. DIF: Cognitive Level: Analysis REF: p. 908 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

912. A newborn infant has been given erythromycin ophthalmic ointment as a routine postpartum medication. The infant's mother learns that she has a *C. trachomatis* infection and asks the nurse if her baby will need to be treated. Which response by the nurse is correct?
- "The erythromycin ointment will prevent your baby from developing conjunctivitis."

- b. "Without additional treatment, your baby could develop blindness."
- c. "Your baby will need to be treated with oral erythromycin."
- d. "Your baby will need to take doxycycline [Vibramycin] for 10 days."

ANS: C

Infants born to women with cervical *C. trachomatis* are at risk for conjunctivitis and pneumonia. Topical erythromycin may help prevent conjunctivitis, but it is not completely effective and does not prevent pneumonia; therefore, this infant will need treatment with oral erythromycin. Blindness will not occur as a result of *C. trachomatis* conjunctivitis. Doxycycline is contraindicated, because it causes staining of the teeth in children under 8 years of age. DIF: Cognitive Level: Application REF: p. 905 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

913. A patient complains of painful urination. A physical examination reveals vesicles on her labia, vagina, and the foreskin of her clitoris. The nurse will expect to teach this patient about which medication?
- a. Acyclovir [Zovirax]
 - b. Azithromycin [Zithromax]
 - c. Metronidazole [Flagyl]
 - d. Tinidazole [Tindamax]

ANS: A

Genital herpes can be treated with acyclovir, famciclovir, or valacyclovir, which are antiviral medications. Azithromycin, metronidazole, and tinidazole are antibiotics and do not have antiviral effects. DIF: Cognitive Level: Application REF: p. 911 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

914. A nurse is teaching a group of adolescent students about sexually transmitted diseases. Which statement by a student indicates understanding of infections caused by *C. trachomatis*?
- a. "C. trachomatis conjunctivitis in newborns can result in blindness."
 - b. "The CDC recommends screening for chlamydial infections in all sexually active men."
 - c. "Treatment for *C. trachomatis* should be initiated when infections are symptomatic."
 - d. "Women with asymptomatic *C. trachomatis* infections can become sterile."

ANS: D

Chlamydial infections are frequently asymptomatic in women and may be asymptomatic in men; they can cause sterility in women. *C. trachomatis* conjunctivitis in newborns does not result in blindness. The Centers for Disease Control and Prevention (CDC) recommends routine screening for sexually active women under age 25 and for those over age 25 with new partners or multiple partners. Treatment should begin when infections are identified, regardless of whether they are symptomatic. DIF: Cognitive Level: Application REF: p. 905 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

915. A patient is admitted to the hospital with fever, headache, malaise, joint pain, and enlarged lymph nodes. Blood cultures are positive for *Treponema pallidum*. The nurse recognizes this as which type of syphilis?
- Congenital
 - Primary
 - Secondary
 - Tertiary

ANS: C

Secondary syphilis occurs when the organism spreads to the bloodstream, causing systemic symptoms such as fever, headache, reduced appetite, and general malaise, along with enlarged lymph nodes and joint pain. Congenital syphilis occurs when infants are exposed to *T. pallidum* in utero; early symptoms include sores, rhinitis, and point tenderness over bones. Primary syphilis is characterized by a primary lesion, called a chancre, at the point of entry, along with enlarged lymph nodes. Tertiary syphilis develops 5 to 40 years after the initial infection and can involve the brain, heart, and other sites. DIF: Cognitive Level: Application REF: p. 910 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

916. A patient is diagnosed with pelvic inflammatory disease (PID). Which treatment regimen is most appropriate for reducing the risk of sterility in this patient?
- Azithromycin [Zithromax], 1 g PO once, and cefoxitin, 2 g IM once in the clinic
 - Ceftriaxone [Rocephin], 250 mg IM once, with doxycycline [Vibramycin], 100 mg PO twice daily for 14 days as an outpatient
 - Doxycycline [Vibramycin], 100 mg IV twice daily, and cefoxitin, 2 g IV every 6 hours in the hospital
 - Doxycycline [Vibramycin], 100 mg PO twice daily for 14 days, and metronidazole [Flagyl], 500 mg PO twice daily for 14 days in the hospital

ANS: C

Many experts recommend that all patients with PID receive IV antibiotics in the hospital to minimize the risk of sterility and other complications. Medications used intravenously can be cefoxitin or cefotetan combined with doxycycline; when symptoms resolve, IV therapy may be discontinued but must be followed by PO doxycycline. Outpatient regimens are not recommended. Oral medications are not recommended for initial treatment. DIF: Cognitive Level: Application REF: p. 906 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

917. An adolescent patient with mild cervicitis is diagnosed with gonorrhea. The nurse will expect the provider to order which drug(s)?

- a. Azithromycin [Zithromax], 1 g PO once, and doxycycline [Vibramycin], 100 mg PO twice daily for 7 days
- b. Ceftriaxone [Rocephin], 250 mg IM once, and azithromycin [Zithromax], 1 g PO once
- c. Ceftriaxone [Rocephin], 125 mg IM once
- d. Doxycycline [Vibramycin], 100 mg IV twice daily for 12 days

ANS: B

The only options for treating cervical infection with gonorrhea are cefixime and ceftriaxone. Ceftriaxone is recommended over cefixime because of antibiotic resistance to cefixime. Because a high percentage of patients with gonorrhea also have chlamydial infections, they should be treated with either doxycycline or azithromycin until a chlamydial infection has been ruled out. Azithromycin combined with doxycycline would not treat gonorrhea. Ceftriaxone would treat gonorrhea only. Doxycycline would treat chlamydia only. DIF: Cognitive Level: Application REF:

p. 906 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

918. A patient admitted to the hospital is using metronidazole [Flagyl] 0.75% gel. The nurse understands that this agent is used to treat which condition?

- a. *C. trachomatis*
- b. *Gardnerella vaginalis*
- c. *Haemophilus ducreyi*
- d. *T. vaginalis*

ANS: B

G. vaginalis causes bacterial vaginosis and is treated with metronidazole gel. *C. trachomatis* is treated with systemic antibiotics. *H. ducreyi*, which causes chancroid, is treated with systemic antibiotics. *T. vaginalis* is treated with oral metronidazole. DIF: Cognitive Level: Application REF:

p. 910 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

919. During a routine screening, an asymptomatic, pregnant patient at 37 weeks' gestation learns that she has an infection caused by *Chlamydia trachomatis*. The nurse will expect the provider to order which drug?

- a. Azithromycin
- b. Doxycycline
- c. Erythromycin ethylsuccinate
- d. Sulfisoxazole

ANS: A

The preferred treatment for *C. trachomatis* infection during pregnancy is either azithromycin or amoxicillin. Doxycycline can be used for nonpregnant patients. Erythromycin is used for infants.

Sulfisoxazole is not recommended for pregnant women near term, because it can cause kernicterus in the infant. DIF: Cognitive Level: Application REF: p. 905 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 81: Anthelmintics, Antiprotozoal Drugs, and Ectoparasiticides

Test Bank

Multiple Choice

920. A patient with strongyloidiasis is being treated with ivermectin [Stromectol]. What will the nurse expect to teach this patient?
- A Mazotti-type reaction is likely.
 - Hypotension is a common side effect of the drug.
 - The drug should be taken every 6 to 12 months until symptoms have cleared.
 - The drug should be taken with water for 1 to 2 days.

ANS: D

Ivermectin is given for 1 to 2 days to treat strongyloidiasis. A Mazotti-type reaction occurs when ivermectin is used to treat onchocerciasis. Hypotension is not a common side effect. Ivermectin is given every 6 to 12 months when treating onchocerciasis. DIF: Cognitive Level: Application REF: p. 915 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

921. A patient is taking diethylcarbamazine [Hetrazan] to treat a filarial infestation. The patient reports intense itching and a rash after several days of therapy. What will the nurse tell this patient?
- These symptoms are caused by death of the parasite.
 - This is a minor, direct adverse effect of the drug.
 - This is a sign the infestation is worsening.
 - This warrants discontinuation of the drug.

ANS: A

Indirect effects of therapy with diethylcarbamazine, such as itching and a rash, are the result of death of the parasite. These effects are transient. They are not direct effects of the drug. They do not indicate worsening of the infestation. They do not warrant discontinuation of the drug. DIF: Cognitive Level: Application REF: p. 916 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

922. A young female patient is seen in a rural clinic after complaining of abdominal pain. The patient is wearing dirty clothing and is barefoot. The provider orders a complete blood count, which shows that the patient is anemic. The nurse may suspect that this patient has which of the following infestations?

- a. Ancylostomiasis (hookworm)
- b. Ascariasis (giant roundworm)
- c. Enterobiasis (pinworm)
- d. Trichuriasis (whipworm)

ANS: A

Ancylostomiasis is most common when hygiene is poor and the patient habitually goes barefoot. Symptomatic anemia may occur in menstruating women or undernourished individuals. Ascariasis is usually asymptomatic. Enterobiasis is characterized by perianal itching. Trichuriasis is usually asymptomatic but may cause rectal prolapse if the worm burden is very large. DIF: Cognitive Level: Application REF: p. 913 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

923. A child is seen in the clinic after complaining of intense perianal itching. The provider diagnoses the child with pinworms and orders mebendazole [Vermox]. The nurse will expect to teach the child's parents to:

- a. administer the drug with a high-fat meal to improve absorption.
- b. avoid driving or other hazardous activities until the drug's effects wear off.
- c. give each family member one dose of the drug now and another dose in 2 weeks.
- d. report serious adverse effects that can occur with death of the causative parasite.

ANS: C

Mebendazole is administered as a single dose once and then again in 2 weeks when given to treat pinworms. It should be given to all household members when one person is infested. Albendazole is given with a high-fat meal. Praziquantel can cause drowsiness. Ivermectin causes a Mazzotti reaction, which occurs in patients treated for onchocerciasis with symptoms resulting from death of the parasite. DIF: Cognitive Level: Application REF: p. 915 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

924. A patient tells the nurse that a close friend has ascariasis. The patient expresses worry about becoming infested. What will the nurse tell this patient?

- a. "Ascariasis usually resolves without treatment, so you should not worry."
- b. "Avoid going barefoot and practice good hygiene and you won't become infested."
- c. "Treatment is always indicated if you are exposed, because ascariasis is contagious."
- d. "You should be tested, because serious complications can occur without treatment."

ANS: D

Because this patient is worried about possible infestation, testing should be done so that treatment can be initiated if necessary. Because ascariasis can have serious complications, treatment is always indicated. Ascariasis infestations do not result from poor hygiene or from going barefoot. Ascariasis is not contagious, so treatment should begin only if the diagnosis is certain. DIF: Cognitive Level: Application REF: p. 913 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

925. A patient is being treated with albendazole [Albenza] for neurocysticercosis caused by larval forms of the pork tapeworm. Which statement by the patient indicates a need for further teaching about the drug regimen?

- a. "I may need to take this medication for a month before the infestation is cleared."
- b. "I should take this drug with a fatty meal to improve absorption."
- c. "I will need to have liver function tests before and during treatment."
- d. "I will take the drug in 3 consecutive cycles of 28 days, followed by 14 drug-free days."

ANS: D

Albendazole is given in consecutive cycles when dosing is done for cystic hydatid disease, not neurocysticercosis. For treatment of neurocysticercosis, patients generally take albendazole for 8 to 30 days. Albendazole can cause mild to moderate liver impairment, so patients should have liver function testing before and during treatment. The drug should be taken with a high-fat meal to improve absorption. DIF: Cognitive Level: Application REF: p. 916 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

926. A child has been diagnosed with enterobiasis, and the prescriber orders mebendazole [Vermox] to treat the infestation. When teaching this child's parents about the treatment, the nurse will include which statement?

- a. "A single dose of mebendazole will eradicate the infestation."
- b. "Everyone in the household should be treated with mebendazole."
- c. "Serious complications of this type of infestation are common."
- d. "Treatment should be limited to family members with symptoms."

ANS: B

Everyone in the family should be treated simultaneously, because pinworms are easily spread. To treat pinworms, an initial dose of mebendazole 100 mg is given, and the dose is repeated in 2 weeks. The infestation rarely causes serious complications. Treatment is not limited to symptomatic infestations. DIF: Cognitive Level: Application REF: p. 913 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

927. A patient is being treated for trichinosis. The patient asks the nurse why the provider has ordered prednisone in addition to the anthelmintic medication. The nurse will tell this patient that this is ordered to:

- a. prevent swelling of the legs caused by larval infestation of lymphatics.
- b. reduce the inflammation that occurs during larval migration.
- c. suppress the patient's allergic response to the anthelmintic agent.
- d. suppress dermatologic symptoms that occur with heavy infestation.

ANS: B

Trichinosis is acquired by eating undercooked pork containing encysted larvae, which migrate from the intestine to the skeletal muscle. Prednisone is given to reduce the inflammation that results from larval migration. This parasite does not affect lymphatics or cause elephantiasis. Prednisone is not given to counter allergic reactions to the drug. Dermatologic symptoms are not part of trichinosis infestations. DIF: Cognitive Level: Application REF: p. 914 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 82: Supportive Care of Patients Receiving Anticancer

Drugs Test Bank

Multiple Choice

928. A premenopausal woman has ER-positive breast cancer, and her prescriber has ordered tamoxifen [Nolvadex]. She asks the nurse if anastrozole [Arimidex] would work better for her. What will the nurse tell her?

- a. Anastrozole is more likely to cause hot flushes than tamoxifen.
- b. Anastrozole is more likely to promote endometrial carcinoma.
- c. Cancer recurrence is higher with anastrozole.
- d. Until she is postmenopausal, anastrozole will not be effective.

ANS: D

Anastrozole is used to treat ER-positive breast cancer in postmenopausal women. Because it does not block estrogen production in the ovaries, it is not effective in premenopausal women. It may cause hot flushes but is less likely to do so than tamoxifen. It is devoid of all estrogenic activity and does not promote endometrial cancer. DIF: Cognitive Level: Application REF: p. 931 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

929. A patient will begin chemotherapy with cisplatin. Which medications will the nurse expect to administer to offset this agent's side effects?

- a. Amifostine [Ethyol], diuretics, and antiemetics
- b. Antiemetics, vitamin B12, and glucocorticoids
- c. Dexamethasone, antiemetics, and vistonuridine
- d. Folic acid, gabapentin, and vitamin B12

ANS: A

Amifostine and diuretics are given to help minimize kidney damage with cisplatin. Antiemetics are given to minimize nausea and vomiting, which can be severe with this drug. Vitamin B12 is used to reduce toxicity to the gastrointestinal (GI) tract caused by pralatrexate. Vistonuridine is used to treat fluorouracil overdose. Folic acid is not used to counter cisplatin side effects. Gabapentin is used to minimize neuropathy when oxaliplatin is used. DIF: Cognitive Level: Application REF: p. 926 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

930. A patient who has a brain tumor will receive a nitrosourea agent. A nursing student asks why this type of drug is used for this type of cancer. The nurse will tell the student that nitrosoureas are useful because they:

- a. are lipophilic.
- b. are bifunctional alkylating agents.
- c. have a broad spectrum of antineoplastic characteristics.
- d. have delayed bone marrow suppression.

ANS: A

Nitrosoureas are lipophilic and thus are able to cross the blood-brain barrier, making them more effective against solid tumors in the brain. They are alkylating agents with a broad spectrum of antineoplastic activity, but these are not the deciding factors in their use for brain tumors. Delayed bone marrow suppression is their major dose-limiting toxicity. DIF: Cognitive Level: Application REF: p. 926 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

931. A 45-year-old patient with a family history of breast cancer is considering using tamoxifen [Nolvadex] for cancer prevention. The nurse performs a health history and learns that the woman had a child when she was 35 years old, that she has not had a hysterectomy, and that she experienced DVT when she was pregnant. What will the nurse tell the patient?

- a. Because of her family risk and late childbearing, this drug is a good choice for her.
- b. Her history of DVT outweighs any possible benefits she may have with this drug.
- c. Since she has not had a hysterectomy, the risk of endometrial cancer is too great.
- d. When she turns 50 years old, this drug will carry fewer risks for her.

ANS: B

Tamoxifen is a good choice for women between the ages of 40 and 49 years as a cancer preventive, except for women at risk for DVT. Family risk and late childbearing age are indications for using tamoxifen, but only in women without increased risk of DVT. The risk of endometrial cancer increases with age and, without the risk of DVT, would not be a contraindication in a woman of the patient's age. The patient's risks of DVT do not change with age. DIF: Cognitive Level: Application REF: p. 929 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

932. A patient is receiving chemotherapy. Seven days after a dose, the patient's neutrophil count is 1000 cells/mm³. The nurse will tell this patient:

- a. that hospitalization is necessary to provide infection prophylaxis.
- b. that the provider will probably repeat the laboratory work in 3 to 5 days.
- c. to ask the provider about skipping the next dose of chemotherapy.
- d. to report any symptoms such as pus, abscesses, or cough.

ANS: B

Normal neutrophil counts range from 2500 to 7000 cells/mm³. The lowest neutrophil count, or nadir, usually occurs 10 to 14 days after dosing, so this patient's neutrophil count should be repeated at that time. Hospitalization is controversial because of the risk of exposure to serious infections. The next dose should not be skipped unless the neutrophil count is below 500/mm³. Patients with neutropenia may not have symptoms of pus, abscess, or cough, and should be instructed to report any fever. DIF: Cognitive Level: Application REF: p. 922 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

933. The nurse is caring for a patient in the oncology unit who was recently diagnosed with advanced renal carcinoma. The nurse prepares to administer aldesleukin [Proleukin] as part of the treatment regimen. What is the primary adverse effect of this drug?

- a. Hypertension
- b. Capillary leakage syndrome
- c. Hyperglycemia
- d. Hyperuricemia

ANS: B

Capillary leakage syndrome, an adverse effect of aldesleukin, is a particular concern, because it is a potentially fatal reaction characterized by hypotension and reduced organ perfusion. Proleukin is not associated with hypertension, hyperglycemia, or hyperuricemia. DIF: Cognitive Level: Analysis REF: p. 948 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

934. The nurse is preparing to administer medication to a patient receiving cyclophosphamide [Cytosan]. To protect against the side effect of hemorrhagic cystitis, the nurse would expect to administer which drug?

- a. Decadron
- b. Diphenhydramine [Benadryl]
- c. Leucovorin
- d. Mesna [Mesnex]

ANS: D

Cyclophosphamide can cause acute hemorrhagic cystitis; to prevent this, the nurse should expect to administer mesna, which is a protective agent. Decadron, diphenhydramine, and leucovorin are indicated for the prevention of side effects associated with different anticancer agents. DIF: Cognitive Level: Application REF: p. 930 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

935. A nurse is discussing vesicant chemotherapeutic agents with a nursing student. Which statement by the student indicates a need for further teaching about this type of drug?

- a. "Extravasation of this type of drug may result in the need for skin grafts."
- b. "If an IV line used for a vesicant drug infiltrates, it must be discontinued immediately."
- c. "These drugs may be administered orally as well as intravenously."
- d. "This type of drug may not be infused at a site of previous irradiation."

ANS: C

Vesicants are given intravenously. Extravasation may cause severe local tissue injury, requiring skin grafts. Vesicants that infiltrate must be stopped immediately. Sites of previous irradiation should not be used. DIF: Cognitive Level: Application REF: p. 925 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

936. A patient with non-Hodgkin lymphoma is about to begin chemotherapy with a massive dose of methotrexate [Rheumatrex]. The nurse will expect to administer which medication concurrently with this drug?

- a. Dexamethasone
- b. Folic acid
- c. Leucovorin
- d. Vitamin B12

ANS: C

Leucovorin is used to protect normal cells when massive doses of methotrexate are given. Dexamethasone, folic acid, and vitamin B12 are not given concurrently with methotrexate. DIF:

Cognitive Level: Application REF: p. 927 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

937. The nurse wants to evaluate a nursing student's understanding of chemotherapy. The nurse asks, "Which factor would be a major obstacle to successful chemotherapy?" What is the student's best response?
- "The patient's reluctance about the doses administered."
 - "The patient's degree of nausea."
 - "The toxicity of anticancer drugs to normal tissues."
 - "The difficulty attaining and maintaining venous access."

ANS: C

The major obstacle to successful chemotherapy is the toxicity of anticancer drugs to normal tissues. The patient's reluctance regarding the dose is a vague response. The patient's degree of nausea should not be an issue, because many good antiemetics may be given prophylactically. The question does not address whether the chemotherapy is administered PO or IV; therefore, the response regarding venous access would be an assumption. DIF: Cognitive Level: Comprehension REF: p. 921 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

938. A nurse is teaching a group of nursing students about how cytotoxic anticancer drugs affect normal cells. Which statement by a student indicates an understanding of this teaching?
- "Cytotoxic drugs lack tissue specificity."
 - "Cytotoxic drugs have a high degree of selective toxicity."
 - "Differences between cancer cells and normal cells are qualitative."
 - "Neoplastic cells and normal tissue cells are very different."

ANS: A

Cytotoxic drugs kill target cells as well as normal cells, since they lack specificity for cancer cells alone. Cytotoxic drugs therefore have a low degree of selective toxicity. The differences between cancer cells and normal cells are quantitative and not qualitative. Neoplastic cells and normal cells are very similar. DIF: Cognitive Level: Analysis REF: p. 922 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

939. A 43-year-old patient with a strong family history of breast cancer considers taking tamoxifen [Nolvadex] for cancer prevention. Which assessment finding is a possible contraindication?
- History of deep vein thrombosis (DVT)
 - History of osteoporosis
 - Hyperlipidemia

d. Prior hysterectomy

ANS: A

The patient's age and DVT history place her at risk for thrombosis. Tamoxifen would not be indicated for this patient. A prior hysterectomy, osteoporosis, and hyperlipidemia are not contraindications to tamoxifen. DIF: Cognitive Level: Analysis REF: p. 929 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

940. A patient with cancer has a tumor composed mostly of G0 cells. When teaching this patient about the disease, the nurse will make which statement?
- "Cells in this patient's type of tumor will proliferate rapidly."
 - "Chemotherapeutic agents that are not toxic to other tissues may be used."
 - "This type of tumor is especially sensitive to chemotherapy."
 - "This tumor will be managed primarily with surgery."

ANS: D

Cells in the G0 phase are mitotically dormant; tumors composed mostly of G0 cells have low growth fractions. Because cytotoxic agents are more active against tumors with high growth fraction, this patient's type of tumor will be managed primarily by surgery and not by chemotherapy. Cells in this type of tumor do not proliferate rapidly. DIF: Cognitive Level: Application REF: p. 921 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

941. A nursing student asks the nurse what differentiates antiestrogen drugs from aromatase inhibitors in the treatment of breast cancer. What is the correct response by the nurse?
- Antiestrogen drugs decrease the risk for thromboembolic events.
 - Antiestrogen drugs increase the risk for endometrial cancer.
 - Aromatase inhibitors block the production of estrogen by the ovaries.
 - Aromatase inhibitors can be used for tumor cells that lack estrogen receptors.

ANS: B

Antiestrogen drugs cause proliferation of endometrial tissue by acting as receptor agonists at receptors in the uterus. Antiestrogen drugs increase the risk of thromboembolic events. Aromatase inhibitors block the production of estrogen from androgenic precursors, not by the ovaries. Aromatase inhibitors are used to treat ER-positive breast cancer. DIF: Cognitive Level: Application REF: p. 931 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

942. A nurse is teaching a group of nursing students about cancer treatment. Which statement by a student indicates an understanding of the characteristics of cancer cells?

- a. "Cancer cells are characterized by unrestrained growth and division."
- b. "Division of cancer cells is characteristically rapid."
- c. "Malignant cells of solid tumors do not invade other tissues."
- d. "Telomerase is an enzyme produced by cancer cells which promotes metastases."

ANS: A

Because malignant cells are unresponsive to the feedback mechanisms that regulate cellular proliferation in healthy tissue, they are characterized by unrestrained growth and division. Division of tumor cells is not necessarily rapid. Malignant cells of all types can metastasize. Telomerase is an enzyme that permits repeated division of cancer cells. DIF: Cognitive Level: Analysis REF: p. 917 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 83: Drugs for Cancer

Pain Test Bank

Multiple Choice

943. A patient with cancer is admitted to the hospital. The nurse obtains an admission history and learns that the patient has been taking oxycodone and a nonsteroidal anti-inflammatory drug (NSAID) for a year. The patient reports a recent increase in the intensity of pain, along with a new pain described as "burning" and "shooting." The nurse anticipates that the prescriber will order:
- a. a combination opioid/NSAID and an adjunctive analgesic.
 - b. a fentanyl transdermal patch, acetaminophen, and an adjunctive analgesic.
 - c. an increase in the oxycodone and NSAID doses.
 - d. intramuscular morphine sulfate and acetaminophen.

ANS: B

As pain increases in severity, more powerful opioids should be used. This patient has been taking oxycodone, which is a moderate-strength opioid; fentanyl is stronger. Because the pain is chronic and is now severe and because the patient has opioid tolerance, a transdermal patch may be used. Long-term use of NSAIDs is not recommended because of the risk of thrombotic events. The patient also is describing neuropathic pain, which can be treated with an adjuvant analgesic. Fixed-dose combination drugs are not recommended for increasing pain. NSAIDs are not recommended long term. Intramuscular medications are not recommended because of the pain associated with administration. DIF: Cognitive Level: Evaluation REF: p. 954 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

944. A nurse is teaching a group of nursing students about the differences between pure opioid agonists and agonist-antagonist opioids. Which statement by a student indicates understanding of the teaching?
- “Agonist-antagonist opioids act as agonists at mu receptors only.”
 - “Agonist-antagonist opioids are effective for treating cancer pain.”
 - “Agonist-antagonist opioids enhance the effects of pure agonists.”
 - “Pure agonists act as agonists at both mu receptors and kappa receptors.”

ANS: D

Pure agonists are agonists at mu and kappa receptors. Agonist-antagonist opioids are agonists at kappa, not mu, receptors. At mu receptors, agonist-antagonists act as antagonists. Agonist-antagonists are not recommended for treating cancer pain; because of their antagonist effect, they block access of the pure agonists to mu receptors and thus block their actions. DIF: Cognitive Level: Application REF: p. 957 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

945. A nursing student caring for a patient with cancer tells the nurse that the patient seems to be exaggerating when reporting the degree of pain. Which statement by the nurse is an appropriate response to this concern?
- “Evaluation of the patient’s vital signs can help you tell if this patient is exaggerating.”
 - “It is important to give pain medication as ordered for the degree of pain the patient reports.”
 - “We may need to evaluate the patient for the development of metastasis or infection.”
 - “You should monitor this patient’s behavior and facial expressions for a more accurate assessment.”

ANS: B

The patient’s description of his or her pain is the cornerstone of assessment. Pain is a personal experience, and caregivers must act on what the patient says, even if they suspect the patient is exaggerating or not telling the truth. Evaluation of vital signs can be used to monitor responses to pain medication, as can assessments of behaviors and facial expressions, but they are not determinants of the level of pain in initial assessments. Patients with pain in new locations should be evaluated for metastases or infection or other causes. DIF: Cognitive Level: Application REF: p. 953 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

946. A patient who is taking a fixed-dose combination drug with an opioid and acetaminophen for cancer pain reports increased muscular pain. The patient asks the nurse if the pain medication dose can be increased. What will the nurse tell this patient?
- An adjuvant analgesic medication will probably be used to help with this pain.
 - An additional dose of acetaminophen can be used to enhance pain relief.

- c. Increasing the dose is possible, because there is no ceiling to opioid pain relief.
- d. The provider will prescribe separate dosing of the opioid and acetaminophen.

ANS: D

Fixed-dose combination products are not useful as pain increases, because the side effects of the nonopioid drug become intolerable as the dosage increases. As pain becomes more severe, the components of the combined regimen should be given separately. Adjuvant analgesics are used for neuropathic pain and not nociceptive pain (which this patient has described). Acetaminophen doses should not be increased. Increasing the dose of a fixed-dose combination drug is not recommended. DIF: Cognitive Level: Analysis REF: p. 955 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

947. A patient is taking hydrocodone and ibuprofen for cancer pain and is admitted to the hospital for chemotherapy. The nurse anticipates that the prescriber will
- a. reduce the dose of
 - b. discontinue the
 - c. increase the dose of
 - d. order aspirin (ASA) instead of

ANS: B

NSAIDs are contraindicated in patients undergoing chemotherapy because of the decreased platelet production caused by bone marrow suppression. Any NSAID further increases the risk of bruising and bleeding. ASA is especially dangerous, because it causes irreversible inhibition of platelet aggregation. Ibuprofen should be discontinued, not reduced or increased. DIF: Cognitive Level: Application REF: p. 956 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

948. A patient with cancer who has been receiving an opioid analgesic reports having pain at a new location even though the previous pain is well controlled. The nurse will contact the provider to discuss:
- a. breakthrough pain.
 - b. drug-seeking behavior.
 - c. infection or metastasis.
 - d. tolerance to drug therapy.

ANS: C

Caregivers should be alert for new pain; this usually results from a new cause, such as metastasis, infection, or fracture, and should be investigated. Breakthrough pain is pain that occurs even when adequate levels of analgesics are given. Drug-seeking behavior refers to patients who use drugs for euphoric effects instead of for intended effects. Tolerance occurs when more drug is required to achieve the same effect. DIF: Cognitive Level: Application REF: p. 954 TOP: Nursing Process:

Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

949. An 8-year-old child with advanced cancer has an order for oxycodone [OxyContin] PO, PRN for moderate to severe pain. The nurse notes that the child is constantly playing computer games and repeatedly denies having pain. What will the nurse do?
- Administer the oxycodone at regular intervals around the clock.
 - Contact the provider to discuss using patient-controlled analgesia (PCA).
 - Reassure the child's parent that the child will ask for pain medication as needed.
 - Tell the child to notify the nurse when pain is present.

ANS: B

For a number of reasons, even children who can verbalize pain correctly often underreport it. The child may fear that reporting pain may lead to painful procedures or may worry caregivers, or the child may be unaware that pain can be alleviated. Children involved in activities such as computer games may actually be using the activity to distract themselves from the pain, so such an activity is not an indication that the child is comfortable. This child has advanced cancer and is likely to have severe pain. A PCA device would give the child control and provide adequate pain relief. The oxycodone order is for PRN dosing, so the nurse cannot administer it around the clock without a prescriber's order to do so. Also, because this child is more likely to have severe pain, a PCA would be more effective. Reassuring the parent that the child will report pain and asking the child to report pain do not take into account the fact that children often hide pain for the reasons previously mentioned. DIF: Cognitive Level: Application REF: p. 963 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

950. A patient who has cancer reports pain as "burning" and "shooting" alternating with feelings of numbness and coldness. The nurse will contact the provider to discuss the use of which medication?
- Acetaminophen
 - Ibuprofen
 - Imipramine [Tofranil]
 - Oxycodone [OxyContin]

ANS: C

This patient is describing neuropathic pain, which results from injury to peripheral nerves. This type of pain responds poorly to opioid analgesics but does respond to adjuvant analgesics, which include antidepressants such as imipramine. Acetaminophen and ibuprofen are used for mild nociceptive pain, and oxycodone is used for more severe nociceptive pain. DIF: Cognitive Level: Application REF: p. 961 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

951. A patient who has cancer asks the nurse about using acupuncture to manage cancer pain. What will the nurse tell this patient?
- “Acupuncture is not an effective treatment for cancer pain and should not be used.”
 - “Studies to date do not clearly indicate the effectiveness of acupuncture for alleviating cancer pain.”
 - “Transcutaneous electrical nerve stimulation (TENS) has been shown to be more effective than acupuncture.”
 - “There is good evidence to suggest that acupuncture is an effective adjunct treatment for cancer pain.”

ANS: B

Studies regarding acupuncture for the treatment for cancer pain have been few and not well designed, so there is insufficient evidence to support its use. However, there have not been definitive studies showing that it does not work. TENS has not been well studied, so findings about its use are inconclusive. DIF: Cognitive Level: Comprehension REF: p. 954 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

952. An older adult patient who has cancer and Alzheimer disease is crying but shakes her head “no” when asked about pain. The prescriber has ordered morphine sulfate 2 to 4 mg IV every 2 hours PRN pain. It has been 4 hours since a dose has been given. What will the nurse do?
- Administer 4 mg of morphine and monitor this patient’s verbal and nonverbal responses.
 - Give 2 mg of morphine for pain to avoid increasing this patient’s level of confusion.
 - Request an order for a nonopioid analgesic or an antidepressant adjuvant analgesic.
 - Withhold any analgesic at this time and reassess the patient in 30 to 60 minutes.

ANS: A

Older adult patients often are undertreated for pain, because assessing pain is difficult in patients with cognitive impairment and because practitioners often believe that reduced dosages are necessary to alleviate the side effects. This patient does not verbalize pain, but her nonverbal cue (crying) indicates that pain is present. The nurse should give the higher dose, especially because the dosing interval has already been exceeded, and then monitor the patient’s response to the medication. Giving 2 mg to avoid side effects is not indicated; patients with Alzheimer disease will continue to have confusion unrelated to the opioid. Nonopioid analgesics and antidepressants are not indicated. Withholding pain medication is not appropriate, because this patient shows nonverbal signs of pain. DIF: Cognitive Level: Application REF: p. 963 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

953. A patient newly diagnosed with cancer reports having pain at a level of 7 to 8 on a scale of 10. Which type of pain management will be used initially to treat pain in this patient?

- a. Acetaminophen [Tylenol]
- b. Ibuprofen [Motrin]
- c. Nonpharmacologic measures
- d. Opioid analgesics

ANS: D

Traditionally, patients have been given opioid analgesics only after a trial with nonopioids has failed. NCCN guidelines recommend selecting drugs based on pain intensity, even in newly diagnosed patients. Patients reporting pain in the 4 to 10 range should be given an opioid. DIF: Cognitive Level: Application REF: p. 955 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

954. A patient newly diagnosed with cancer is admitted to the hospital, and the provider orders oxycodone [OxyContin] every 4 to 6 hours PRN pain. The patient requests pain medication whenever he reports pain as a 7 or 8 on a scale of 1 to 10 (10 being the worst pain), but he tells the nurse the medication is not working well. The nurse will contact the provider to discuss:

- a. a fixed dosing schedule for the oxycodone.
- b. intramuscular meperidine [Demerol].
- c. intravenous morphine sulfate.
- d. transdermal fentanyl.

ANS: A

Dosing should be done on a fixed schedule to prevent opioid levels from becoming subtherapeutic once patients begin to have more severe pain. IM and IV dosing are more invasive and should not be used unless other methods have failed. Transdermal fentanyl is used for chronic, severe pain in patients tolerant to opioids. DIF: Cognitive Level: Application REF: p. 958 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

955. A nursing student asks the nurse why the provider has ordered a combination product containing an opioid analgesic and a NSAID for a patient who has cancer. Which response by the nurse is correct?

- a. "There are decreased effects of NSAIDs on the GI tract when a combination product is used."
- b. "There are fewer adverse effects from both drugs when used in a combination product."
- c. "There is a decreased likelihood of opioid dependence when it is given in combination with a NSAID."
- d. "There is an increased pain relief with the combination than when either product is used alone."

ANS: D

Because the two types of drugs work by different mechanisms, use of a combination product yields greater pain relief than either agent alone. The combination does not decrease the incidence of GI effects from NSAIDs or the incidence of other adverse effects from either drug and does not decrease the likelihood of opioid dependence. DIF: Cognitive Level: Comprehension REF: p. 955 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

956. A patient with bone cancer has recently undergone chemotherapy and radiation therapy to reduce the size of the tumor. The patient is taking a large dose of an opioid analgesic, along with acetaminophen and an antidepressant. The nursing student caring for this patient is concerned that the patient is showing drug-seeking behaviors, because the individual requested an increased dose of the opioid. The student discusses this concern with the nurse. Which statement by the student indicates a need for further teaching?
- “It would probably help this patient more to give a larger antidepressant dose.”
 - “Patients often need more drug to achieve the same effect.”
 - “Radiation and chemotherapy can damage bone tissue and cause increased pain.”
 - “The patient’s description of pain is the most important part of the assessment of pain.”

ANS: A

Pain in cancer patients can arise from the cancer itself and from the treatments. This patient has bone cancer, which causes somatic pain, and the treatments can increase this pain. Although neuropathic pain can occur as well, this patient is more likely to need analgesia for the nociceptive pain, so increasing the antidepressant dose is not indicated. Patients very often require more drug to achieve the same effect as tolerance develops. Radiation and chemotherapy can damage tissue and increase pain. When assessing pain in patients, the patient’s own description of pain intensity is the most important. DIF: Cognitive Level: Analysis REF: p. 964 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

957. A patient who has had cancer for 1 year uses a fentanyl transdermal patch for pain relief. The patient reports having three or four episodes of pain (which she rates as 8 or 9 on a scale of 1 to 10) each day, and each episode lasts 15 to 30 minutes. The nurse will contact the provider to:
- discuss the use of an adjuvant analgesic.
 - request an order for a NSAID.
 - request a strong, short-acting opioid PRN.
 - suggest increasing the dose of fentanyl.

ANS: C

Breakthrough pain can occur in patients who otherwise have well-controlled pain, and it should be managed with extra doses of short-acting, strong opioids. This pain is moderate to severe and is not neuropathic, so adjuvant analgesics or NSAIDs are not useful. Increasing the dose of the long-

acting opioid would not alleviate breakthrough pain.DIF: Cognitive Level: ApplicationREF: p. 959TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 84: Drugs for the Eye

Test Bank

Multiple Choice

958. A nurse administers timolol [Timoptic] ophthalmic drops to a patient who has glaucoma. The patient reports stinging of the eyes shortly after the drops were administered. What will the nurse do?
- Monitor the patient's heart rate, respiratory rate, and blood pressure.
 - Notify the provider that the patient shows signs of angle-closure glaucoma.
 - Reassure the patient that these are localized, reversible effects of the drug.
 - Request an order for an antihistamine to treat this allergic response to the drug.

ANS: C

Local effects of timolol and other beta blockers are generally minimal, but transient ocular stinging can occur. There is no need to monitor vital signs, because this does not represent a systemic reaction. This is not a sign of angle-closure glaucoma. Antihistamines will not help.DIF: Cognitive Level: ApplicationREF: p. 970TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

959. A nursing student asks the nurse to discuss the differences between POAG and angle-closure glaucoma. Which statement by the nurse is correct?
- "Angle-closure glaucoma may be asymptomatic until irreversible damage has occurred."
 - "Both types are more common in African-American patients."
 - "Drug therapy is the definitive treatment for angle-closure glaucoma."
 - "Early treatment with prostaglandin analogs can stop the progression of POAG."

ANS: D

Prostaglandin analogs are first-line agents for treating POAG, and early treatment can stop the progression. Angle-closure glaucoma has a rapid onset of painful symptoms. POAG is more common in African Americans but angle-closure glaucoma is not. Surgery, not drugs, is the definitive treatment for angle-closure glaucoma.DIF: Cognitive Level: ApplicationREF: p. 969TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

960. A patient has had dilation of the eyes with an anticholinergic agent. What will the nurse say when preparing this patient to go home after the examination?

- a. "Systemic side effects will not occur with this agent."
- b. "You may experience an increased heart rate, but this is a harmless side effect."
- c. "You may need to wear dark glasses until this medication wears off."
- d. "You will be able to read as soon as the examination is completed."

ANS: C

Because the agent causes cycloplegia, which paralyzes the iris sphincter, the eyes are unable to respond to bright light, so patients should be advised to wear sunglasses until this effect wears off. Systemic side effects do occur with these agents. Tachycardia is a systemic effect and may indicate toxicity. Mydriasis is an effect of this drug, causing the eye to be unable to focus; patients will have blurred vision until this effect wears off. DIF: Cognitive Level: Application REF: p. 970 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

961. A nurse is preparing to administer timolol [Timoptic] eye drops to a patient who has open-angle glaucoma. The nurse notes that the patient has a history of chronic obstructive pulmonary disease (COPD). The nurse will contact the provider to discuss changing to which medication?

- a. Betaxolol
- b. Carteolol
- c. Levobunolol
- d. Metipranolol

ANS: A

Betaxolol is the only ophthalmic beta blocker that is beta₁ selective, meaning that it has less chance of causing bronchial constriction. It is preferred for patients with asthma and COPD. The other agents are not beta₁ selective. DIF: Cognitive Level: Application REF: p. 970 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

962. A patient with ocular hypertension will begin using brimonidine [Alphagan] for long-term reduction of increased ocular pressure (IOP). The nurse teaches the patient about this medication. Which statement by the patient indicates understanding of the teaching?

- a. "After using the drops, I should wait 15 minutes before putting in contacts."
- b. "Because this is a topical medication, drowsiness will not occur."
- c. "I will not have cardiovascular side effects when using this medication."
- d. "If my eyes begin to itch or turn red, it means I am allergic to this

drug." ANS: A

Patients using this drug should wait 15 minutes before putting in contacts, because soft contacts can absorb the drug. Even though the medication is topical, it can be absorbed systemically, causing systemic side effects such as drowsiness or lowered blood pressure. Itching and hyperemia may occur and do not indicate allergy. DIF: Cognitive Level: Application REF: p. 972 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

963. An older adult patient comes to an ophthalmology clinic complaining of increased difficulty reading in dim light. The provider examines the patient and notes three large yellow deposits under the patient's cornea. The nurse will expect the provider to order which treatment for this patient?
- High doses of vitamins C and E, beta-carotene, and zinc
 - Laser therapy
 - Pegaptanib [Macugen]
 - Photodynamic therapy

ANS: A

This patient has three large drusen with minor vision changes, signs of intermediate age-related macular degeneration (ARMD). Patients with intermediate ARMD can significantly reduce their risk of developing advanced ARMD by taking high doses of vitamins C and E, beta-carotene, and zinc. Laser therapy, pegaptanib, and photodynamic therapy are used to manage wet, or neovascular, ARMD. DIF: Cognitive Level: Application REF: p. 972 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

964. A nurse is teaching a patient who will begin using a fixed-dose preparation of dorzolamide and timolol [Cosopt] for open-angle glaucoma. Which statement by the patient indicates a need for further teaching?
- "Blurred vision, tearing, or eye dryness may occur with this medication."
 - "I may experience a bitter taste in my mouth after instilling these eye drops."
 - "I will need to instill two eye drops three times daily in each eye."
 - "If I notice redness in my eyes or eyelids, I should stop using these drops."

ANS: C

The fixed-dose preparation of dorzolamide and timolol is given as 1 drop twice daily. Blurred vision, tearing, eye dryness, and a bitter aftertaste are the expected side effects. Redness in the eyes or eyelids indicates an allergic conjunctivitis and means that the drops should be discontinued. DIF: Cognitive Level: Application REF: p. 972 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

965. A patient has been using latanoprost [Xalatan] ophthalmic drops. The patient tells the nurse, "My eyes used to be greenish-brown, but now they're brown." What will the nurse do?
- Reassure the patient that this is a harmless side effect.
 - Report this toxic effect to the patient's provider.
 - Tell the patient that this indicates an increased risk of migraine headaches.
 - Tell the patient that this effect will reverse when the medication is withdrawn.

ANS: A

Latanoprost can cause a harmless, heightened brown pigment of the iris that stops when the medication is discontinued but does not regress. It is not a sign of a toxic reaction. It does not indicate an increased risk of developing migraines. It will not reverse. DIF: Cognitive Level: Application REF: p. 970 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

966. A patient begins using timolol [Timoptic] to treat primary open-angle glaucoma (POAG). The nurse gives a dose and notes that the patient develops shortness of breath. The nurse assesses the patient and auscultates wheezes in both lungs. The nurse will ask this patient about a history of which condition?
- Asthma
 - Atrioventricular heart block
 - Pulmonary hypertension
 - Sinus bradycardia

ANS: A

Timolol is a beta blocker and can precipitate bronchoconstriction when absorbed systemically. Patients with asthma will develop shortness of breath and wheezing. These symptoms are not associated with AV block, pulmonary hypertension, or sinus bradycardia. DIF: Cognitive Level: Application REF: p. 970 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

967. A nurse in an ophthalmology clinic instills an anticholinergic agent into a patient's eyes. The nurse provides teaching when the patient asks the reason for the drops. Which statement by the patient indicates a need for further teaching?
- "The drops help prevent my lenses from moving during the examination."
 - "The drops will cause me to have blurred vision and sensitivity to light."
 - "These drops allow the ophthalmologist to see inside my eyes."
 - "This medication anesthetizes my eyes so that the examination won't be painful."

ANS: D

Anticholinergic agents are used to provide mydriasis and cycloplegia. They do not affect the sensation of pain and do not provide anesthesia. Cycloplegia refers to paralysis of the ciliary

muscle and prevents the lens from moving during the examination. The desired effects, which facilitate eye examinations, do not allow the eye to focus or to respond to light, so blurred vision and photophobia occur. Mydriasis prevents the iris sphincter from contracting, allowing the examiner to see inside the eye. DIF: Cognitive Level: Application REF: p. 971 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

968. A patient with severe allergic conjunctivitis who has been using cromolyn ophthalmic drops for 2 days calls the nurse to report persistence of the symptoms. When the nurse explains that it takes several weeks for maximum benefit to occur, the patient asks if there is something else to use in the meantime. The nurse will suggest that the patient discuss which drug with the provider?

- a. An ophthalmic demulcent
- b. H1-receptor antagonists
- c. Glucocorticoid drops
- d. Ocular decongestants

ANS: B

Histamine receptor antagonists can be used to provide immediate symptom relief, so until the cromolyn has provided relief, they may be useful for treating symptoms. Demulcents only add moisture to the eye and do not prevent chemical mediators from causing symptoms. Glucocorticoids are used for inflammatory disorders of the eye but are not first-line agents. Ocular decongestants are used to treat redness caused by minor irritants. DIF: Cognitive Level: Application REF: p. 974 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

969. A nurse is teaching a patient diagnosed with wet ARMD who will begin receiving bevacizumab [Avastin]. Which statement by the patient indicates a need for further teaching?

- a. "I should be able to improve my visual acuity by using this drug."
- b. "I should report eye pain and photophobia to my provider if they occur."
- c. "This drug will help suppress the growth of new blood vessels."
- d. "This medication will not reduce the risk of blindness."

ANS: D

Bevacizumab can help reduce the risk of further impairment and progression to blindness. It can help improve visual acuity. Eye pain and photophobia are signs of endophthalmitis, which is an inflammation caused by infection; they should be reported to the provider. Bevacizumab works by suppressing the development of new blood vessels. DIF: Cognitive Level: Application REF: p. 969 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 85: Drugs for the Skin

Test Bank

Multiple Choice

970. A nurse is teaching a group of lifeguards about safe sunning. Which statement by a lifeguard indicates understanding of the teaching?
- “Sunscreen should be applied 30 minutes before going outside.”
 - “I do not need sunscreen when it is cloudy outside.”
 - “I should reapply sunscreen after swimming.”
 - “UV radiation does not penetrate through water.”

ANS: C

Sunscreens should be reapplied after swimming and with profuse sweating. Most sunscreens should be applied at least 30 minutes before going outdoors, but some require application 2 hours before exposure. Clouds do not protect from all UV rays. UV radiation can penetrate at least several centimeters of clear water. DIF: Cognitive Level: Application REF: p. 988 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

971. A 14-year-old patient has moderate acne that has not responded to topical drugs. The nurse will suggest that the patient and her parents discuss which treatment with the provider?
- Combination oral contraceptive medication
 - Doxycycline [Vibramycin]
 - Isotretinoin [Accutane]
 - Spironolactone

ANS: B

For moderate to severe acne, oral antibiotics are indicated. Doxycycline is a drug of first choice. Hormonal agents, such as oral contraceptive pills (OCPs), are used in female patients who are at least 15 years old. Isotretinoin is used when other treatments fail and acne is severe. Spironolactone is used when OCPs fail. DIF: Cognitive Level: Application REF: p. 982 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

972. A patient with psoriasis has been using a high-potency glucocorticoid. Because of skin atrophy, the provider has ordered a switch to calcitriol [Vectical], a vitamin D3 analog. What will the nurse teach this patient?
- “Calcitriol causes severe photosensitivity.”

- b. "Itching, erythema, and irritation are indications of an allergic reaction."
- c. "Systemic effects do not occur with this topical agent."
- d. "You may apply calcitriol to all areas of the skin except the face."

ANS: D

Calcitriol may be applied twice daily to all areas except the face. It does not cause severe photosensitivity. Skin irritation does not occur. Systemic effects may occur. DIF: Cognitive Level: Application REF: p. 980 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

973. To provide protection against the full range of ultraviolet (UV) radiation, an organic sunscreen must contain which agent?

- a. Avobenzone
- b. Para-aminobenzoic acid (PABA)
- c. Titanium dioxide
- d. Zinc oxide

ANS: A

Only one organic sunscreen, avobenzone, absorbs the full range of UV radiation. The other agents do not protect against the full range of UV radiation. Titanium dioxide and zinc oxide are inorganic screens. DIF: Cognitive Level: Analysis REF: p. 987 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

974. A female patient with baldness asks a nurse about the safety and efficacy of minoxidil [Rogaine]. What will the nurse tell the patient?

- a. Hair regrowth is most effective when baldness has developed recently.
- b. Minoxidil cannot be used by female patients.
- c. Once hair has been restored, minoxidil may be discontinued, because hair loss will stop.
- d. Systemic side effects, such as headaches and flushing, are common.

ANS: A

Minoxidil is most effective at treating recent hair loss. It may be used in female patients. Hair loss may continue even with uninterrupted treatment. Systemic side effects are not common. DIF: Cognitive Level: Application REF: p. 991 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

975. A child with eczema has been treated unsuccessfully with a topical glucocorticoid for a year and has skin atrophy and hypopigmentation. The nurse will suggest discussing which drugs with the provider?

- a. Higher potency topical glucocorticoids
- b. Topical keratolytic agents
- c. Topical immunosuppressants
- d. Topical nonsteroidal anti-inflammatory drugs (NSAIDs)

ANS: C

If topical glucocorticoids fail to treat eczema without causing skin atrophy and hypopigmentation, topical immunosuppressants may be used. Higher potency glucocorticoids will only compound the adverse effects. Topical keratolytic agents are not indicated. Topical NSAIDs are not indicated. DIF: Cognitive Level: Application REF: p. 988 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

976. A patient has actinic keratosis and is unable to tolerate the effects of fluorouracil. The provider orders the nonsteroidal anti-inflammatory drug diclofenac sodium [Solaraze] 3% gel. What will the nurse include when teaching this patient about this medication?
- a. "Apply this medication three times daily for 30 days."
 - b. "Dry skin, itching, and rash are common local side effects."
 - c. "This drug has the same risk of GI side effects as with oral NSAIDs."
 - d. "You do not need to protect your skin from sunlight with diclofenac."

ANS: B

Localized skin reactions are common effects with diclofenac. The medication is applied twice daily for 60 to 90 days. The risk of GI side effects is very low. Diclofenac causes sensitization to UV radiation, so patients should be taught to avoid exposure and to use sunscreen. DIF: Cognitive Level: Application REF: p. 985 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

977. A patient with actinic keratoses has received a prescription for fluorouracil [Carac]. Which statement by the patient indicates understanding of this medication?
- a. "Healing should occur 6 weeks after beginning treatment."
 - b. "I will apply this drug twice daily."
 - c. "Severe inflammation is an indication for stopping treatment."
 - d. "Tissue ulceration and necrosis are desired effects."

ANS: D

Fluorouracil causes tissue disintegration, erosion, ulceration, and necrosis as part of the normal course of desired effects. Complete healing may take several months, although treatment lasts 2 to 6 weeks. Carac is applied once daily. Severe inflammation is part of the course of treatment and not an indication for discontinuing the medication. DIF: Cognitive Level: Application REF: p. 983 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

978. A nurse is discussing the use of tazarotene [Tazorac] with a patient who has psoriasis. Which statement by the patient indicates a need for further teaching?

- a. "I should use a sunscreen when using this medication."
- b. "I understand the gel can cause staining of clothing."
- c. "I will apply this once daily in the evening."
- d. "I will apply the medication to dry skin."

ANS: B

Tazarotene will not stain clothing. It is true that patients should use sunscreen while using this drug. It should be applied once daily in the evening to dry skin. DIF: Cognitive Level: Application REF: p. 984 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

979. An adolescent has begun using benzoyl peroxide lotion twice daily to treat acne. The patient reports experiencing drying and burning of the skin. What will the nurse suggest?

- a. Applying lotion to the skin after applying the drug
- b. Reducing the frequency to one application a day
- c. Discontinuing the medication, because this is likely an allergic reaction
- d. Requesting a prescription for a gel formulation of the drug

ANS: B

Benzoyl peroxide may cause drying and peeling of the skin. If signs of severe local irritation occur, such as burning or blistering, the frequency of application should be reduced. Applying lotion is not indicated. These symptoms are not consistent with an allergic reaction. There is no difference in skin reactions between the gel and the lotion formulations. DIF: Cognitive Level: Application REF: p. 983 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

980. A teenaged female patient has begun to develop acne and asks a nurse how to minimize pimple formation. What will the nurse recommend?

- a. Asking the provider about oral contraceptives
- b. Cleansing the face gently two to three times daily
- c. Eliminating greasy foods from the diet
- d. Using an abrasive agent to scrub the face

ANS: B

Gentle cleansing two to three times a day can reduce surface oiliness and help minimize acne lesions. Oral contraceptives are not first-line treatment for acne. Eliminating greasy foods from the diet does not affect pimple formation. An abrasive agent is not indicated for mild acne. DIF:

Cognitive Level: Application REF: p. 982 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

981. A 50-year-old patient receives botulinum toxin type A [Botox] injections for the first time on her forehead and around her eyes. One week later, she calls the clinic to report that she is experiencing droopy eyelids. The nurse will tell the patient that this effect:
- is normal and will resolve in a few days.
 - may persist for 3 to 6 months but will resolve.
 - may progress to cause drooling and dysphagia.
 - represents an adverse effect that may be permanent.

ANS: B

Botox is a neurotoxin that acts on cholinergic neurons to block the release of acetylcholine. Injection into the wrong site or diffusion from the correct site into surrounding tissues can weaken muscles not intended as targets. This patient's droopy eyelids are an example of the wrong site being affected. Weakening of muscles can last 3 to 6 months but will resolve. It is incorrect to tell the patient that it is a normal effect or that it will resolve in a matter of days. Drooling and dysphagia are likely when injections are around the mouth. It is not a permanent effect. DIF: Cognitive Level: Application REF: p. 990 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

982. A patient is using a high-concentration keratolytic agent containing 20% salicylic acid to remove warts. What will the nurse teach this patient?
- Peeling and drying are desired effects of this drug.
 - Systemic effects may occur with this medication.
 - Tinnitus is a common side effect of little concern.
 - Tissue injury is unlikely at this dose.

ANS: B

Salicylic acid is readily absorbed through the skin, and systemic toxicity can result. Peeling and drying are not desired effects of salicylic acid. Tinnitus is a symptom of systemic toxicity. Tissue injury is likely in any concentration above 6%. DIF: Cognitive Level: Application REF: p. 982 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

983. A patient asks a nurse what a sun protection factor (SPF) of 15 indicates. The nurse will tell the patient that an SPF of 15 indicates:
- a 93% block of UVB radiation.
 - half the protection of a sunscreen with an SPF of 30.
 - low protection.

- d. that it takes 15 minutes for the sun to burn.

ANS: A

A sun protection factor of 15 indicates a 93% block of UVB. As the SPF increases, the increment in protection gets progressively smaller, so an SPF of 15 is not half that of an SPF of 30. Low protection is indicated by an SPF of 2 to 14. The SPF is calculated by the time required for the development of erythema in the protected region divided by the time required for the development of erythema in the unprotected region. DIF: Cognitive Level: Application REF: p. 987 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

984. An infant has a severe contact diaper dermatitis. The provider orders triamcinolone acetonide [Kenalog] 0.1% cream to be applied three times daily. When teaching the infant's parents about this medication, the nurse will instruct them to apply:

- a. a thick layer and massage the cream into the skin.
- b. a thin layer and leave the diaper open as much as possible.
- c. the cream and place an occlusive dressing over the area.
- d. the cream and put the infant's diaper on tightly.

ANS: B

Topical glucocorticoids can be absorbed systemically and cause adverse effects. To minimize systemic and local adverse effects, the medication should be applied sparingly. Parents should be taught to avoid tight-fitting diapers. The cream should be rubbed gently into the skin. Occlusive dressings increase the risk of adverse effects. Putting the diaper on tightly creates an occlusive dressing. DIF: Cognitive Level: Application REF: p. 981 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

985. An adolescent patient with moderate acne has begun a regimen consisting of combination clindamycin/benzoyl peroxide [BenzaClin] and tretinoin [Retin-A]. Which statement by the patient indicates understanding of this medication regimen?

- a. "I should apply the Retin-A immediately after bathing."
- b. "I should apply the Retin-A twice daily."
- c. "I should augment this therapy with an abrasive soap."
- d. "I should use sunscreen every day."

ANS: D

Tretinoin increases susceptibility to sunburn, so patients should be warned to apply a sunscreen and wear protective clothing. Before applying Retin-A, the skin should be washed, towed dry, and allowed to dry fully for 15 to 30 minutes. Retin-A is applied once daily. Abrasive soaps intensify localized reactions to Retin-A and should not be used. DIF: Cognitive Level: Application REF: p. 984 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

986. A 50-year-old patient asks about using tretinoin [Renova] to minimize wrinkles. What will the nurse tell the patient?

- a. The drug may be discontinued once results are obtained.
- b. Results may be visible within a few weeks of starting therapy.
- c. Systemic toxicity is a common side effect in patients with sensitive skin.
- d. The drug is not effective on coarse wrinkles or sun-damaged skin.

ANS: D

Tretinoin is used to treat fine wrinkles, not coarse wrinkles, and does not repair sun-damaged skin. Treatment with Renova must continue to maintain the response to the drug. Results are not visible for up to 6 months after beginning therapy. Systemic toxicity is not common. DIF: Cognitive Level: Application REF: p. 983 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

987. A patient has severe acne that has been refractory to treatment. The patient is taking tetracycline and using topical tretinoin [Retin-A] and has been applying benzoyl peroxide twice daily. The provider asks the nurse to teach this patient about isotretinoin [Accutane], which the patient will begin taking in a few weeks. The nurse will include which statement when teaching this patient about this drug?

- a. "Alcohol may be consumed in moderation when taking this drug."
- b. "Skin rash, headache, and hair loss are common with this drug."
- c. "Tetracycline must be discontinued before beginning the isotretinoin."
- d. "Two pregnancy tests are required before each monthly refill of your prescription."

ANS: C

Adverse effects of isotretinoin can be increased by tetracycline, so tetracycline must be discontinued before therapy is started. Alcohol should be avoided, since it can potentiate hypertriglyceridemia. Skin rash, headache, and hair loss are not common side effects, although they can occur. Two pregnancy tests are required at the beginning of therapy; at each refill, only one pregnancy test is required. DIF: Cognitive Level: Application REF: p. 985 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

988. An adolescent has recently been experiencing pimples. The nurse notes several closed comedones across the patient's forehead and on the nose. The nurse will expect to teach this patient about the use of which medication?

- a. Benzoyl peroxide
- b. Topical clindamycin
- c. Topical erythromycin

d. Topical retinoids

ANS: A

Benzoyl peroxide is a first-line drug for mild to moderate acne. Other topical antibiotics and retinoids are used when first-line therapy fails. DIF: Cognitive Level: Application REF: p. 983 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

989. A patient with severe psoriasis will begin taking acitretin [Soriatane]. The nurse obtains a health history and learns that the patient takes a combination oral contraceptive. What will the nurse do?

- a. Counsel the patient to use another form of birth control along with the OCP.
- b. Tell the patient she may stop using contraception when the medication is withdrawn.
- c. Tell the patient that acitretin is safe to take during pregnancy.
- d. Tell the patient to report spotting to the provider so that another form of contraceptive may be ordered.

ANS: A

Acitretin is contraindicated during pregnancy and can reduce the effectiveness of progestin-only oral contraceptives. Patients should be counseled to use two reliable forms of birth control when taking this drug. Patients must continue using birth control for at least 3 months after treatment has stopped. Acitretin is teratogenic. Patients may experience spotting with progestin-only contraceptives, which this woman is not taking. DIF: Cognitive Level: Application REF: p. 985 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

990. A patient will begin initial treatment for severe acne. Which regimen will the nurse expect the provider to order?

- a. Clindamycin/benzoyl peroxide [BenzaClin] and tretinoin [Retin-A]
- b. Doxycycline [Vibramycin] and tretinoin [Retin-A]
- c. Erythromycin [Ery-Tab] and benzoyl peroxide
- d. Topical clindamycin and isotretinoin [Accutane]

ANS: B

Oral antibiotics are used for moderate to severe acne and are usually combined with a topical retinoid. Combination clindamycin/benzoyl peroxide and tretinoin are used for mild to moderate acne. Erythromycin can be used as an oral antibiotic but would need to be combined with a topical retinoid. Isotretinoin is used for severe acne that has not responded to other treatments. DIF: Cognitive Level: Application REF: p. 982 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies
Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 86: Drugs for the Ear

Test Bank

Multiple Choice

991. An adolescent patient who is on the school swim team asks a nurse about ways to prevent swimmer's ear. The nurse will tell the patient to:
- allow the ears to drain well after every swim and shower.
 - clean the ears with a cotton-tipped applicator after swimming.
 - keep the ear canals free of cerumen.
 - use antifungal ear drops before and after swimming.

ANS: A

Acute otitis externa (OE) can be minimized by keeping the natural defenses of the external auditory canal (EAC) healthy. Swimmers should be taught to dry the EAC after showering and swimming. Cleaning the ears with cotton-tipped swabs can remove the cerumen and abrade the epithelium. Removing cerumen removes the natural barrier to infection. Antifungal ear drops are used to treat acute OE but not as a preventive measure. DIF: Cognitive Level: Application REF: p. 1002 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

992. An 18-month-old child is seen in the clinic with a temperature of 40° C. The child's parents tell the nurse that the child developed the fever the previous evening and was inconsolable during the night. The provider examines the child and notes a bulging, erythematous tympanic membrane. The nurse will expect to:
- ask the parent to return to the clinic in 2 days to see whether antibiotics need to be started.
 - discuss a referral to an ear, nose, and throat specialist for follow-up treatment.
 - teach the parent to give analgesics for 3 days while observing for worsening symptoms.
 - tell the parent to administer amoxicillin at 45 mg/kg/dose twice daily.

ANS: D

Patients with severe symptoms of AOM should begin treatment with antibiotics upon diagnosis. For children 6 months to 2 years of age, treatment should begin when the diagnosis is certain, as evidenced by erythema of the tympanic membrane (TM) and distinct discomfort. Amoxicillin 45 mg/kg/dose twice daily is indicated. Observation for 2 days is not recommended for this child, because the diagnosis is certain; therefore, asking the parent to return in 2 days or to give only symptomatic treatment is incorrect. Referral to an ear, nose, and throat (ENT) specialist is not recommended unless the child has recurrent AOM or if treatments repeatedly fail. DIF: Cognitive Level: Application REF: p. 998 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

993. A patient has been diagnosed with fungal otitis externa (otomycosis). The nurse correctly explains that for the first course of treatment the patient should expect:
- acidifying drops for 1 week.
 - antibiotic ear drops.
 - intravenous (IV) antifungal agents.
 - oral antibiotics.

ANS: A

As a rule, otomycosis can be managed with thorough cleansing and application of acidifying drops (2% acetic acid solution applied three or four times a day for 7 days). If that does not work, an antifungal drug solution can be tried. If the infection fails to respond to the drug, oral antifungal therapy may be needed. Neither antibiotic ear drops nor oral antibiotics are indicated as the first course of treatment. IV antifungal agents are not indicated at all. DIF: Cognitive Level: Application REF: p. 1002 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

994. A provider has told a parent that a 3-year-old child has a minor ear infection and that an antibiotic would be prescribed in a couple of days if the child's symptoms worsened. The parent asks the nurse why the child cannot get an antibiotic today. Which response by the nurse is correct?
- "If the eardrum ruptures, we can culture the fluid to determine which antibiotic is best."
 - "Most ear infections are caused by viruses, so antibiotics are not effective."
 - "Most ear infections will resolve on their own without antibiotics."
 - "Your child will develop tolerance to antibiotics if they are prescribed too often."

ANS: C

The vast majority of acute otitis media (AOM) episodes resolve without treatment, so unless the child is very ill, observation is the initial choice. Spontaneous rupture of the tympanic membrane can occur, but clinicians do not wait for it to happen to obtain a culture that will guide treatment. About 70% to 90% of AOM episodes are bacterial in origin. Patients do not develop tolerance to antibiotic effects; overuse of antibiotics can lead to resistant organisms. DIF: Cognitive Level: Application REF: p. 995 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

995. A 6-year-old child has otitis media and is being treated with amoxicillin [Amoxil] and ibuprofen [Motrin]. The child's parent calls the nurse to report that the child's pain is not relieved with the ibuprofen. The child is afebrile and there is no drainage from either ear. The nurse will discuss which additional treatment with the child's provider?
- Adding acetaminophen [Tylenol] to the pain medication regimen
 - Applying antipyrine and benzocaine [Aurodex] solution to the ear canals

- c. Changing the antibiotic to amoxicillin/clavulanate [Augmentin]
- d. Performing a tympanostomy to relieve pressure in the middle ear

ANS: B

For children over age 5 years, the AAP guidelines recommend topical anesthetic ear drops for pain relief; this is contraindicated if the TM is perforated. This child does not have drainage, indicating intact eardrums. Adding another oral analgesic will not be as effective as a topical anesthetic. The child is afebrile, so there is no concern about a resistant infection. Tympanostomy is not indicated. DIF: Cognitive Level: Application REF: p. 998 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

996. A nurse is discussing health maintenance with the parent of a newborn infant. Which statement by the parent indicates understanding of ways to reduce the incidence of otitis media?
- a. "I should hold my baby in an upright position during feeding."
 - b. "I should keep my baby out of day care during cold and flu season."
 - c. "My baby should not use a pacifier after 6 months of age."
 - d. "The pneumococcal vaccine will prevent my baby from getting ear infections."

ANS: B

Avoiding child care centers when respiratory infections are prevalent can significantly reduce the incidence of AOM. Holding infants in an upright position is an unproved recommendation. Avoiding pacifier use in the second 6 months of life is an unproved recommendation. The pneumococcal vaccine can slightly reduce the risk of AOM. DIF: Cognitive Level: Application REF: p. 999 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Health Promotion and Maintenance

997. A 2-year-old child is seen in the clinic in July with otalgia, erythematous, bulging tympanic membranes (TMs), and rupture of the right TM. The child also has a temperature of 39.4° C. The child's parent tells the nurse, "This is the fifth ear infection this year. What can we do?" The nurse will expect the provider to:
- a. administer ceftriaxone [Rocephin] IM and give the influenza vaccine.
 - b. begin prophylactic antibiotic therapy with trimethoprim/sulfamethoxazole [Septra].
 - c. prescribe amoxicillin/clavulanate [Augmentin] and refer the child to an otolaryngologist.
 - d. prescribe high-dose amoxicillin [Amoxil] and administer the influenza vaccine.

ANS: C

Recurrent AOM is defined as AOM that occurs three or more times within 6 months or four or more times in a year. Giving an antibiotic, such as Augmentin, is appropriate for each episode, and referral to an ENT specialist is recommended to help reduce risk. IM Rocephin might be an appropriate treatment for an episode, but a flu vaccine is not recommended in July. Prophylactic

antibiotic therapy is not recommended. High-dose amoxicillin might be an appropriate treatment for an episode, but a flu vaccine is not recommended in July. DIF: Cognitive Level: Application REF: p. 1002 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

998. The nurse is administering ear drops to a patient with acute bacterial otitis externa. Which procedure would assist drug penetration into the ear canal?
- Administering refrigerated drops
 - Inserting a sponge wick into the ear canal and then administering the drops
 - Cleaning out the earwax with a cotton-tipped swab before giving the drops
 - Inserting earplugs after administering the drops

ANS: B

Insertion of a sponge wick can aid delivery of the ear drops to the epithelium of the ear canal. Medication is absorbed into the wick, which delivers the drug to the epithelium. Ear drops should be warmed before administration to prevent dizziness, which may occur with instillation of cold drops. Cerumen should not be removed. Inserting cotton-tipped swabs may damage the epithelium. The use of earplugs may lead to further problems with bacterial otitis externa. DIF: Cognitive Level: Application REF: p. 1000 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

999. A nurse is teaching a parent about the observation strategy for managing a 3-year-old child's ear infection. Which statement by the parent indicates understanding of the teaching?
- "I should not give analgesics, because they may mask important symptoms."
 - "I will give ibuprofen or acetaminophen for pain or fever as needed."
 - "I will let my provider know if the symptoms are not better in 1 week."
 - "There is a slight risk of mastoiditis if antibiotic therapy is delayed."

ANS: B

Observation is defined as management by symptomatic relief alone for 48 to 72 hours to allow time for AOM to resolve on its own. Parents should be taught to administer analgesics/antipyretics. Providing pain relief does not mask an important symptom. Parents should notify the provider if symptoms worsen or do not improve in 48 to 72 hours. There is no significant difference in the risk of developing mastoiditis. DIF: Cognitive Level: Application REF: p. 998 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

1000. A child has been diagnosed with otitis media with effusion (OME), and the child's parent asks the nurse what this means. The nurse will explain that OME is:

- a condition with a heightened risk of acute otitis media.

- b. an acute ear infection with fluid in the middle ear.
- c. an infection of the skin and tissues of the outer ear.
- d. fluid in the middle ear without localized or systemic infection.

ANS: D

OME occurs in many children after an episode of AOM. It is characterized by fluid in the middle ear without evidence of local or systemic illness. It does not necessarily pose a heightened risk of AOM. OME is not an acute ear infection or an infection of the outer ear. DIF: Cognitive Level: Analysis REF: p. 1000 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

1001. A 12-month-old child attends day care and is seen in a clinic for a second middle ear infection since age 8 months. The parent calls the nurse to report that after the third day of giving amoxicillin [Amoxil], the child continues to have a temperature of 39.5° C and is unable to sleep well because of pain. What will the nurse do?

- a. Encourage the parent to discuss amoxicillin/clavulanate [Augmentin] with the child's provider.
- b. Recommend that the parent consider removing the child from day care to reduce exposure to infection.
- c. Schedule a clinic appointment for the child to receive ceftriaxone [Rocephin] IM.
- d. Tell the parent the child will probably need surgery for tympanostomy tubes to reduce infections.

ANS: A

Resistant AOM is on the rise because of the emergence of resistant pathogens such as Haemophilus influenzae and Moraxella catarrhalis, which are resistant to beta-lactam antibiotics, and Streptococcus pneumoniae, which synthesizes altered penicillin-binding proteins. Resistance is treated with high-dose amoxicillin/clavulanate. The high dose of amoxicillin increases activity against amoxicillin-resistant S. pneumoniae, and the clavulanate component overcomes beta-lactam resistance of H. influenzae and M. catarrhalis. Removing a child from day care can help reduce the number of ear infections in infants and young children. This child has only experienced two episodes, and removing the child from day care may not be easy for this family, so this recommendation is not appropriate at this time. IM Rocephin is not recommended. Surgery for bilateral myringotomy tympanostomy tubes (BMTTs) is used to reduce the number of episodes in children with recurrent AOM. DIF: Cognitive Level: Application REF: p. 999 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 87: Agents Affecting the Volume and Ion Content of Body Fluids

Test Bank

Multiple Choice

1002. A nurse is caring for a postoperative patient who has a nasogastric tube with continuous suction. The nurse notes that the patient has shallow respirations and suspects that this patient has developed:

- a. metabolic acidosis.
- b. metabolic alkalosis.
- c. respiratory acidosis.
- d. respiratory alkalosis.

ANS: B

Metabolic alkalosis occurs with excessive loss of acid, such as gastric acid, or an excessive increase in alkalinizing salts. The body compensates for metabolic alkalosis by hypoventilating in an attempt to retain CO₂. Metabolic acidosis is usually caused by ingestion of acids or excessive loss of bicarbonate and is compensated by hyperventilation. Respiratory acidosis results from hypoventilation. Respiratory alkalosis is the result of hyperventilation. DIF: Cognitive Level: Application REF: p. 1004 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

1003. A patient with congestive heart failure is admitted to the hospital. During the admission assessment, the nurse learns that the patient is taking a thiazide diuretic. The nurse notes that the admission electrolyte levels include a sodium level of 142 mEq/L, a chloride level of 95 mEq/L, and a potassium level of 3 mEq/L. The prescriber has ordered digoxin to be given immediately. What will the nurse do initially?

- a. Give the digoxin and maintain close cardiac monitoring.
- b. Hold the digoxin and report the laboratory values to the provider.
- c. Hold the thiazide diuretic and give the digoxin.
- d. Request an order for an electrocardiogram (ECG).

ANS: B

Potassium depletion is common with thiazide diuretics, and hypokalemia is especially dangerous for patients receiving digoxin, because the drug can precipitate a fatal dysrhythmia and digoxin toxicity. The provider should be notified of the serum potassium level so that it can be corrected before the digoxin is administered. Giving the digoxin could produce a fatal adverse effect, so this is not an appropriate course of action. Holding the thiazide diuretic will not correct the potassium deficiency. An ECG is not the initial priority. DIF: Cognitive Level: Application REF: p. 1005 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

1004. A patient who is a chronic alcoholic is admitted to the hospital. Admission laboratory work reveals a magnesium level of 1.2 mEq/L. The prescriber orders intravenous magnesium sulfate in a 10% solution at a rate of 10 mL/min. What will the nurse do?

- a. Administer the IV dose as ordered and have calcium gluconate on hand.
- b. Administer the IV dose and make preparations for mechanical ventilation.
- c. Hold the IV dose until the infusion rate has been clarified with the provider.
- d. Request an order for renal function tests before administering the IV dose.

ANS: C

This patient has hypomagnesemia and should be given magnesium sulfate intravenously. The percent of magnesium in solution is correct; however, magnesium should not be infused faster than

1.5 mL/min, so the nurse is correct to question the rate of infusion. Calcium gluconate should be available when magnesium is given, but the nurse needs to clarify the rate of infusion first. Mechanical ventilation is necessary with excessive magnesium. Renal function tests are not indicated. DIF: Cognitive Level: Application REF: p. 1007 TOP: Nursing Process: Diagnosis MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

1005. A child who ingested a handful of aspirin tablets from a medicine cabinet at home is brought to the emergency department. The nurse caring for the child notes a respiratory rate of 48 breaths/minute. The nurse understands that this child's respiratory rate is the result of the body's attempt to compensate for:

- a. metabolic acidosis.
- b. metabolic alkalosis.
- c. respiratory acidosis.
- d. respiratory alkalosis.

ANS: A

Metabolic acidosis can result from the ingestion of aspirin. The body responds by hyperventilating to reduce CO₂, which represents volatile carbonic acid, and raise pH. This child has a rapid respiratory rate in response to metabolic acidosis. In patients with metabolic alkalosis, the body responds with hypoventilation in an effort to increase the CO₂ level. Patients with respiratory acidosis usually have retention of CO₂ secondary to hypoventilation, and compensation is the result of retention of bicarbonate by the kidneys, which is a slow process. Respiratory alkalosis is caused by hyperventilation; treatment involves having the patient rebreathe CO₂ or administering sedatives. DIF: Cognitive Level: Application REF: p. 1005 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

1006. A patient collapses after running a marathon on a hot day and is brought to the emergency department to be treated for dehydration. The nurse will expect to provide which therapy?

- a. Intravenous hypertonic fluids given slowly over several hours
- b. Intravenous hypotonic fluids administered in stages
- c. Intravenous isotonic fluids given as a rapid bolus
- d. Oral electrolyte replacement fluids with potassium

ANS: B

Because this patient is experiencing fluid volume loss as the result of excessive sweating, this is most likely hypertonic dehydration, in which loss of water exceeds loss of electrolytes. This should be treated with a hypotonic solution or with fluids that contain no solutes at all. Initial treatment may consist of having the patient drink water. When intravenous therapy is provided, volume replenishment should occur in stages. Hypertonic fluids are used to treat hypotonic contraction, usually caused by excessive sodium loss through the kidneys as the result of diuretic therapy. Isotonic fluids are used to treat isotonic contraction, which is generally caused by vomiting and diarrhea. An oral electrolyte solution would only increase the hypertonicity; if oral rehydration is used in this case, the patient should drink plain water. DIF: Cognitive Level: Application REF: p. 1003 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

1007. While performing an admission assessment on a patient, the nurse learns that the patient is taking furosemide [Lasix], digoxin, and spironolactone [Aldactone]. A diet history reveals the use of salt substitutes. The patient is confused and dyspneic and complains of hand and foot tingling. Which is an appropriate nursing action for this patient?

- a. Contact the provider to request orders for an electrocardiogram and serum electrolyte levels.
- b. Evaluate the patient's urine output and request an order for intravenous potassium.
- c. Hold the next dose of furosemide and request an order for intravenous magnesium sulfate.
- d. Request an order for intravenous insulin to help this patient regulate extracellular potassium.

ANS: A

This patient is taking a potassium-sparing diuretic and is ingesting dietary potassium in salt substitutes. The patient shows signs of hyperkalemia: confusion, shortness of breath, and tingling of the hands and feet. The cardiac effects can be fatal, especially if a patient is also taking digoxin. The most appropriate first action would be to obtain an ECG and serum electrolyte levels to evaluate the extent of the patient's hyperkalemia. The patient does not need increased potassium. Furosemide is a potassium-wasting diuretic and would be helpful. Magnesium sulfate is not indicated. Until the patient's status has been assessed further, intravenous insulin is not indicated. DIF: Cognitive Level: Application REF: p. 1005 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

1008. A patient arrives in the emergency department complaining of muscle weakness and drowsiness. The nurse notes a heart rate of 80 beats/minute, a respiratory rate of 18 breaths/minute, and a blood pressure of 90/50 mm Hg. The electrocardiogram reveals an abnormal rhythm. The nurse will question the patient about which over-the-counter medication?

- a. Antacids

- b. Aspirin
- c. Laxatives
- d. Potassium supplements

ANS: A

Hypermagnesemia can occur when patients are taking magnesium-containing antacids. Symptoms include muscle weakness, sedation, hypotension, and ECG changes. Aspirin would cause metabolic acidosis. Laxatives can contribute to hypokalemia. Potassium supplements would cause hyperkalemia. DIF: Cognitive Level: Application REF: p. 1007 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

1009. A patient arrives in the emergency department after becoming dehydrated. Based on the patient's history, the provider determines that isotonic dehydration has occurred. Which solution will the nurse expect to infuse to treat this patient?

- a. 0.45% sodium chloride in sterile water
- b. 0.9% sodium chloride in sterile water
- c. 3% sodium chloride in sterile water
- d. 5% dextrose solution

ANS: B

Isotonic dehydration should be treated with an isotonic solution of 0.9% NaCl in sterile water. A 0.45% solution or 5% dextrose is used to treat hypertonic dehydration. A 3% NaCl solution is used to treat hypotonic dehydration. DIF: Cognitive Level: Application REF: p. 1003 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

1010. A nurse is caring for a child whose respirations are shallow and marked by a prolonged expiratory phase. The nurse auscultates wheezes and poor air movement bilaterally. The child's respiratory rate is 26 breaths/minute, and the oxygen saturation is 89%. What does the nurse suspect?

- a. Metabolic acidosis
- b. Metabolic alkalosis
- c. Respiratory acidosis
- d. Respiratory alkalosis

ANS: C

Respiratory acidosis results from retention of CO₂ secondary to hypoventilation caused either by depression of the medullary respiratory center in the central nervous system (CNS) or by a pathologic lung condition, such as asthma. This child has shallow respirations with evidence of airway obstruction and poor ventilation. Metabolic acidosis occurs in chronic renal failure, loss of bicarbonate with severe diarrhea, metabolic disorders, and ingestion of acids such as salicylates; hyperventilation is a compensatory mechanism. Metabolic alkalosis is usually caused by excessive

loss of gastric acid or by ingestion of alkalinizing salts; hypoventilation is a compensatory mechanism. Respiratory alkalosis is produced by hyperventilation and can occur in any condition that increases the respiratory rate and depth. DIF: Cognitive Level: Application REF: p. 1004 TOP: Nursing Process: Assessment MSC: NCLEX Client Needs Category: Physiologic Integrity: Physiologic Adaptation

1011. A patient who was injured at home is brought to the emergency department. The nurse caring for this patient notes a respiratory rate of 32 breaths/minute and a heart rate of 90 beats/minute. The injuries are minor, but the patient is inconsolable and hysterical. The nurse expects that initial management will include:

- a. administering a gas mixture of 5% carbon dioxide (CO₂).
- b. providing 100% oxygen via nasal cannula.
- c. giving sodium bicarbonate IV.
- d. providing sedatives to calm the patient.

ANS: A

The patient is at risk for respiratory alkalosis as a result of hyperventilation, and giving the patient a gas mixture containing CO₂ will help correct the alkalosis. Administering oxygen would worsen the problem. Sodium bicarbonate is given to correct metabolic acidosis. Sedatives may be necessary if initial measures fail. DIF: Cognitive Level: Application REF: p. 1004 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

Rosenthal: Lehne's Pharmacotherapeutics for Advanced Practice Providers, 1st Ed.

Chapter 88: Management of ST-Elevation Myocardial Infarction

Test Bank

Multiple Choice

1012. A patient arrives in the emergency department complaining of chest pain that has lasted longer than 1 hour and is unrelieved by nitroglycerin. The patient's electrocardiogram reveals elevation of the ST segment. Initial cardiac troponin levels are negative. The patient is receiving oxygen via nasal cannula. Which drug should be given immediately?

- a. Aspirin 325 mg chewable
- b. Beta blocker given IV
- c. Ibuprofen 400 mg orally
- d. Morphine intravenously

ANS: A

This patient shows signs of acute ST-elevation myocardial infarction (STEMI). Because cardiac troponin levels usually are not detectable until 2 to 4 hours after the onset of symptoms, treatment should begin as symptoms evolve. Chewable aspirin (ASA) should be given immediately to suppress platelet aggregation and produce an antithrombotic effect. Beta blockers are indicated but do not have to be given immediately. Ibuprofen is contraindicated. Morphine is indicated for pain management and should be administered after aspirin has been given. DIF: Cognitive Level: Application REF: p. 1010 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

1013. A nurse is giving aspirin to a patient during acute management of STEMI. The patient asks why a chewable tablet is given. Which response by the nurse is correct?
- “Aspirin is absorbed more quickly when it is chewed.”
 - “Chewing aspirin prevents it from being metabolized by the liver.”
 - “Chewing aspirin prevents stomach irritation.”
 - “More of the drug is absorbed when aspirin is chewed.”

ANS: A

Aspirin should be chewed to allow rapid absorption across the buccal mucosa. Chewing aspirin does not affect hepatic metabolism, stomach irritation, or the amount absorbed. DIF: Cognitive Level: Application REF: p. 1010 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

1014. A patient who is recovering from a STEMI 3 months prior is in the clinic for a follow-up evaluation. The patient is taking 81 mg of aspirin, a beta blocker, and an ACE inhibitor daily, and uses nitroglycerin as needed for angina. The patient’s BMI is 24.5 kg/m² and serum LDL is 150 mg/dL. The patient has a blood pressure of 135/80 mm Hg. What will the nurse expect the provider to order for this patient?
- An antihypertensive medication
 - Counseling about a weight loss diet
 - Discontinuing the ACE inhibitor
 - High-dose statin therapy

ANS: D

To help prevent recurrence of MI in patient’s post-STEMI, a high-dose statin should be given to patients with elevated cholesterol. This patient’s blood pressure and BMI are normal, so antihypertensives and a weight loss diet are not recommended. The three drugs should be continued indefinitely. DIF: Cognitive Level: Evaluation REF: p. 1013 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

1015. A patient diagnosed with STEMI is about to undergo a primary percutaneous coronary intervention (PCI). Which combination of pharmacotherapeutic agents will be given to augment this procedure?

- a. Beta blocker and nitroglycerin
- b. Abciximab and a fibrinolytic drug
- c. Angiotensin-converting enzyme (ACE) inhibitor and aspirin
- d. Heparin, aspirin, and clopidogrel

ANS: D

Patients undergoing a primary PCI should receive heparin intravenously combined with aspirin and either clopidogrel or prasugrel. Abciximab and fibrinolytic drugs are not indicated. Beta blockers and nitroglycerin do not prevent thromboses. ACE inhibitors do not prevent thromboses. DIF: Cognitive Level: Application REF: p. 1011 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

1016. A patient is admitted to the coronary care unit from the emergency department after initial management of STEMI. A primary percutaneous coronary intervention has been performed. The nurse notes an initial heart rate of 56 beats/minute and a blood pressure of 120/80 mm Hg. The patient has a history of stroke and a previous myocardial infarction. Which order will the nurse question?

- a. Aspirin
- b. Beta blocker
- c. Clopidogrel
- d. Heparin

ANS: B

A beta blocker would be contraindicated in this patient, because it slows the heart, and this patient is already bradycardic. Aspirin, clopidogrel, and heparin are recommended in patients who have had a primary PCI. DIF: Cognitive Level: Application REF: p. 1010 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

1017. Patients with a history of myocardial infarction should take which medications indefinitely?

Select all that apply.

- a. ACE inhibitors
- b. Alteplase
- c. Aspirin
- d. Beta blockers
- e. Clopidogrel

ANS: A , C , D

Patients who have had an MI should take ACE inhibitors, ASA, and beta blockers indefinitely to prevent recurrence and to minimize continuing cardiac remodeling. Alteplase is given during acute management, and clopidogrel is used during acute management and as an adjunct to reperfusion therapy. DIF: Cognitive Level: Application REF: p. 1013 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

1018. A patient in the emergency department has severe chest pain. The nurse administers morphine intravenously. The patient asks the nurse why morphine is given. Which response by the nurse is correct?

- a. "Morphine helps by reducing anxiety and relieving pain."
- b. "Morphine helps by reducing pain and dissolving clots."
- c. "Morphine helps by relieving pain and lowering blood pressure."
- d. "Morphine helps by relieving pain and reducing the cardiac oxygen demand."

ANS: D

IV morphine is the treatment of choice for STEMI-associated pain. Besides relieving pain, it promotes vasodilation and reduces cardiac preload, which lowers the cardiac oxygen demand. It does not reduce anxiety, dissolve clots, or lower blood pressure. DIF: Cognitive Level: Application REF: p. 1010 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

1019. A patient has undergone a PCI, and the provider orders clopidogrel to be given for 12 months, along with an ACE inhibitor and heparin. What will the nurse do?

- a. Question the need for heparin.
- b. Request an order for a beta blocker.
- c. Request an order for aspirin.
- d. Suggest ordering clopidogrel for 14 days.

ANS: C

Patients who have undergone a PCI should receive heparin, ASA, and a fibrinolytic; therefore, this patient needs ASA added to the drug regimen. Heparin should be given before, during, and for at least 48 to 72 hours after the procedure. Beta blockers are not necessarily indicated. Clopidogrel should be given for at least 12 months after the procedure. DIF: Cognitive Level: Application REF:

p. 1011 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

1020. A patient who is receiving reperfusion therapy has a history of heparin-induced thrombosis (HIT). The patient has a creatinine clearance of 28 mL/min. In addition to the fibrinolytic agent, which medication will the nurse expect to administer to this patient?

- a. Aspirin
- b. Bivalirudin [Angiomax]
- c. Clopidogrel [Plavix]
- d. Fondaparinux [Arixtra]

ANS: B

Patients receiving a fibrinolytic medication will also need an anticoagulant to reduce the risk of thrombosis. This patient cannot receive heparin because of the history of HIT, so he or she will need either bivalirudin or fondaparinux. Bivalirudin may be used at reduced doses in patients with a creatinine clearance less than 30 mL/min, but fondaparinux is contraindicated in such patients. Antiplatelet drugs such as aspirin or clopidogrel are not used for this purpose. DIF: Cognitive Level: Application REF: p. 1011 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

1021. A nurse is evaluating a patient admitted to the emergency department with an evolving STEMI for possible administration of thrombolytic therapy. Which information, identified during history taking, would contraindicate this type of therapy?

- a. The patient just completed her last menstrual cycle.
- b. The patient states that the chest pain started 1 hour ago.
- c. The patient has a history of a small cerebral aneurysm.
- d. The patient has hypertension that is well controlled by diuretic therapy.

ANS: C

Patients with a history of CVA should not receive fibrinolytic therapy. This patient has had a known cerebral aneurysm. Active internal bleeding is a contraindication for thrombolysis except for menses, but the patient has indicated she has completed her last cycle. Fibrinolytic therapy should be administered for chest pain that has been present for no longer than 12 hours. Poorly controlled or severe hypertension is a relative contraindication. Thrombolytics can be administered with caution. DIF: Cognitive Level: Analysis REF: p. 1011 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

1022. A patient has undergone a primary percutaneous coronary intervention with a stent placement. The provider has ordered a daily dose of 81 mg of aspirin and clopidogrel. The patient asks the nurse how long the medications must be taken. What will the nurse tell this patient about the medication regimen?

- a. This drug regimen will continue indefinitely.
- b. The clopidogrel will be discontinued in 1 year and the aspirin will be given indefinitely.
- c. The aspirin will be discontinued in 1 year and the clopidogrel will be given indefinitely.
- d. Both drugs will be discontinued in 1 year.

ANS: B

Patients who have undergone PCI with a stent will take ASA indefinitely along with an antiplatelet drug for 1 year. The clopidogrel will be discontinued in 1 year, but the aspirin will be given indefinitely. DIF: Cognitive Level: Application REF: p. 1012 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

1023. A nurse is discussing fibrinolytic therapy for the acute phase of STEMI management with a group of nursing students. Which statement by a student indicates understanding of this therapy?

- a. "Fibrinolytics are effective when the first dose is given up to 24 hours after symptom onset."
- b. "Fibrinolytics should be given once cardiac troponins reveal the presence of STEMI."
- c. "Fibrinolytics should be used with caution in patients with a history of cerebrovascular accident."
- d. "Patients should receive either an anticoagulant or an antiplatelet agent with a fibrinolytic drug."

ANS: C

Patients with a history of cerebrovascular accident (CVA) should not receive fibrinolytic agents because of the increased risk of intracranial hemorrhage. Fibrinolytics are most effective when given within 30 minutes of arrival in the emergency department. Because cardiac troponins are not detectable until 2 to 4 hours after the onset of symptoms, fibrinolytics should be administered before these laboratory values are available. Patients receiving fibrinolytics should receive both an anticoagulant and an antiplatelet drug. DIF: Cognitive Level: Analysis REF: p. 1011 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

Chapter 89: Additional Acute Care Drugs

Test Bank

Multiple Choice

1024. A patient was involved in a car accident and needs to have debris removed from his arm. This requires an operation, but it is unnecessary for the patient to be unconscious during surgery. What is the best anesthetic option?

- a. Epidural anesthesia
- b. Acetaminophen oral
- c. Dexmedetomidine
- d. Regional opioid anesthesia

ANS: E

Epidural anesthesia is not optimal due to length of action and size of the area being operated on. Oral NSAIDs would not be effective at reducing the pain that a surgical procedure would produce (i.e., noninflammatory pain). Dexmedetomidine is also not the best choice due to sedation. Regional opioid anesthesia would be ideal due to potent painkilling properties and fast kinetics. DIF: Cognitive Level: Analysis REF: p. 1016 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

1025. A patient is considering getting epidural anesthesia during the delivery of her child. What considerations should the nurse make her aware of before she agrees to the procedure?

- a. Opioid analgesics can induce strong tolerance and withdrawal effects.
- b. She will be unconscious during the delivery due to anesthesia.
- c. Anesthetic drugs may enter systemic circulation and therefore reach the neonate.
- d. Anesthetic drugs are metabolized very quickly and may lose effectiveness during delivery

ANS: C

Opioid analgesics are not involved in epidural anesthesia. Lidocaine is usually used. Epidural anesthesia will not sedate a patient. It is important the patient fully understand the risks of each procedure she agrees to, especially in obstetric patients. DIF: Cognitive Level: Application REF: p. 1017 TOP: Nursing Process: Evaluation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

1026. Which of the following is not a component of diabetic ketoacidosis treatment?

- a. Insulin IV
- b. Saline IV
- c. Potassium IV
- d. Epinephrine IM

ANS: D

A patient experiencing DKA needs to immediately be given insulin, saline, and potassium. Epinephrine would not assist in treatment. DIF: Cognitive Level: Comprehension REF: p. 1026 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Pharmacologic and Parenteral Therapies

1027. A patient with Crohn disease is having a hypertensive emergency. Patients with Crohn disease often have a vitamin deficiency that affects thiocyanate metabolism. This metabolic deficiency precludes what treatment?

- a. Nitroprusside [Nitropress]
- b. Fenoldopam [Corlopam]
- c. Labetalol

d. Clevidipine [Cleviprex]

ANS: A

Nitroprusside contains cyanide groups that normally are metabolized into thiocyanate in the liver. Crohn patients often have vitamin B12 deficiency due to greatly altered gastrointestinal absorption and bacterial ecology. Vitamin B12 is involved in thiocyanate metabolism, and thus a patient with Crohn disease would have an elevated risk of cyanide toxicity if administered nitroprusside. DIF: Cognitive Level: Analysis REF: p. 1024 TOP: Nursing Process: Planning MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential

1028. What is the most important question a nurse should ask a patient before administering anticoagulant drugs like abciximab?

- a. "Do you take any drugs that affect blood clotting?"
- b. "Are you allergic to any anticoagulants?"
- c. "How long have you been hypertensive?"
- d. "Are you diabetic?"

ANS: A

Patients taking an anticoagulant are contraindicated for GP IIa/IIIb receptor antagonists due to the possibility of excessive bleeding, including intracerebral hemorrhage. DIF: Cognitive Level: Application REF: p. 1019 TOP: Nursing Process: Implementation MSC: NCLEX Client Needs Category: Physiologic Integrity: Reduction of Risk Potential