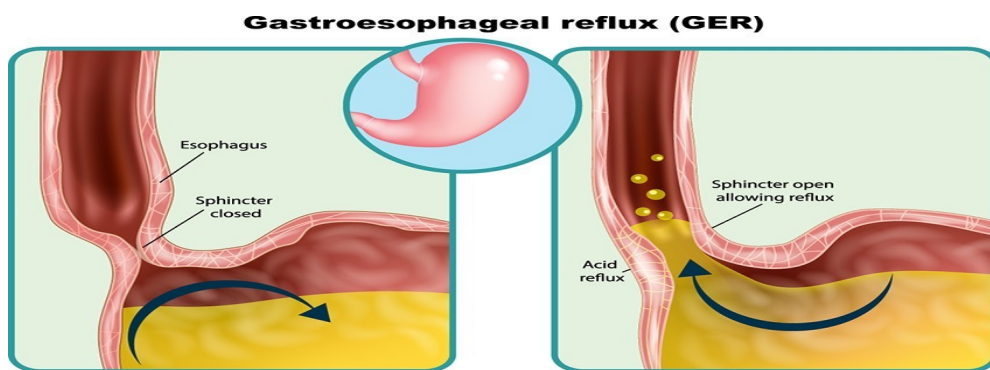


NR 507 Week 5: Edapt: GERD: Alterations in the Gastrointestinal System

Pathophysiology of Gastroesophageal Reflux Disease

The nurse practitioner (NP) diagnoses a client with gastroesophageal reflux disease (GERD). The NP explains to the client that the condition is caused by which of the following?

- ☐ Excessive salivation and swallowing
- ☐ Increased production of bile in the stomach
- ☐ Reverse peristalsis of the stomach
- ☒ Loss of muscle tone at the lower esophageal sphincter



Gastroesophageal reflux disease (GERD) is commonly associated with the loss of muscle tone at the lower esophageal sphincter (LES). The LES is a muscular ring that separates the esophagus from the stomach, and its relaxation or incompetence can lead to the backward flow of stomach contents into the esophagus, causing the symptoms characteristic of GERD, such as heartburn and regurgitation.

Reverse peristalsis, where the stomach contracts in the opposite direction of normal peristalsis, is not a typical mechanism associated with GERD.

Excessive salivation and swallowing do not typically cause GERD. In fact, swallowing can help clear refluxed material from the esophagus.

GERD is more related to issues with the LES and the reflux of acidic stomach contents into the esophagus than the increased production of bile.

?????

1) When an individual consumes a very large meal, the nurse practitioner (NP) knows the gastric emptying rate will be **increased**.

2) When an individual receives a hypertonic gastric tube feeding solution, the NP knows the gastric emptying rate will be **delayed**.

Risk Factors for Gastroesophageal Reflux Disease

The nurse practitioner (NP) evaluates a client with complaints of a burning sensation in the chest that often occurs after meals and is exacerbated when lying down. Which of the following findings should the NP recognize as risk factors for gastroesophageal reflux disease (GERD)? Select all that apply.

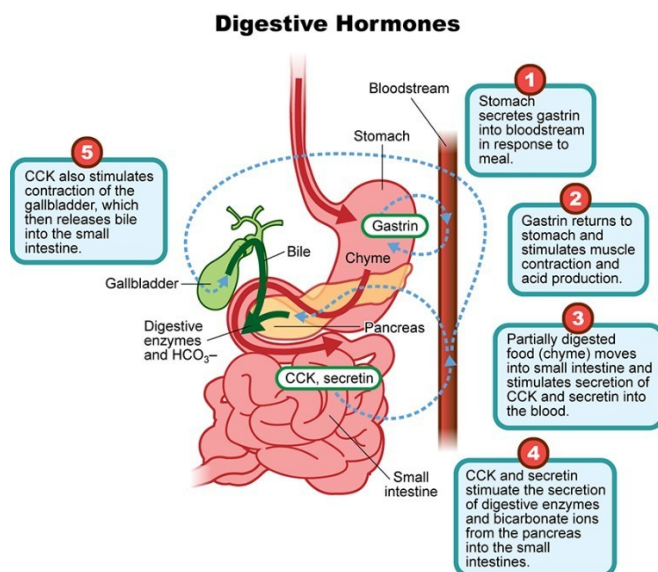
☐ Takes aspirin daily for coronary artery disease

☒ Smokes 1 pack of cigarettes per day

☐ Drinks three cups of chamomile tea daily

☒ Has a sliding hiatal hernia

☒ Body mass index (BMI) of 32



1. Stomach secretes gastrin into bloodstream in response to meal.
2. Gastrin returns to stomach and stimulates muscle contraction and acid production.
3. Partially digested food (chyme) moves into small intestine and stimulates secretion of CCK and secretin into the blood.
4. CCK and secretin stimulate the secretion of digestive enzymes and bicarbonate ions from the pancreas into the small intestines.
5. CCK also stimulates contraction of the gallbladder, which then releases bile into the small intestine.

The digestive system is responsible for breaking down ingested food, facilitating nutrient absorption, maintaining body water, and eliminating waste. Hormones and the autonomic nervous system regulate most digestive activities, including the release of hormones that stimulate or inhibit gastric motility and the secretion of substances that aid in digestion.

Obesity, smoking, and hiatal hernias are risk factors associated with the development of gastroesophageal reflux disease (GERD). **Obesity slows gastric emptying**, which leads to prolonged retention of food in the stomach and increases the likelihood of stomach contents