

EDAPT: PERFUSION AND CLOTTING WK5

1. When perfusion is impaired, the outcome is very similar in all parts of the body. Tissues experience cellular death and a loss of function. Many things can impair perfusion, with one of the largest causes being a blood clot somewhere within the vascular system.
2. What is the goal of perfusion?
 - a. Flood the tissues with high amounts of oxygen and nutrients.
3. The amount of blood pumped by the heart each minute?
 - a. CENTRAL PERFUSION
4. Volume of blood that flows from arteries to capillaries?
 - a. TISSUE
5. RISK FACTORS:
 - a. MODIFIABLE
 - i. Smoking
 - ii. Increased serum lipid
 - iii. Obesity
 - iv. Sedentary lifestyle
 - b. NONFIABLE
 - i. Age (more prone to problems)
 - ii. Gender (males are more prone)

iii. Genetics

6. To get nutrients and oxygen into tissues, there are three important components, including fluid volume (transport), perfusion, and gas exchange.
 7. Once blood reaches and perfuses the tissue, it is up to gas exchange to get those nutrients and oxygen to the cells that need it. Perfusion ensures that every cell is reached.
 8. HIGH RISK:
 - a. Clients with hyperlipidemia, diabetes, PVD, and arteriosclerosis are high risk for decreased central and tissue perfusion
 9. TYPES OF PERFUSIONS
 - a. Tissue = skin / local areas
 - b. Myocardial = heart
 - c. Central = vital organs
 - d. Cerebral = brain
 10. Arteries carry blood away from the heart to the aorta
 - a. Arterioles = smallest branch of arteries lead to capillaries (GAS AND NUTRIENT EXCHANGE)
 - b. Capillaries = connects the arteriole to the venue
 - c. Return to the heart via superior and inferior vena cava
- Formula called **cardiac output** to measure perfusion.
- e. **Cardiac output = Heart rate (per minute) x stroke volume (force of heart)**

- f. just looking at the skin color, capillary refill (in the fingernails), the color of skin around the lips, or even how alert someone is,
- g. CONDITIONS RELATED:
 - i. Alert and awake
 - ii. Skin temp
 - iii. Blood pressure
 - iv. Skin color
 - v. Recognize bad perfusion
- h. COMPLICATIONS
 - i. INFARCTION = area of dead tissue
 - ii. HYPOXIA = low oxygen supply to the cells
 - iii. HYPOXEMIA = not enough oxygen in the blood
 - iv. NECROSIS = tissue death
 - v. APOPTOSIS VS NECROSIS
 - vi. ISCHEMIA= poor perfusion to the tissue/organ

11. RISK FACTORS

- a. atherosclerotic heart disease, cause blockages in the vascular system which leads to poor perfusion.
- b. Hypertension and dyslipidemia
- c. Vascular disease

- d. Poorly controlled diabetes mellitus - causes arterial inflammation
- e. **Age** - arteries and veins calcify,
- f. **lifestyle behaviors** - tobacco, secondhand smoke—and alcohol misuse causes arterial inflammation
- g. **Genetic**

CAUSES

- a. **MYOCARDIAL INFARCTION = TISSUE DEATH**
- b. **CVA = CELL DEATH**
- c. **SEPSIS = CELL DEATH**
- d. **TRAUMATIC BLOOD LOSS**
- e. **PVD**

As we age, we continue to build up blockages in our arteries.

12. Because these blockages increase, sometimes medications that decrease the risk of clotting are started. Clots are more likely to occur in smaller arteries than in larger ones.

13. The tissue experiences cellular death and a loss of function.

14. PREVENTION

- a. **PRIMARY**

- i. diet
- ii. exercise
- iii. cessation of tobacco
- iv. low dose acetylsalicylic acid (aspirin)
- v. DASH diet (Dietary Approaches to Stop Hypertension)
- vi. weight management
- vii. hydration
- viii.

b. SECONDARY

- i. Routine physicals
- ii. glucose monitoring
- iii. lipid screening
- iv. hemoglobin A1C monitoring
- v. improved access to healthcare
- vi.

c. TERTIARY

- i. **Collaborative intervention for altered or ineffective perfusion**
- ii. healthy lifestyle promotion: nutrition, tobacco use, exercise