AMSA Advanced Nursing 2 Practice Test (Sample)

Study Guide

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Questions

1. What drop factor is associated with a microdrop IV set?

A. 10 gtts/mL

B. 15 gtts/mL

C. 20 gtts/mL

D. 69 gtts/mL

2. Which stage of pressure injury is characterized by deep red crater and possible tunneling?

A. Stage 1

B. Stage 2

C. Stage 3

D. Stage 4

3. What role do mast cells play in the inflammatory phase of wound healing?

A. They initiate vasodilation and increase blood flow

B. They promote collagen deposition

C. They regenerate epidermal cells

D. They form granulation tissue

4. Which of the following IV solutions is typically not used for edema management?

A. Hypertonic solutions

B. Isotonic solutions

C. Hypotonic solutions

D. Collodial solutions

5. What is the main feature of autolytic dressings?

A. They require frequent changes

B. They create a moist environment for healing

C. They are used only for infected wounds

D. They limit patient mobility

6. Why is a pediatric nurse likely to use scalp veins for IV access?

A. There are fewer visible options for IV access

B. They provide more stabilization

C. It is a larger site for placement

D. They are easier to access than the hands

7. Which of the following are the four phases of the wound healing process?

A. Proliferative, suture, inflammatory, maturation

B. Hemostasis, inflammatory, proliferative, maturation

C. Vasodilation, hemostasis, scarring, maturation

D. Inflammatory, proliferative, fibrotic, remodeling

8. What mechanism is responsible for the movement of water across cell membranes?

A. Active transport

B. Diffusion

C. Filtration

D. Osmosis

9. Who is at higher risk for developing pressure ulcers?

A. Individuals with high mobility

B. Patients with decreased mobility and poor nutrition

C. Young adults with healthy skin

D. Patients with good sensory perception

10. What is the primary use of hypotonic solutions in medical treatment?

A. Electrolyte correction

B. Rehydration

C. Blood pressure regulation

D. Antibiotic administration

Answers

1. D
2. C
3. A
4. C
5. B
6. A
7. B
8. D
9. B
10. B

Explanations

1. What drop factor is associated with a microdrop IV set?

A. 10 gtts/mL

B. 15 gtts/mL

C. 20 gtts/mL

D. 69 gtts/mL

The drop factor associated with a microdrop IV set is typically 60 gtts/mL. This means that for every milliliter of fluid administered, 60 drops will be counted. Microdrip sets are designed for the precise administration of fluids, particularly when small volumes are needed, such as in pediatric or critical care settings. In your choices, the values for 10, 15, and 20 gtts/mL represent drop factors that are more commonly associated with macrodrop IV sets, which deliver larger volumes of fluid more rapidly. The distinction is essential for providing the correct flow rate based on the patient's needs. It's also important to note that 69 gtts/mL is not a standard drop factor for either micro or macro IV sets. The correct standard for microdrip sets is 60 gtts/mL, ensuring accuracy in fluid delivery.

2. Which stage of pressure injury is characterized by deep red crater and possible tunneling?

A. Stage 1

B. Stage 2

C. Stage 3

D. Stage 4

The stage of pressure injury characterized by a deep red crater and possible tunneling is indeed Stage 3. At this level, the damage extends through the dermis and into the subcutaneous tissue, creating a significant wound. You will notice that the wound bed presents with a deep red color, indicating the depth and severity of tissue damage. The appearance of tunneling can also occur in this stage, meaning that there may be a channel or pathway leading away from the primary area of the wound, which can complicate treatment and healing. Understanding the characteristics of Stage 3 pressure injuries is crucial for proper assessment and management. In contrast, earlier stages, such as Stage 1 and Stage 2, involve much less severity. Stage 1 indicates non-blanchable erythema of intact skin without open wounds, while Stage 2 presents as a partial-thickness loss of skin that may appear as a blister or shallow open sore. Stage 4 involves full-thickness tissue loss with extensive damage to underlying muscle, bone, or supporting structures, which is more severe than Stage 3. Recognizing these distinct stages is essential to provide appropriate care and intervention in patients at risk for pressure injuries.

3. What role do mast cells play in the inflammatory phase of wound healing?

A. They initiate vasodilation and increase blood flow

B. They promote collagen deposition

C. They regenerate epidermal cells

D. They form granulation tissue

Mast cells play a crucial role in the inflammatory phase of wound healing primarily by initiating vasodilation and increasing blood flow to the affected area. When tissue is injured, mast cells degranulate and release various mediators, including histamine and heparin. Histamine is particularly important as it causes vasodilation and increases capillary permeability, allowing essential immune cells and nutrients to reach the site of injury. This process is vital for the formation of a proper inflammatory response, which is a necessary precursor to effective healing. By increasing blood flow, mast cells ensure that the area receives an influx of white blood cells, which are necessary for fighting off any potential infections and clearing debris. This inflammatory response is critical for setting the stage for the later phases of wound healing, such as proliferation and remodeling. Understanding the specific function of mast cells highlights their importance in the body's immediate response to injury and the subsequent healing process.

4. Which of the following IV solutions is typically not used for edema management?

A. Hypertonic solutions

B. Isotonic solutions

C. Hypotonic solutions

D. Collodial solutions

Hypotonic solutions are specifically designed to have a lower concentration of solutes compared to the fluid inside the cells. When administered, they can cause water to enter the cells, which may increase intracellular fluid and potentially worsen edema rather than alleviate it. This is particularly true in patients who already have fluid retention or edema, as introducing more fluid into the cells can exacerbate the condition. In contrast, hypertonic solutions contain a higher concentration of solutes, which can draw fluid out of the cells and potentially reduce edema. Isotonic solutions maintain the balance of solutes and fluids, serving primarily to maintain hydration without causing shifts that could worsen fluid overload. Collodial solutions, often used to expand blood volume, may also assist in managing certain types of edema, particularly in cases of low protein levels in the blood. Thus, hypotonic solutions are not effective for managing edema due to their fluid-shifting properties.

5. What is the main feature of autolytic dressings?

A. They require frequent changes

B. They create a moist environment for healing

C. They are used only for infected wounds

D. They limit patient mobility

Autolytic dressings are designed primarily to create a moist environment that promotes natural healing processes within a wound. This moist environment is crucial because it facilitates autolysis, where the body's own enzymes break down necrotic tissue, thereby aiding in the healing of the wound. By maintaining moisture, these dressings not only help to soften and liquefy dead tissue but also protect the surrounding skin and minimize pain during dressing changes. When a wound is kept moist, it can improve epithelial cell migration, thus accelerating the healing process. This method reduces the risk of scab formation and promotes faster recovery, which is a critical aspect of wound management. The nature of autolytic debridement used in these dressings is particularly beneficial for chronic wounds, as it allows the body to utilize its healing mechanisms more effectively. In contrast, frequent changes in dressings can disrupt the healing process by exposing the wound to air and potentially to pathogens. It is also important to note that while autolytic dressings can be utilized for a variety of wounds, they are not exclusively designated for infected wounds, nor do they inherently limit patient mobility. Instead, they promote a healthier healing environment conducive to recovery.

6. Why is a pediatric nurse likely to use scalp veins for IV access?

A. There are fewer visible options for IV access

B. They provide more stabilization

C. It is a larger site for placement

D. They are easier to access than the hands

In pediatric nursing, using scalp veins for intravenous (IV) access is often preferred due to the limited options available for IV sites on infants and young children, particularly when compared to older patients. Infants have smaller and less developed veins in their hands and arms, making peripheral access challenging. Scalp veins tend to be more prominent and easier to visualize in infants, providing a reliable site for intravenous administration. This anatomical advantage allows for successful IV placement when other sites may not be feasible. The use of scalp veins can also minimize distress for the child, as securing IV access in a less mobile area can reduce the risk of dislodgement. Additionally, when necessary, scalp locations allow for a stable insertion point, which is crucial for effective treatment.

7. Which of the following are the four phases of the wound healing process?

A. Proliferative, suture, inflammatory, maturation

B. Hemostasis, inflammatory, proliferative, maturation

C. Vasodilation, hemostasis, scarring, maturation

D. Inflammatory, proliferative, fibrotic, remodeling

The correct choice outlines the four essential phases of the wound healing process: hemostasis, inflammatory, proliferative, and maturation. During hemostasis, which is the initial phase, the body responds to injury by constricting blood vessels to reduce blood loss and forming a clot to provide a temporary barrier against pathogens. The inflammatory phase follows, characterized by the body's immune response to clean the wound and prevent infection. In this phase, white blood cells migrate to the site, and there may be redness, swelling, and warmth as part of the healing process. Next is the proliferative phase, where new tissue forms. This involves the production of collagen and extracellular matrix, which provides strength and structure to the healing area. New blood vessels also form during this phase, enhancing oxygen and nutrient delivery. Finally, the maturation phase refers to the remodeling of the wound tissue, which can take weeks to months. During this time, collagen is reorganized, and the wound gains strength and flexibility. The other choices contain incorrect or incomplete phases. For example, while some elements might appear in the healing process, they do not accurately represent the recognized stages. The comprehensive classification provided in the correct choice helps nurses understand and manage wound healing effectively.

8. What mechanism is responsible for the movement of water across cell membranes?

A. Active transport

B. Diffusion

C. Filtration

D. Osmosis

The movement of water across cell membranes is primarily governed by osmosis. Osmosis is the process through which water molecules move from an area of lower solute concentration to an area of higher solute concentration through a semipermeable membrane. This movement continues until there is an equal concentration of solute on both sides of the membrane, or until other forces counterbalance the osmotic gradient. In the context of cell membranes, which are selectively permeable, water freely flows in and out of cells via specialized channels called aquaporins, or through the lipid bilayer itself, allowing for the necessary regulation of hydration and solute balance in the cell's environment. Understanding osmosis is crucial for grasping concepts related to cellular function, fluid balance, and homeostasis in the body.

9. Who is at higher risk for developing pressure ulcers?

A. Individuals with high mobility

B. Patients with decreased mobility and poor nutrition

C. Young adults with healthy skin

D. Patients with good sensory perception

Individuals with decreased mobility and poor nutrition are indeed at a higher risk for developing pressure ulcers. The combination of limited movement and inadequate nutritional status significantly contributes to skin integrity issues. When a person is unable to change positions frequently, there is prolonged pressure on certain areas of the body, especially over bony prominences. This sustained pressure impedes blood circulation, leading to tissue ischemia and ultimately cell death, which can develop into pressure ulcers. Moreover, poor nutrition affects the body's ability to maintain skin health and repair tissues. Nutrients are essential for skin integrity and wound healing; without adequate intake, the skin becomes more susceptible to breakdown, further compounding the risk for ulcer formation. In contrast, individuals with high mobility are less likely to develop pressure ulcers as they are able to shift their positions frequently, alleviating pressure on any one area. Young adults with healthy skin typically have better regenerative capabilities and resilience against skin injuries, and those with good sensory perception can respond to pressure by repositioning themselves promptly. This ability to feel discomfort and take action protects them from the risk of pressure ulcers.

10. What is the primary use of hypotonic solutions in medical treatment?

A. Electrolyte correction

B. Rehydration

C. Blood pressure regulation

D. Antibiotic administration

Hypotonic solutions are primarily used in medical treatment for rehydration purposes. These solutions have a lower osmolarity than the cells in the body, leading to an osmotic gradient that allows water to move into the cells. When patients are dehydrated, particularly those with conditions that cause fluid loss (like gastrointestinal illnesses or after surgery), administering a hypotonic solution can help restore cellular hydration and promote proper hydration status. This type of solution is effective in replenishing intracellular fluid, addressing issues such as cellular dehydration. As cells take in fluid, there is a restoration of normal function and metabolism, making it essential for maintaining homeostasis. While hypotonic solutions might indirectly contribute to other processes, such as electrolyte balance, their primary role is focused on rehydrating cells and tissues.