Certified Surgical Technologist (CST) Practice Exam (Sample)

Study Guide

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Questions

1. **What classification pertains to a compound that has a specific structure and function in an organism?**
   - **A. Element**
   - **B. Molecule**
   - **C. Compound**
   - **D. Complex**

2. **What is the required minimum number of individuals needed to transfer an incapacitated patient from the operating room table to the stretcher?**
   - **A. 3**
   - **B. 5**
   - **C. 4**
   - **D. 6**

3. **What is the term for the process of removing blood from an extremity prior to inflating the pneumatic tourniquet?**
   - **A. Extravasation**
   - **B. Evisceration**
   - **C. Exsanguination**
   - **D. Evacuation**

4. **What is the first part of the small intestine?**
   - **A. Duodenum**
   - **B. Jejunum**
   - **C. Ileum**
   - **D. Cecum**

5. **What is the location of a Baker's cyst?**
   - **A. Olecranon process**
   - **B. Greater tubercle**
   - **C. Popliteal fossa**
   - **D. Carpal tunnel**

6. Which of the following is considered a non-adherent dressing?

A. Kling

B. Collodion

C. Adaptic

D. Elastoplast

7. What is the standard method for ensuring sterile conditions in an operating room?

A. Use of autoclaves

B. Use of respirators

C. Continuous air circulation

D. High-efficiency particulate air filtration

8. Under what circumstances would it be appropriate to remove a patient's identification bracelet?

A. Never until patient is discharged from facility

B. During insertion of an IV catheter

C. Postoperatively when taken to the nursing unit

D. When patient is awake and alert and can verbally identify self

9. Which of the following monitors provides positive assurance of sterility?

A. Chemical

B. Mechanical

C. Biological

D. Clerical

10. Which of the following is a mechanical method of hemostasis?

A. Laser

B. Thrombin

C. Ligature

D. Electrosurgery

Answers

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

Explanations

1. What classification pertains to a compound that has a specific structure and function in an organism?

A. Element

B. Molecule

C. Compound

D. Complex

The correct classification for a compound that has a specific structure and function in an organism is a compound. Compounds are substances formed when two or more elements are chemically bonded together. They possess unique properties that give them specific roles within biological systems. For example, molecules like glucose and proteins not only consist of specific atoms arranged in defined ways but also perform vital functions, such as providing energy or facilitating biochemical reactions, within an organism. The term "element" refers to a pure substance that cannot be broken down into simpler substances, consisting of only one type of atom. "Molecule" signifies two or more atoms chemically bonded, which can be composed of the same type of atoms or different ones, but might not necessarily fulfill a specific structural or functional role in living organisms. "Complex" often describes a larger assembly of molecules or structures without indicating a specific chemical composition, and is typically used in more intricate biological contexts rather than to denote a basic compound. Therefore, the definition of a compound aligns with the context of having both a specific structure and function in biological systems, distinguishing it as the appropriate choice in this scenario.

2. What is the required minimum number of individuals needed to transfer an incapacitated patient from the operating room table to the stretcher?

A. 3

B. 5

C. 4

D. 6

The correct answer is that a minimum of four individuals is required to safely transfer an incapacitated patient from the operating room table to the stretcher. This ensures a safe and controlled transfer, reducing the risk of injury to the patient and the staff involved. Utilizing four personnel helps to distribute the weight of the patient evenly and allows for better control during the transfer. Each individual can take a secure position on different sides of the patient, facilitating a coordinated and synchronized movement. This setup also provides adequate support for the head, torso, and legs, which is crucial for maintaining the patient's safety and dignity, especially when they are unable to assist in their own transfer due to sedation or anesthesia. Having fewer than four individuals may not provide sufficient support, which could lead to complications such as loss of control during the transfer or potential injury to the patient. Conversely, using five or six individuals, while safe, is generally unnecessary and could complicate the process rather than enhance it. Such an excess may lead to overcrowding around the patient, which is not ideal in the confined space of an operating room. Therefore, the use of four personnel strikes an optimal balance between safety and efficiency.

3. What is the term for the process of removing blood from an extremity prior to inflating the pneumatic tourniquet?

A. Extravasation

B. Evisceration

C. Exsanguination

D. Evacuation

The process of removing blood from an extremity before inflating a pneumatic tourniquet is known as exsanguination. This technique is crucial in creating a bloodless surgical field, which enables the surgeon to perform the procedure with better visibility and reduced blood loss. During exsanguination, blood is often drained from the affected limb through gravity or by using compression techniques to push the blood towards the torso, ensuring that when the tourniquet is inflated, the majority of the blood within that extremity has been removed. This enhances the overall safety and effectiveness of the procedure by minimizing the risk of complications related to excessive bleeding. Understanding the terminology helps clarify important surgical processes. Extravasation refers to the leakage of fluid (often from a vessel) into surrounding tissue, which is not applicable in this context. Evisceration describes the removal of inner organs from a body cavity, mainly used in trauma scenarios rather than surgical preparation for tourniquet application. Evacuation can mean the removal of air or fluids but is more commonly associated with drainage procedures and not specifically related to blood removal in this scenario.

4. What is the first part of the small intestine?

A. Duodenum

B. Jejunum

C. Ileum

D. Cecum

The first part of the small intestine is the duodenum. This segment plays a crucial role in the digestive process as it is responsible for the initial stage of breaking down food after it leaves the stomach. The duodenum receives partially digested food, also known as chyme, along with digestive enzymes from the pancreas and bile from the liver. These substances help further digest the food, allowing for the absorption of nutrients to occur in the subsequent parts of the small intestine, namely the jejunum and ileum. This structural organization is essential for efficient digestion and nutrient absorption, highlighting the duodenum's significance as the starting point of the small intestine.

5. What is the location of a Baker's cyst?

A. Olecranon process

B. Greater tubercle

C. Popliteal fossa

D. Carpal tunnel

A Baker's cyst, also known as a popliteal cyst, is located in the popliteal fossa, which is the area behind the knee. This cyst is formed when excess joint fluid accumulates in this space, often due to conditions like arthritis or other knee joint issues. The popliteal fossa serves as a conduit for important structures such as nerves, blood vessels, and tendons, making it a critical area for the development of such a cyst. Recognizing the location of a Baker's cyst is essential for diagnosis and management, as it can sometimes cause discomfort or limit range of motion in the knee. Understanding the anatomy of the knee and surrounding structures aids in the identification and treatment of various conditions, including Baker's cysts.

6. Which of the following is considered a non-adherent dressing?

A. Kling

B. Collodion

C. Adaptic

D. Elastoplast

A non-adherent dressing is specifically designed to prevent sticking to the wound, facilitating a pain-free dressing change and minimizing trauma to the wound site. Adaptic is composed of soft, non-adhesive material that allows drainage to escape while keeping the dressing in place without adhering to the healing tissue. This makes it an ideal choice for wounds healing by secondary intention or wounds that are at risk for adherence. In contrast, Kling is a type of gauze bandage that is elastic and woven, used for securing dressings but does not have the non-adherent qualities needed. Collodion, often used for creating a protective barrier over skin, can adhere too strongly to wounds. Elastoplast is an adhesive bandage that sticks to the skin, thus it does not qualify as non-adherent. Therefore, Adaptic clearly stands out as the correct answer due to its specific design for non-adherence while providing adequate wound protection.

7. What is the standard method for ensuring sterile conditions in an operating room?

A. Use of autoclaves

B. Use of respirators

C. Continuous air circulation

D. High-efficiency particulate air filtration

The standard method for ensuring sterile conditions in an operating room is the use of autoclaves. Autoclaves are essential for sterilizing surgical instruments and materials by using high-pressure steam at high temperatures. This process effectively kills all microorganisms, including bacteria, viruses, and spores, ensuring that any tools or linens that come into contact with the surgical site are free from contaminants. While other methods mentioned are important in maintaining overall cleanliness and reducing the risk of infection in the operating room, they do not serve as the primary means for sterilizing surgical tools directly. Respirators are designed to protect healthcare workers from inhaling infectious agents but do not sterilize the environment or instruments. Continuous air circulation helps maintain a clean atmosphere but does not eliminate contaminants at the surface level. High-efficiency particulate air (HEPA) filtration is crucial in controlling airborne particles and pathogens, yet it alone cannot replace the need for the intense sterilization provided by autoclaving. Therefore, the use of autoclaves stands out as the cornerstone practice for ensuring sterility in the surgical environment.

8. Under what circumstances would it be appropriate to remove a patient's identification bracelet?

A. Never until patient is discharged from facility

B. During insertion of an IV catheter

C. Postoperatively when taken to the nursing unit

D. When patient is awake and alert and can verbally identify self

Removing a patient's identification bracelet is appropriate when the patient is awake and alert and can verbally identify themselves. This situation indicates that the patient is fully aware of their identity, which helps ensure their safety and prevent any potential confusion with patient care or procedures. Verbal identification can be a reliable method of confirming a patient's identity, especially when the patient is capable of understanding and communicating their information effectively. Maintaining patient identification is a critical part of healthcare protocols to avoid errors in treatment or administration. However, if the patient can confidently identify themselves, the healthcare team can reasonably determine that the bracelet may no longer be necessary for that specific moment. When other options are considered, it's vital to keep the identification bracelet throughout the admission process until discharge or until it is appropriate based on the patient's condition. For instance, leaving it on during procedures like IV insertion ensures traceability and safety in care. Similarly, the bracelet is typically retained during the postoperative period when transferring to the nursing unit to prevent any identification errors. Therefore, the context of the patient's awareness and capacity to identify themselves is crucial in determining the appropriateness of removing their identification bracelet.

9. Which of the following monitors provides positive assurance of sterility?

A. Chemical

B. Mechanical

C. Biological

D. Clerical

The correct choice is biological monitoring, as it directly assesses the effectiveness of the sterilization process. Biological indicators contain viable microorganisms that are highly resistant to the sterilization technique used. After the sterilization process, these indicators are incubated to check for growth; if there is no growth, it confirms that the sterilization process was effective and that the items are sterile. This type of monitoring provides the most reliable assurance of sterility compared to other methods available. Chemical monitoring involves indicators that change color or display a specific characteristic when exposed to certain sterilization conditions, but these do not guarantee that the microorganisms have been eliminated. Mechanical monitoring refers to the observation of sterilizer parameters such as temperature and pressure during the cycle, which are important but do not confirm sterility on their own. Clerical monitoring pertains to checking and documenting the sterilization process but lacks any form of assurance about the sterility of the items processed. Thus, biological monitoring stands out as the method that provides definitive proof of sterility.

10. Which of the following is a mechanical method of hemostasis?

A. Laser

B. Thrombin

C. Ligature

D. Electrosurgery

A ligature is classified as a mechanical method of hemostasis because it involves the physical act of tying off blood vessels to stop bleeding. This technique mechanically occludes the vessel, preventing blood flow and allowing for the formation of a clot in the area. It is a direct and traditional approach that has been used for centuries in surgical procedures. Other options, such as laser and electrosurgery, utilize energy-based methods to achieve hemostasis by thermal coagulation, which alters the tissue to sever blood supply. Thrombin, on the other hand, is a biological agent that promotes clotting but does not mechanically obstruct blood vessels. Thus, ligature stands out as the appropriate choice for a mechanical method of hemostasis among the options provided.