American Board of Surgical Assistants (ABSA) Orthopedic Practice Test (Sample)

Study Guide

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Questions

1. What typically causes growth disturbances after epiphyseal injury?

A. Infection of the epiphysis

B. Fracture dislocation

C. Damage to blood supply to the epiphysis

D. Improper casting techniques

2. What is the definition of subluxation?

A. Complete dislocation of a joint

B. Partial dislocation of a joint

C. Fracture with separation of bone ends

D. Bone fracture without skin penetration

3. What is a key benefit of minimally invasive orthopedic surgery?

A. Reduced recovery time and less postoperative pain

B. Lower surgical costs

C. Increased blood loss during surgery

D. Wider incisions than traditional surgery

4. A muscle that moves a bone away from the midline of the body is known as what?

A. Extensor

B. Abductor

C. Adductor

D. Flexor

5. Which of the following is an indicator of vascular integrity when assessing limb circulation?

A. Pain

B. Pallor

C. All of the above

D. Paresthesia

6. Which of the following joints operates mainly through flexion and extension?

- **A. Shoulder joint**
- **B. Knee joint**
- **C. Ankle joint**
- **D. Wrist joint**

7. What is the common post-operative care for a patient after a knee arthroscopy?

- **A. Rest, ice, elevation, and monitoring for signs of infection**
- **B. Immediate physical therapy and heavy lifting**
- **C. Complete bed rest for two weeks**
- **D. Daily x-rays to check for bone healing**

8. What type of joint is affected by a ganglion cyst?

- **A. Intercarpal joint**
- **B. Hinge joint**
- **C. Ball and socket joint**
- **D. Pivot joint**

9. Which statement about epiphyses is FALSE?

- **A. They are the ends of long bones**
- **B. Bone growth ceases when epiphyseal cartilage is ossified**
- **C. They consist of porous cancellous bone with an outer layer of compact bone**
- **D. Growth in long bones occurs through ossification only in superior epiphyseal plates**

10. What replaces the blood clot during the fracture healing process?

- **A. Granulation tissue**
- **B. Scar tissue**
- **C. Fibrous tissue**
- **D. Cartilage**

Answers

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

Explanations

1. What typically causes growth disturbances after epiphyseal injury?

A. Infection of the epiphysis

B. Fracture dislocation

C. Damage to blood supply to the epiphysis

D. Improper casting techniques

Growth disturbances following an epiphyseal injury are primarily attributed to damage to the blood supply to the epiphysis. The epiphysis, which is the end part of a long bone, contains growth plates crucial for bone development. An injury that disrupts the vascular supply can hinder this essential growth process, leading to potential growth plate arrest or asymmetrical growth. When the blood supply is compromised, it can result in avascular necrosis, where bone tissue dies due to lack of blood flow, preventing the epiphyseal plate from functioning normally, thus affecting the overall growth and development of the bone. In contrast, while infections can cause complications, they are not the most prevalent cause of growth disturbances in the context of epiphyseal injuries. Fracture dislocations may complicate conditions, but they primarily induce instability and do not directly impact vascularity to the same extent. Lastly, improper casting techniques can lead to malalignment or other issues, but their effect on the growth plate typically stems from the initial injury rather than from the casting itself.

2. What is the definition of subluxation?

A. Complete dislocation of a joint

B. Partial dislocation of a joint

C. Fracture with separation of bone ends

D. Bone fracture without skin penetration

Subluxation refers specifically to a partial dislocation of a joint, where the joint surfaces are misaligned but still make contact with each other to some degree. This condition can result from trauma, instability, or chronic conditions and is characterized by an incomplete displacement of the joint, which may lead to pain, swelling, and a limited range of motion. Understanding subluxation is crucial in orthopedics because it can often be differentiated from a complete dislocation, which involves a total separation of the joint surfaces. Recognizing these differences helps in diagnosing joint issues accurately and determining appropriate treatment strategies. In contrast to other options, a complete dislocation signifies that the joint surfaces are entirely separated, whereas a fracture with separation of bone ends involves a break in the bone structure. A bone fracture without skin penetration refers to a simple fracture, which is another distinct condition entirely. Thus, subluxation specifically pertains to the incomplete or partial misalignment of joint structures, aligning it with the definition that was chosen.

3. What is a key benefit of minimally invasive orthopedic surgery?

A. Reduced recovery time and less postoperative pain

B. Lower surgical costs

C. Increased blood loss during surgery

D. Wider incisions than traditional surgery

Minimally invasive orthopedic surgery is characterized by smaller incisions and less disruption to the surrounding tissues compared to traditional open surgery. One of the key benefits of this approach is the reduction in recovery time and postoperative pain experienced by patients. The smaller incisions lead to less trauma to the body, which often results in quicker healing processes and a more comfortable recovery. Patients generally report lower levels of pain following minimally invasive procedures, allowing them to return to their normal activities sooner than would be typical with traditional surgery. This advantage of reduced recovery time and decreased pain contributes significantly to improved overall patient satisfaction and can enhance mobility and quality of life following surgery. In contrast, other options like lower surgical costs, increased blood loss, or wider incisions do not align with the principles and benefits associated with minimally invasive techniques, as they are not typically achieved through this approach.

4. A muscle that moves a bone away from the midline of the body is known as what?

A. Extensor

B. Abductor

C. Adductor

D. Flexor

The correct answer, which identifies a muscle that moves a bone away from the midline of the body, is abductor. Abductor muscles play a crucial role in movements that require the limbs to move laterally, such as raising the arms to the side or moving the legs apart. This muscle action contributes to activities like walking, running, and lateral movements. In contrast to abductor muscles, extensor muscles are involved in extending a joint, adductor muscles bring limbs closer to the midline, and flexor muscles reduce the angle between two body parts. Understanding these muscle classifications is essential in orthopedic practice, as they help in diagnosing and treating injuries related to specific movements and muscle functions.

5. Which of the following is an indicator of vascular integrity when assessing limb circulation?

A. Pain

B. Pallor

C. All of the above

D. Paresthesia

An indicator of vascular integrity when assessing limb circulation should involve a comprehensive evaluation of various clinical signs. In this context, pain, pallor, and paresthesia are all relevant factors that provide valuable insights into the status of vascular supply to the limb. Pain can signal ischemia or inadequate blood flow to tissues, manifesting as discomfort or cramping that intensifies during activity or at rest. Pallor indicates a lack of blood supply and can be observed as a pale coloration of the skin, often accompanying reduced circulation. Paresthesia reflects sensory disturbances, such as tingling or numbness, which can occur when blood flow is compromised. Together, these symptoms create a broader picture of limb circulation. Recognizing the co-occurrence of these signs allows healthcare professionals to assess vascular integrity more accurately, as each symptom alone could arise from various causes but collectively point towards potential vascular issues. Having multiple indicators strengthens the assessment process and aids in diagnosing conditions like peripheral artery disease or other forms of vascular compromise.

6. Which of the following joints operates mainly through flexion and extension?

A. Shoulder joint

B. Knee joint

C. Ankle joint

D. Wrist joint

The knee joint is primarily designed to facilitate movements of flexion and extension. This hinge joint allows the leg to bend (flexion) at the knee to create an angle between the thigh and the lower leg, and to straighten (extension) to return to a straight position. This action is essential for various activities such as walking, running, and jumping, where the bending and straightening of the knee are crucial for mobility. In contrast, while other joints like the shoulder, ankle, and wrist also engage in flexion and extension, they are not limited to just these movements and allow for a wider range of motions. The shoulder joint, for instance, is a ball-and-socket joint capable of movements in multiple directions, including rotation. The ankle joint enables dorsiflexion and plantarflexion but also supports some degree of side-to-side movement. The wrist joint allows for flexion and extension, as well as radial and ulnar deviation, contributing to a more complex range of motion.

7. What is the common post-operative care for a patient after a knee arthroscopy?

A. Rest, ice, elevation, and monitoring for signs of infection

B. Immediate physical therapy and heavy lifting

C. Complete bed rest for two weeks

D. Daily x-rays to check for bone healing

Post-operative care after a knee arthroscopy typically involves several important components aimed at facilitating recovery and minimizing complications. Rest, ice, elevation, and monitoring for signs of infection are standard practices in this context. Rest is essential to allow the surgical site to heal without undue stress. Ice is applied to help reduce swelling and manage pain, which is common after knee surgery. Elevation of the affected leg also aids in reducing swelling by decreasing blood flow to the area. Monitoring for signs of infection is crucial as well, as any surgical procedure can introduce bacteria leading to potential postoperative complications. Signs such as increased redness, warmth, swelling, or discharge at the surgical site, as well as fever, should be promptly addressed. The other options are less appropriate for post-operative care following a knee arthroscopy. Immediate physical therapy can be important; however, beginning with heavy lifting is not recommended immediately after surgery. Complete bed rest for two weeks is excessive and can hinder recovery, as appropriate movement can promote healing. Daily x-rays to check for bone healing are unnecessary after a procedure like knee arthroscopy unless there are specific concerns that warrant such follow-up. Thus, A encompasses the key measures necessary for effective recovery from knee arthroscopy, focusing on minimizing discomfort, preventing

8. What type of joint is affected by a ganglion cyst?

A. Intercarpal joint

B. Hinge joint

C. Ball and socket joint

D. Pivot joint

A ganglion cyst typically affects the intercarpal joint, which is located in the wrist area. Ganglion cysts are benign swellings that often develop near joints and tendons, and they can occur at various locations in the body, but they are most commonly found on the dorsal or palmar sides of the wrist where the intercarpal joints are situated. These cysts arise from the synovium, the connective tissue that surrounds joints and tendons, and they are filled with a jelly-like fluid. Given their location, intercarpal joints provide the ideal environment for the formation of a ganglion cyst. The wrist undergoes various movements and stresses, making it prone to the development of these cystic structures. Other types of joints listed, such as hinge joints, ball and socket joints, and pivot joints, have different anatomical structures and functions. While these joints can also experience other types of cysts or pathologies, ganglion cysts are traditionally linked to joints like the intercarpal because of their anatomical relationship with the surrounding soft tissue structures and the joint capsule.

9. Which statement about epiphyses is FALSE?

A. They are the ends of long bones

B. Bone growth ceases when epiphyseal cartilage is ossified

C. They consist of porous cancellous bone with an outer layer of compact bone

D. Growth in long bones occurs through ossification only in superior epiphyseal plates

The statement that growth in long bones occurs through ossification only in superior epiphyseal plates is false because growth in long bones happens at both the superior (proximal) and inferior (distal) epiphyseal plates. These growth plates, known as epiphyseal plates, are responsible for the lengthening of bones during childhood and adolescence. The process of ossification occurs as new cartilage forms and is later replaced by bone, allowing for increases in bone length from both ends. Additionally, the other statements accurately describe the characteristics and behavior of epiphyses. They are indeed found at the ends of long bones, comprised of cancellous (spongy) bone surrounded by layers of compact bone, and bone growth ceases when the epiphyseal cartilage is completely ossified, marking the end of an individual's growth in height. Understanding that ossification occurs at both the proximal and distal epiphyseal plates is essential for grasping how long bones grow and develop during the skeletal maturation process.

10. What replaces the blood clot during the fracture healing process?

A. Granulation tissue

B. Scar tissue

C. Fibrous tissue

D. Cartilage

During the fracture healing process, granulation tissue plays a crucial role as it replaces the initial blood clot. After a fracture occurs, the body responds by forming a blood clot at the injury site, which serves to stabilize the fracture and prevent blood loss. As healing progresses, the blood clot is gradually replaced by granulation tissue. This type of tissue is characterized by a network of collagen and new blood vessels, which create a scaffold for further healing. Granulation tissue is essential because it facilitates the next stages of healing, including the formation of callus, where the fracture gap is bridged by new bone tissue. It also provides a rich supply of nutrients and oxygen necessary for the repair process. The presence of this tissue indicates a shift from the inflammatory phase to the more reparative phase of healing, which is critical for restoring the integrity of the bone. While other options such as scar tissue, fibrous tissue, and cartilage can all be part of the broader healing process, they do not specifically replace the blood clot as granulation tissue does. Scar tissue often forms later in the healing timeline as part of the stabilization but does not directly serve to replace the clot in the initial stages. Fibrous tissue may contribute to the formation of a fibrous union