

Chapter 51 Homework

Answers

Matching

1. A, C, B, D, E, F

Short Answers

1. Ball and socket. The head of the femur articulates with the acetabulum.
2. Hinge. The trochlear notch at the head of the ulna articulates with the trochlear, a spool shaped structure at the distal end of the humerus. The arrangement of the bone allows movement in only one plane, like the hinge of a door.
3. Hinge. The articulation of the mandible with the skull is a special type of hinge joint called condylar joints that primarily allows movement and one plane with a small amount of movement in the second plane. This arrangement permits the movements necessary for chewing.
4. Ligaments attach bone to bone
5. Tendons attach muscle to bone
6. The outer fibrous covering of the bone is the periosteum.
7. The origin of the muscle is the point of attachment of the muscle that does not move when the muscle contracts.
8. The insertion of the muscle is the point of attachment of the muscle that moves when the muscle contracts.
9. A fracture is any break in the continuity of the bone.
10. A dislocation is disruption of the continuity of the joint resulting from displacement of the bones from their normal positions.
11. The fracture site and the joints proximal and distal to the fracture should be immobilized. Because muscles adjacent to the bone may originate above the proximal joint or be attached below the distal joint, movement of these joints can create forces against the bone that can displace the fracture site.
12. The dislocated joint and the bones proximal and distal to the joint. In practice this means that the joints above and below the dislocated joint also must be immobilized. Because tendons connecting muscle to bone across the joint, movement of these joints can create forces that can further displace a dislocated joint.
13. The principal problem associated with any orthopedic injury is the damage to the broken or displaced bone ends and due to the surrounding soft tissue.
14. Hemorrhage leading to severe hypovolemic shock. Injury to the blood vessels supplying the pelvis can cause massive loss of blood into the pelvic cavity.

15. A fractured femur can cause up to 2000 mL of blood loss into the thigh at the fracture site.
16. A pelvic fracture. The femur fracture. Any open fracture with an associated external arterial hemorrhage.
17. The traction splint. The traction splint stabilizes the bone ends of the femur fracture by overcoming spasms in the large muscle of the thigh. This limits additional soft tissue damage and hemorrhage at the fracture site.
18. The splint of choice for an ankle or foot fracture is up hellio. A pillow secured with triangular bandages completely surrounds, support, and cushions the injury of the foot or ankle.
19. This patient's orthopedic injuries should be immobilized by securing the patient to a long spine board. Electronic patient who is in respiratory distress and shock must reach the operating room as quickly as possible. Attempting to apply splints in the field to all the critical trauma patients orthopedic injuries can unnecessarily delay transport. Securing the patient to a long spine board will temporarily split every bone in every joint.
20. The knee and the ankle. The knee is the joint above the tibia and fibula, and the ankle is the joint below the tibia and fibula.
21. By checking skin color, sensation, movement, and capillary refill in the fingers or toes.
22. A sprain is an injury to the supporting structures of the joint. The strain is an injury to a musculotendinous unit. In a sprain, forces move the joint beyond its normal range of motion, stretching or tearing the supporting ligaments. After the displacing forces are removed, the bone Ann's real line, resulting in a joint that is painful and swollen, but not deformed. In a strain, excessive force applied to a musculotendinous unit causes fibers in the muscle or tendon to tear the classic finding interests drain his pain on active movement but absence of pain when the injured area is moved passively.
23. Crepitation is the crackling or grinding that can be felt at the fracture site as the broken bone ends grind against each other. Crepitation should not be actively sought as a sign of the fracture because of the risk of causing additional injury.
24. A Colles' fracture is a fracture of the distal end of the radius. It also frequently is associated with a fracture of the distal end of the ulna.
25. The pneumatic anti-shot garment or other device that provides circumferential pressure such as a pelvic binder or she tied around the pelvis is the preferred way to stabilize a pelvic fracture.
26. Greenstick fractures and growth plate fractures are unique to children. Growth plates occur only in the bones of children. The client bones of children can bend under pressure rather than breaking, resulting in the pattern of compression on one side and splintering on the other that characterizes the greenstick fracture.

Multiple-Choice

1. D

2. B
3. B
4. A
5. B
6. C
7. A
8. B
9. C
10. D
11. D
12. B
13. C
14. D
15. C
16. A
17. B
18. A
19. A
20. A
21. B

Case Study

Case One

1. The patient appears to have a dislocated knee with compression of the popliteal artery that has interrupted blood flow to the distal extremity.
2. One attempt to realign the limb is indicated, particularly to transport times are likely to be lengthy. Early restoration of blood flow will limit damage to structures in the distal extremity.
3. If the limb will not realign easily, it should be splinted in the position in which it was found. The patient should be transported immediately.

Case Two

1. The patient probably has fat embolism syndrome.
2. Fat embolism syndrome is associated with long bone fractures, particularly fractures of the femur.
3. Early application of traction to femur fractures has been shown to reduce the incidence of fat embolism syndrome

Case Three

1. This patient's knee was hyperextended, resulting in a temporary dislocation and spontaneously reduced itself.
2. No; hyperextension of the knee frequently is associated with injury to the popliteal artery, which lies just posterior to the knee joint. Patients with

this injury may appear to have intact distal circulation initially, but may later develop a thrombus at the site of injury that can compromise blood flow to the extremity.

3. The patient should be transported to a facility that has the diagnostic imaging capabilities necessary to determine whether a popliteal artery injury has occurred