1. Considering the economic impact of hip fractures, which of the following statements best describes the first-year cost of managing a hip fracture in comparison to acute coronary syndrome and ischemic stroke?
   A. The cost is comparable to that of acute coronary syndrome.
   B. The cost is lower than that of ischemic stroke but higher than acute coronary syndrome.
   C. The cost is significantly higher than both acute coronary syndrome and ischemic stroke.
   D. The cost is similar to that of ischemic stroke.
   E. No studies had analyzed such data
   Answer: C

2. In managing pre-operative anticoagulation, which protocol is recommended for a patient on Warfarin before surgery if the desired goal INR is 1.5 or less?
   A. Continue Warfarin at the same dose
   B. Hold Warfarin, administer Vitamin K 5mg PO, and prepare 2 units of FFP
   C. Switch Warfarin to a NOAC and monitor INR levels
   D. Continue Warfarin and delay surgery until INR naturally decreases
   E. Hold Warfarin and use aspirin instead
   Answer: C

3. Meta-analytic data comparing extramedullary fixation (such as the sliding hip screw) with intramedullary (cephalomedullary) devices for unstable fractures indicates what primary advantage of using a cephalomedullary nail?
   A. Significantly decreased rates of cut-out or nonunion.
   B. A lower risk of implant failure.
   C. A greater reduction in mortality rates.
   D. Substantially reduced blood loss during the procedure.
   E. Earlier weight bearing with cephalomedulary nail
   Answer: B

4. Which of the following best describes the primary surgical objectives when treating tibial plateau fractures?
   A. Ensuring anatomical reduction, restoring condylar width, and maintaining joint stability
   B. Achieving patient comfort through immobilization
   C. Using non-operative management to allow natural healing
   D. Prioritizing early weight-bearing without stressing the joint
   E. Managing associated bony injuries rather than tibia plateau
   Answer: A

5. When selecting an appropriate surgical approach for tibial plateau fractures, which factor is most critical to consider based on the principles of management outlined in the content?

   A. The surgeon's familiarity with specific fixation devices
   B. The availability of advanced imaging techniques during surgery
   C. The possibility of using external fixators if internal fixation fails
   D. The biomechanics of fixation, including soft-tissue tolerance and the handling of depressed articular fragments
   E. Associated vascular injury

   Answer: D

6. Which mechanism is associated with a lateral column fracture?

   A. Direct impact mechanism
   B. Valgus extension mechanism
   C. Varus flexion mechanism
   D. Compression injury mechanism
   E. Varus hyperextension

   Answer: B

7. In fracture fixation, which sequence is recommended when using a combination of locking and nonlocking screws in the same fracture fragment?

   A. Nonlocking screws should be applied before locking screws.
   B. They can be applied simultaneously.
   C. Locking screws should be applied first.
   D. The sequence does not matter as long as the plate is secured.
   E. Lag screw should always be used

   Answer: A

8. In the context of orthopedic internal fixation systems, what is a primary advantage of using locked plates compared to conventional plating systems?

   A. They allow for universal screw placement regardless of bone quality
   B. They provide angular and axial stability with minimized compression of the periosteum
   C. They require no specific contouring to the bone's anatomy
   D. They are dependent on bone quality for purchase
   E. They are used for diaphyseal fractures

Answer: B

9. When selecting the appropriate plate length for comminuted fractures, what is the generally recommended guideline?

    A. Plate length should be 2 to 3 times the fracture length.
    B. Plate length should equal the fracture length.
    C. Plate length should be half the fracture length.
    D. Plate length should always exceed the fracture length by a fixed 5 cm.
    E. Plate length has no specific equation related to fracture length

    Answer: A

10. In the three-step approach to managing nonunions, which of the following best represents the first step concerning fracture healing failure?

    A. Optimizing nutrition for bone healing
    B. Identifying intrinsic and extrinsic factors such as poor fixation or biological issues
    C. Determining the optimal surgical implant
    D. Planning for post-surgery rehabilitation exclusively
    E. Multidisciplinary team approach

    Answer: B

11. CT scans with multiplanar reconstruction (MPR) are especially useful in nonunion cases because they assist in detailed surgical planning. Which of the following aspects is NOT typically evaluated with CT/MPR?

    A. Rotational malalignment
    B. Angular deformities
    C. Bridging bone percentage
    D. Evaluation of neurovascular deficits
    E. Screw plate density

    Answer:D

12. When discussing treatment options for nonunion, why is it crucial to address the patient's personal goals and expectations?

    A. Because aligning treatment with patient's lifestyle—such as household ambulation versus athletic performance—ensures better patient satisfaction and tailored management
    B. Because subjective patient goals determine the need for further imaging studies
    C. Because the patient's goals are secondary and only considered after surgical planning
    D. Because a patient's expectations solely dictate the selection of fixation method
    E. Because patient expectation should be as high as you could

    Answer: A

13. What is the primary mechanical function of clamps in an external fixator construct?

    A. To allow for compression at the fracture site.
    B. To prevent infection at the pin-bone interface.
    C. To directly stabilize the fracture fragments.
    D. To connect the pins to the connecting rods, providing a rigid framework.
    E. To allow for biplanar stability

    Answer: D

14. What factor is most critical in preventing pin hole fractures when using external fixation?

    A. Inserting pins perpendicular to the bone surface.
    B. Pre-drilling the pin site before insertion.
    C. Pin diameter being less than 1/3 of the bone diameter.
    D. Using self-tapping pins.
    E. Using HA coated pins

    Answer: C

15. A surgeon is applying an external fixator to a femur fracture. What pin diameter is generally recommended?

    A. 8 mm
    B. 4 mm
    C. 5 or 6 mm
    D. 3 mm
    E. 12 mm

    Answer: C

16. The run-out of a screw is most critically important because:

    A. It determines the screw's overall length and material composition.
    B. It marks the boundary where the threads are manufactured with the greatest precision.
    C. It represents a transition area that can be susceptible to stress concentrations and failure.
    D. It is the section of the screw that provides the most significant grip in dense materials.
    E. It is primarily designed for aesthetic purposes and doesn't affect structural integrity.

    Answer: C

17. Compared to cortical bone screws, cancellous bone screws are designed with a:

    A. Smaller pitch and shallower thread depth to maximize contact with dense bone.
    B. Larger pitch and deeper thread depth to achieve better anchorage in porous bone.
    C. Similar pitch and thread depth, but a different material composition for increased strength.
    D. Reverse thread pattern to prevent loosening in low-density bone.
    E. Finer pitch and more threads per inch to increase surface area for osseointegration.

    Answer: B

18. In biomechanical applications, a poorly designed screw run-out would most likely lead to:

    A. Increased resistance to corrosion from bodily fluids.
    B. Reduced risk of fatigue failure under cyclic loading.
    C. Enhanced ability to withstand compressive forces.
    D. Premature breakage due to concentrated stress.
    E. Improved integration with surrounding tissue.

    Answer: D

19. Which of the following radiographic findings is MOST indicative of a syndesmotic injury?

    A. Talar tilt less than 2mm.
    B. Tibiofibular overlap greater than 6mm.
    C. Medial joint space widening less than 4mm.
    D. Tibiofibular clear space greater than 5mm.
    E. Tibia/fibula overlap greater than 1mm on mortise view.

    Answer: D

20. According to the Lauge-Hansen classification, a fracture described as "supination-external rotation" indicates which sequence of events influencing the ankle injury?

    A. The foot is pronated, and the talus rotates with adduction around its long axis.
    B. The foot is supinated, and the talus rotates with external rotation around the tibia.
    C. The foot is pronated, and the talus rotates with external rotation around the tibia.
    D. The foot is supinated, and the talus rotates with abduction around its long axis.
    E. The foot is neutral, and the talus rotates with internal rotation around the tibia.

    Answer: B

21. A patient presents with a Weber B ankle fracture. According to the information provided, what additional assessment is MOST critical in determining the appropriate treatment strategy?

    A. CT scan to evaluate joint involvement.
    B. MRI to assess tendon and ligament injuries.
    C. Stress radiographs to evaluate deltoid ligament competence.
    D. Bone scan to rule out avascular necrosis.
    E. Weight-bearing radiographs to assess stability of distal fibula fractures.

    Answer: C

22. Which of the following findings on ankle X-ray would indicate the need for surgical intervention?

    A. Isolated nondisplaced medial malleolus fracture.
    B. Isolated lateral malleolus fracture with < 3mm displacement and no talar shift.
    C. Bimalleolar fracture in an elderly patient unable to undergo surgical intervention.
    D. Posterior malleolar fracture with < 25% joint involvement or < 2mm step-off.
    E. Displaced isolated lateral malleolar fracture.

    Answer: E

23. Which of the following is NOT a disadvantage of the Gustilo-Anderson classification system for open fractures?

    A. Lacks uniformity due to multiple modifications
    B. Fails to account for severity of injuries to skin, bone, and muscles separately
    C. Offers high interobserver reliability
    D. Primarily based on wound size
    E. Does not address the decision-making regarding limb salvage

    Answer: C

24. In the Ganga Hospital Open Injury Score (GHOIS), a score of 17 or more most accurately predicts:

A. Risk of infection greater than 50%
B. Requirement for IV antibiotics longer than 5 days
C. High chance of successful limb salvage
D. Need for urgent second-look debridement
E. Likelihood of amputation

Answer: E.

25. Which of the following is a recommended irrigation method for open fractures to minimize tissue damage and risk of deeper contamination?

A. High-pressure lavage with Betadine
B. High-pressure lavage with normal saline
C. Low-pressure lavage with Betadine
D. Low-pressure lavage with normal saline
E. Direct wound soaking with hydrogen peroxide

Answer: D.

26. Which of the following statements best reflects a major limitation of clinical pelvic instability testing in trauma patients?

A. It is contraindicated due to the risk of worsening fractures.
B. It provides immediate therapeutic benefit.
C. It misses more than 65% of radiographically unstable fractures.
D. It can replace imaging in stable patients.
E. It identifies posterior pelvic ring injuries reliably.

Answer: C

27. In patients with APC II pelvic injuries, what was the failure rate of anterior-only fixation compared to combined anterior and posterior fixation ?

A. 5% vs 1%
B. 36% vs 5%
C. 40% vs 5%
D. 31% vs 69%
E. 10% vs 2%

Answer: C.

28. What is the ideal placement of a pelvic binder to maximize hemorrhage control and avoid complications during radiographic assessment?

    A. Over the iliac crest
    B. Over the anterior superior iliac spine
    C. Around the mid-abdomen
    D. Over the greater trochanters
    E. At the level of the umbilicus

    Answer: D