Chapter 2. Structure and Function of Joints

Multiple Choice

1. Which of the following bones make up the axial skeleton?
A. Vertebral column, pelvis, thorax, and sternum
B. Bones in the upper and lower extremities, thorax, and sternum
C. Skull, vertebral column, thorax, sternum, sacrum, and coccyx
D. Pelvic bones, scapulae, bones in the upper and lower extremities

ANS: C
REF: 32
OBJ: 2.2
KEY: axial and appendicular skeleton

2. Which of the following lists of functions BEST describes the skeletal system functions?
A. Stores collagen, produces blood cells, protects internal organs
B. Provides a rigid framework and muscle attachments, protects internal organs, stores calcium, produces blood cells
C. Stores blood cells, provides a rigid structure to the body, produces potassium
D. Provides protection for internal organs, forms rigid levers that provide muscle attachments, produces blood cells

ANS: B
REF: 33
OBJ: 2.1
KEY: function of skeletal system

3. Which of the following tissue components BEST elongates when stretched and returns to its original shape after being stretched?
A. Type I collagen
B. Ground substance
C. Type II collagen
D. Elastin

ANS: D
REF: 33–34
OBJ: 2.3

KEY: cellular components of joint structures

4. Which of the following tissue components are thick and stiff, providing little elongation?
A. Type I collagen
B. Ground substance
C. Type II collagen
D. Elastin

ANS: A
REF: 33–34
OBJ: 2.3
KEY: cellular components of joint structures

5. Which of the following functions DOES NOT apply to the function of synovial fluid?
A. Assists with shock absorption
B. Nourishes the cartilage
C. Stores calcium
D. Reduces friction

ANS: C
REF: 35
OBJ: 2.3
KEY: synovial fluid

6. Which statement is MOST CORRECT related to ligaments?
A. Attach muscle to bone, decrease in thickness and strength in response to tensile forces
B. Attach bone to bone, increase in thickness and strength in response to tensile forces
C. Attach muscle to bone, increase in thickness and strength in response to tensile forces
D. Attach bone to bone, decrease in thickness and strength in response to tensile forces

ANS: B
REF: 35–36
OBJ: 2.4
KEY: ligaments, joint structures

7. Which statement is MOST CORRECT related to tendons?
A. Attach muscle to bone, transmit forces for movement or to stabilize bone
B. Reduce friction between joint surfaces

C. Attach muscle to bone, assist with absorption of joint surface stresses
D. Flat sac of synovial membrane

ANS: A
REF: 35–36
OBJ: 2.4
KEY: tendons, joint structures

8. Which of the following characteristics is LEAST LIKELY associated with bone compared with cartilage?
A. Mostly collagen
B. Significant capability for repairs
C. High deformation capabilities
D. Composed of chondroitin sulfate

ANS: C
REF: 38
OBJ: 2.4
KEY: bone, cartilage

9. Which joint is the BEST example of a suture joint?
A. Joints in the skull
B. Tooth in maxilla bone
C. Intervertebral disc
D. Costal cartilage between ribs and sternum

ANS: A
REF: 38–41
OBJ: 2.5
KEY: joint classification

10. Which joint is the BEST example of a gomphosis joint?
A. Joints in the skull
B. Tooth in maxilla bone
C. Intervertebral disc
D. Costal cartilage between ribs and sternum

ANS: B
REF: 38–41
OBJ: 2.5

KEY: joint classification

11. Which joint is the BEST example of a symphysis joint?
A. Joints in the skull
B. Tooth in maxilla bone
C. Intervertebral disc
D. Costal cartilage between ribs and sternum

ANS: C
REF: 38–41
OBJ: 2.5
KEY: joint classification

12. Which joint is the BEST example of a ball-and-socket joint?
A. Shoulder joint
B. Elbow joint
C. Atlantoaxial joint
D. Wrist carpal joint

ANS: A
REF: 38–41
OBJ: 2.5
KEY: joint classification

13. Which joint is the BEST example of a hinge joint?
A. Shoulder joint
B. Elbow joint
C. Atlantoaxial joint
D. Wrist carpal joint

ANS: B
REF: 38–41
OBJ: 2.5
KEY: joint classification

14. Which joint is the BEST example of a pivot joint?
A. Shoulder joint
B. Elbow joint

C. Atlantoaxial joint
D. Wrist carpal joint

ANS: C
REF: 38–41
OBJ: 2.5
KEY: joint classification

15. Which joint is the BEST example of a uniaxial joint?
A. Shoulder joint
B. Elbow joint
C. Atlantoaxial joint
D. Wrist carpal joint

ANS: B
REF: 41–42
OBJ: 2.5
KEY: joint classification

16. Which joint is the BEST example of a triaxial joint?
A. Shoulder joint
B. Elbow joint
C. Atlantoaxial joint
D. Wrist carpal joint

ANS: A
REF: 41–42
OBJ: 2.5
KEY: joint classification

17. What type of end-feel is depicted by motion limited by bone in contact with bone?
A. Empty end-feel
B. Firm or capsular end-feel
C. Hard or bony end-feel
D. Soft end-feel

ANS: C
REF: 43–44
OBJ: 2.6
KEY: end-feel

18. What type of end-feel is depicted by motion limited by muscle bulk approximating another muscle?
A. Empty end-feel
B. Firm or capsular end-feel
C. Hard or bony end-feel
D. Soft end-feel

ANS: D
REF: 43–44
OBJ: 2.6
KEY: end-feel

19. What type of end-feel is depicted by motion limited by pain?
A. Empty end-feel
B. Firm or capsular end-feel
C. Hard or bony end-feel
D. Soft end-feel

ANS: A
REF: 43–44
OBJ: 2.6
KEY: end-feel

20. A patient experiences pain at 90° of elbow flexion. Which end-feel BEST depicts the patient's condition?
A. Empty end-feel
B. Firm or capsular end-feel
C. Hard or bony end-feel
D. Soft end-feel

ANS: A
REF: 43–44
OBJ: 2.6
KEY: end-feel

21. Which of the following characteristics are associated with a close-packed position?
A. Surfaces are incongruent

B. Position often occurs at extreme ends of range
C. Joint ligaments and capsule are slack
D. Increased joint play between surfaces

ANS: B
REF: 44
OBJ: 2.8
KEY: loose-packed and close-packed positions

22. Which of the following characteristics are associated with the arthrokinematic motion of rolling?
A. Motion is linear
B. Sliding motion
C. One surface spins around another
D. Points of contact of each surface keep changing

ANS: D
REF: 44–46
OBJ: 2.7
KEY: arthrokinematic motion

23. Which characteristics are associated with the arthrokinematic motion of spinning?
A. Motion is linear
B. Sliding motion
C. One surface spins around another
D. Points of contact of each surface keep changing

ANS: C
REF: 44–46
OBJ: 2.7
KEY: arthrokinematic motion

24. In general, if applying the concave-convex pattern of movement, if the humeral shaft moves superiorly during shoulder abduction, in which direction will the convex humeral head glide?
A. Inferiorly
B. Anteriorly
C. Superiorly
D. Posteriorly

ANS: A

REF: 46
OBJ: 2.7
KEY: arthrokinematic motion

25. Which of the following consequences is NOT a result of prolonged joint immobilization?
A. Weakening of joint ligaments
B. Increased resistance to movement
C. Thickening of joint cartilage
D. Weakening of muscles

ANS: A
REF: 46
OBJ: 2.9
KEY: arthrokinematic motion