

DENTAL GROSS ANATOMY

FIRST EXAMINATION

JANUARY 23, 2009

Name: _____

Questions 1 - 33 of this examination will be graded by computer and should be answered on the accompanying computer answer sheet. On the computer answer sheet your name should be PRINTED in the boxes indicated and the appropriate circles below each letter filled for the computer recognizable format of your name.

Write "OXBERRY" in the space provided for instructor.

On the back of the computer answer sheet this is a place for your signature and the date. Write your SIGNATURE and today's DATE on the appropriate lines on the back of the answer sheet.

Record your answer for each question on the answer sheet. Mark each correct response on the data sheet using numbers 1 through 33 with a HEAVY BLACK MARK with a #2 PENCIL. (If you erase, be sure to erase fully.)

Note that words or statements in brackets are only used to clarify or give an alternate name; they are NOT meant to change the nature of the question.

There is just ONE CORRECT ANSWER for each question.

FOR QUESTIONS 1 THROUGH 33 SELECT THE SINGLE BEST ANSWER - (3 points each)

1. If a patient presents with deep back muscle spasms in the lumbar region and tingling in the L2 dermatome following lifting of a heavy object, where is the lesion most likely located?
- A. Dorsal root of L2
 B. Ventral root of L2
 C. L2 spinal nerve
 D. L2 ventral ramus
2. The posterior border of an intervertebral foramen is formed by the...
- A. posterior surface of the vertebral body.
 B. posterior longitudinal ligament.
 C. intervertebral disc.
 D. zygapophyseal (facet) joint.
3. Which of the following is found at the L2 vertebral level?
- A. conus medullaris
 B. caudal limit of the subarachnoid space
 C. L2 spinal cord segment
 D. inferior angle of the scapula
4. Which of the following statements is NOT correct?
- A. A line drawn between the tops of the iliac crests intersects the spinous process of the L4 vertebra.
 B. The filum terminale and denticulate ligaments are composed of pia mater.
 C. Cerebrospinal fluid is found in a space located between the dura and arachnoid meningeal layers.
 D. The epidural space contains a venous plexus that connects veins in the pelvic-abdominal region with veins in the cranial cavity
5. Which of the following would resist excessive extension of the vertebral column?
- A. ligamentum flavum
 B. posterior longitudinal ligament
 C. interspinous ligaments
 D. anterior longitudinal ligament

6. Which of the following structures is **NOT** innervated by dorsal rami?
- A. erector spinae muscle
B. facet (zygapophyseal) joints
C. skin over the medial two-thirds of the back
D. superficial muscles of the back
7. CT images of a patient's lumbar spine show a small posterior lateral herniation of the L3-L4 intervertebral disc. This patient would most likely experience symptoms in which of the following dermatomes?
- A. L2
B. L3
C. L4
D. L5
8. The spinous process of which vertebra is located along a line drawn between the spines of the scapulae?
- A. C7
B. T3
C. T4
D. T7
9. Upon examination, a patient demonstrates medial winging of the scapula. A lesion in which of the following nerves would produce this symptom?
- A. spinal accessory
B. axillary
C. long thoracic
D. dorsal scapular
10. Which of the following movements of the upper extremity would be most painful if there were tendinitis of the supraspinatus muscle?
- A. Adduction of the arm at the shoulder
B. Internal rotation of the humerus
C. Abduction of the arm at the shoulder
D. External rotation of the humerus
11. The structures most likely to be injured by a mid-shaft fracture of the humerus are the:
- A. Radial nerve and deep (brachial) artery of the arm
B. Musculocutaneous nerve and axillary artery
C. Axillary nerve and posterior humeral circumflex artery
D. Median nerve and brachial artery

12. What single vessel would be in greatest jeopardy from a fracture of the surgical neck of the humerus?
- B
- A. circumflex scapular artery
 - B. posterior humeral circumflex artery
 - C. dorsal scapular artery
 - D. suprascapular artery
13. Which of the following statements about the shoulder joint is NOT correct?
- C
- A. It is formed by the articulation of the humeral head with the glenoid fossa.
 - B. Its joint capsule has no muscular reinforcement inferiorly.
 - C. It has a bursa overlying its superior aspect to reduce friction between the acromium and the tendon of subscapularis.
 - D. It relies on four rotator cuff muscles to maintain joint contact during shoulder motions.
14. The serratus anterior muscle
- C
- A. is a downward rotator of the scapula
 - B. is important in adduction of the upper limb
 - C. attaches to the ribs
 - D. is innervated by the thoracodorsal nerve
15. Narrowing of the scalene interval could potentially result in compression of all the following EXCEPT...
- B
- A. Inferior trunk of the brachial plexus
 - B. Subclavian vein
 - C. C7 ventral ramus
 - D. Subclavian artery
16. A lesion of all the following could result in paralysis of the deltoid muscle, EXCEPT...
- C
- A. Posterior cord of brachial plexus
 - B. C5 and C6 ventral rami of spinal nerves
 - C. Middle trunk of the brachial plexus
 - D. Axillary nerve
17. Concerning the long thoracic nerve, which of the following is CORRECT?
- A
- A. Is formed from branches from ventral rami C5, C6, and C7
 - B. Innervates the latissimus dorsi muscle
 - C. If lesioned results in lateral winging of the scapula
 - D. It crosses the anterior surface of the anterior scalene muscle

18. Contraction of all of the following will produce upward rotation of the lateral angle of the scapula **EXCEPT** the...
- A. superior portion of the trapezius.
 B. inferior portion of the trapezius.
 C. serratus anterior.
 D. latissimus dorsi.
19. Which of the following muscles is **NOT** correctly paired with its motor nerve?
- A. Pectoralis major // Lateral pectoral nerve
 B. Latissimus dorsi // Long thoracic nerve
 C. Pectoralis minor // Medial pectoral nerve
 D. Deltoid // Axillary nerve
20. Muscles of the anterior (flexor) compartment of the arm are innervated by the
- A. ventral rami of C8 and T1 spinal nerves
 B. inferior trunk of the brachial plexus
 C. ulnar nerve
 D. musculocutaneous nerve
21. All of the following are true about the biceps brachii muscle **EXCEPT**...
- A. it is innervated by the median nerve.
 B. it inserts into the radius.
 C. its long head flexes both elbow and shoulder joints.
 D. it is a strong supinator.
22. You are unable to flex the metacarpel-phalangeal (MP) and proximal (PIP) and distal interphalangeal (DIP) joints of the 2nd and 3rd digits. Which nerve is lesioned?
- A. Median
 B. Ulnar
 C. Radial
 D. Axillary
23. You suffer a complete destructive lesion of the radial nerve at the level of the elbow. Which of the following motor and/or sensory deficits would you experience?
- A. Unable to adduct the thumb
 B. Unable to extend the digits at the metacarpal-phalangeal joint
 C. Unable to flex the wrist
 D. Sensory deficit on skin overlying the medial part of the dorsum of the hand

24. A lesion in the ulnar nerve at the wrist would cause all of the following EXCEPT...

- A. loss of adduction of the thumb
- B. loss of sensation over palmar surface of the thumb
- C. loss of function of the lumbrical muscles for the 4th and 5th digits
- D. loss of abduction of the 2nd, 3rd, 4th and 5th digits

25. All of the following are innervated by the median nerve EXCEPT...

- A. flexor carpi radialis
- B. flexor carpi ulnaris
- C. pronator teres
- D. palmaris longus

26. The carpal tunnel contains all of the following EXCEPT...

- A. flexor pollicis longus tendon
- B. extensor pollicis longus tendon
- C. flexor digitorum superficialis tendon
- D. flexor digitoris profundus tendon

27. Loss of the ability to extend the elbow would result from damage to which cord of the brachial plexus?

- A. medial
- B. posterior
- C. lateral
- D. anterior

28. A lesion of the superior trunk of the brachial plexus would have an effect on all of the following EXCEPT the:

- A. lateral pectoral nerve
- B. medial pectoral nerve
- C. upper subscapular nerve
- D. lower subscapular nerve

29. Partial loss of sensation (hypesthesia) over the medial half of the ring finger and the little finger on both its volar (palmar) and dorsal aspects would suggest an injury to which one of the following terminal nerves?

- A. radial
- B. musculocutaneous
- C. ulnar
- D. median

30. Due to repetitive use of a computer keyboard while writing exam questions, a professor developed an inflammation of the synovial sheath around tendons in the carpal tunnel. This resulted in compression damage to the major nerve passing through the tunnel. Which of the following symptoms would **NOT** occur?
- B
- A. Weakness in the opponens pollicis muscle.
 - B. Weakness the first dorsal interosseous muscle.
 - C. Numbness in the fingertip of the index finger.
 - D. Weakness in the lumbrical muscle of the third digit.
31. Irritation of the diaphragm may result in pain being referred to the skin...
- C
- A. on the lateral surface of the forearm.
 - B. overlying the vertebra prominens.
 - C. overlying the shoulder.
 - D. on the medial surface of arm.
32. In order to check the radial arterial pulse, you would palpate the artery just proximal to the wrist and...
- C
- A. medial to the flexor carpi radialis tendon.
 - B. lateral to the palmaris longus tendon.
 - C. lateral to the flexor carpi radialis tendon.
 - D. lateral to the flexor carpi ulnaris tendon.
33. The "anatomical snuff box"...
- B
- A. has the ulnar artery in its floor.
 - B. is bounded by the extensor pollicis longus and extensor pollicis brevis muscles.
 - C. has the hamate bone in its floor.
 - D. is bounded by the adductor pollicis and extensor carpi radialis longus muscles.