Exam #1 1/16/01 Gross Anatomy

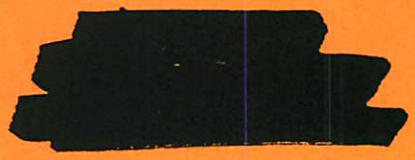
FOR QUESTIONS 1 THROUGH 26 SELECT THE SINGLE BEST ANSWER (3 points each)

Corrected

1. What branch of a typical spinal nerve innervates the erector spinae muscles?

A. Dorsal root
B. Ventral root
C. Dorsal ramus
D. Ventral ramus

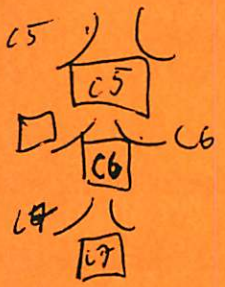
C



2. Which of the following would prevent a midsagittal intervertebral disk herniation into the spinal (vertebral) canal?

A. Anterior longitudinal ligament
B. Posterior longitudinal ligament
C. Ligamentum flavum
D. Interspinous ligament

B

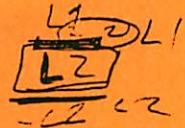


3. Posterolateral herniation of the intervertebral disk between the fifth and sixth cervical vertebrae will compress the...

A. Fourth cervical nerve roots
B. Fifth cervical nerve roots
C. Sixth cervical nerve roots
D. Seventh cervical nerve roots

C

Vertebrae
C: nerve above
T: Nerve below.
C5 / C6
L1 Nerve Below.



4. The cauda equina consists of which of the following components?

A. A bundle of dorsal roots of thoracic, lumbar, sacral and coccygeal spinal nerves
B. A bundle of ventral and dorsal rami of lumbar, sacral and coccygeal spinal nerves
C. A bundle of lumbar, sacral and coccygeal spinal nerves and the filum terminale
D. A bundle of ventral and dorsal roots of lumbar, sacral and coccygeal spinal nerves and the filum terminale

C

5. Paralysis of the right rhomboid muscles led the physician to suspect, that which of the following had been injured?

A. Suprascapular nerve
B. Dorsal Scapular nerve
C. Dorsal ramus of C5 spinal nerve
D. Dorsal ramus of T5 spinal nerve

B

6. The dura mater layer of meninges...

A. Adheres closely to the surface of the brain and spinal cord
B. Forms the filum terminale
C. Forms the denticulate ligaments
D. Lies internal (deep) to the epidural space

7. The adult spinal cord usually terminates opposite the intervertebral disc between which of the following vertebrae?

A. L1 and L2
B. L2 and L3
C. L3 and L4
D. L4 and L5

8. Which of the following would **NOT** be observed following damage to the spinal accessory nerve?

A. weakness in elevating (shrugging) the shoulder
B. lateral winging of the scapula
C. weakness in adducting the scapula
D. weakness in downward rotation of the scapula

9. Which of the following would **NOT** be observed following damage to the axillary nerve?

A. weakness in shoulder abduction
B. weakness in external rotation of the shoulder
C. weakness in shoulder adduction
D. weakness in internal rotation of the shoulder

10. A lesion in which of the following nerves would produce medial winging of the scapula?

A. thoracodorsal nerve
B. long thoracic nerve
C. dorsal scapular nerve
D. spinal accessory nerve

11. Which of the following muscles does **NOT** internally rotate the shoulder (humerus)?

A. teres minor
B. subscapularis
C. teres major
D. latissimus dorsi

12. Which of the following muscles does **NOT** participate substantially in the complete abduction of the arm to an overhead position?

A. serratus anterior
B. supraspinatus
C. trapezius
D. rhomboids

13. Which of the following statements about the pectoralis major muscle is **NOT** correct?

A. Receives innervation from medial cord of the brachial plexus.
B. Inserts on the coracoid process.
C. Receives innervation from lateral cord of the brachial plexus.
D. Receives blood supply from thoracoacromial artery.

14. Diminished sensation in the skin overlying the shoulder pad area would be produced by a lesion in the:

A. dorsal root of C4
B. transverse cervical nerve
C. dorsal ramus of C4
D. suprascapular nerve

15. A superficial wound to the lateral side of the neck and posterior to the sternocleidomastoid muscle might injure which one of the following structures?

A. phrenic nerve
B. axillary nerve
C. spinal accessory nerve
D. long thoracic nerve

16. All of the following statements about injuries to the inferior trunk of the brachial plexus are true **EXCEPT**:

A. They can be caused by traumatic separation (full abduction) of the upper limb from the lateral side of the trunk.
B. They produce deficits in motor and sensory nerves that contain C8 and T1 fibers.
C. They produce fine motor deficits in intrinsic muscles in the hand.
D. They produce sensory deficits over the palmar surface of the middle digit and lateral palm of the hand.

21. Which of the following statements about the innervation of the hand is **NOT** correct?

A. The ulnar nerve innervates all but one of the intrinsic muscles of the thumb.
B. The ulnar nerve innervates only one intrinsic muscle of the thumb.
C. The median nerve innervates the skin over the palmar surface of the lateral 3 1/2 digits.
D. The thumb has two abductors, the radial nerve innervates one and the recurrent branch of the median nerve innervates the other.

22. Which of the following muscles is **NOT** correctly paired with its innervation?

A. Triceps brachii – radial nerve
B. Flexor carpi ulnaris – median nerve
C. Extensor digitorum – radial nerve
D. Interosseous muscles – ulnar nerve

23. Which of the following groups of bones make up the radio-carpal joint at the wrist?

A. Radius, trapezium, scaphoid
B. Radius, capitate, hamate
C. Radius, trapezoid, lunate
D. Radius, scaphoid, lunate

R U
S L T P
T T C H

24. Which of the following statements about the neurovascular structures in the forearm is **NOT** correct?

A. Within the cubital fossa the brachial artery terminates by dividing into the radial and ulnar arteries.
B. The superficial branch of the radial nerve supplies motor innervation to all of the muscles in the extensor compartment of the forearm.
C. At the wrist the median nerve passes through the carpal tunnel.
D. The ulnar artery contributes to the formation of the superficial palmar arteial arch.

25. Which of the following statements about the upper limb is **NOT** correct?

A. Within the cubital fossa, the median nerve is medial to both the biceps tendon and the brachial artery.
B. Posterior divisions of the brachial plexus supply (innervate) structures in the posterior compartments of the arm and forearm.
C. The ulnar nerve supplies no muscles in the arm and 1 1/2 muscles in the forearm.
D. The radial and ulnar collateral ligaments permit abduction and adduction of the forearm at the elbow joint (humeroulnar).

16. Following trauma to the shoulder region, a physical examination of your patient revealed only the following two deficits: 1) major weakness in elbow flexion and 2) reduced sensation in the skin over the lateral forearm. A lesion in which of the following would produce only these deficits?

C

A. Lateral cord of the brachial plexus
B. Median nerve
C. Musculocutaneous nerve
D. Superior trunk of the brachial plexus

Biceps

17. In the formation of the brachial plexus, the middle trunk of the plexus is formed by the…

D

A. fusion of C3, C4, C5 ventral rami.
B. fusion of C5 and C6 ventral rami.
C. C2 dorsal ramus.
D. C7 ventral ramus.

C5, 6
C7
C8, T1

18. The sternocleidomastoid muscle…

A

A. inserts on the mastoid process of the temporal bone.
B. is innervated by the phrenic nerve.
C. rotates the head to the same side.
D. forms the posterior border of the posterior triangle of the neck.

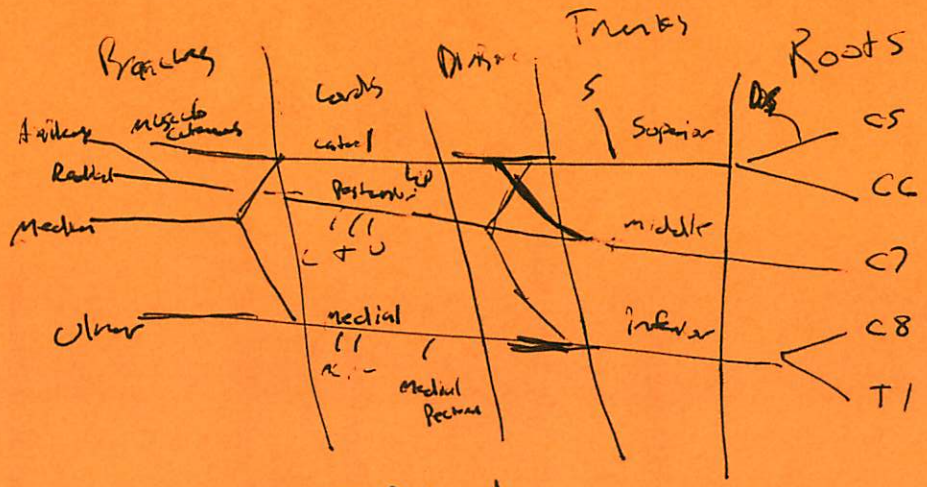
19. The pectoralis major muscle…

~~A.~~ ~~B.~~ forms much of the posterior wall of the axillary fossa.
receives motor innervation from C5 thru T1. → C5-T1
~~C.~~ inserts on the lesser tubercle of the humerus.
~~D.~~ abducts and externally rotates the humerus at the shoulder joint.

20. Forcible pronation of the forearm…

D

A. permits testing elbow flexors other than the biceps brachii.
B. permits testing the supinator muscle.
C. will result in reduced elbow flexion power.
D. Both A and C are correct.



MP = Medial Pectoral

MC = Medial cutaneous arm

mC = medial cutaneous forearm

LP = Lateral pectoral

T = Thoracodorsal

L = Lower subscapular

U = Upper subscapular

DS = Dorsal Scapular

S = Suprascapular nerve

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Questions 26 - 33 of this examination are worth 3 points each and are short answer questions that require you to fill in the blank or blanks with the correct missing word or words. The answers should written directly in the blank spaces provided on this page and the following page. Be sure to PRINT your name and social security number in the spaces provided on each of these pages. Be sure to tear off and turn in these pages at the end of the exam.

30. I receive innervation from C6-C8 spinal nerves and I am able to produce internal (medial) rotation, adduction and extension of the arm at the shoulder joint. I am the _____ muscle.

31. The posterior cord of the brachial plexus divides to form the _____ and _____ nerves.

32. Tapping the tendon of the biceps brachii muscle in the cubital fossa (with a reflex hammer) tests the _____ spinal cord segment.

33. Contraction of the lumbrical muscles will produce _____ at the MP joints and _____ at the IP joints.

END OF QUESTIONS

PRINT NAME _____ SS# _____

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26. The most inferior extent of the spinal cord is found at the L1 - L2 vertebral level.

27. A line drawn between the liliac crests would intersect the spinous process of the L4 vertebrae.

28. The Cephalic vein lies in the deltopectoral groove and serves as a landmark between the deltoid and pectoralis major muscles.

29. The quadrangular space lies deep to the posterior border of the deltoid muscle and contains the Axillary nerve and posterior humeral circumflex artery.