EXAM NUMBER_____

STRUCTURAL BASIS OF MEDICAL PRACTICE
EXAMINATION 5

October 1, 2010

PART I. Answer in the space provided. (12 pts)

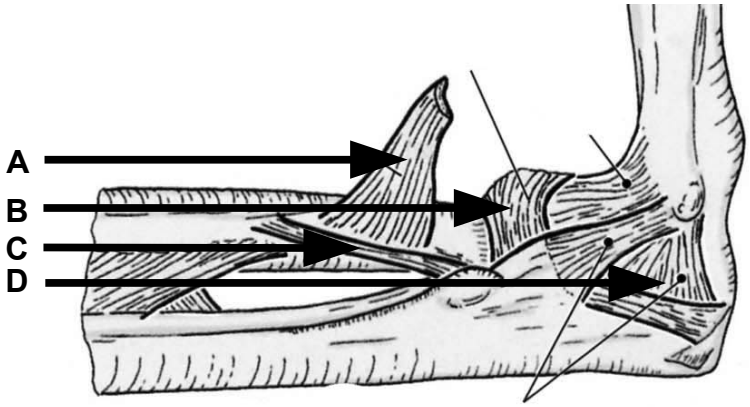
1. Identify the structures. (2 pts)

   A. _Biceps tendon

   B. _Annular lig.

   C. _Oblique cord

   D. _Ulnar collateral lig.



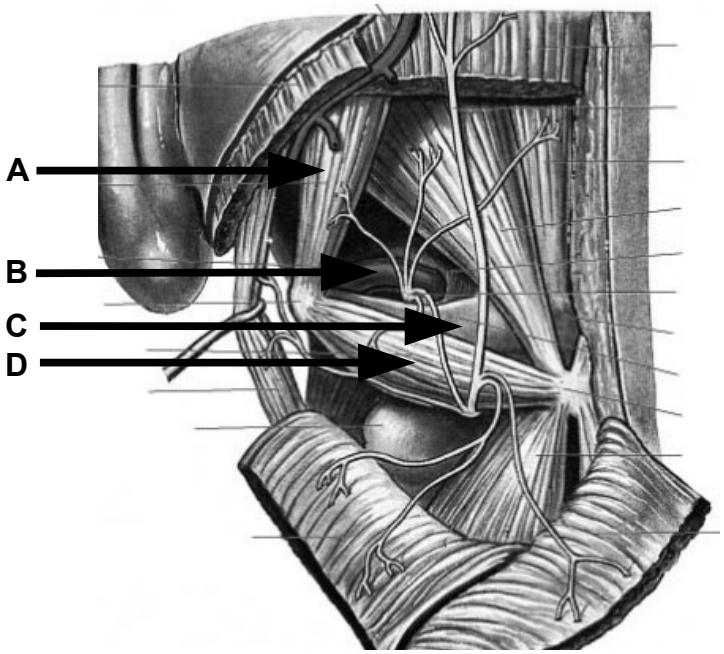
2. Identify the structures. (2 pts)

   A. _Obliquus cap. sup.

   B. _Verbebral a.

   C. _Arch atlas post.

   D. _Obliquus cap. Inf.



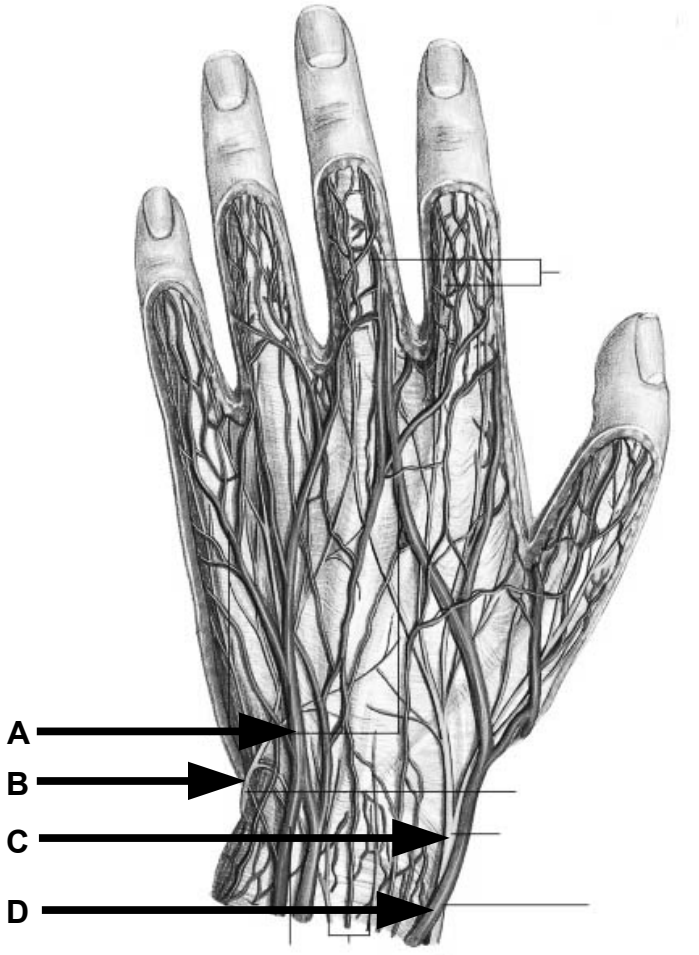
3. Identify the structures. (2 pts)

A._Basilic vein

B. _Ulnar n. dorsal br.

C. _Radial n. superf. br.

D. _Cephalic vein



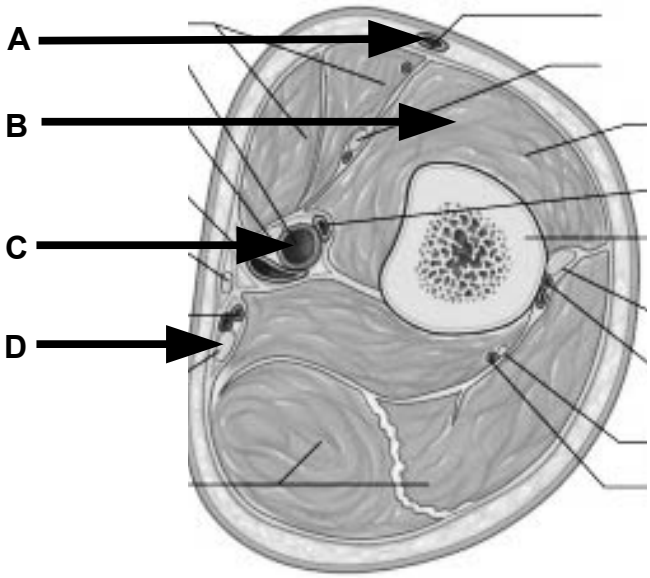
4. Identify the structures. (2 pts)

A. _Cephalic vein

B. _Brachialis m.

C. _Brachial artery

D. _Ulnar nerve



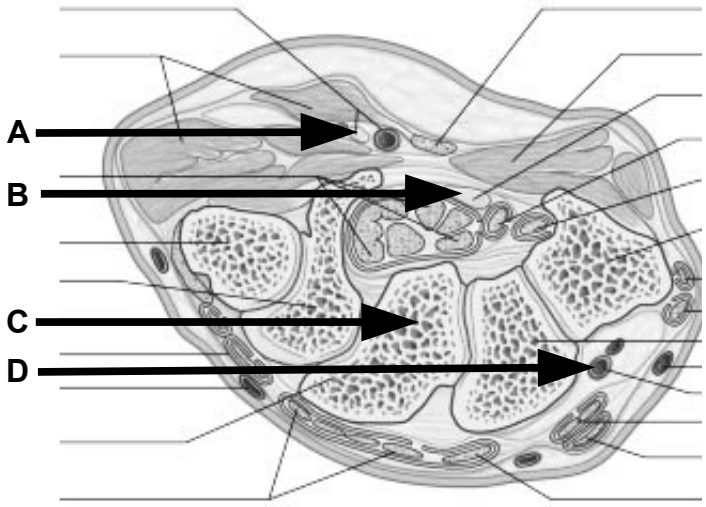
5. Identify the structures. (2 pts)

A. _Ulnar nerve

B. _Median nerve

C. _Capitate

D. _Radial artery



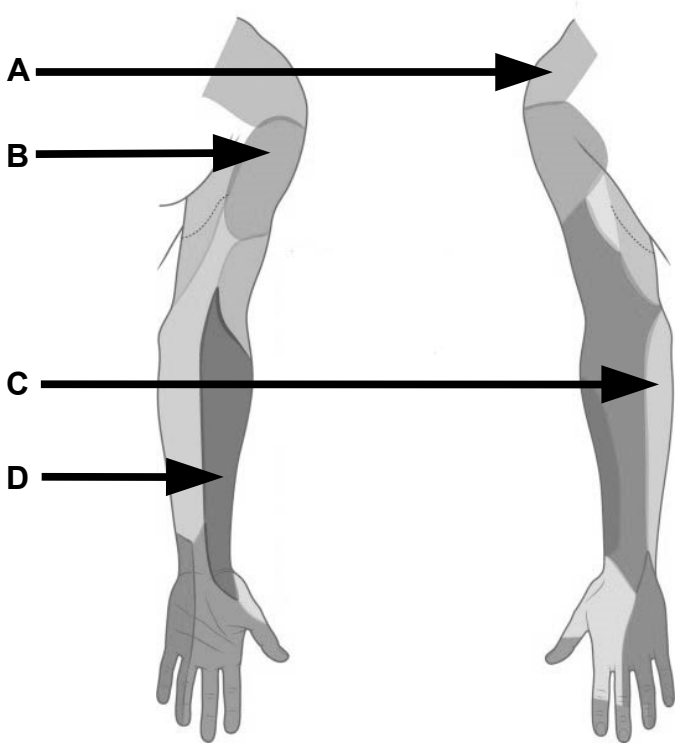
6. Identify the nerve distributions. (2 pts)

A. _Supraclavicular n.

B. _Upper lat. Cut. arm

C. _Med. cut. n. forearm

D. _Lat. cut. n. forearm



Part II. Circle the correct answer. All, none, or some may apply. (28 pts)

1. With regard to the back, suboccipital region, and scapular region:

    a. Severance of the C5 ventral ramus causes an uncompensated loss of retraction of the scapula. **False: trapezius compensates**

    b. The serratus posterior superioris muscle pulls the lower ribs in the superior direction and is a muscle of inspiration. **False: upper ribs**

    c. The rectus capitis posterior major muscle flexes the head at the atlantoaxial joint. **False: extends and wrong joint**

    d. From proximal to distal, the greater occipital nerve passes through the suboccipital triangle before passing through the splenius capitis muscle and then the semispinalis capitis muscle. **False: does not pass through either the triangle or splenius capitus**

    e. The latissimus dorsi muscle, a lateral rotator of the arm, can act as a flexor when the arm is fully flexed. **False: medial rotator and extends from flexed**

    f. The triangular space provides a communication between the axilla and the infraspinous fossa. **True: circumflex scapular artery**

    g. Superior fibers from the trapezius muscle attach to the medial part of the scapular spine. Inferior fibers from the trapezius muscle attach to the lateral part of the scapular spine. Contraction of these fibers causes an upward rotation of the scapula. **False: wrong attachments**

2. With regard to the axilla:

    a. The medial wall of the axilla is partly defined by the serratus anterior muscle. **True: true**

    b. The medial lip of the intertubercular sulcus is within the axilla. **True: pectoralis major**

    c. The first part of the axillary artery begins distal to the pectoralis minor muscle. **False: proximal**

    d. Ligation of the axillary artery at a location distal to the thoracoacromial trunk and proximal to the subscapular artery causes retrograde blood flow in the circumflex scapular artery. **True: true**

    e. A lesion of the long thoracic nerve weakens scapular retraction and causes a condition known as “winging” of the scapula. **False: weakens scapular projection**

    f. A lesion of the musculocutaneous nerve proximal to the coracobrachialis muscle causes a complete loss of flexion at the elbow. **False: brachioradialis**

    g. A lesion of the radial nerve in the axilla weakens flexion at the elbow. **True: brachioradialis**

    h. The teres major muscle inserts on the lateral lip of the intertubercular sulcus and is a lateral rotator of the arm. **False: medial lip**

3. With regard to the arm and cubital fossa:

    a. A lesion of the musculocutaneous nerve proximal to the coracobrachialis muscle causes an uncompensated loss of flexion at the elbow. **False: brachioradialis**

    b. The radial collateral artery passes posterior to the lateral epicondyle. **False: anterior**

    c. The coracobrachialis muscle and the short head of the biceps muscle arise from the coracoid process and flex the forearm. **False: coracobrachialis does not cross elbow joint**

    d. The anterior cutaneous nerve of the forearm is a distal continuation of the musculocutaneous nerve. **False: lateral cutaneous nerve of forearm**

    e. The lateral head of the triceps muscle arises inferior and lateral to the spiral groove, whereas the medial head of the triceps arises superior and medial to this groove. **False: reversed**

    f. The radial recurrent artery is applied to the medial border of the brachioradialis. **True: true**

    g. The posterior ulnar recurrent artery passes between the humeral and ulnar heads of the flexor carpi radialis. **False: flexor carpi ulnaris**

    h. Within the cubital fossa the median nerve lies medial to the brachial artery. **True: true**

    i. The superior ulnar collateral artery passes anterior the medial epicondyle of the humerus to anastomose with the anterior ulnar recurrent artery. **False: posterior ulnar recurrent**

    j. The medial brachial cutaneous nerve is located in the cubital fossa. **False: superficial**

    k. The coracobrachialis and the short head of the biceps are both biarticulate and have a common site of origin. **False: coracobrachialis is not biarticulate**

    l. The brachioradialis, innervated by the radial nerve, flexes the forearm and extends the wrist. **False: brachioradialis does not cross wrist joint.**

4. With regard to the extensor region of the forearm and the dorsum of the hand:

    a. The extensor carpi radialis longus muscle is primarily an abductor of the wrist and the extensor carpi radialis brevis muscle is primarily an adductor of the wrist. **False: both are abductors; extensor carpi radialis brevis primarily an extensor**

    b. The extensor indicis muscle receives the most distal motor innervation of the anterior interosseous nerve. **False: wrong compartment and nerve for motor innervation**

    c. The ulnar two tendons of the extensor digitorum are innervated by the ulnar nerve. **False: wrong muscle, wrong compartment**

    d. The extensor carpi radialis longus muscle originates from the lateral epicondyle of the humerus and passes the posterior surface of the scaphoid bone. **True: discarded because some of you highlighted supracondyler ridge. Nevertheless, this is true.**

    e. The tendons of the extensor digitorum muscle are joined by the tendons of the extensor digitorum brevis to the form the extensor hood. **False: hand is not the foot**

f. The extensor hood for the index finger of the right hand has a lumbrical muscle inserting on the ulnar side. **False: always radial side.**

g. The dorsal carpal arch (rete) receives blood from the anterior interosseous artery. **True: true**

5. With regard to the hand:

a. The lumbrical muscles resist hyperextension at the metacarpophalangeal joint. **True: true**

b. The ring finger of the left hand has a dorsal interosseous muscle on the radial side, a palmar interosseous muscle on the ulnar side, and a lumbrical muscle on the radial side. **False: reluctantly discarded because you pointed out that I did not state "attaches."**

c. The princeps pollicis artery is a branch of the superficial palmar arch. **False: radial a. or deep palmar arch**

d. The ulnar artery is radial to the ulnar nerve at the proximal entrance to Guyon's canal. **True: true**

e. The pisiform bone is a sesamoid bone within the tendon of the flexor carpi ulnaris muscle. **True: true**

f. The muscles of the thenar eminence are innervated by the recurrent ulnar nerve. **False: recurrent median nerve.**

g. The middle finger is not capable of abduction. **True: can only abduct, the reference, two dorsal interosseous muscles, can not adduct to return from abduction (definition of dorsal interosseous)**

h. The lateral bands of the extensor hood extend distal to the central band and insert on the posterior surface of the distal phalanx. **True: true**

i. The pisiform bone is anterior to the trapezoid bone. **False: anterior to triquetrum, plus the posterior surface of the pisiform is posterior to the anterior level of the trapezoid. The spirit of the question was "immediately anterior." If you insist on debate; talk to me.**

j. The origin of the flexor digiti minimi is, in part, from the pisiform bone. **False: discarded; abductor digiti minimi clearly attaches to the pisiform. An attachment to the pisiform from flexor digiti minimi is not so clearly defined. Nevertheless, I discarded the question.**

k. The superficial branch of the ulnar nerve provides cutaneous sensation to the radial 1.5 fingers on the palmar side, whereas the superficial radial nerve innervates the nail bed of these same fingers. **False: wrong side, wrong nerve**

l. Branches of the superficial radial nerve can be palpated as they cross the superficial surface of the extensor pollicis longus tendon. **True: true**

6. With regard to the joints of the upper limb:

a. The fiber direction of the interosseous membrane resists proximal movement of the ulna. **False: of the radius**

b. The middle glenohumeral ligament resists anterior dislocation of the shoulder joint. **True: true**

c. The tendons of the interosseous muscles cross posterior to the deep transverse metacarpal ligament and posterior to the axis of the metacarpophalangeal joint. **False: anterior to the axis**

d. A treatment for permanent radial nerve injury in the axilla is to fuse the wrist in a flexed position. **False: in an extended position**

e. An articular disk contributes to pivoting movements at the distal radioulnar joint. **True: true**

f. The long extensor muscles of the wrist help to strengthen a strong grip. **True: tethering of long flexor tendons**

g. The radial collateral ligament of the elbow provides support to the annular ligament. **True: true**

h. A shoulder separation occurs when the head of the humerus dislocates from the glenoid fossa. False: acromioclavicular joint

i. The rotator cuff muscles blend with the internal surfaces of the glenohumeral joint capsule. **False: external surfaces**

j. The coracoclavicular joint has an articular disk, two synovial cavities, and is a pivot joint. **False: rarely exists, planar**