**Question 1**

Which of the following nerves is a branch of the medial cord of the brachial plexus?

A Dorsal scapular

B Lateral pectoral

C Lower subscapular

D Medial pectoral

Explanation D

The lateral pectoral nerve is a branch of the lateral cord. The dorsal scapular nerve (which supplies the rhomboids and levator scapulae) belongs to the C5 root. The lower subscapular nerve is a branch of the posterior cord. The medial pectoral nerve arises from the medial cord C8 T1 behind the first part of the axillary artery.

**Question 2**

Regarding the Brachial plexus, which of the following statements is incorrect?

A Branches of the cords surround the third part of axillary artery

B Cords embrace the 2nd part of the axillary artery

C Cords enter the axilla above the first part of the axillary artery

D Divisions form behind the clavicle and enter the anterior triangle

Explanation D

The divisions (anterior and posterior) are formed behind the clavicle and form the lateral, medial and posterior cords before entering the axilla. Thus the divisions do not enter the axilla. Divisions form behind the clavicle and enter the axilla as they form the cords of the brachial plexus

Another source: Divisions are formed by the trunks diving into anterior and posterior divisions, are located deep to the clavicle and are named according to their relationship to the axillary artery. Trunks (upper, middle, lower) are formed by the joining of the rami and are located in the posterior triangle of the neck.

**Question 3**

Regarding the brachial plexus, which of the following statements is correct?

A Injury proximal to the trunks will not affect the supraspinatus nor infraspinatus muscles

B Ulnar nerve palsy results in weakness of the interossei and numbness over the radial part of the hand

C Pectoralis major is the only muscle that can test all roots

D Erb's palsy results in a medially rotated arm with elbow flexion

Explanation C

Erb's palsy results in a medially rotated arm with the elbow in extension. The nerve supply to supra and infraspinatous comes from the trunks and will be affected if the injury to the BP is at the level of the trunks or proximal to them. Ulnar nerve injury will give weakness to the ulnar part of the hand

**Question 4**

In relation to serratus anterior, which of the following statements is correct?

A Is supplied by the dorsal scapular nerve

B Protracts the scapula

C Is not covered by fascia

D Is formed by 7 slips

Explanation B

Serratus anterior is supplied by the long thoracic nerve and is formed by 8 slips/ digitations (The muscle arising by a series of digitations from the upper eight ribs). The first digitation arises from the first and second rib. All other digitations arise from their corresponding ribs. It is covered by fascia. The whole muscle contracting en masse, protracting the scapula, effectively elongates the upper limb for activities such as punching and pushing.

Note: old textbooks mentions 8 ror 9 slips. Internet search give 8-10 slips. The current textbook does not explicitly state.

**Question 5**

Which of the following statements in relation to pectoralis major is correct?

A Only the costal part has a bony attachment

B Attaches to the glenoid tuberosity

C Is an accessory muscle of respiration

D Abducts the arm

Explanation C

Both the clavicular and sternocostal heads of pectoralis major have bony attachments. It adducts the arm with lattisimus dorsi. It is not attached to the glenoid tuberosity. The muscle is a medial rotator and powerful adductor of the arm. The sternocostal fibres are the chief adductors. The clavicular head assists in flexion at the shoulder joint. With the upperlimb fixed in abduction the muscle is a useful accessory muscle of inspiration, drawing the ribs up towards inspiration.

**Question 6**

Which of the following does not pass through the clavipectoral fascia?

A Cephalic vein

B Lymphatics

C Medial pectoral nerve

D Thoracoacromial artery

Explanation C

Lymphatics (infraclavicular to apical nodes) and the cephalic vein pass inwards through the clavipectoral fascia. The thoracoacromial artery (or its branches: pectoral, acromial, deltoid and clavicular) and the lateral pectoral nerve pass outwards.

Note: the question might read, Which of the following does not pass through the costacoracoid membrane?, this membrane is part of the clavipectoral fascia between the pectoralis minor and the subclavius. The answer is still the same though

**Question 7**

Regarding the radial nerve which of the following statements is INCORRECT?

A The radial nerve is the largest branch of the brachial plexus

B The radial nerve is a continuation of the posterior cord of the brachial plexus

C It crosses the lower border of the posterior axillary wall lying on the tendon of lattisimus dorsi

D It passes through the quadrangular space into the upper arm

Explanation D

The radial nerve is the largest branch of the brachial plexus. It is the continuation of the posterior cord (C5, 6, 7, 8, T1). It crosses the lower border of the posterior axillary wall lying on the tendon of lattisimus dorsi. It passes out of site through the triangular interval below the lower border of this tendon as it lies in front of teres major, between the long head of triceps and the humerus.

The radial nerve gives off the posterior interosseous nerve in between brachialis and brachioradialis. It has a posterior cutaneous branch. It only occupies the lower part of the radial grove

Contents passing through the quadrangular space: axillary nerve and the posterior circumflex humeral artery

Triangular space

Boundaries

Inferior: superior border of teres major

Lateral: long head of triceps

Superior: teres minor (or subscapularis)

Contents:

Scapular circumflex vessels

Unlike the quadrangular space or the triangular interval, NO major nerve passes through the triangular space

Quadrangular space

Boundaries

Superior: teres minor (inferior margin)

Inferior: teres major (superior margin)

Medially: long head triceps brachii (lateral margin)

Laterally: Surgical neck of the humerus

Anteriorly: subscapularis

Contents:

Axillary nerve and posterior circumflex humeral vessels (artery and vein)

Triangular interval

Boundaries

Superior: teres major

Medial: long head of biceps brachii

Lateral: humerus (some sources say lateral head of triceps)

Contents

Radial nerve passes through on its way to the posterior compartment of the arm. Profunda brachii also passes from anterior to posterior.

**Question 8**

With regard to the lumbricals, which of the following statements is correct?

A Are all supplied by the ulnar nerve

B Arise from flexor digitorum superficialis

C Form a proprioceptive bridge between flexors and extensors

D Oppose the actions of the interossei

Explanation C

The lumbricals flex the fingers at the MCP joints and extend the interphalangeal joints.

Note in previous textbook, the action at the MCP was disputed and any flexor action here was deemed to be weak

The interossei: the 4 dorsal interossei abduct the fingers (DAB) and the 3 palmar interossei adduct them (PAD)

They are supplied by both the median nerve and the ulnar nerve. They attach to the extensor expansion. They arise from the flexor digitorum profundus tendons, and attach to the extensor expansion.

**Question 9**

All the following muscles directly attach the pectoral girdle to the thorax except?

A Subclavius

B Pectoralis minor

C Rhomboids

D Pectoralis major

Explanation D

Direct attachment of the pectoral girdle to the trunk is provided by muscles which insert into the clavicle or scapula from the axial skeleton. These muscles are pectoralis minor, subclavius, trapezius, the rhomboids, levator scapula and serratus anterior. Indirect attachment to the axial skeleton is secured by the great muscles of the axillary folds, pectoralis major and latissimus dorsi

**Question 10**

The scaphoid articulates with all the following except?

A Triquetral

B Trapezium

C Trapezoid

D Capitate

Explanation A

Answer is triquetral. The scaphoid articulates with the lunate medially, and distomedially with the capitate. The distal convex surface articulates with the trapezium and trapezoid. The scaphoid is the most commonly fractured carpal bone

**Question 11**

Which muscle initiates shoulder abduction?

A Supraspinatous

B Subscapularis

C Teres minor

D Deltoid

Explanation A

From 0-15 degrees of abduction, the supraspinatous is the initiating muscle

To initiate movement during the first 15 degrees of abduction, the deltoid is assisted by the supraspinatus. The deltoid becomes fully effective as an abductor following the initial 15 degrees.

**Question 12**

Which of the following is not a branch of the axillary artery?

A Medial thoracic

B Superior thoracic

C Thoracoacromial

D Subscapular

Explanation A

Note: the lateral thoracic, posterior and anterior circumflex humeral arteries are also branches

1st part of axillary artery gives off (1) the superior thoracic artery. 2nd part gives off (2) the thoraco-acromial trunk and lateral thoracic artery. 3rd part gives off (3) sub-scapular artery and anterior/posterior humeral circumflex artery.

mnemonic's:

SALSAP or Sometimes Times Life Seems A Pain

(Or even better) Screw The Laywer, Save A Patient

**Question 13**

Which muscle is supplied by the posterior interosseous nerve in the posterior compartment of the forearm?

A Brachioradilais

B Anconeus

C Extensor digitorum (ED)

D Extensor carpi radialis longus (ECRL)

Explanation C

ECRL=radial nerve.

Anconeus=radial nerve.

ECRB extensor carpi radialis brevis= a branch of the posterior interosseous nerve. Note: older textbooks- it says that the

ERCB is supplied by the posterior interosseous in the cubital fossa and not the posterior compartment of the arm

ED= the posterior interosseous nerve itself

Brachioradialis= radial nerve

Extra; While all these muscles are supplied by branches of the radial nerve, extensor digitorum is the only muscle directly innervated by the posterior interosseous nerve. The radial nerve branches in the distal arm to become the deep and superficial branches. The deep branch enters the forearm where it remains the deep branch until it emerges on the lower border of supinator muscle, here it becomes the posterior interosseous nerve. It gives off branches to extensor carpi ulnaris, extensor digitorum, extensor digiti minimi, abductor pollicis longus, extensor pollicis longus and brevis, and extensor indicis. The other muscles supplied by the radial nerve have their branches prior to this. The superficial branch of the radial nerve runs under brachioradialis with the radial artery before traversing posteriorly to provide cutaneous innervation in the hand.

Extra2: Wikipedia

It supplies all the muscles on the radial side and dorsal surface of the forearm, except the anconeus, brachoradialis, extensor carpi radialis brevis. In other words, it supplies the following muscles:

Extensor carpi radialis brevis deep branch of radial nerve

Extensor digitorum

Extensor digiti minimi

Extensor carpi ulnaris

Supinator muscle- deep branch of the radial nerve

Abductor pollicis longus

Extensor pollicis brevis

Extensor pollicus longus

Extensor indicis

In the forearm, it branches into a superficial branch (primarily sensory) and a deep branch (primarily motor).

The descends in the forearm under the . It crosses brachioradialis to enter posterior of forearm near the back of the wrist and supply dorsum of hand. It gives nerve supply to dorsal aspect of thumb, index finger, middle finger and radial side of ring finger except the nail beds, which are supplied by proper digital branches of median nerve.

The deep branch of the radial nerve pierces the supinator muscle, winds around the radius under the cover of supinator to reach posterior of forearm where it again pierces supinator and after which it is known as the posterior interosseous nerve of the forearm.

**Question 14**

Regarding the anatomical snuff box, which of the following statements is false?

A The bones palpable are the radial styloid, scaphoid, trapezium and the base of the first metacarpal

B The cephalic vein begins in the roof

C The tendons of abductor pollicis longus and extensor pollicis longus form one boundary

D Branches of the radial nerve can be palpated over the tendons

Explanation C

The trapezium and scaphoid can be felt in the floor of the snuffbox between the radial styloid process and the first metacarpal. Note: In Last's anatomy it says that the bony points readily palpable in the snuff box are from proximal to distal, radial styloid, scaphoid, trapezium and the base of the thumb metacarpal (RSTT).

It contains the radial artery, cephalic vein and cutaneous branches of the radial nerve. It is most obvious with the thumb fully extended; this draws the tendons up and produces a triangular hollow between them. It is the abductor pollicis longus and the extensor policis brevis that form one boundary on the radial or thumb side, and the extensor pollices longus forms the other boundary on the ulnar side. The cutaneous branches of the radial nerve cross these tendons and can be rolled on the tight tendon of EPL. The cephalic vein begins in the roof

**Question 15**

Regarding the interossei in the hand, which of the following is true?

A They abduct the fingers only

B Palmar interossei have two heads

C They aid in flexion of metacarpo-phalangeal joints & extension of interphalangeal joints

D They arise from the tendons of Flexor digitorum superficialis

Explanation C

They arise from the metacarpal bones. Only dorsal interossei have two heads (bipennate). Interossei muscles abduct and adduct the fingers- Remember PAD and DAB - Palmar interossei ADduct and Doral interossei ABduct. The interossei are indispensable for the combined movement of flexion of the MCP joint and the simultaneous extension of the interphalangeal joints. The lumbricals extend both interphalangeal joints. Their action at the MCP joint is disputed and any flexor action here is likely to be weak

Note: The above explanation is taken form the former prescribed textbook. In the current one it states that the interossei and lumbricals act together to provide MCP flexion and IP extension. One muscle does not appear to be more important than the other.

**Question 16**

Regarding the acromio-clavicular joint, which of the following statements is correct?

A No muscles connect the articulating bones to move the AC joint

B The coracoid and the trapezoid ligaments make up the coracoclavicular ligament

C AC joint is innervated by the lateral supraclavicular, medial pectoral and axillary nerve

D AC joint is supplied by the subscapular and thoracoacromial arteries

Explanation A

The AC joint is an atypical synovial joint. The articular surfaces are covered by fibrocartilage and seperated by an incomplete wedge shaped articular disc. The coracoclavicular ligament (made up by the conoid and trapezoid ligament) is extremely strong and the principal factor in providing stability to the joint. Movements are passive; muscles which move the scapula cause it to move on the scapula. No muscles connect the articulating bones to move the AC joint. Nerve supply: see below-

NOTE: THIS QUESTION POSES SOME CONFUSION. IN OLDER ANATOMY BOOKS (A PREVIOUS RECOMMENDED TEXT), THE NERVE SUPPLY OF THE AC JOINT IS THE SUPRACLAVICULAR NERVE. IN THE CURRENT ANATOMY (THE NEW TEXT), THE NERVE SUPPLY OF THE AC JOINT IS THE LATERAL PECTORAL AND AXILLARY NERVE AND THE LATERAL SUPRACLAVICULAR NERVE (ACCORDING TO HILTON'S LAW)

**Question 17**

Shoulder stability in abduction is due to which of the following?

A The musculotendinous cuff of the rotator cuff muscles

B The glenohumeral ligaments

C The pectoralis major muscle insertion

D The glenoid labrum

Explanation A

Subscapularis, supraspinatous, infraspinatous, teres minor all attach very near the joint, but also fuse with the lateral part of the capsule . This is an indispensable factor in adding stability to the joint.

**Question 18**

Which of the following is true regarding the quadrangular and triangular spaces?

A The triangular space transmits the median nerve

B Long head of triceps forms a border of both spaces

C Teres minor does not form a boundary of either space

D The circumflex scapular artery passes through the quadrangular space

Explanation B

See Q7

**Question 19**

Regarding the lymphatic drainage of the upper limb, which of the following is correct?

A Deep lymphatics travel follows the veins

B Superficial lymphatics follows the arteries

C Lymphatics of the hand drains into the central lymph nodes in the axilla

D Superficial lymphatic drainage occurs form lymphatic plexuses in the skin of the fingers, palm and dorsum of the hand

Explanation D

The superficial lymphatics follow the veins and the deep lymphatics follow the arteries (note: this statement is form older sources and differs from the new textbook-see below). Superficial lymphatic vessels originate from the digital lymphatic vessels and the lymphatic plexus of the palm. Most drainage from the palm passes to the dorsum of the hand. Most superficial lymphatics accompanying the cephalic vein enter the apical axillary lymph nodes. The superficial lymphatics accompanying the basilic vein enter the cubital lymph nodes and then drain into the lateral axillary lymph nodes. The axillary lymph nodes drain into the subclavian lymphatic trunk

I have not however changed the stems to the question

In the current TB there is a better explanation of the superficial lymphatic drainage: superficial lymphatic vessels arise from lymphatic plexuses in the skin of the fingers, palm & dorsum of the hand & ascend mostly with superficial veins, such as cephalic & basilic. Some vessels accompanying the basilic vein enter the cubital lymph nodes and terminate in the humeral (lateral) axillary lymph nodes. Those accompanying the cephalic vein enter into the apical axillary lymph nodes and some in to the more superficial deltopectoral lymph nodes. Deep lymphatic vessels, accompany the major deep veins in the upper limb and terminate in the humeral axillary lymph nodes

**Question 20**

Regarding the subclavius muscle, which statement is false?

A It is supplied by its own nerve

B It inserts into the first costochondral joint

C It is small and unimportant

D It assists in stabilising the clavicle during shoulder movement

Explanation B

It is supplied by its own nerve. Its origin is the first costochondral joint. It inserts into the subclavian groove on the inferior surface of the clavicle. It is a small and unimportant muscle. It assists in stabilising the clavicle in movements of the shoulder

Important NOTE

The statement of small and unimportant muscles comes form older anatomy sources. The new TB does not reflect this. In fact the subclavius muscle The anchors and depresses the clavicle, stabilising it during movements of the upper limb, It also helps resist the tendency of the clavicle to dislocate at the sternoclavicular (SC) joint - for example, when pulling hard during a tug-of-war game. These functions are important.

I have however left the question as is.

**Question 21**

Which of the following muscles is not supplied by the posterior interosseus nerve?

A Brachioradialis

B Abductor pollicis longus

C Supinator

D Extensor carpi ulnaris

Explanation A

The muscles of the posterior compartment of the forearm supplied by the posterior interosseous nerve (C7, C8) are:

Extensor carpi radialis brevis, extensor digitorium, extensor digiti minimi, extensor carpi ulnaris, supinator, abductor pollicis longus, extensor pollicis brevis, extensor pollicis longus and extensor indicis. (old text book)

Note: in the current textbook-extensor carpi radilais brevis,supinator, extensor digitorium, extensor digiti minimi, extensor carpi ulnaris are supplied by the deep branch of the radial nerve

Brachioradialis and anconeus is supplied by the radial nerve (C5, C6)

Extensor carpi radialis longus by the radial nerve (C6, C7)

Anconeus is supplied by the radial nerve (C7, C8)

**Question 22**

Regarding the interossei of the hand, which of the following statements is incorrect?

A When they act together, the dominant action is adduction

B They insert into dorsal expansion

C When they act together, the MCP joints flex

D They insert into proximal phalanx

Explanation A

When they act together, they give stability as far as adduction and abduction are concerned. They also cause flexion at the metacarpo-phalangeal joint and extension at both inter-phalangeal joints

**Question 23**

Loss of the greater tuburcle (can be called tuberosity) of the humerus leads to loss of which movement?

A Abduction and medial rotation

B Adduction and medial rotation

C Adduction and lateral rotation

D Abduction and lateral rotation

Explanation D

The rotator cuff inserts at the greater tuberosity and provides abduction and lateral rotation.

A further complete explanation

Supraspinatus, infraspinatus and teres minor all insert on facets of the greater tubercle. Supraspinatus initiates abduction through the first 15 degrees of the arc. Infraspinatus and teres minor are both involved in lateral rotation of the shoulder. The final rotator cuff muscle, subscapularis, which inserts on the lesser tubercle / tuberosity is a medially rotator of the shoulder. There are no muscles inserting on the greater tuberosity which adduct the shoulder.

**Question 24**

Which myotome/myotomes is/are associated with shoulder abduction?

A C5, 6

B C5, 6, 7

C C5

D C6, 7

Explanation C

Shoulder abduction and lateral rotation=C5

Shoulder adduction and medial rotation=C6 C7 and C8

**Question 25**

Which is false with respect to the lateral intermuscular septum?

A Pierced by radial nerve

B Pierced by middle collateral branch of profunda brachii artery

C Brachioradilais and extensor carpi radialis longus attach to the septum

D It is the origin of medial head of triceps

Explanation B

The septum extends along the lateral supracondylar line and fades out behind the insertion of the deltoid. Brachioradilais and extensor carpi radialis longus extend out from the humerus to gain attachment to the septum in front, and posteriorly the medial head of tricpes arises form it. It is pierced by the radial nerve and the profunda brachii artery (the radial collateral branch). The middle collateral branch of the profunda brachii artery descends in the medial head of triceps

Extra: the medial intermuscular septum is pierced by the ulnar nerve and the superior ulna collateral artery.

Note: in Lasts anatomy: the medial head arises from both intermuscular septa. A web search writes: The medial head arises distally from the groove of the radial neck; from the dorsal surface of the humerus; from the medial intermuscular septum; and its distal part also arises from the lateral intermuscular septum

It is not clearly written in the latest textbook

**Question 26**

Which of the following statements is false in relation to latissimus dorsi?

A Internally rotates the humerus

B Arises from spinous processes of T5 to L5

C Inserts into intertubecular groove of humerus

D Arises from the posterior third of the iliac crest

Explanation B

Proximal attachments: spinous process of the inferior 6 thoracic vertebrae, thoraco-lumbar fascia, posterior 1/3 of illiac crest, last three to four ribs and inferior angle of scapula.

Insertion: floor of intertubecular groove (sulcus) of the humerus Actions: Extends the shoulder joint, internally rotates the humerus and is a powerful adductor in combination with pectoralis major. It is especially used in restoring the the upper limb from abduction above the shoulder, it is the climbing mucle

Nerve supply: Thoracodorsal N C678

**Question 27**

Which of the following statements is correct in relation to teres major?

A Forms the lower border of the quadrangular space

B Forms the lateral border of the triangular space

C Is supplied by the axillary nerve

D Arises from the medial border of the scapula

Explanation A

Teres Major forms the lower border of both the quadrangular space and triangular space. It is supplied by the subscapular nerve. It arises form the infero-lateral border of the scapula

**Question 28**

With regard to the sternoclavicular joint, which of the following statements is true?

A Is the fulcrum of movements of the sterno-clavicular joint

B Contains two fibrocartilaginous discs

C Is mostly stabilised by the costoclavicular ligament

D Is supplied by nerve branches from C8 and T1

Explanation C

The joint is supplied by the medial supraclavicular nerves of C3 and C4. It contains only one fibrocartilaginous joint. The costoclavicular ligament is the fulcrum of movements at the joint

**Question 29**

Which muscle is the prime initiator of lateral rotation of the shoulder?

A Deltoid

B Teres major

C Serratus anterior

D Infraspinatus

Explanation D

All the other muscles are only synergists

**Question 30**

Which of the following features protects against inferior dislocation of the abducted shoulder?

A Coraco-acromial arch

B Glenohumeral ligament

C Gleno-humeral joint

D Long head of triceps

Explanation D

The long head of triceps is the most important factor in stabilizing the abducted shoulder joint to counteract gravity

Note: in Lasts anatomy it states that the long head of triceps supports the capsule of the shoulder joint when the arm is ABDucted, and it aids in extending the shoulder joint

CM: It states that the muscle action is the chief extensor of the forearm and long head resists dislocation of humerus especially important during ADDuction

**Question 31**

Regarding biceps brachii which of the following statements is correct?

A The short head arises from the acromion

B It is a supinator of the forearm

C The long head arises from the greater tuberosity of the humerus

D It is supplied by the median nerve

Explanation B

It is supplied by the musculocutaneous nerve. The long head arises from the supraglenoid tubercle. The short head arises from the coracoid process

**Question 32**

In relation to the brachial artery, which of the following statements is correct?

A Is a continuation of the subclavian artery

B The largest branch of the brachial artery is the radial artery

C It crosses over the median nerve during its course through the arm

D It passes anterior to the medial supra-epicondylar ridge at the elbow joint

Explanation D

It is a continuation of the axillary artery. The median nerve lies lateral to it and then crosses over to lie medially in the cubital fossa. Its largest branch is the deep artery of the arm (L. arteria prifunda brachii). It passes anterior to the medial supraepicondylar ridge at the elbow joint

**Question 33**

Which of the following is caused by Injury to the middle trunk of the brachial plexus?

A Affects the long thoracic nerve

B Will manifest in the medial cord

C Affects the median nerve

D C8 sensation will be affected

Explanation C

The middle trunk gives rise to the lateral cord which forms the median nerve. The middle trunk receives only the C7 nerve root (C8 is not affected). The medial cord arises only from the inferior trunk. The long thoracic nerve arises from the roots of C5-7, before the formation of the trunks.

**Question 34**

Muscles of the rotator cuff include all the following, with the exception of?

A Infraspinatus

B Teres minor

C Supraspinatus

D Teres major

Explanation D

Muscles comprising the rotator cuff are: teres minor, infraspinatus, suraspinatus and subscapularis. The rotator cuff is the group of muscles and their tendons that act to stabilize the shoulder. The four muscles of the rotator cuff, along with the teres major and the deltoid make up the six scapulohumeral muscles which connect to the humerus and scapula, and act on the glenohumeral joint.

Note: Supraspinatus is actually the only muscle that does not rotate the humerus

**Question 35**

In the cubital fossa, which of the following is lateral to the tendon of biceps?

A radial nerve

B Median nerve

C median cubital vein

D Brachial artery

Explanation A

The contents of the fossa, from medial to lateral side are the median nerve, brachial artery, tendons of the biceps and farther laterally the radial nerve and its posterior interosseus branch. The cubital fossa is the triangular area between pronator teres, brachioradialis and a line joining the humeral epicondyles. The ulnar artery passes deep to the deep head of pronator teres. The brachial artery enters the cubital fossa in the midline. Halfway down the fossa it divides into the radial and ulnar arteries. The radial artery usually appears to be direct continuation of the brachial artery and the bigger ulnar artery branches off at an angle

An easy way to remember the order of structures in the cubital fossa is: Really Need (radial nerve) Beer To (biceps tendon) Be At (brachial artery) My Nicest (median nerve). (from lateral to medial)

**Question 36**

In terms of the relationship of structures within the cubital fossa, which of the following is correct?

A The radial artery is a direct continuation of the brachial artery

B The ulnar artery lies superficial to the pronator teres

C The median nerve lies lateral to the brachial artery

D The radial nerve is medial to biceps tendon

Explanation A

The contents of the cubital fossa, from medial to lateral are median nerve, brachial artery, tendon of biceps bracii, radial nerve, and posterior interosseous nerve. The cubital fossa is the triangular area between pronator teres, brachioradialis and a line joining the humeral epicondyles. The ulnar artery passes deep to the deep head of pronator teres. The brachial artery enters the cubital fossa in the midline. Halfway down the fossa, it divides into the radial and ulnar arteries. The radial artery usually appears to be the direct continuation of the brachial artery, and the bigger ulnar artery branches off at an angle.

**Question 37**

Regarding triceps, which of the following statements is correct?

A The blood supply is from the posterior interosseous artery

B It stabilises the shoulder in abduction

C It is supplied by the radial nerve

D It has two heads

Explanation C

The triceps is supplied by the profunda brachii artery. It has 3 heads and stabilizes the shoulder in adduction.

Note: In previous textbooks- the action of the triceps: the extensor of the elbow joint. The long head supports the capsule of the shoulder joint when the arm is ABDucted, and it aids in extending the shoulder joint. This is wrong

In the prescribed text: chief extensor of the forearm. The triceps brachii is a large fusiform muscle in the posterior compartment of the arm. As indicated by its name, the triceps has three heads: long, lateral, and medial. The triceps is the main extensor of the forearm. Because its long head crosses the glenohumeral joint, the triceps helps stabilize the aDDucted glenohumeral joint by serving as a shunt muscle, resisting inferior displacement of the head of the humerus. The long head also aids in extension and adduction of the arm, but it is actually the least active head. (follow the current source)

**Question 38**

Which of the following is the deepest mid-forearm structure?

A Radial artery

B Median nerve

C Ulnar nerve

D Flexor pollicis longus (FPL)

Explanation D

**Question 39**

In relation to the brachial plexus, which statement is correct?

A The nerve to subclavius is a branch form the trunks

B The axillary nerve is derived from the lateral cord

C There are 7 divisions of the trunks

D The roots lie posterior to the scalene muscles

Explanation A

The brachial plexus has 6 divisions. The nerve to subclavius arises from the trunks. The suprascapular nerve arises form the trunks. The axillary nerve is derived from the posterior cord. The 5 roots lie behind the scalenus anterior muscle and emerge between it and scalenus medius to form the trunks that cross the lower part of the posterior triangle of the neck. The divisions form behind clavicle and subclavicular, the cords in the axilla and branches in the brachium

Please be aware that old sources differ from the current. The current prescribed text it says that the nerve to subclavius originates from superior trunk (not the roots). However, in older sources, it states that the nerve to subclavius is one of the three branches from the roots. The other two are dorsal scapular and long thoracic. Suprascapular nerve arises form the trunks. (Follow the current source)

**Question 40**

Which of the following statements is false in relation to the carpal tunnel?

A Flexor digitorum superficialis (FDS) and flexor digitorum profundus (FDP) tendons lie within the same sheath at the tunnel

B The tendon of palmaris longus (PL) lies above the retinaculum and is only partially attached to it

C Flexor carpi radialis (FCR) tendon runs in a subcompartment of the flexor tunnel

D Flexor carpi ulnaris (FCU) lies in its own synovial sheath as it passes through the tunnel

Explanation D

Flexor carpi ulnaris (FCU) tendon inserts into pisiform, pisohamate ligament, pisometacarpal ligament, hamate and 5th metacarpal bone

The carpal tunnel lies between the flexor retinaculum and the carpal bones. The median nerve and the flexor tendons of the fingers and thumb pass through this tunnel. The four tendons of the superficial flexor are separate and lie in two rows, with the middle and ring finger tendons in front of the index and little finger tendons. The tendons of the flexor digitorium profundus lie deeply in one plain, with only the tendon to the index finger being separate from the others, which remain attached together till they reach the palm. All eight tendons of the superficial and deep flexors share a common tendon sheath, which does not invest them completely but is reflected from their radial sides, where arteries gain access. The tendon of flexor pollices longus lies in its own synovial sheath as it passes through the fibro-osseous tunnel. At the lateral end of the tunnel a deep lamina from the flexor retinaculum is attached to the medial lip of the grove of the trapezium. The tendon of flexor carpi radialis, enclosed in its own synovial sheath runs in the groove in this subcompartment of the carpal tunnel. The median nerve passes deep to the flexor retinaculum between the flexor digitorium superficialis tendon to the middle finger and the flexor carpi radialis tendon. The ulnar nerve lies on the front of the reticulum lateral to the pisiform bone, with the ulnar artery lateral to the nerve (in the canal of Guyon)

Extra:

Carpal Tunnel lies bounded by distal carpus and transverse carpal ligament.

Contains 9 tendons (4x FDS, 4xFDP, 1xFPL) and 1 nerve (Median)

Note that palmaris longus tendon sits superficial to ligament centrally, as do FCR and FCU laterally and medially. The ulnar artery and nerve pass through Guyon's canal superficial and lateral to transverse carpal ligament.

**Question 41**

Which of the following is correct in relation to the radial nerve?

A Contains only fibers of C 5,6,7

B Gives off the posterior interosseus in the spiral groove

C Occupies the entire length of the radial groove

D Runs with the profunda brachii in the radial groove

Explanation D

It runs with the profunda brachii artery in the radial groove of the humerus. The radial nerve divides into the posterior interosseus (aka deep) and superficial branches at the level of the lateral epicondyle. The radial nerve contains fibres from C5-T1. Between the origins of the the medial and lateral heads of triceps, the radial nerve and profunda brachii artery lie in the radial groove.

**Question 42**

Regarding pectoralis major, which of the following statements is correct?

A Is supplied by all 5 segments of the brachial plexus

B Inserts to the medial lip of bicipital groove

C Has a head arising from the posterior surface of the clavicle

D Is quadrilateral in shape

Explanation A

It is triangular in shape. It inserts into the lateral lip of the bicipital sulcus. The clavicular head arises from the medial surface portion of the anterior surface of the clavicle

In the older TB it reads: the muscle is the only one in the upper limb to be supplied by all 5 segments of the brachial plexus

Current TB: innervation: lateral and medial nerves; clavicular head (C5C6), sternocostal head (C7C8T1). The bold numbers indicate the main segmental innervation

**Question 43**

Regarding the quadrangular space, triangular interval and triangular space, which of the following statements is false?

A Long head of triceps forms the medial border of the quadrangular space Your Answer

B Teres minor forms a border of both the triangular and quadrangular space

C Quadrangular space admits the axillary nerve

D Triangular space transmits the radial nerve

Explanation D

See Q7

**Question 44**

Which of the following is correct in relation to flexor digitorum profundus?

A Is the strongest muscle of the forearm

B Is supplied, 10% of the time, purely by the median nerve

C Has its action enhanced by wrist flexion

D Assists pronator quadratus (PQ) in pronation

Explanation A

It does not assist PQ in pronation. It is supplied in 60% primarily on its lateral portion by the anterior interosseus branch of the median nerve. The medial portion is supplied by the ulnar nerve. It is the strongest and bulkiest muscle of the forearm. Its action is enhanced by wrist extension

Note: answer from Last's anatomy

**Question 45**

Which is not a branch of the axillary artery?

A posterior circumflex humeral, 3rd part

B superior thoracic, 1st part

C Circumflex scapula, 3rd part

D Thoraco-acromial, 2nd part

Explanation C

Circumflex scapula is a branch of the subscapular artery

Branches of the Axillary Artery:

1 branch of the 1st part (between lateral border of 1st rib and medial border of pectoralis minor) - superior thoracic artery

2 branches of the 2nd part (posterior to pectoralis minor) - thoracoacromial artery - lateral thoracic artery

3 branches of the 3rd part (between the lateral border of pectoralis minor and the inferior border of teres major) - subscapular artery - anterior circumflex humeral artery - posterior circumflex humeral artery

**Question 46**

Regarding the ulnar artery, which of the following is correct?

A Has the common interosseus as its major branch

B Froms the deep palmar arch

C It disappears from the cubital fossa by passing above the fibrous arch of flexor digitorium superficialis

D The ulnar nerve lies lateral to it

Explanation A

The ulnar nerve lies on the medial/ulnar side of the ulnar artery. it supplies the superficial arch, It disappears from the cubital fossa by passing beneath the fibrous arch of flexor digitorum superficialis (FDS). CM and Last both say that the superficial palmer arch is formed by the direct continuation of the ulnar artery. The deep palmer arch is formed by the deep branch of the ulnar artery. (not a direct continuation)

**Question 47**

The flexor retinaculum attaches to all bones except which of the following?

A Pisiform

B Hamate

C Capitate

D Trapezium

Explanation C

Lateral attachment: scaphoid (tubercle) and trapezium (ridge)

Medial attachment: pisiform and hook of hamate

**Question 48**

Which of the following bones is attached to both flexor and extensor retinaculum?

A Pisiform

B Hamate

C Triquetral

D Scaphoid

Explanation A

The Flexor retinaculum attached to the scaphoid and trapezium (radially) to the pisiform and hamate (ulnar). Extensor retinaculum originated from the radius to the triquetral and pisiform bones

**Question 49**

Which of the following regarding the anatomical sunffbox is correct?

A Contains the posterior interosseus artery

B Has extensor pollicis longus on its ulnar side and the abductor pollicis longus (APL) and extensor pollicis brevis (EPB) on the radial side

C Is most obvious with the thumb abducted and extended

D Has trapezoid palpable in the floor of the snuff box

Explanation B

The trapezium and scaphoid can be felt in the floor of the snuff box between the radial styloid process and the first metacarpal. It contains the radial artery, cephalic vein and cutaneous branches of the radial nerve. It is most obvious with the thumb fully extended; this draws the tendons up and produces a triangular hollow between them. It is the abductor pollicis longus and the extensor policis brevis that form one boundary on the radial or thumb side, and the extensor pollices longus forms the other boundry on the ulnar side

**Question 50**

Which of the following statements is correct in relation to the radial artery?

A Passes between the tendons of extensor pollicis brevis (EPB) and abductor pollicis longus (APL)

B Lies on brachioradialis in the upper arm

C Forms both the anterior and posterior carpal arches with the ulnar artery

D In its middle third, the radial nerve lies medial to it

Explanation C

The radial nerve (the superficial branch of the radial nerve) lies lateral to the radial artery. It lies deep to brachioradialis. It passes deep to both tendons which form the palmer border of the anatomical snuff box. The anterior and posterior carpal arches supply the articulations of the wrist and carpus

**Question 51**

Regarding the acromio-clavicular joint, which of the following statements is false?

A All movements are passive

B The coraco-clavicular ligament is not a joint stabilising factor

C Is innervated by the lateral pectoral nerve, axillary nerve and lateral supraclavicular nerve

D It is a complex joint with an incomplete wedge shaped articular disc

Explanation B

The AC joint is an atypical synovial joint. The articular surfaces are covered by fibrocartilage and separated by an incomplete wedge shaped articular disc. The coracoclavicular ligament (made up by the conoid and trapezoid ligament) is extremely strong and the principal factor in providing stability to the joint. Movements are passive; muscles which move the scapula cause it to move on the scapula. No muscles connect the articulating bones to move the AC joint. Nerve supply: see below-

NOTE: THIS QUESTION POSES SOME CONFUSION. IN A PREVIOUS RECOMMENDED TEXT, THE NERVE SUPPLY OF THE AC JOINT IS THE SUPRACLAVICULAR NERVE. IN THE PRESCRIBED TEXT, THE NERVE SUPPLY OF THE AC JOINT IS THE LATERAL PECTORAL AND AXILLARY NERVE AND THE LATERAL SUPRACLAVICULAR NERVE (ACCORDING TO HILTON'S LAW)

Arterial supply: suprascapular and thoracoacromial arteries

**Question 52**

Regarding the brachial plexus, which of the following statements is correct?

A Suprascapular nerve comes off the posterior cord

B All branches originate from roots, divisions or cords

C Dorsal scapular nerve comes off C5

D Serratus anterior is supplied by C6/7/8

Explanation C

Serratus anterior is supplied by the long thoracic (C%, C6, C7) nerve. The nerve to subclavius comes off the superior trunk. The suprascapular nerve comes off the anterior division of the superior (upper) trunk. Divisions do not give branches, they come off roots, trunks and cords.

**Question 53**

Regarding lymphatic drainage of the upper limb, which of the following statements is INCORRECT?

A Deep lymphatics follow the veins

B Superficial lymphatic drainage passes from the palm to the dorsum of the hand

C Some lymphatics of the hand drain into cubital lymph nodes

D Superficial lymphatics follow arteries

Explanation D

OLD source: The superficial lymphatics follow the veins and the deep lymphatics follow the arteries. Most of the drainage from the palm passes to the dorsum of the hand. Most superficial lymphatics accompanying the cephalic vein to enter the apical axillary lymph nodes.

IMPORTANT NOTE: The current textbook writes: deep lymphatic vessels, less numerous then superficial vessels, accompany the major deep veins in the upper limb (basilic and cephalic) and terminate in the numeral axillary lymph nodes. Superficial lymphatic vessels originate from the digital lymphatic vessels of the digits and lymphatic plexus of the palm. Most drainage from the palm passes to the dorsum of the hand. Some vessels accompanying the basilic vein enter the cubital lymph nodes, proximal to medial epicondyle and medial to basilica vein.

**Question 54**

Which of the following is incorrect regarding the lateral intermuscular septum?

A It is pierced by the median nerve

B It has brachioradialis as an anterior relation

C It extends along the lateral suprachondylar line and fades out behind the insertion of the triceps muscle

D Medial head of triceps arises from it

Explanation A

The RADIAL nerve and the profunda brachii artery (radial collateral branch) pierce the lateral intermuscular (IM) septum. The MEDIAN nerve runs with the brachial artery, anterior to the medial intermuscular septum. Medial head of triceps arises from the posterior surface of humerus, inferior to radial groove. It has brachioradialis and extensor carpi radialis longus as anterior relations. The lateral IM septum extends along the lateral supracondylar line and fades out behind the insertion of the deltoid

Note: supracondylar and supraepicondylar are synonymous. The lateral suprachondylar ridge is the same as the lateral supraepicondylar ridge

**Question 55**

Regarding brachialis, which of the following statements is correct?

A Inserts into the coronoid process of the ulna

B Inserts into the upper 1/3 of the humerus

C It is an extensor of the elbow joint

D It's main innervation is by the radial nerve

Explanation A

It is innervated by the musculocutaneous nerve (C5, C6), and some of the lateral part of the muscle is innervated by a branch of the radial nerve (C5, C7). (Note: in Last's it says a small part of brachialis is supplied by the radial nerve) It arises from the lower 2/3 of the humerus. It is a flexor of the elbow joint.

**Question 56**

Which statement regarding forearm muscles is correct?

A Flexor pollicis longus (FPL) is unipennate

B Palmaris longus (PL) is absent in 30% of cases

C Flexor carpi radialis (FCR) runs over whole length of flexor retinaculum

D Pronator teres (PT) is the most powerful muscle for pronation

Explanation A

Pronator quadratus is the most powerful pronator, palamaris longus is absent in 10% of cases. FCR does not run over the entire length of the flexor retinaculum

**Question 57**

A patient is stabbed in his axilla; it results in damage to the lateral cord of the brachial plexus. Which muscle will be denervated?

A Supinator

B Coracobrachialis

C Flexi carpi ulnaris

D Anconeus

Explanation B

Injury to the lateral cord of the brachial plexus results in injury to the musculocutanoeus nerve (MC), the lateral pectoral nerve and the lateral root that forms part of the medium nerve of the medium nerve (MN).

Muscles affected

MC: coracobrachialis, biceps brachii and brachialis (note that brachialis is innervated by some fibres of the radial nerve)

Lateral pectoral nerve: pectoralis major and some part of the pectoralis minor (via branches which connect to the medial pectoral nerve)

MN: muscles of the anterior forearm compartment (except flexi carpi ulnaris and ulnar half of flexor digitorium profundus), five intrinsic muscles in thenar half of the palm and palmer skin

**Question 58**

Which muscle causes flexion of the distal phalanges?

A Flexor digitorum profundus

B Flexor pollices longus

C Flexor digitorum superficialis

D Palmaris longus

Explanation A

Rather an easy question. The FDP makes up the deep (third) layer of the forearm. It has a medial part which inserts into the bases of the distal phalanges of the 4th and 5ht digits. A lateral part which inserts into the bases of the distal pahalanges of the 2nd and 3rd digits. Its main action is the flexion of the diatal phalanges at the distal interphalangeal joints. Nerve supply of the medial part is the ulnar nerve. Lateral part by the anterior interosseous nerve (form the median nerve). Note: unlike the FDS, the FDP can flex only the index finger independently, thus the fingers can be independently flexed at the proxinal but not the distal interphalangeal joints

**Question 59**

Which of the following long bones is the first to ossifiy?

A Clavicle

B Femur

C Fibula

D Radius

Explanation A

According to Moore- the clavicle is the first long bone to ossify (via intramembranous ossification), beginning during the 5th and 6th embryonic weeks.

**Question 60**

Which of the following long bone is the last to completely ossify?

A Fibulae

B Femur

C Radius

D Clavicle

Explanation D

The current textbook states that the clavicle is the first long bone to ossify (via intramembranous ossification), beginning during the 5th and 6th week embryonic weeks. A secondary ossification centre appears at the sternal end and forms a scale like epiphysis that begins to fuse with the shaft (diaphysis) between 18-25yrs of age and is completely fused to it between 25-31Yrs of age. This is the last of the epiphysis of long bones to fuse

**Question 61**

Regarding upper limb dermatomes

A C8-little finger, medial side of hand and arm

B T1-medial aspect of forearm and arm

C C6-lateral forearm and thumb

D C4-lateral shoulder and upperarm

Explanation C

Dermatomes as per clinical Moore:

C3,C4 region at base of neck, extending laterally over shoulder.

C5 lateral spect of arm

C6 lateral forearm and thumb

C7 middle three finger and centre of posterior apect of forearm

C8 little finger, medial side of hand and forearm

T1 medialal aspect of forearm and inferior arm

T2 medial aspect of superior arm and skin of axilla

**Question 62**

You are examining a patient with an injury/cut to the wrist. He is unable to abduct his thumb. Other deficits which may be present include the following EXCEPT?

A Loss of fine control of 2-3 digits

B Loss of sensation in the first dorsal webspace

C Loss of thumb flexion

D Loss of thumb opposition

Explanation B

Lacerations of the wrist, result in damage to the median nerve. The median nerve is commonly injured just proximal to the flexor retinaculum. This results in paralysis of the thenar muscles and the first two lumbricals. Therefore opposition of the thumb, abduction of the thumb and flexion of the thumb is not possible. All are supplied by the recurrent branch of the median nerve (C8,T1). Fine control of the 2nd and third digits are impaired. Sensation is lost over the thumb and adjacent two and a half fingers on the palmer side and only finger tips on the dorsal side. The radial nerve supplies the dorsal radial aspect of the hand and the first web space via its superficial branch.

**Question 63**

Flexor Digitorum Superficialis (FDS), which is CORRECT?

A The FDS flexes the distal phalanges of the medial four fingers

B The Tendons pass beneath the flexor retinaculum, the middle and ring finger tendons lie deep to those to the index and little finger

C It is considered the largest muscle of the deep layer of the forearm

D The muscle arises from the medial ligament of the elbow joint and the tubercle on the medial border of the coronoid process of the ulna

Explanation D

The muscle arises from the common origin, the medial ligament of the elbow joint and the tubercle on the medial border of the coronoid process of the ulna. It is considered the largest muscle of the superficial layer in the forearm. However, the FDS actually forms an intermediate layer between the superficial and deep groups of the forearm muscles. The tendons pass beneath the flexor retinaculum, the middle and ring finger tendons lie superficial to those to the index and little finger. The tendons are enclosed in a common synovial flexor sheath. In the forearm the muscle has the median nerve plastered to its deep surface by areolar tissue. The FDS flexes the middle phalanges of the medial four fingers at the proximal interphalangeal joints. It also flexes the proximal phalanges at the metacarpophalangeal joints and the wrist joint. It is supplied by the median nerve only.

**Question 64**

Carpal tunnel syndrome is proved by all except?

A Loss of sensation over the medial 3 and a half digits

B Loss of sensation over the thenar eminence but not the central palm

C Weakness of the thenar muscles

D Relief of symptoms after surgical incision of the flexor retinaculum

Explanation A

Carpal tunnel results from any lesion which reduces the size of the tunnel. The median nerve is the most sensitive structure in the tunnel. The median nerve also has two terminal sensory branches that supply the skin of the hand; hence paraesthesia, hypoaesthesia or anaesthesia may occur in the lateral three fingers of the hand. The median nerve also has one terminal motor branch- the recurrent branch, which serves the three thenar muscles. Progressive loss of coordination and strength in the thumb (due to weakness of APB-abductor pollices brevis and OP- opponens pollices) may occur if the compression is not alleviated. The palmer cutaneous branch passes above the carpal tunnel, thus sensation to the central palm remains unaffected

**Question 65**

The dorsal scapular nerve, which is correct?

A Supplies the rhomboids and occasionally subclavius

B Pierces scalenus medius

C It is a branch from the trunks of the brachial plexus

D Arises from the C6 root

Explanation B

The dorsal scapular nerve is a branch of the roots of the brachial plexus. It arises from the posterior aspect of anterior ramus of C5 with a frequent contribution form C4. It supplies the rhomboids and occasionally levator scapulae. It pierces the middle scalene and descends deep to levator scapulae and rhomboids.

**Question 66**

Regarding the deltoid muscle, which is correct?

A It attaches to the spine of scapula, acromion, clavicle and deltoid tuberosity

B It has anterior and middle unipennate parts and a multipennate posterior part

C It initiates abduction

D It is supplied by the axillary nerve (C4,C5)

Explanation A

The deltoid muscle is divided into unipennate anterior and posterior parts and a multipennate middle part; the parts of the deltoid can act separately or as a whole. It attaches proximally to the lateral third of the calvicle, acromion and spine of scapula. Distally it attaches to the deltoid tuberosity of the humerus. It is supplied by the axillary nerve (C5, C6). Muscle action includes flexion and medial rotation of the arm (anterior part), abduction of the arm (middle part) and extension with lateral rotation of the arm (posterior part). Supraspinatus initiates abduction.

**Question 67**

Which is true about the axillary artery?

A Is a continuation of the subclavian as it passes under the medial 1/3 of clavicle

B The thoraco-acromial branch is the largest of the branches of the axillary artery

C Becomes the brachial artery at the inferior border of teres major

D The axillary vein lies distally on the anterolateral side of the artery

Explanation C

The axillary artery begins at the lateral border of the first rib as the continuation of the subclavian artery and ends at the inferior border of the teres major. It passes posteriorly to the pectoral minor into the arm and becomes the brachial artery when it passes the inferior border of the teres major. It is divided into three parts by the pectoralis minor. The subscapular artery is the largest branch of the axillary artery. The axillary vein lies distally on the anteromedial side of the artery, with its terminal part anteroinferior to the artery.

Extra: Additionally branches of axillary artery can be memorised with mnemonic "Screw The Lawyer, Save A Patient": Sup Thoracic; Thoracoacromial; Lateral Thoracic; Subscapular; Anterior Circumflex Humeral; Post Circumfelx Humeral.

**Question 68**

The deep branch of the radial nerve supplies all the following EXCEPT?

A Supinator

B Extensor pollicis longus

C Extensor carpi radialis longus

D Extensor carpi ulnaris

Explanation C

The deep branch of the radial nerve (also called the posterior interosseous nerve C7, C8) supplies motor innervation to all the muscles with fleshy bellies located entirely in the posterior compartment of the forearm-distal to the lateral epicondyle of the forearm.

Muscles include- extensor carpi radialis brevis, extensor digitorum, extensor carpi ulnaris, extensor digiti minimi, supinator, abductor pollicis longus, extensor pollicis brevis, extensor pollicis longus, extensor indicis.

Bachioradialis and extensor carpi radialis longus are supplied by the radial nerve C6, C7, by a branch arising above the elbow joint. Anconeus is supplied by the radial nerve as well (C7C8)

**Question 69**

Fascia and compartments of the palm, which is INCORRECT?

A The second metacarpal bones divides the thenar space from the midpalmer space

B The central compartment contains the flexor tendons and the lumbrical muscles

C The palmer aponeurosis septa that forms the spaces arises from the flexor retinaculum

D The deepest muscular plane of the palm is the adductor compartment

Explanation A

The palmer aponeurosis fans out form the distal border of the flexor retinaculum. From each of its two sides a septum dips deeply into the palm. That from the ulnar border is attached to the palmer border of the fifth metacarpal bone. The space so formed medial to it is the hypothenar space. The remaining part of the palm is divided into two spaces by the septum that dips in from the radial border of the palmer aponeurosis to the palmer surface of the third metacarpal bone. This septum lies obliquely and separates the thenar space on its radial side from the midpalmer space or beneath the palmer aponeurosis. The septum usually passes deeply between the flexor tendons of the index and middle finger

The spaces can be called compartments as well. The midpalmer/central compartment contains the flexor tendons and their sheaths, lumbricals, superficial palmer arterial arch and the digital vessels and nerves. The hypothenar space/compartment contains the hypothenar muscles and fascia and the thenar muscles and fascia re contained in the thenar space.

The deepest muscular plane of the palm is the adductor compartment containing the adductor pollicis

**Question 70**

Myotome C6 performs all upper limb movements EXCEPT?

A Pronation of forearm

B Wrist extension

C Elbow extension

D Medial rotation of upper limb

Explanation A

C6 does not perform forearm pronation but rather supination. Other movements include shoulder extension and upperlimb adduction.

Note: although the upper limb is commonly called the arm, it is actually referring to the upper part of the limb between the shoulder and the elbow. The forearm is that part between the elbow and the wrist.

**Question 71**

Which is the incorrect dermatome description of the upper arm?

Your answer was not correct

A C8= little finger, medial side of hand and forearm Your Answer

B C5= lateral aspect of the arm

C T1= medial aspect of forearm and superior arm Correct Answer

D C3, C4= region at base of neck, extending laterally over the shoulder

Explanation C

C3, C4= region at base of neck, extending laterally over the shoulder

C5= lateral aspect of the arm,

C6= lateral forearm and thumb

C7= Middle and ring fingers, and centre of the posterior aspect of the forearm

C8= little finger, medial side of hand and forearm

T1= medial aspect of forearm and inferior arm

T2= medial aspect of superior arm and skin of axilla

**Question 72**

Which part of bone is a correct match?

A Radial notch of the radius

B Coronoid process of the humerus

C Trochlear notch of the ulna

D Coronoid fossa of the ulna

Explanation C

Quite a "bony" type of question

Coronoid fossa of the humerus and a coronoid process of the ulna. Trochlear of the humerus and a trochlera notch (or fossa) of the ulna. The radial notch is found on the ulna. The radial tuberosity is found on the radius

**Question 73**

Regarding the axillary vein which of the following is FALSE?

A The axillary vein receives anastomoses from the superficial veins of the inguinal region

B The axillary vein ends at the lateral border of the first rib and becomes the subclavian vein

C The axillary vein lies initially (distally) on the anteromedial side of the axillary artery, with its terminal part anteroinferior to the artery

D The axillary vein is formed by the union of the brachial vein and the cephalic vein

Explanation D

The axillary vein is formed by the union of the brachial vein and the basilic vein at the inferior border of the teres major. The axillary vein ends at the lateral border of the first rib and becomes the subclavian vein. The axillary vein lies initially (distally) on the anteromedial side of the axillary artery, with its terminal part anteroinferior to the artery. It is made up of three parts that correspond to the three parts of the axillary artery. It is important to remember that the axillary vein receives the thoracoepigastric vein(s) which are formed by the anastomosis of the superficial veins from the inguinal region with tributaries of the axillary vein. These veins constitute a collateral route that enables venous return in the presence of IVC obstruction

**Question 74**

The axillary sheath is an extension of which of the following fascia ?

A Axillary fascia

B Brachial fascia

C Deltoid fascia

D Cervical fascia

Explanation D

The axillary sheath is a sleeve like extension of the cervical fascia. Neurovascualr structures ensheathed are axillary blood vessels (axillary artery, vein and its tributaries), lymphatic vessels and several axillary lymph nodes, the cords and branches of the brachial plexus and axillary fat

**Question 75**

Injury to the median nerve at the flexor retinaculum produces the following deficits EXCEPT?

A Paralysis of the first two lumbricles

B Sensation loss over the thumb and adjacent two and a half fingers

C Paralysis of the thenar muscles

D Sensation loss of the skin of the central palm

Explanation D

Injury to the median nerve at the flexor retinaculum will result in paralysis of the thenar muscles and the first two lumbricles. Hence opposition of the thumb and fine control movements of the 2nd and third digits are impaired. Sensation is lost over the thumb and adjacent two and a half fingers. Because the palmer cutaneous branch of the median nerve arises just proximal to the flexor retinaculum and travels into the palm superficial to the flexor retinaculum, the skin of the central palm will be spared.

**Question 76**

Which of the following statements is incorrect regarding the consequence of a midshaft fracture of the humerus?

A Paralysis may be transient

B Sensory loss occurs distal to the wrist

C There is loss of elbow extension

D Extension of the interphalangeal joints are possible

Explanation C

When the midshaft of the humerus is fractured, the radial nerve may be injured in the radial groove. Under such circumstances, the triceps is usually not completely paralysed but only weakened because only the medial head is affected. The other two heads' (lateral and long) nerve supply have a higher origin and are not affected. The muscles in the posterior compartment of the forearm that are supplied by the more distal branches of the nerve are paralysed. The classical wrist drop appears, caused by the inability to extend the wrist and the fingers at the metacarpophalangeal joints. There is sensory loss distal to the wrist but it is minimal (on account of the overlapping median and ulnar nerve supply) and is confined to a small area of skin over the first dorsal interosseous space.

Note: elbow extension is still possible and the interphalangeal joints can still be straightened as this can be achieved using the lumbricals which are supplied by the median & ulnar nerves.

**Question 77**

Which of the following statements is false regarding the bony scapula?

A The thick medial border lies adjacent to the coracoid

B The lateral angles bears the glenoid cavity

C The subscapular fossa is found on the costal surface

D The scapula has three angles and three borders

Explanation A

The scapula is a triangular, flat bone which has a medial, lateral and superior border. It also has a superior, lateral and an inferior angle. The superior border joins the base of the coracoid process. The concave costal surface of most of the scapula forms a large subscapular fossa. The lateral border terminates in the truncated lateral angle of the scapula, the thickest part of the bone that bears the broadened head of the scapula. The glenoid cavity is the primary feature of the head

**Question 78**

Regarding digital nerves, which is CORRECT?

A Palmar nerves only supply palmar surface

B Digital nerves are only sensory

C Common digital nerves lie superficial to superficial palmer arch

D Digital nerve lie posterior to digital artery

Explanation B

The common digital nerves lie deep to the superficial palmar arch. Palmar nerves supply palmar surface and they end dorsally by supplying the dorsal nail beds. The digital artery lies dorsal to the nerve.

Digital nerves are purely sensory. If a digital nerve is cut, the patient feels numbness on the corresponding side of the finger. Motor function in the finger should be normal, because it is controlled by the tendons, whose muscles are innervated more proximally in the forearm. Impairment of motor function (other than pain with movement) suggests that tendon injury also is present.

**Question 79**

Which myotome(s) is responsible for adduction of the fingers

A C8

B C8 T1

C C7 C8

D T1

Explanation D

Adduction of the fingers= T1

Digital flexion=C7 C8

Digital extension=C7 C8

Pronation=C7 C8

**Question 80**

Which is not true regarding the carpal tunnel?

A The tendon of flexor pollices longus lies in its own synovial sheath as it passes through the fibro-osseous tunnel.

B The ulnar nerve lies on the front of the reticulum lateral to the pisiform bone

C All eight tendons of the superficial and deep flexors share a common tendon sheath, which completely invests the tendon

D The median nerve and the flexor tendons of the fingers and thumb pass through this tunnel

Explanation C

The carpal tunnel lies between the flexor retinaculum and the carpal bones. The median nerve and the flexor tendons of the fingers and thumb pass through this tunnel. The four tendons of the superficial flexor are separate and lie in two rows, with the middle and ring finger tendons in front of the index and little finger tendons. The tendons of the flexor digitorium profundus lie deeply in one plain, with only the tendon to the index finger being separate from the others, which remain attached together till they reach the palm. All eight tendons of the superficial and deep flexors share a common tendon sheath, which does not invest them completely but is reflected from their radial sides, where arteries gain access. The tendon of flexor pollices longus lies in its own synovial sheath as it passes through the fibro-osseous tunnel. At the lateral end of the tunnel a deep lamina from the flexor retinaculum is attached to the medial lip of the grove of the trapezium. The tendon of flexor carpi radialis, enclosed in its own synovial sheath runs in the groove in this subcompartment of the carpal tunnel. The median nerve passes deep to the flexor retinaculum between the flexor digitorium superficialis tendon to the middle finger and the flexor carpi radialis tendon. The ulnar nerve lies on the front of the reticulum lateral to the pisiform bone, with the ulnar artery lateral to the nerve (in the canal of Guyon)

**Question 81**

Which is FALSE regarding supination and pronation movements of the upper limb?

A About 140 degrees of rotation occurs at the radioulnar joints during pronation and supination

B The ulnar is entirely stationary during pronation and supination

C The movements of supination and pronation occur at the superior and inferior radioulnar joints

D During supination and pronation the axis of movement of the radius relative to the ulnar passes through the radial head and ulnar styloid

Explanation B

The movements of supination and pronation occur at the superior and inferior radioulnar joints. In full supination, the anatomical position, the radius lies lateral and parallel to the ulna. During pronation the distal radius rotates in front of and around the head of the ulna, carrying the hand with it. In full pronation the shaft of the radius lies across the front of the ulna with the distal end of the radius lateral to the ulnar head (this statement comes from the old resource.It is wrong, the radius in full pronation lies medial to the ulnar head and not lateral to it)

During supination these movements are reversed. The axis of movement of the radius relative to the ulna passes through the radial head and ulnar styloid. The ulnar is not usually entirely stationery during pronation and supination. The distal end of the ulna moves slightly posterolaterally in pronation and anteromedially in supination, these movements being effected by anconeus and the bicepital aponeurosis respectively. Supination is more powerful inaction, carried out by biceps and supinator muscles. Pronation is produced by pronator quadratus and pronator teres. About 140 degrees of rotation occurs at the radioulnar joints during pronation and supination.