

SRP
Fundamentals of
Manual of Practical Human Anatomy
Upper and Lower Limb – I Volume

DR. SUNIL R. PATIL
(KOKATE)



BlueRose ONE.com
S t o r i e s M a t t e r
New Delhi • London

BLUEROSE PUBLISHERS

India | U.K.

Copyright © Dr. Sunil R. Patil (Kokate) 2026

All rights reserved by author. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the author. Although every precaution has been taken to verify the accuracy of the information contained herein, the publisher assumes no responsibility for any errors or omissions. No liability is assumed for damages that may result from the use of information contained within.

BlueRose Publishers takes no responsibility for any damages, losses, or liabilities that may arise from the use or misuse of the information, products, or services provided in this publication.



BlueRoseONE[®]
Stories Matter
New Delhi • London

For permissions requests or inquiries regarding this publication,
please contact:

BLUEROSE PUBLISHERS
www.BlueRoseONE.com
info@bluerosepublishers.com
+91 8882 898 898
+4407342408967

ISBN: 978-93-7825-845-9

Cover design: Deepak Katheria
Typesetting: Manisha Rawat

First Edition: July 2026

Preface

Prolusion it is a pleasure to bring out of *SRP Fundaments of The Practice Manual of Illustrative Human Upper and Lower Limb First Volume* in a completely revised and student – friendly format. I have made my best possible effort to remove all the errors.

The chapter in this practice manual are organized in a way that makes it easy for reader. This makes it easy to find the information needed and understand the content better.

I hope that both teachers and students like this manual and find it helpful. I would really appreciate it if readers could give me comments and suggestions on known I can make the manual better further.

It is great pleasure for me to thank all these valuable suggestions that have been given to me by teacher Dadasaheb Respected Prof. Dr. V. R. Kavishwar, Prof. Dr. Arun Bhasme, Prof. Dr. J. D. Patil, Prof. Dr. Mahendra Gaushal, Prof. Dr. Meena Bhasme, Dean Hom. Faculty Prof. Rajkumar Patil, Ex. Dean Hom. Faculty Prof. Dr. Dhanajay Bagal, Vid. Abhijit Ahire I must thank, the almighty for this inspiration and guidance as well as my parents Mr. Raghunath S. Patil (father), Mrs. Vatsala R. Patil (mother), Mrs. Nilima S. Patil (wife).

Sunil R. Patil

ILLUSTRATIVE ANATOMY

The Practice Manual of Illustrative Anatomy

Section 1 (Upper Limb)

The pectoral region, the axilla, the back, the shoulder and scapular region, the arm, cubital fossa, the forearm and hand, venous lymphatic drainage of upper limb, the joints of the upper limb, blood vessels, osteology of upper limb.

Section 2 (Lower Limb)

Front of thigh, medial side of thigh, back of thigh, gluteal region, popliteal fossa, front lateral and medial side of leg and foot, back of leg, sole of foot, venous lymphatic drainage of lower limb, joints, arches of foot, blood vessels, osteology of lower limb.

Contents

Students' Index Upper Limb.....	1
Students' Index Lower Limb	4
Section-1 Upper Limb	6
Bone Of Upper Limb	7
The Pectoral Region.....	57
The Axilla.....	61
The Back	67
The Shoulder And Scapular Region	71
The Arm	79
The Forearm And Hand	92
The Joints Of The Upper Limb.....	106
Section-2 Lower Limb	112
Bones Of The Lower Limb	113
Front Of Thigh.....	125
Medial Side Of Thigh	134
Gluteal Region.....	136
Popliteal Fossa	139
Back Of Thigh	142
Front Of Leg & Dorsum Of Foot & Sole Of Foot.....	144
Lateral Side Of The Leg (Peroneal Compartment).....	154
Medial Side Of The Leg.....	155
Back Of Leg (Posterior Compartment).....	156
The Joints Of The Lower Limb	160
Arches Of Foot	166

Students' Index Upper Limb

Date	Exercise	Particulars	Page	Remarks
	Bones	Clavicle		
		Scapula		
		Humerus		
		Radius		
		Ulna		
		Hand Bones		
	The Pectoral Region:	Surface Landmarks		
		The Mammary Gland		
		Muscles		
	The Axilla:	Boundaries		
		The Brachial Plexus		
		Axillary Artery		
		Axillary Lymph nodes		
	The Back:	Surface Landmarks		
		Muscles		
		Triangle of Auscultation		
		Lumber Triangle of Petite		
	Shoulder and Scapular Region:	Surface Landmarks		
		Muscles		
		Intramuscular Spaces		

		Axillary Nerve		
		Anastomosis around the Scapula		
	Front of Arm:	Surface Landmarks		
		Muscles		
		Musculocutaneous Nerve		
		Brachial Artery		
		Cubital Fossa		
		Anastomosis around Elbow		
	Back of Arm:	Triceps Muscle		
		Radial Nerve		
		Profunda Brachii Artery		
	Front of Forearm:	Surface Landmarks		
		Muscles-Superficial & Deep		
		Radial & Ulnar Artery		
		Radial, ulnar & Median Nerve		
		Flexor Retinaculum		
		Carpal Tunnel Syndrome		
		Palmar Aponeurosis		
	Back of Forearm:	Surface Marking		
		Extensor Retinaculum		
		Muscles-Superficial & Deep		
		Posterior Interosseous Artery		
		Posterior Interosseous Nerve		
	Hand:	Intrinsic Muscles of Hand		

		Radial, Ulnar & Median Nerve		
		Palmar Arch		
	The Joints of the Upper Limb:	The Shoulder Joint		
		The Elbow Joint		
		The Wrist Joint		
		Superior Radio-ulnar Joint		
		Inferior Radio-ulnar Joint		

Students' Index Lower Limb

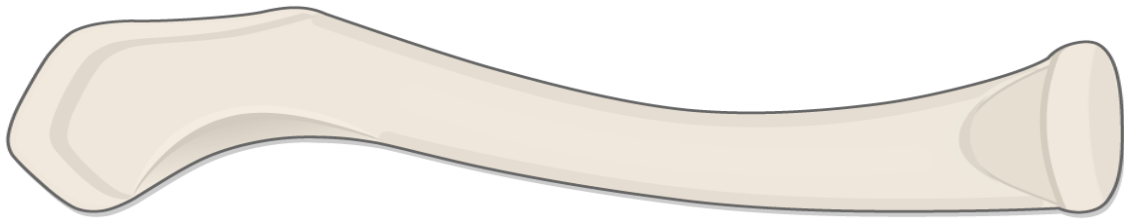
Date	Exercise	Particulars	Page	Remarks
	Bones	Hip		
		Femur		
		Tibia		
		Fibula		
		Foot		
	Front of Thigh	Great saphenous vein		
		Compartment of thigh		
		Femoral triangle		
		Femoral sheath		
		Femoral artery		
		Muscles		
		Hunter canal		
	Medial side of the thigh	Muscles of medial compartment of thigh		
		Obturator nerve		
	Gluteal region	Muscles		
		Sciatic nerve		
	Popliteal fossa	Boundaries & contents		
		Popliteal artery		
	Back of thigh	Hamstring muscles		

		Sciatic nerve		
	Front of leg & Dorsum of foot & Sole of foot	Extensor retinaculum		
		Muscles of anterior compartment of leg		
		Anterior tibial artery		
		Dorsalis pedis artery		
		Anterior tibial nerve		
		Muscles of foot		
	Peroneal compartment	Lateral compartment of leg		
	Medial side of leg	Anserine bursa & Guy ropes		
	Posterior compartment of leg	Back of leg		
		Posterior tibial artery		
		Peroneal artery		
	Joints of lower limb	Hip joint		
		Kness joint		
		Ankle joint		
	Arches of foot	Arches of foot		

SECTION-1
UPPER LIMB

BONE OF UPPER LIMB

CLAVICLE: Draw a muscle & ligaments attached on superior & inferior view (Right)



Superior view: Right Clavicle



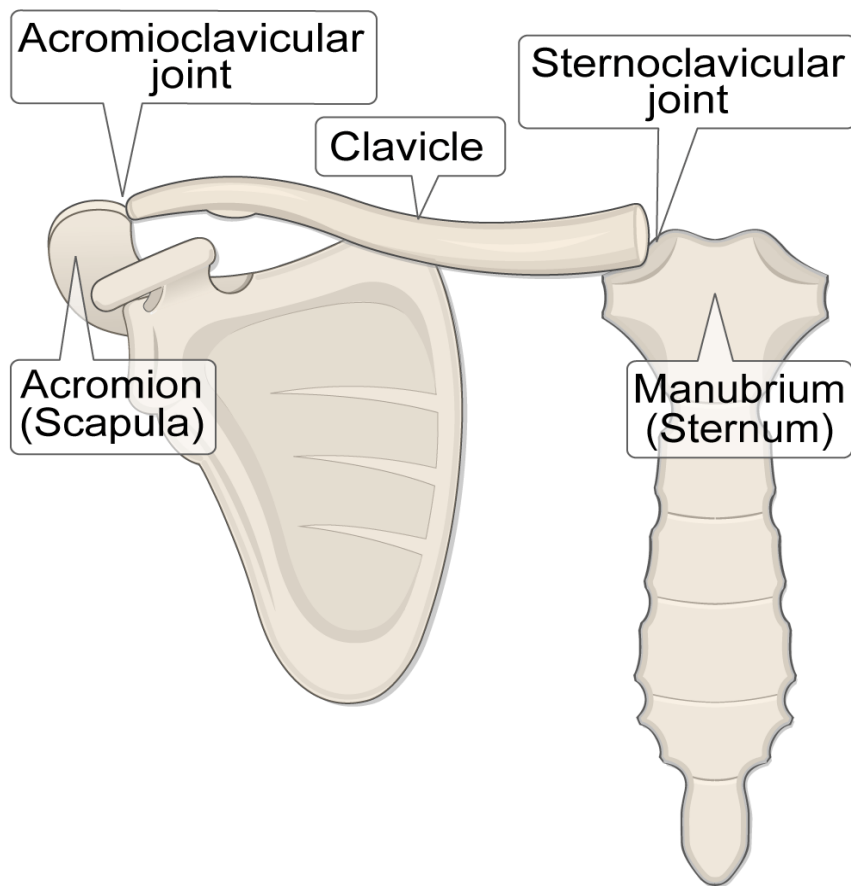
Inferior view: Right Clavicle

Muscles attached on Superior View:

Muscles attached on Inferior View:

Ligaments attached on clavicle:

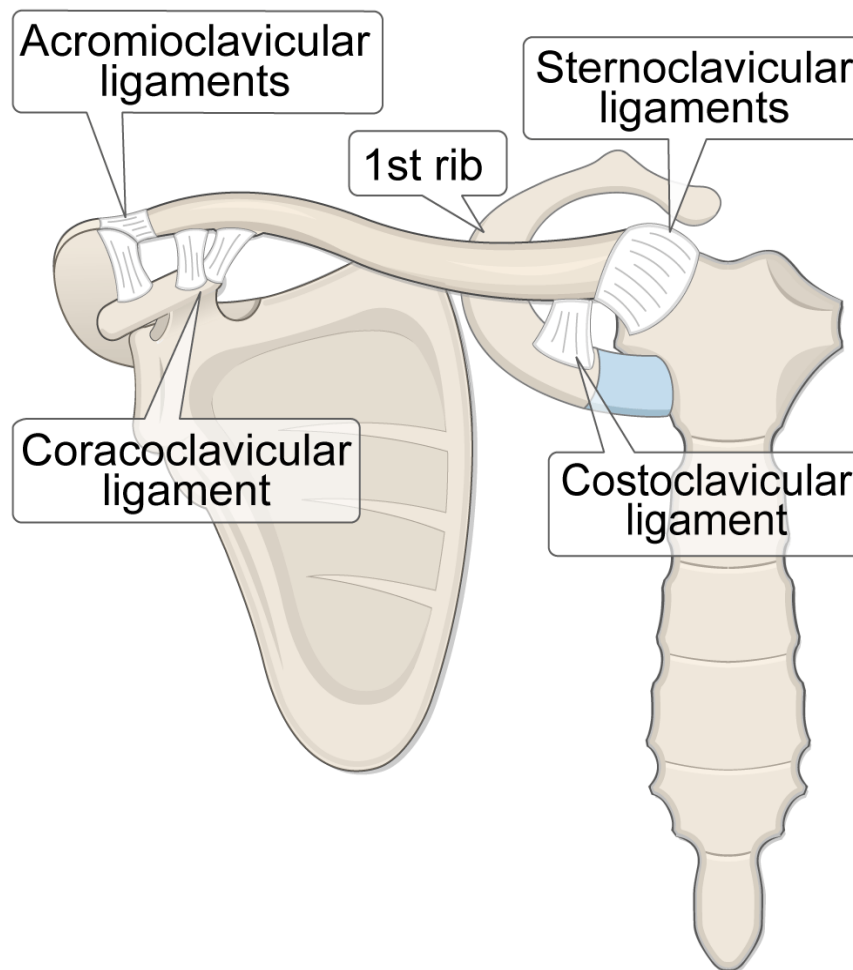
JOINT OF THE CLAVICLE: (Right)



Acromioclavicular Joint: -

Sternoclavicular Joint: -

LIGAMENTS OF THE CLAVICLE: (Right)



Acromioclavicular ligament: -

Coracoclavicular ligament: -

Sternoclavicular ligament: -

Costoclavicular ligament: -

CLAVICLE: Write down details of the following heads under its features, characteristic's points, attachments and important of the clavicle bone.

A) Parts:

B) Side determination points:

C) Features of clavicle: 1. Medial end 2. Shaft 3. Lateral end

1. Medial end: Shape, Articular Surface, Costal Tuberosity (costoclavicular ligament)

2. Shaft: Medial Two-Thirds, Lateral One-Third

Medial Two-Thirds: - Anterior, Posterior, Superior, Inferior: Surfaces

Lateral One-Third: Superior Surface & Inferior Surface

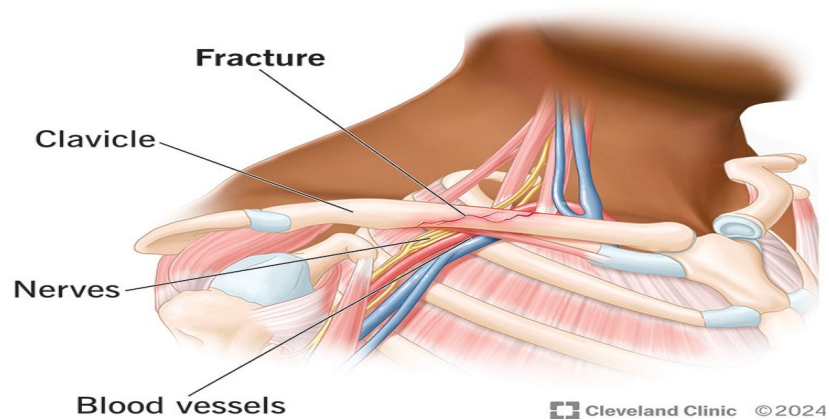
Superior Surface: -

Inferior Surface: -

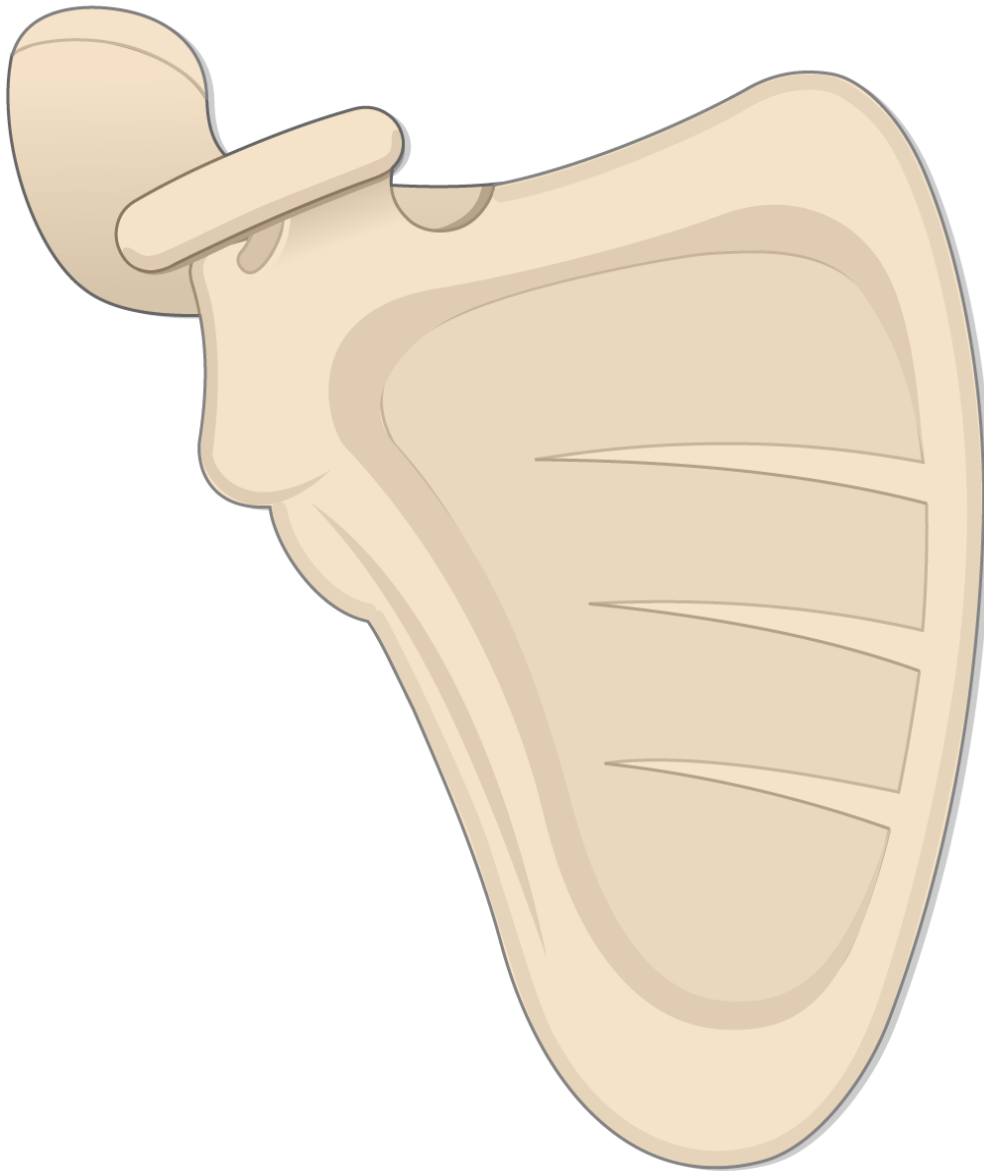
3. Lateral end: Shape, Articular Surface, Conoid Tubercle (conoid ligament), Trapezoid Line (trapezoid ligament)

D) Ossification and Peculiarities:

E) Clinical Integration: - Fractures



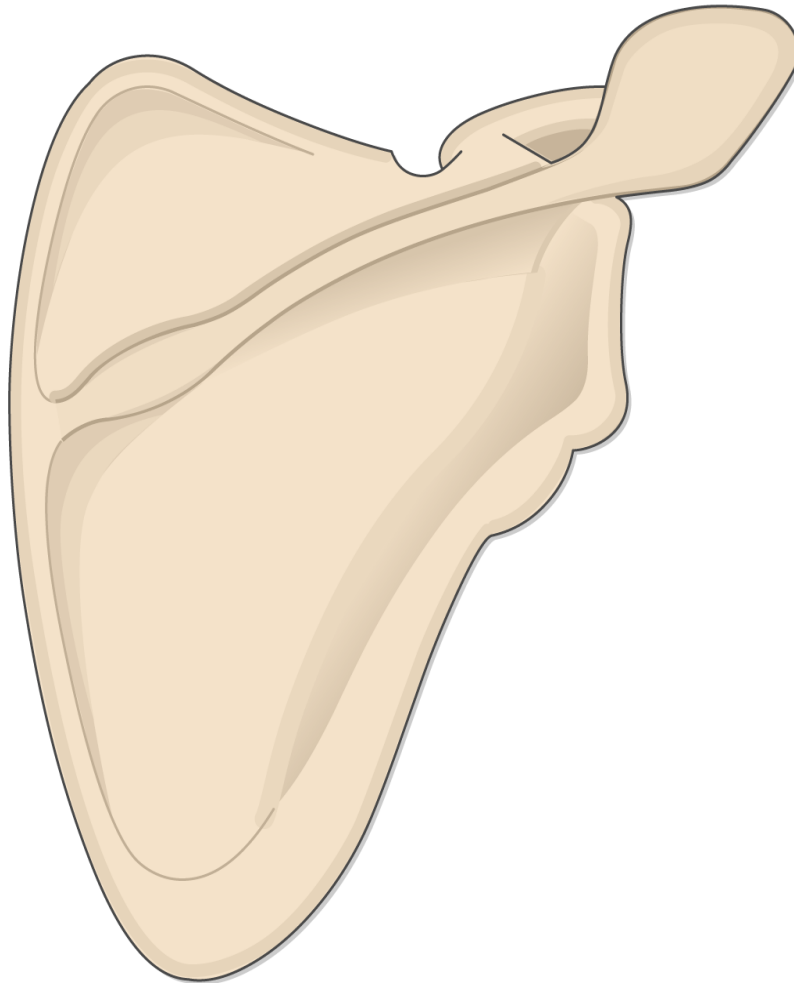
SCAPULA: Draw a muscle & ligament attached on Anterior View (Right)



Muscles attached on Anterior View:

Ligament attached on Superior View:

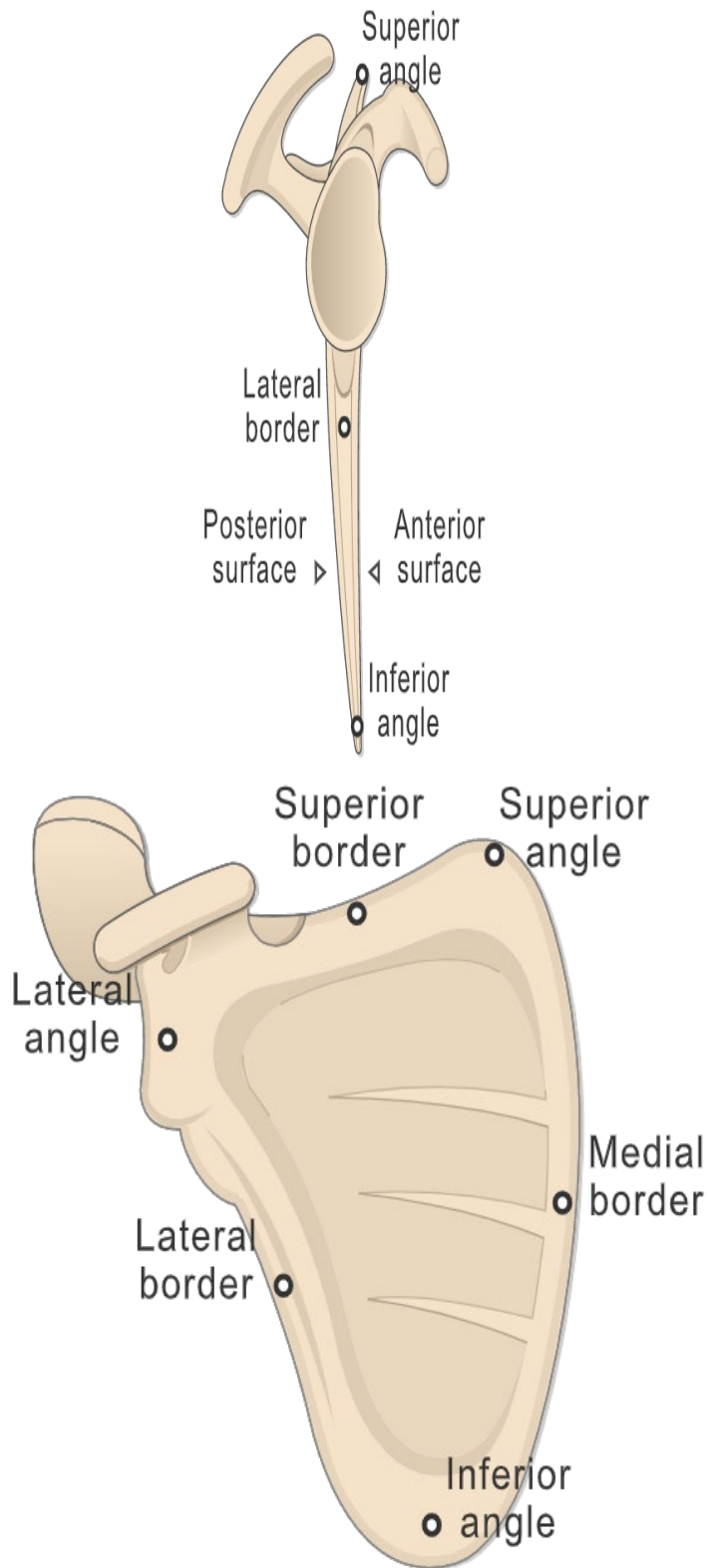
SCAPULA: Draw a muscle & ligament attached on Posterior View (Right)



Muscles attached on Posterior View:

Ligaments attached on Posterior View:

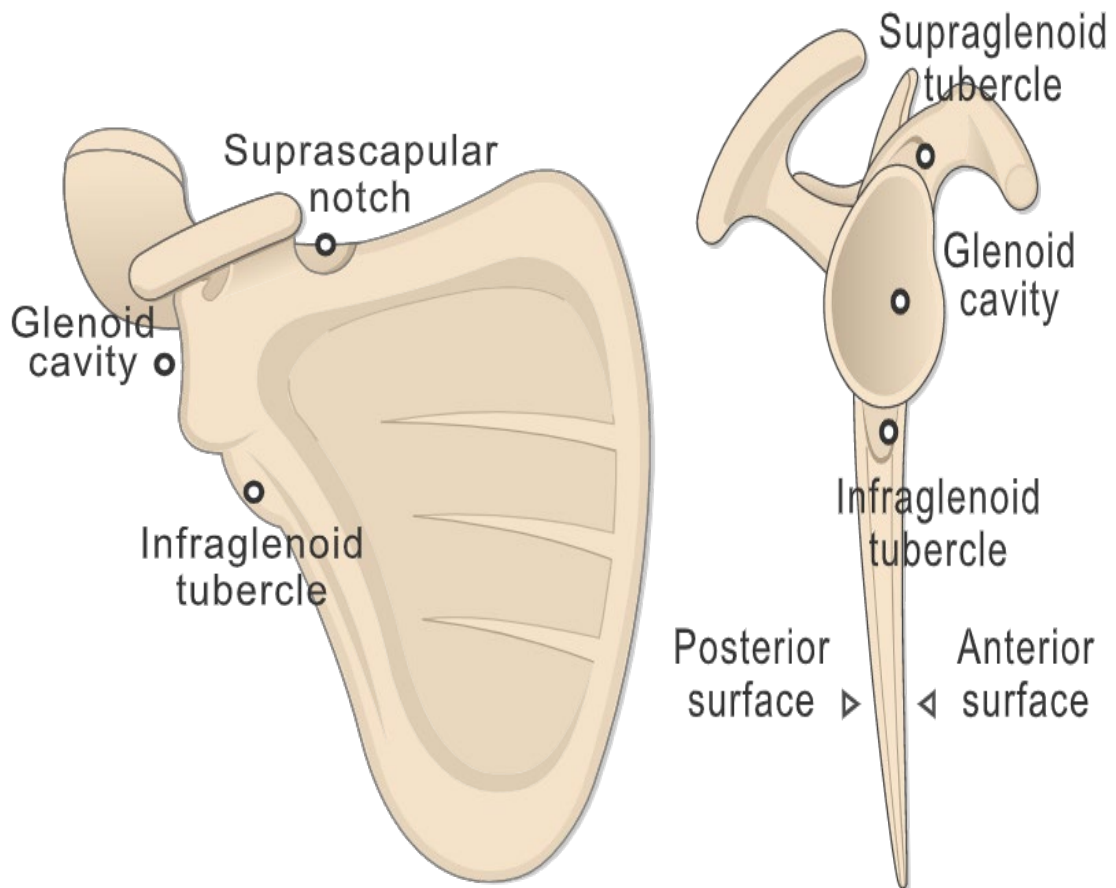
SCAPULA: Borders & Angles on Anterior View & Lateral View (Right)



Borders: -

Angles: -

SCAPULA: Tubercle, Notch & Cavity on Anterior View (Right)

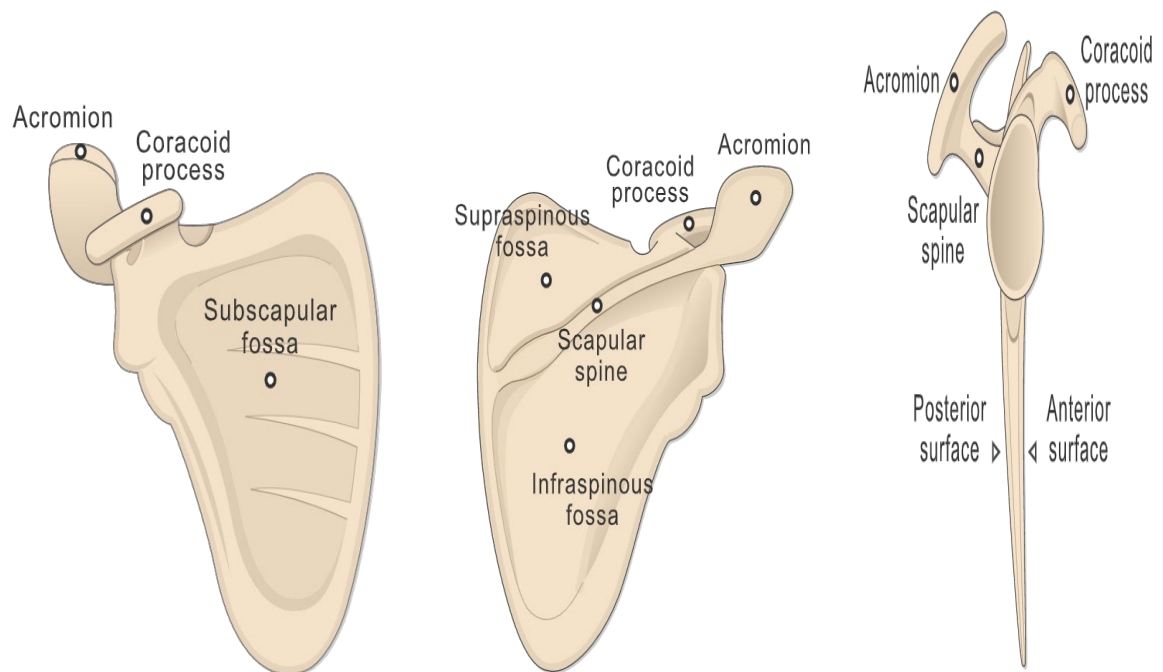


Tubercle: -

Notch: -

Cavity: -

SCAPULA: Projections, Ridges and Depressions on Anterior View (Right)



Projections: -

Ridges: -

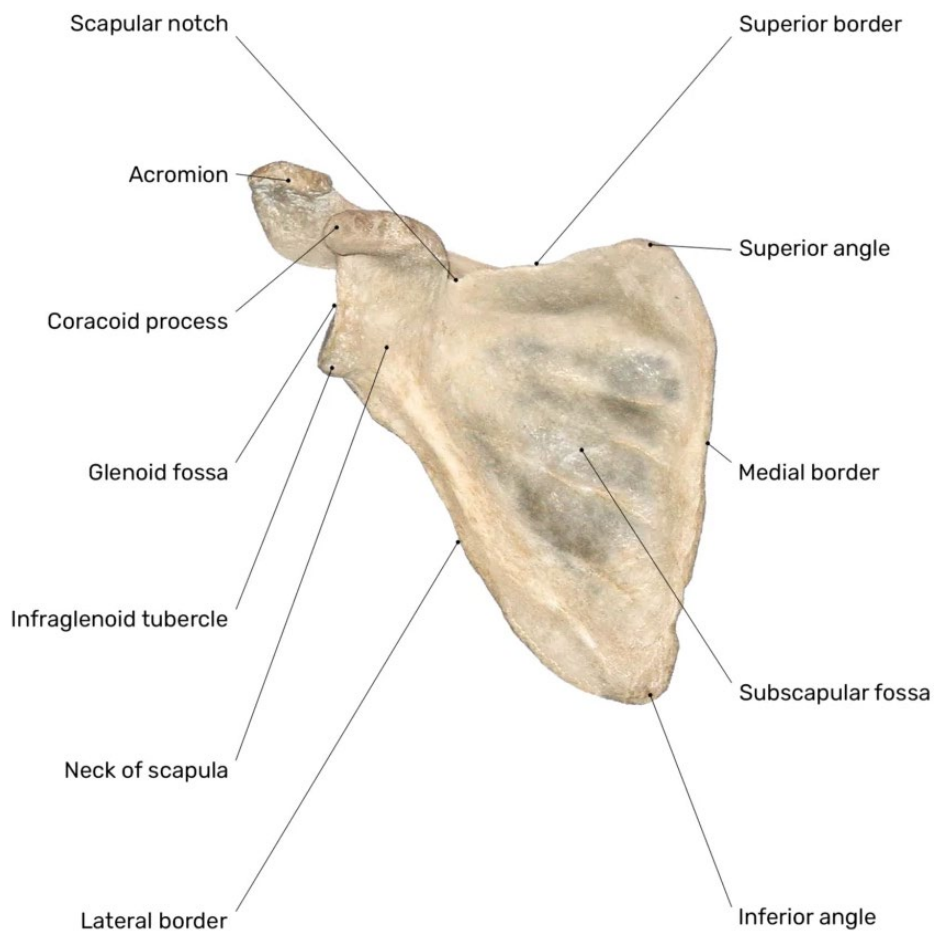
Depression: -

SCAPULA: Write down details of the following heads under its features, characteristic's points, attachments and important of the scapula bone.

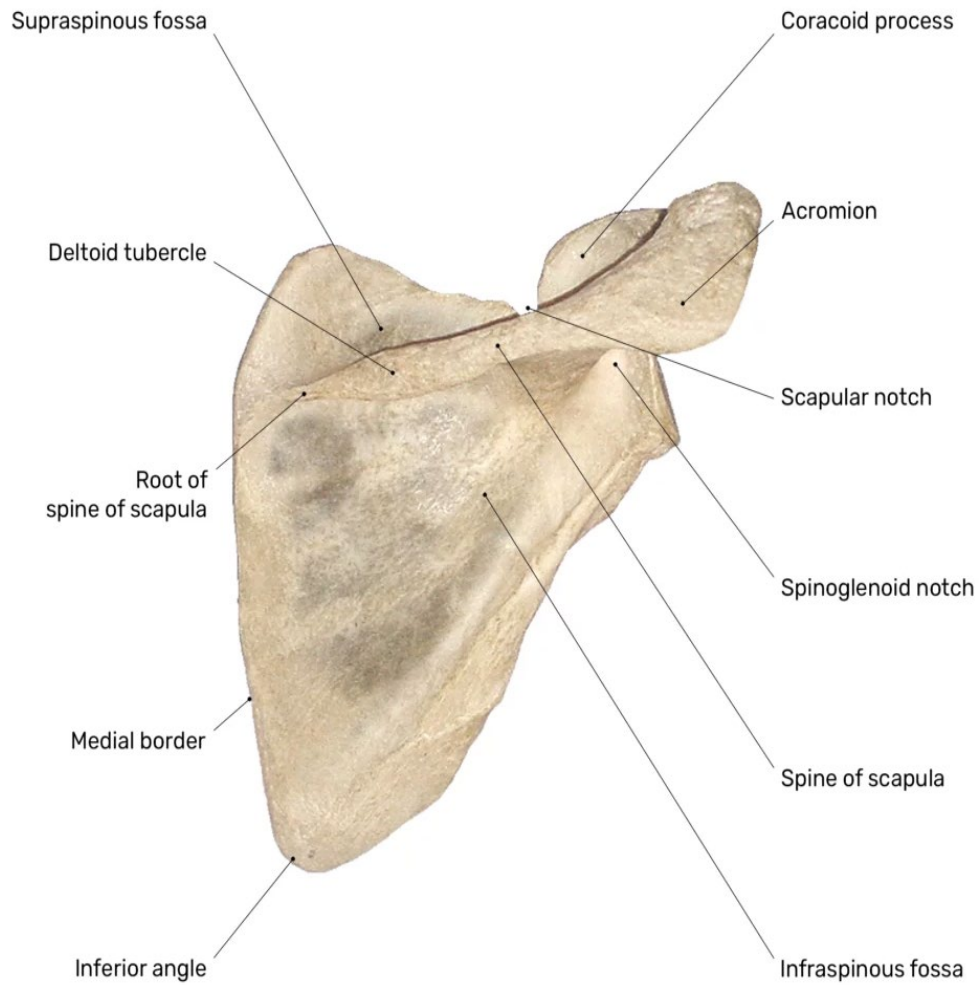
A) Parts:

B) Side determination points:

C) Features of scapula: two surfaces, three process, three angles, three borders



Costal / Anterior Surface: Right Scapula



Dorsal / Posterior Surface: Right Scapula

1. Costal (anterior) surface:

2. Dorsal (Posterior) surface:

3. Coracoid Process:

4. Spinous Process:

5. Acromion Process:

6. Superior Border:

7. Medial Border:

8. Lateral Border:

9. Superior Angle:

10. Inferior Angle:

11. Lateral Angle:

D) Ossification:

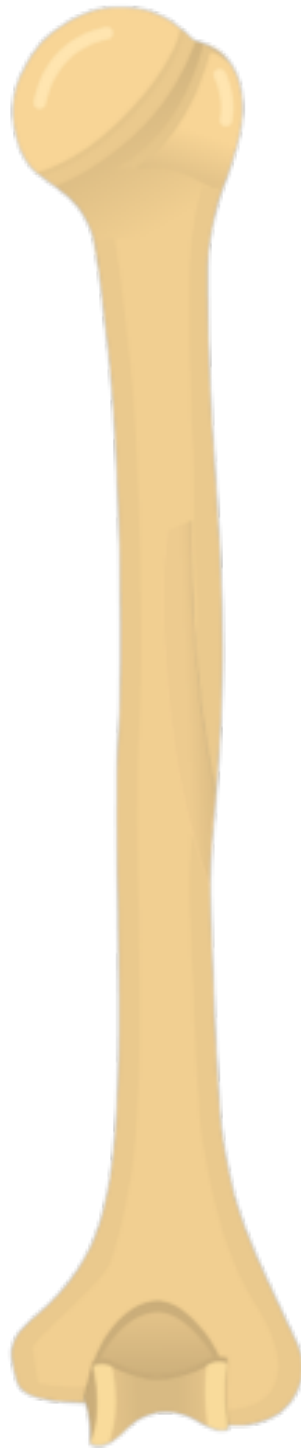
E) Clinical Integration: Winging of scapula, Scaphoid scapula.

HUMERUS: Label: Head, Greater Tubercle, Lesser Tubercle, Intertubercular Groove, Anatomical Neck, Surgical Neck, Shaft or Body, Deltoid Tuberosity, Lateral Epicondyle, Lateral Supracondylar Ridge, Medial Epicondyle, Capitulum, Trochlea, Coronoid Fossa, Radial Fossa (Right)



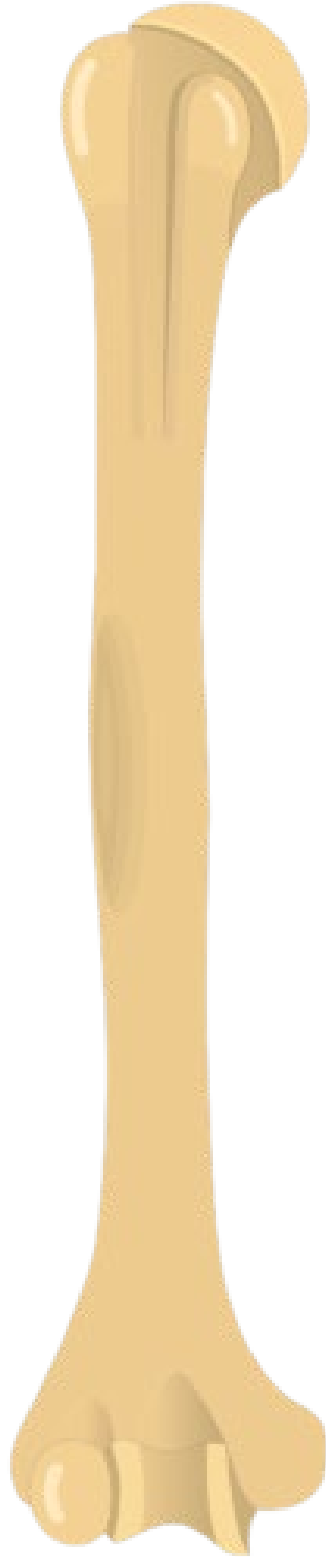
Right Humerus: Anterior View

HUMERUS: Label: Head, Greater Tubercle, Anatomical Neck, Surgical Neck, Shaft or Body, Deltoid Tuberosity, Lateral Epicondyle, Lateral Supracondylar Ridge, Medial Epicondyle, Trochlea, Radial Groove, Olecranon Fossa (Right)



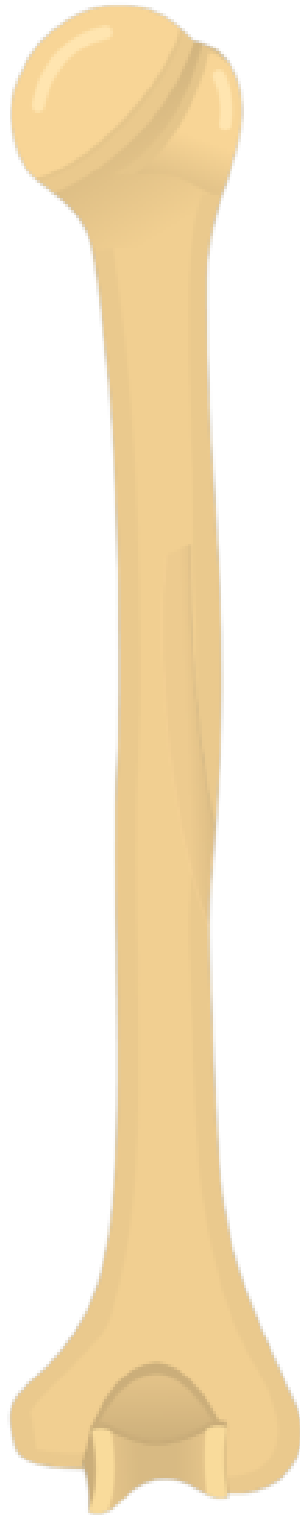
Right Humerus: Posterior View

HUMERUS: Draw a muscle attached on Anterior View (Right)



Right Humerus: Anterior View

HUMERUS: Draw a muscle attached on Posterior View (Right)



Right Humerus: Posterior View

HUMERUS: Write down details of the following heads under its features, characteristic's points, attachments and important of the humerus bone.

A) Parts:

B) Side determination points:

C) Features of humerus: 1. Upper end 2. Shaft 3. Lower end

1. Upper end: Head, Neck – Anatomical & Surgical, Tubercle – Greater & Lesser, Intertubercular sulcus (bicipital aponeurosis)



Head: -

Anatomical Neck: -

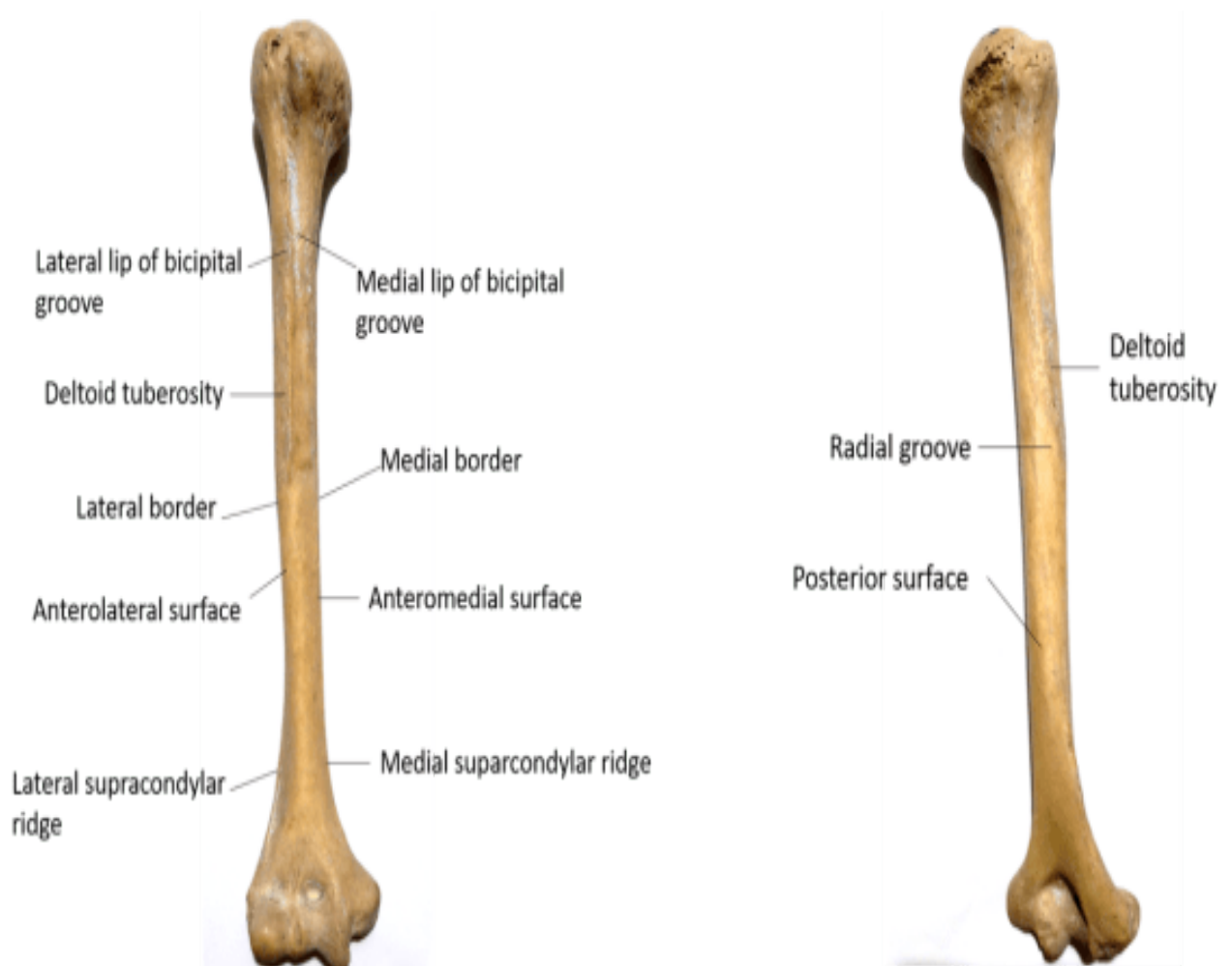
Surgical Neck: -

Greater Tubercle: -

Lesser Tubercle: -

Intertubercular sulcus (bicipital aponeurosis): -

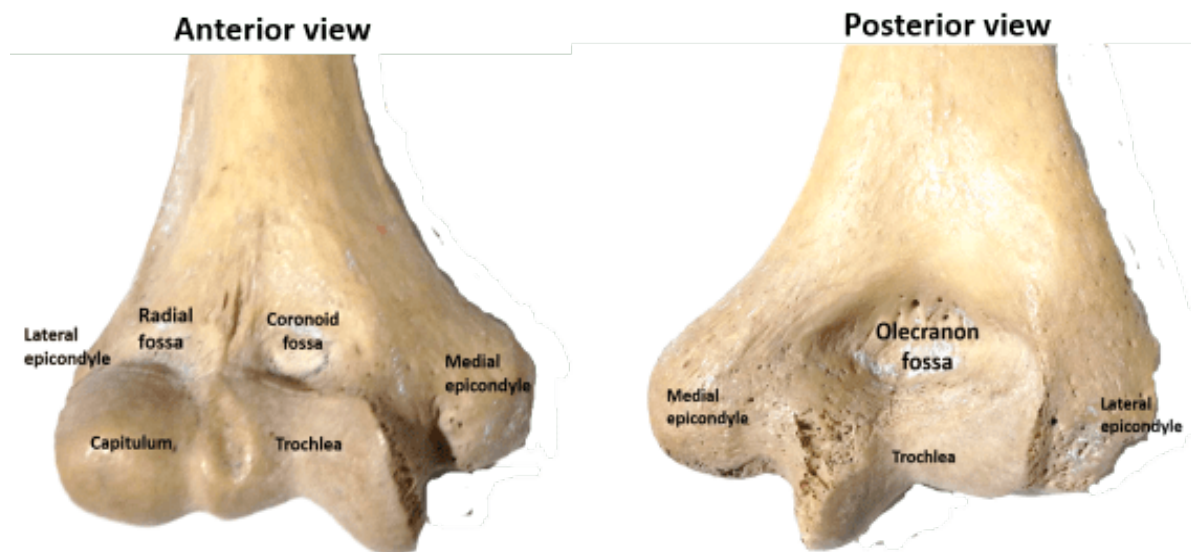
2. Shaft: Three borders and three surfaces



Anterior & Posterior View: Right Humerus

- Anterior border:
- Medial border:
- Lateral border:
- Anteromedial surface:
- Anterolateral surface:
- Posterior surface:

3. Lower end: articular parts – capitulum & trochlea and non-articular parts - medial and lateral epicondyles, radial fossa, coronoid fossa, olecranon fossa.



Capitulum:

Trochlea:

Medial Epicondyle:

Lateral Epicondyle:

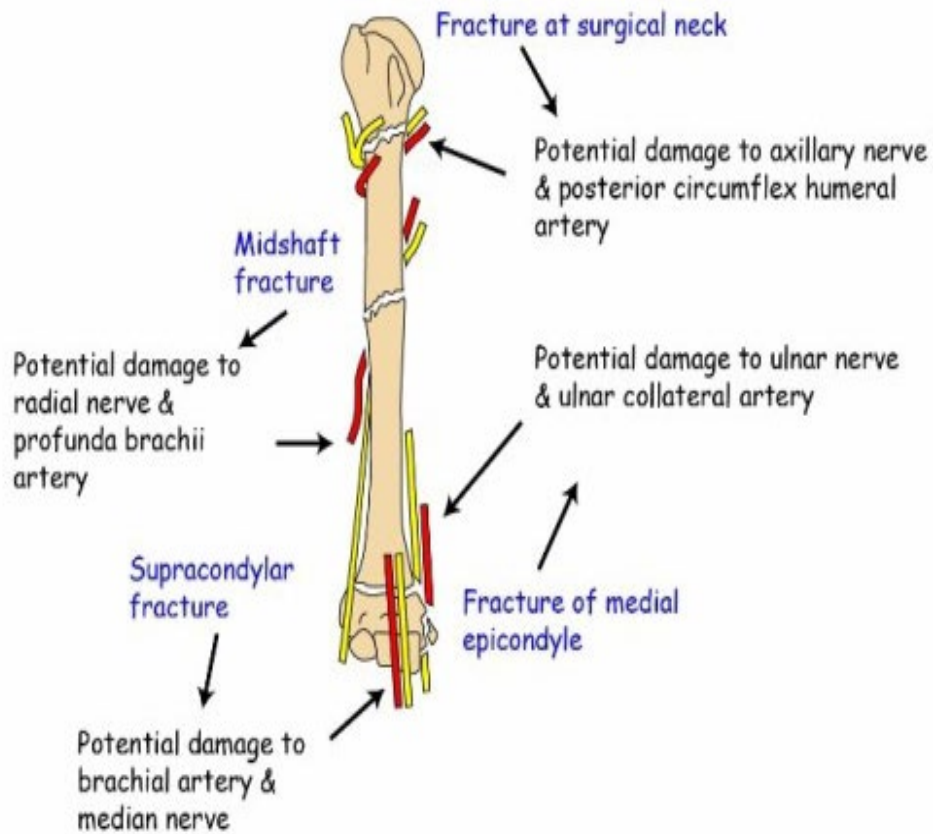
Radial Fossa:

Coronoid Fossa:

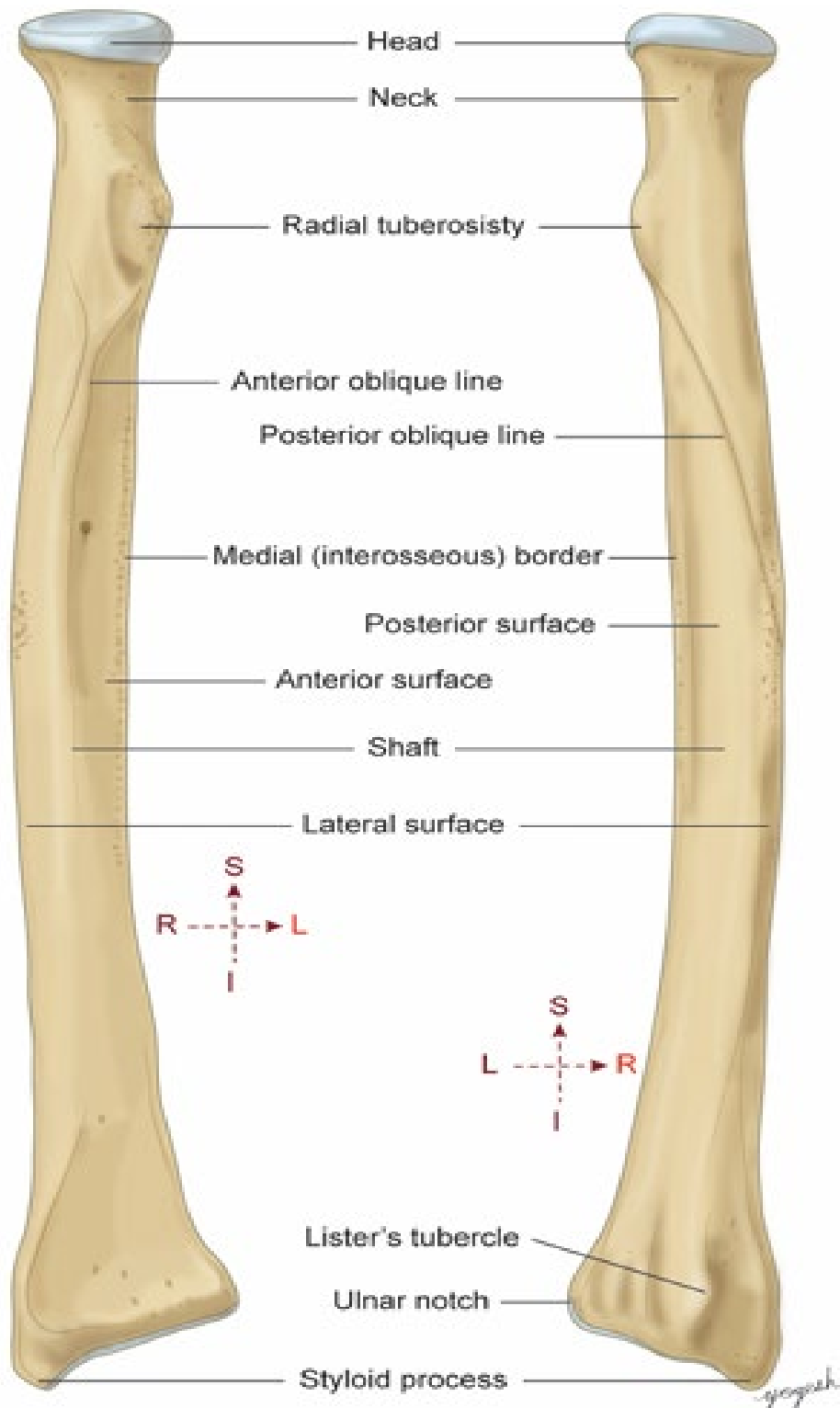
Olecranon Fossa.

D) Ossification:

E) Clinical Integration: - Arteries and nerves liable to damage at 4 sites of fracture of the humerus.



RADIUS: External features of radius at anterior and posterior view of the right radius.



Right Radius: Anterior & Posterior view

RADIUS: Fill in the blanks; external features of radius.

Upper End: -

Head: Shape _____, Articulate with _____, _____ notch of _____, and _____ ligament.

Neck: Shape _____, Attachment _____ ligament.

Radial Tuberosity: Anterior smooth part covered by _____.

Posterior rough part attached _____ muscle.

Shaft: -

Borders

Anterior Border: From radial tuberosity to styloid process anteriorly.

Anterior oblique line attachment _____ muscle.

Posterior Border: From radial tuberosity to styloid process posteriorly.

Medial Border: It is also known as _____ border.

Attachment _____ muscle.

Surfaces

Anterior surface: Has _____ foramina.

Attachment _____ & _____ muscle.

Posterior surface: Attachment _____ & _____ muscle.

Lateral surface: Upper part attachment _____ muscle.

Middle part attachment _____ muscle.

Lower End: -

Anterior surface: Attachment _____ ligament.

Posterior surface: _____ tubercle has 4 grooves.

Medial surface: _____ notch for head of ulna.

Attachment _____ disc.

Lateral surface: Present grooves.

Attachment _____ muscle & _____ ligament.

Inferior surface: Lateral triangular area for _____ bone.

Medial quadrangular area for _____ bone.

RADIUS: Draw muscles attachment on anterior and posterior view



Anterior View of Right Radius



Posterior View of Right Radius

RADIUS: Write down details of the following heads under its features, characteristic's points, attachments and important of the radius bone.

A) Parts:

B) Side determination points:

C) Features of radius: 1. Upper end 2. Shaft 3. Lower end

1. Upper end: Head, Neck, Radial tuberosity

Head: -

Neck: -

Radial tuberosity: -

2. Shaft: Three borders and three surfaces

Anterior border: -

Posterior border: -

Medial border: -

Anterior surface: -

Posterior surface: -

Lateral surface: -

3. Lower end: five surfaces

Anterior surface: -

Posterior surface: -

Medial surface: -

Lateral surface: -

Inferior surface: -

D) Ossification:

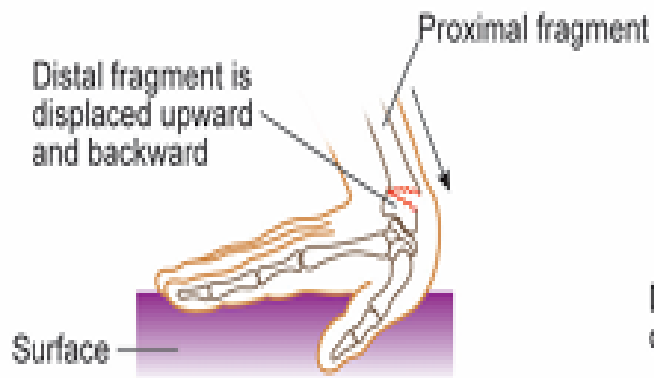
E) Clinical Integration: - four fractures

1. Colle's fracture: -

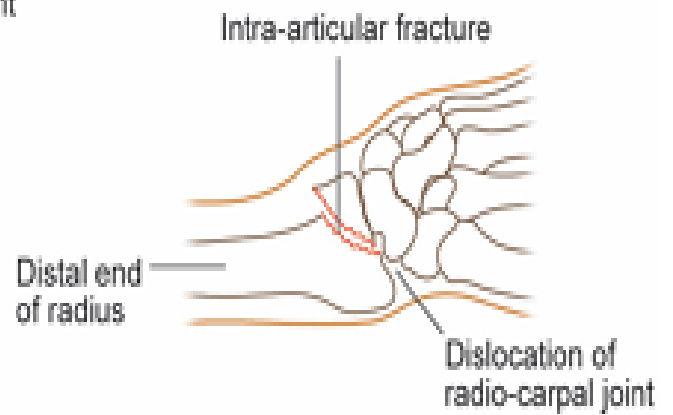
2. Barton's fracture: -

3. Smith's fracture: -

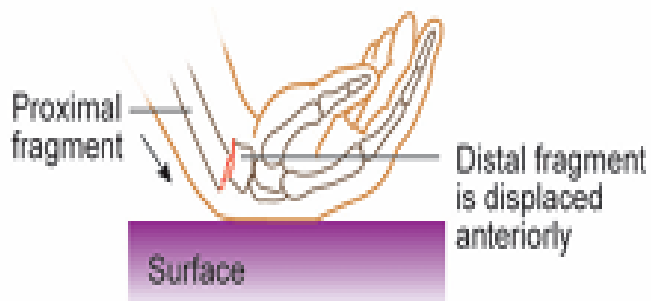
4. Chauffeur's fracture: -



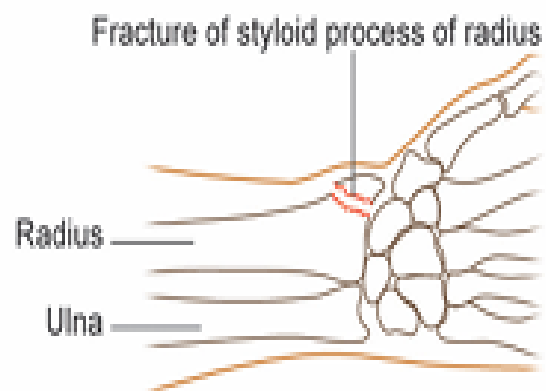
Colles' fracture



Barton's fracture

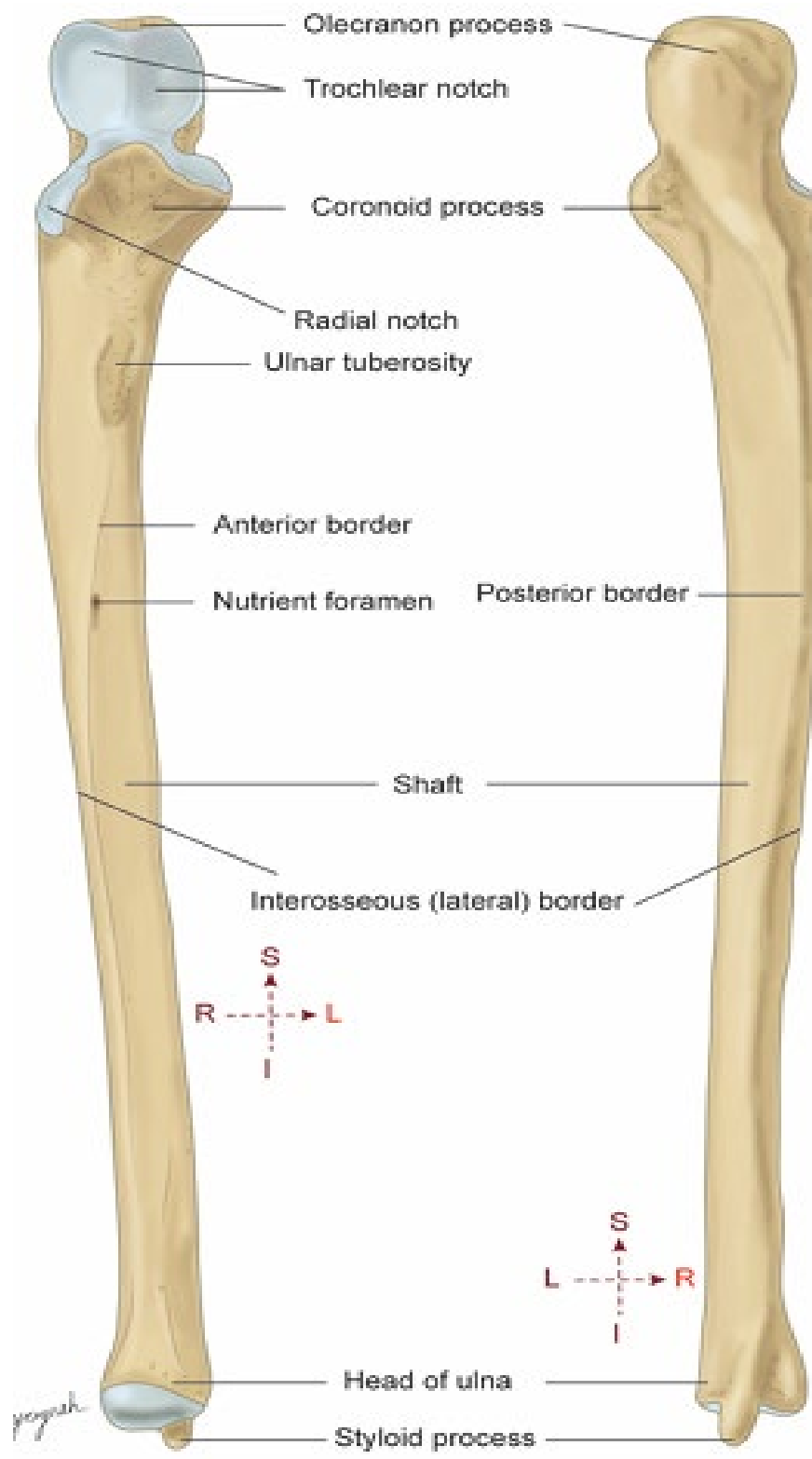


Smith's fracture



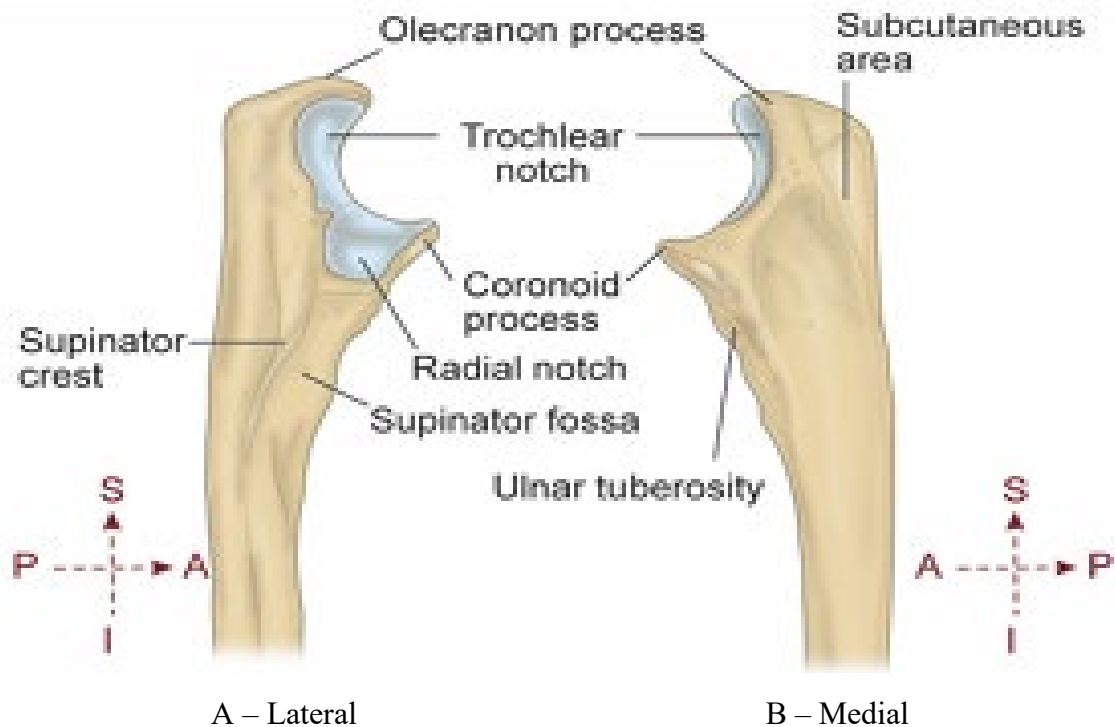
Chauffeur's fracture

ULNA: External features of the right ulna

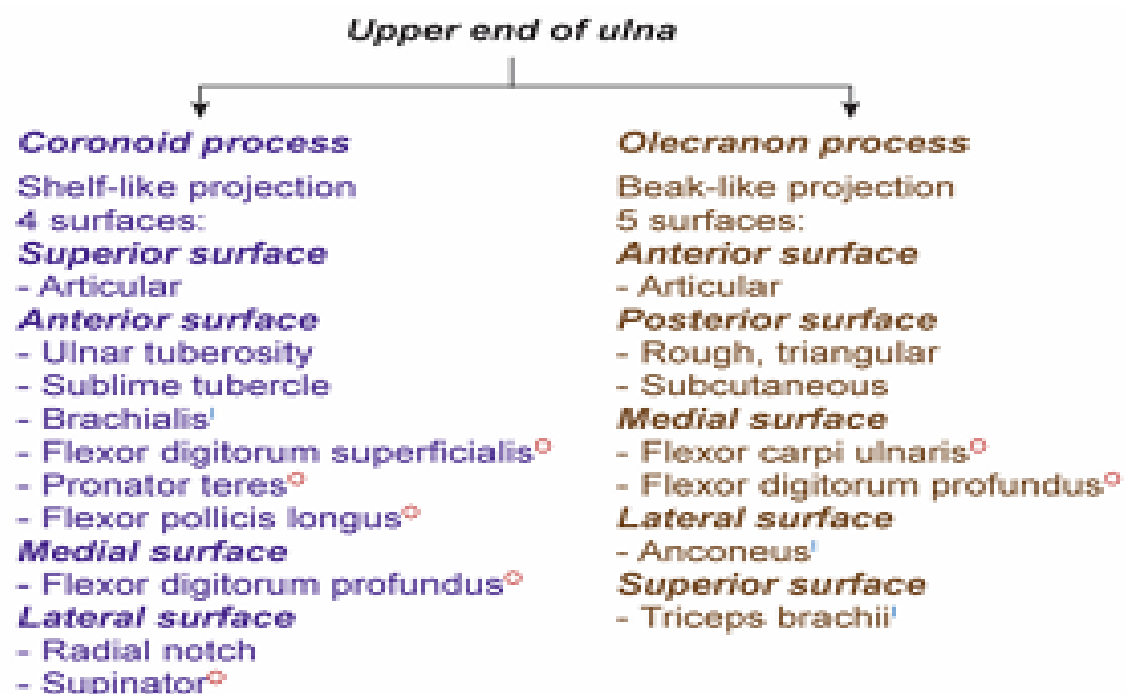


Right Ulna: Anterior & Posterior view

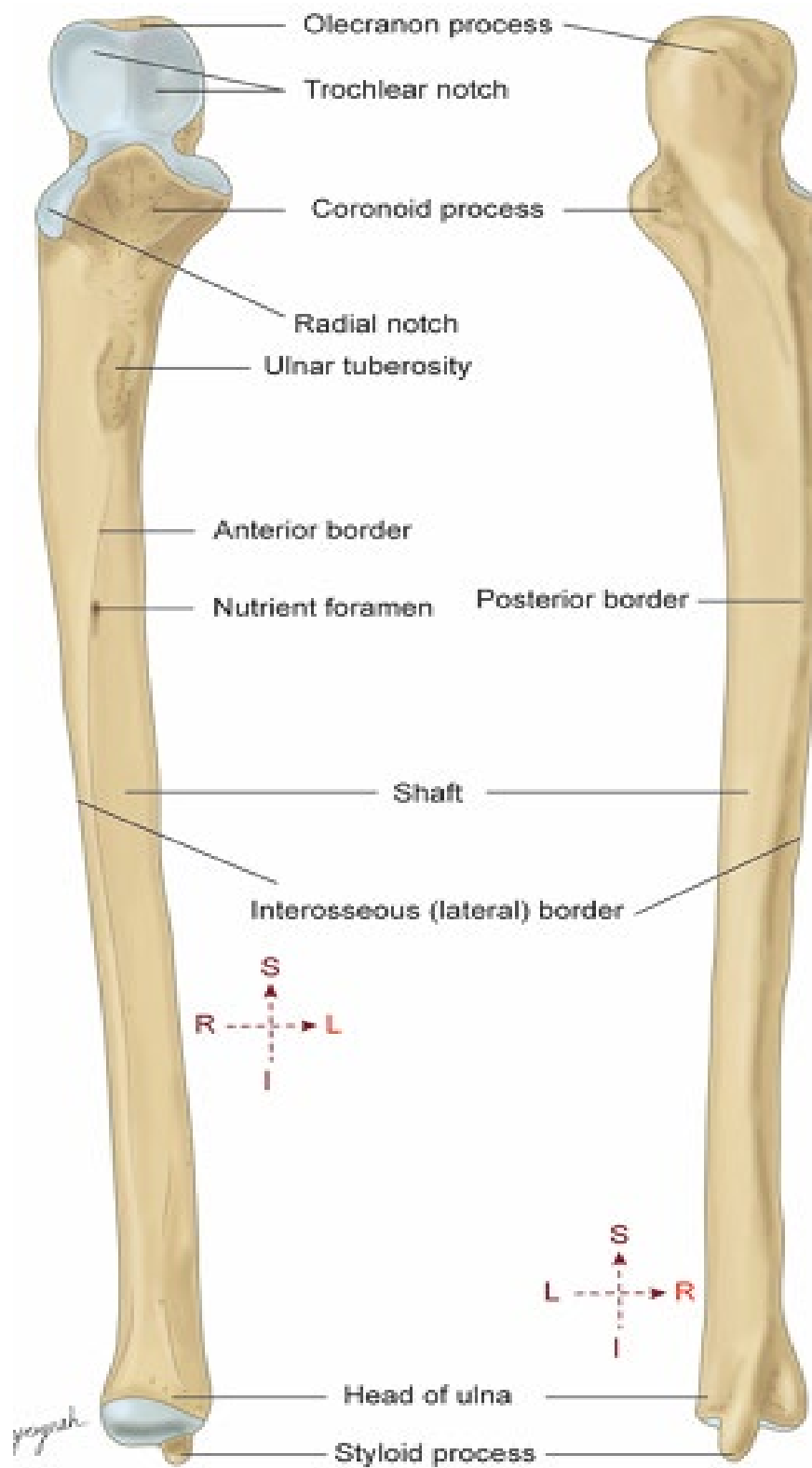
ULNA: Upper end of the Right Ulna (lateral & medial view): Draw muscles attachments



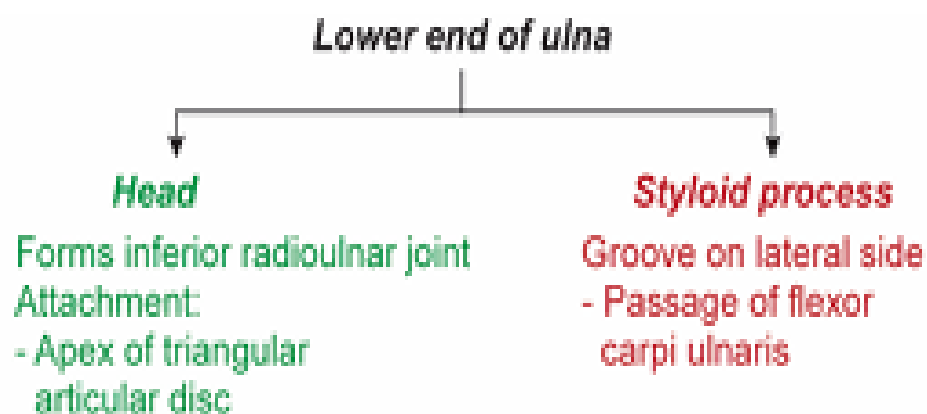
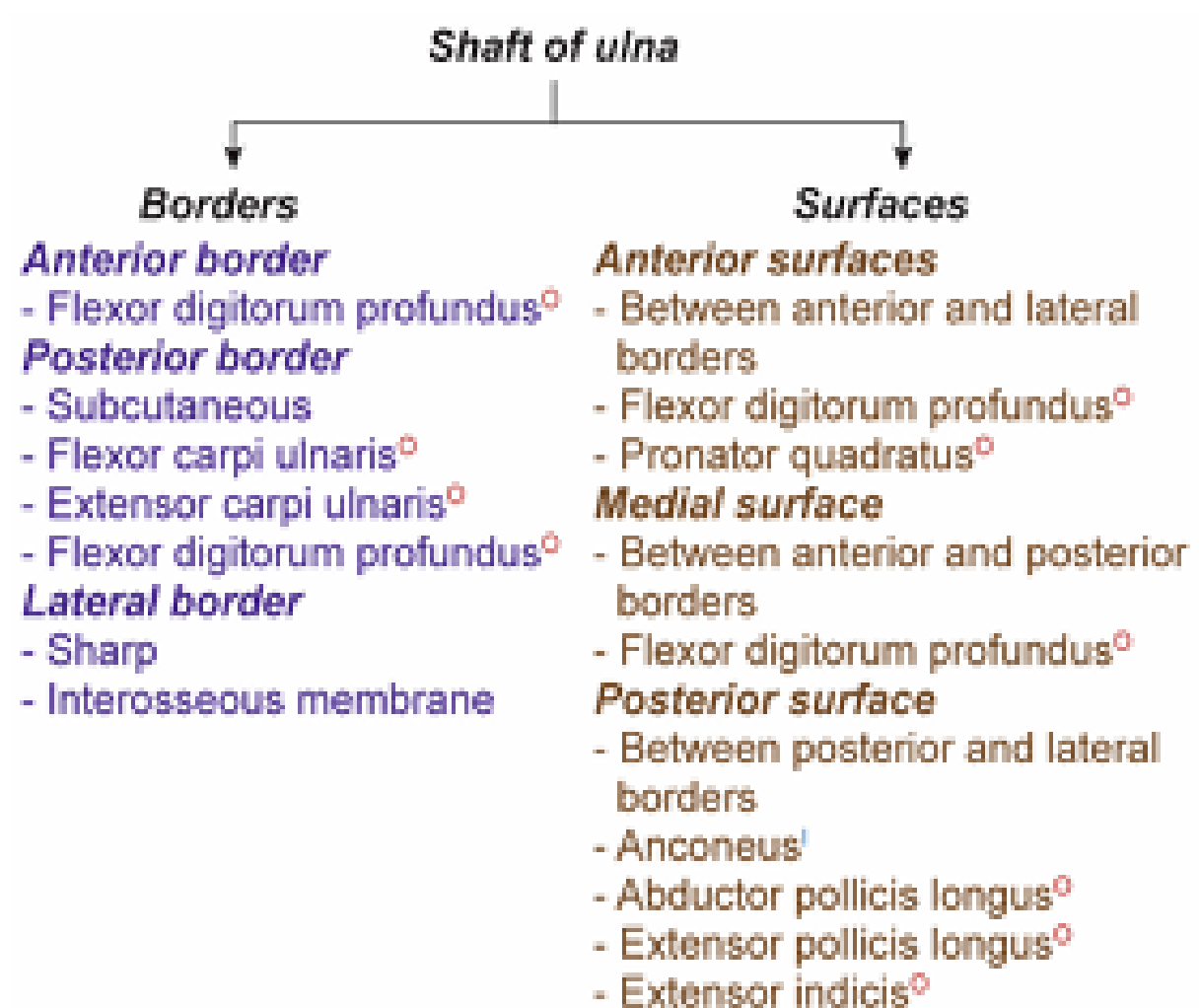
Right Ulna: Lateral & Medial view



ULNA: Draw muscles attachments on anterior & posterior view of the right ulna.



Right Ulna: Anterior & Posterior view



ULNA: Write down details of the following heads under its features, characteristic's points, attachments and important of the ulna bone.

A) Parts:

B) Side determination points:

C) Features of ulna: 1. Upper end 2. Shaft 3. Lower end

1. Upper end: Coronoid process, Olecranon process, Trochlear notch, Radial notch.

Coronoid process: -

Olecranon process: -

Trochlear notch: -

Radial notch: -

2. Shaft: Three borders and three surfaces

Anterior border: -

Posterior border: -

Lateral border: -

Anterior surface: -

Posterior surface: -

Medial surface: -

3. Lower end: head and styloid process

Head: -

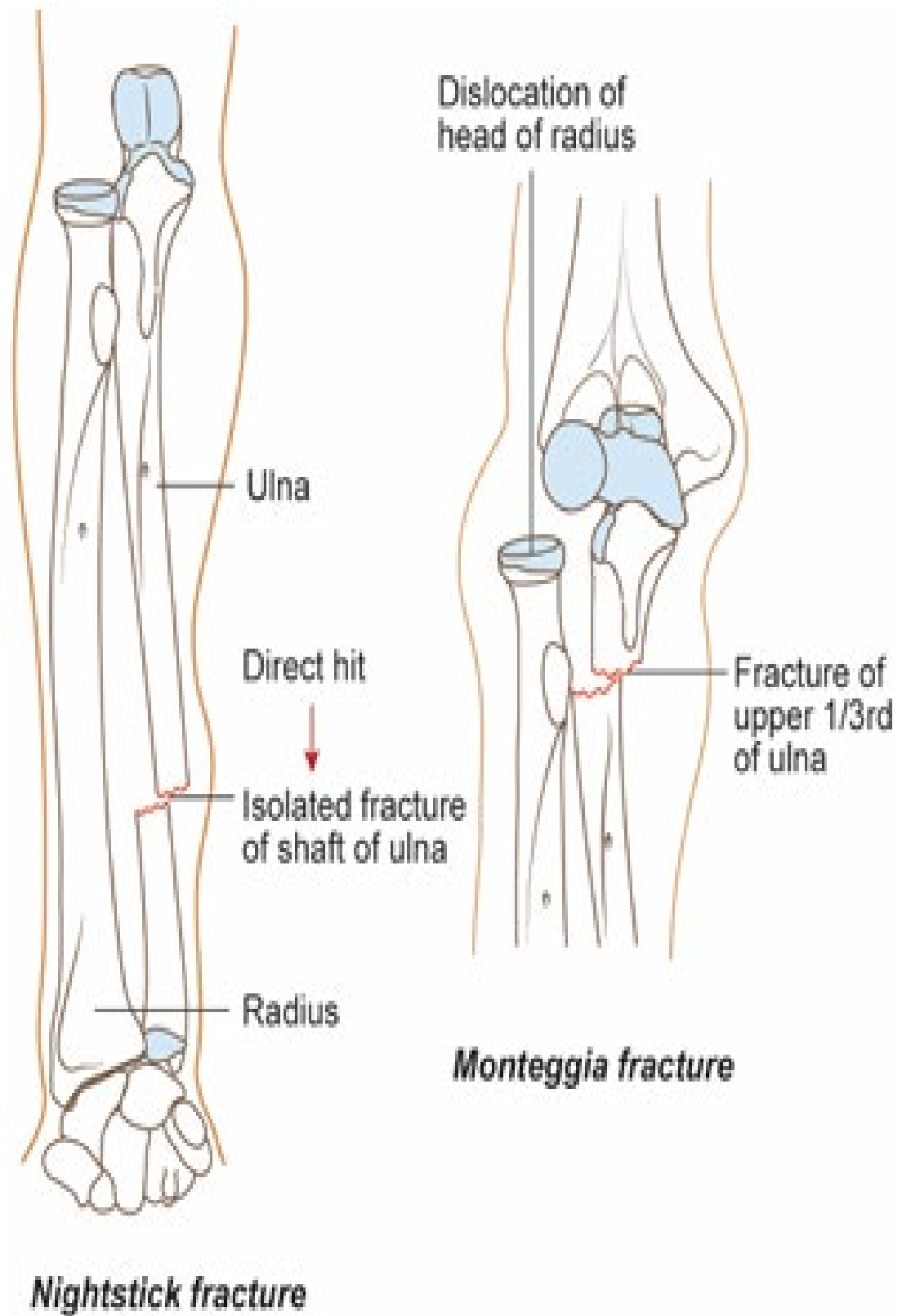
Styloid process: -

D) Ossification:

E) Clinical Integration: - two fractures

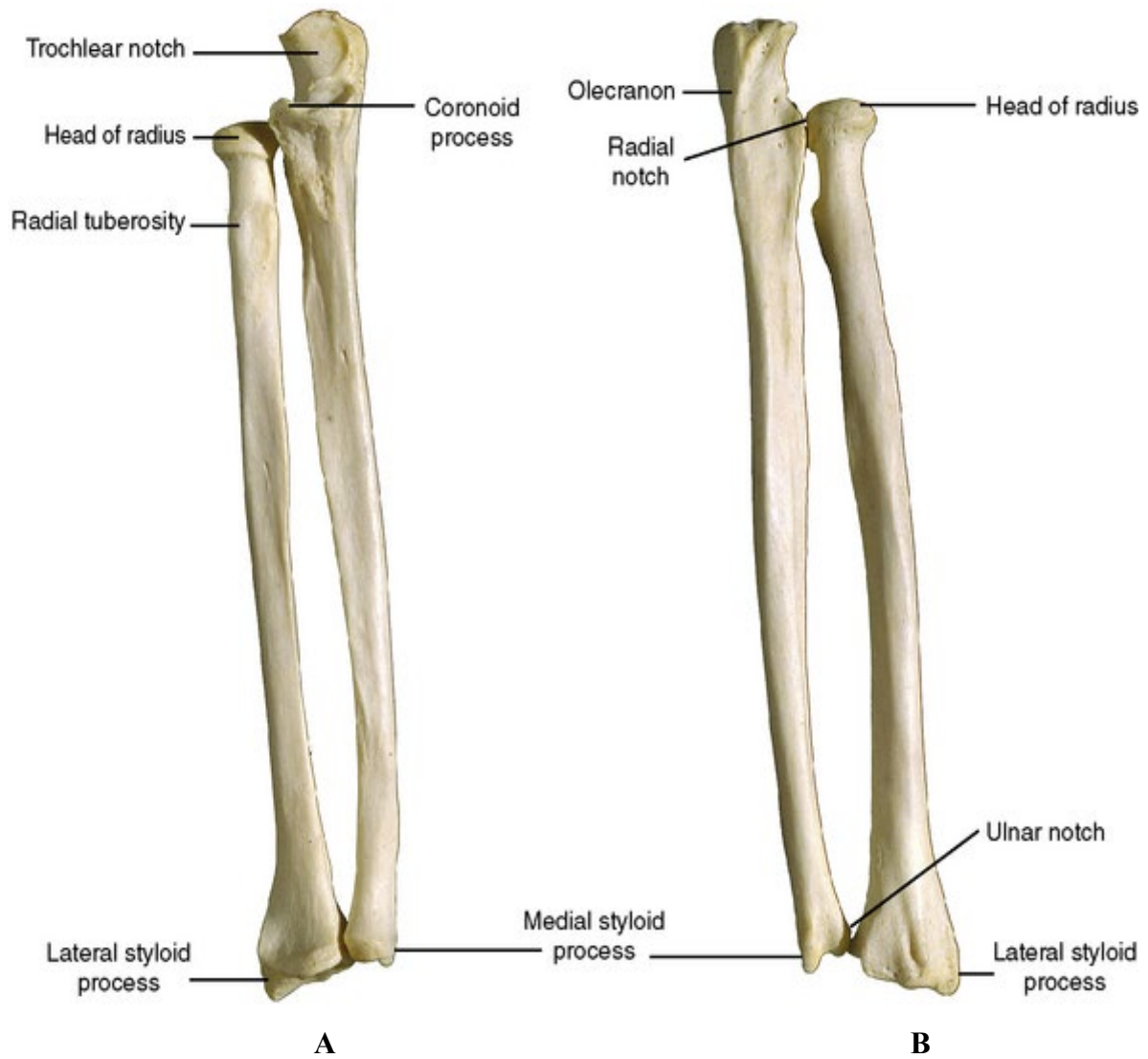
1. Nightstick fracture: -

2. Monteggia fracture: -



Ulna: Common fractures

RADIUS & ULNA ARTICULATION: - Anterior & Posterior view



A – Anterior view: Right Radius & Ulna

B – Posterior view: Right Radius & Ulna

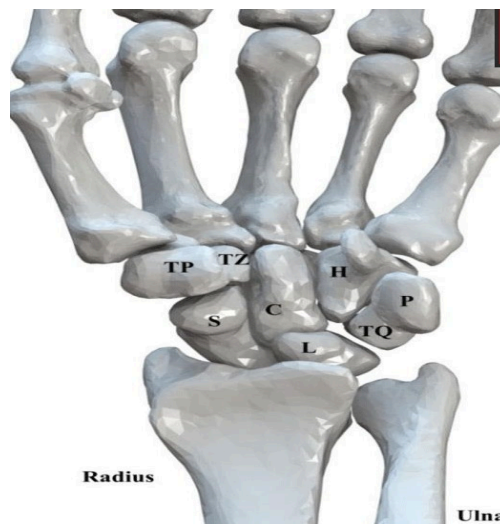
Superior radioulnar Joint: -

Inferior radioulnar Joint: -

CARPAL BONES

The 8 Carpal Bones

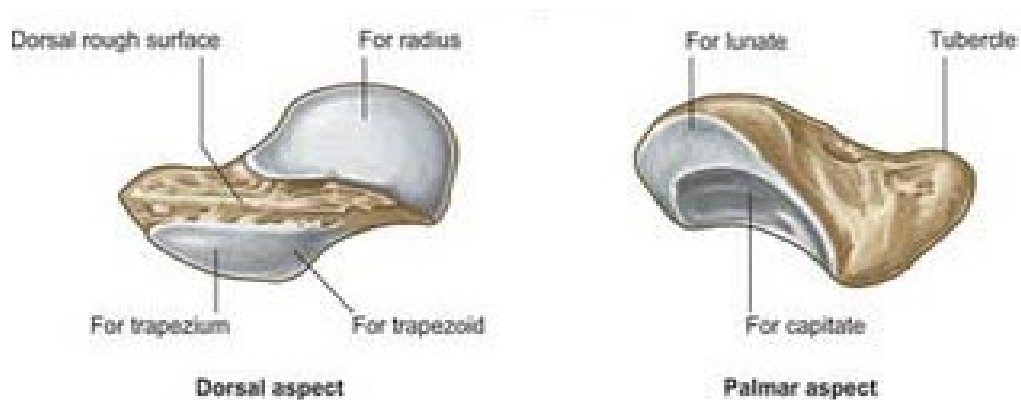
The bones are arranged in two horizontal rows



Proximal Row (Closest to the forearm)

- Scaphoid: Boat-shaped bone; the most commonly fractured carpal bone. Navicular/Scaphoid – Concave surface toward you with the tubercle pointing superiorly; the bone belongs to the side to which the tubercle points.

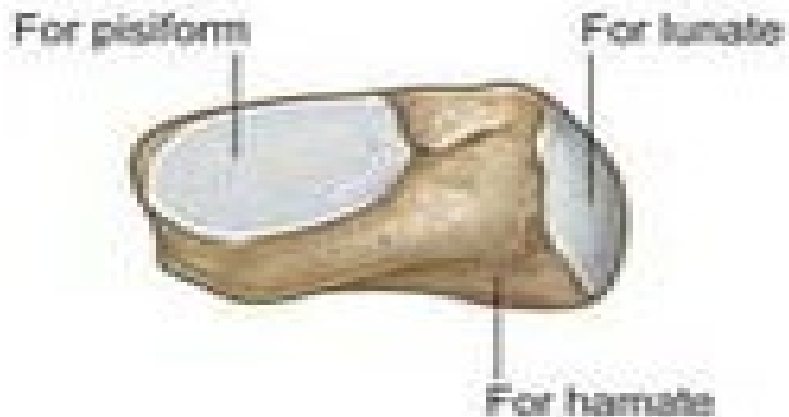
Write down attachment on tubercle of scaphoid: -



- **Lunate:** Crescent or half-moon-shaped bone. Place the flat surface down, concave surface facing you, the remaining facet will rise upward toward the side from which it comes.



- **Triquetrum:** Pyramid-shaped bone. Between your fingers, place the two facets that come together. The bone should be vertical with the largest facet toward you. The remaining facet will point toward the side from which it comes.



- **Pisiform:** Small, pea-shaped bone sitting on top of the triquetrum. With the non-articular surface pointing superiorly and the facet facing you, a groove will be located on the side from which the bone comes.

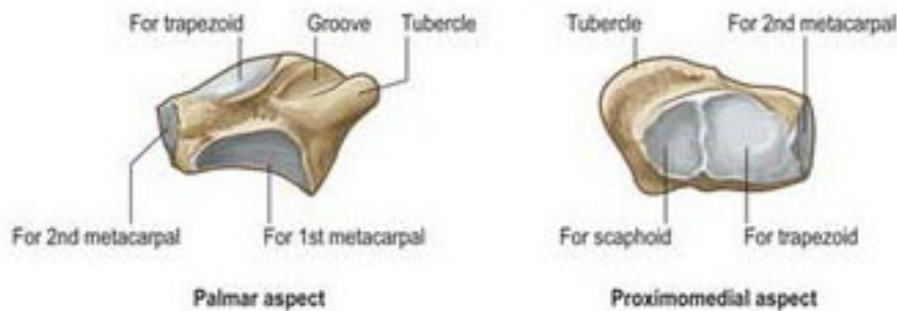
Write down attachment on pisiform: -



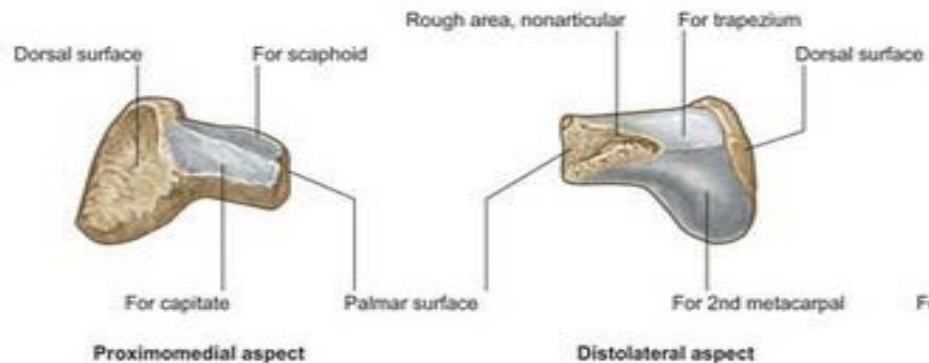
Distal Row (Closest to the fingers)

- **Trapezium:** This bone is quadrangular shape. Articulates with the base of the thumb. Lay the bone on the table with the tubercle pointing superiorly and away from you, with the concave surfaces lateral and there will be a groove next to the tubercle on the side from which the bone comes.

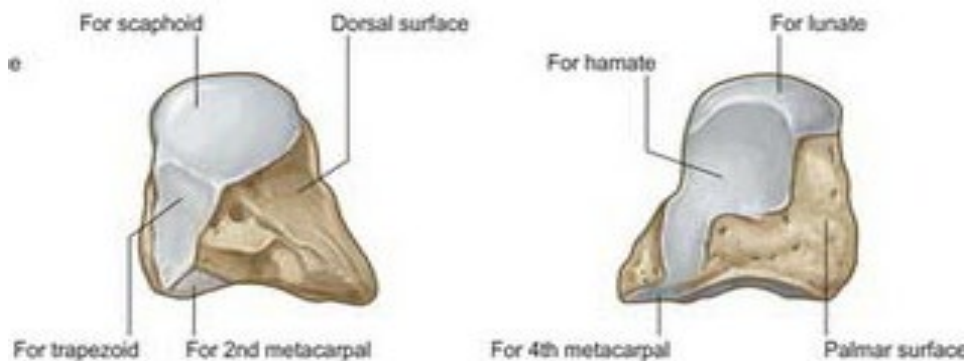
Write down attachment on trapezium: -



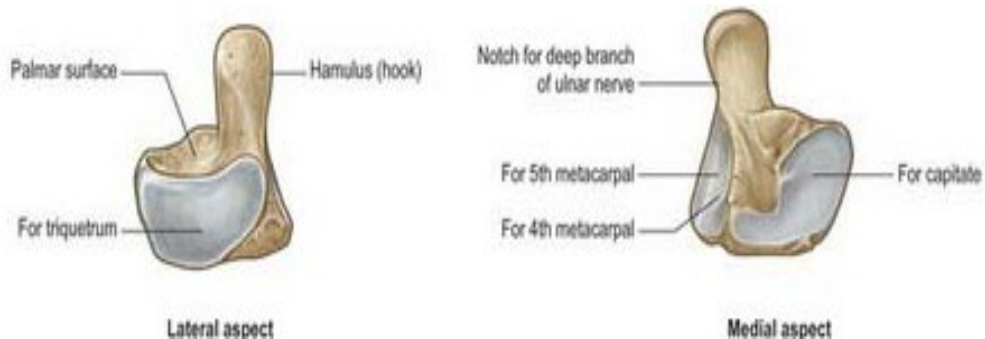
- **Trapezoid:** This bone has a boot shape in appearance. Take the boot and put the sole on the table, with the V-shaped toe pointing toward you. The toe of the boot points toward the side from which it comes.



- **Capitate:** The largest carpal bone, located right in the center. The head should be placed superiorly and the long narrow articulation toward you, the bone belongs to the side on which the long narrow articulation is observed.

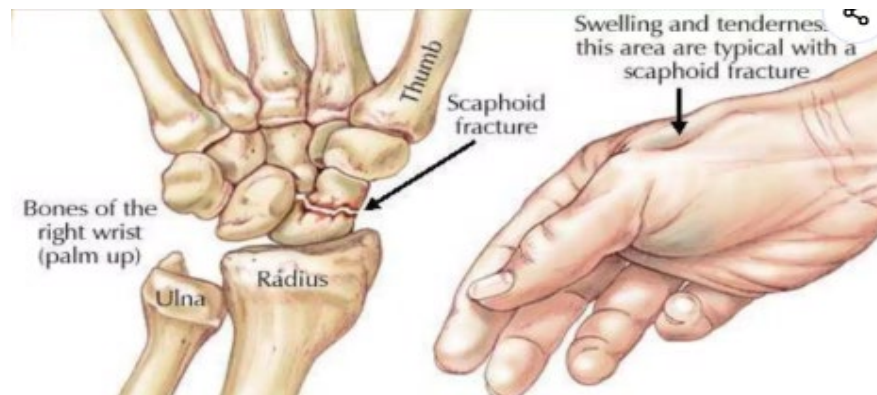


- **Hamate:** This bone is wedge shape. Features a bony hook called the hook of the hamate. The hook and facets should be positioned away from you, with the flat surface down and the hook will lean toward the side from which it comes.

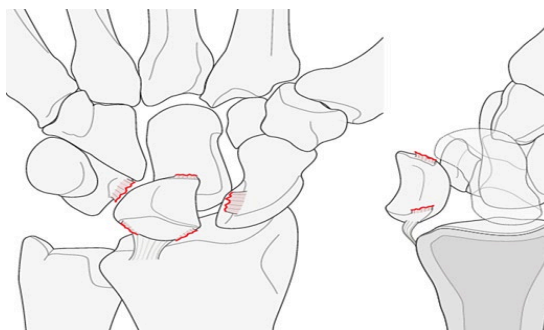


Clinical Anatomy:

1. Fracture of scaphoid bone:



2. Dislocation of lunate bone:



METACARPAL BONES:

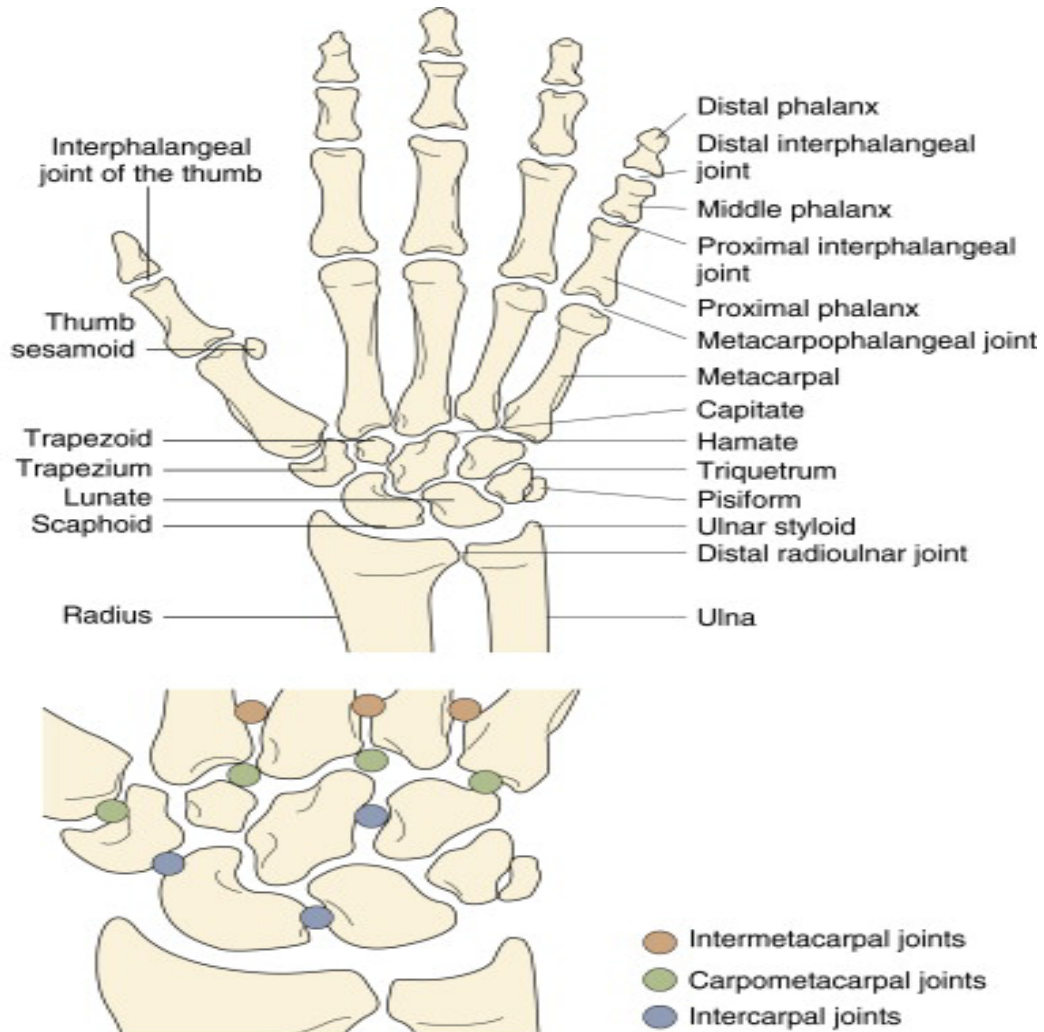
The five metacarpal bones are numbered from lateral to medial.

The metacarpal heads have dorsal tubercles that serve as attachment sites for the collateral ligaments.

Each metacarpal has an epiphysis in the head, except for the first metacarpal, which has an epiphysis in its base.

The metacarpal shaft serves as the origin of the interossei muscles, and the metacarpal bases serve as points for tendon insertion

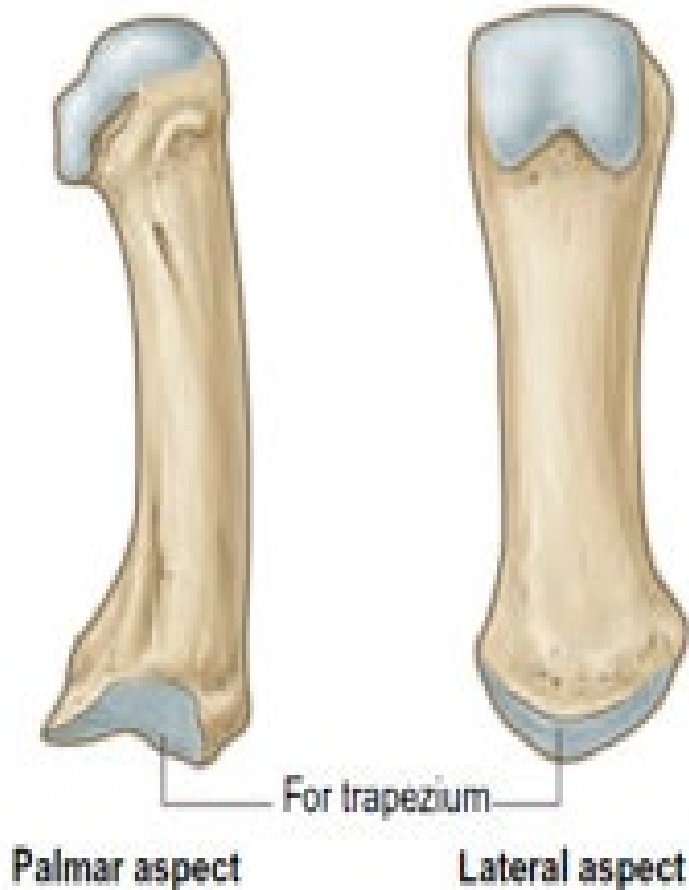
The deep transverse metacarpal ligament stabilizes the heads of the second to fifth metacarpals.



Each metacarpal bone has a base, shaft and head. The bases of the metacarpal bones are wide and they articulate with the bones of the distal carpal row via the carpometacarpal joints;

- The first metacarpal articulates with the trapezium.
- The second metacarpal articulates with the trapezium, trapezoid and capitate
- The third articulates with the capitate
- The fourth and fifth articulate with the hamate

First Metacarpal:



The first carpometacarpal (CMC) joint is a saddle-shaped, very mobile articulation between the trapezium and the base of the first metacarpal. It allows 40° to 50° of thumb flexion–extension parallel to the plane of the palm and 40° to 70° of adduction–abduction perpendicular to the plane of the palm.

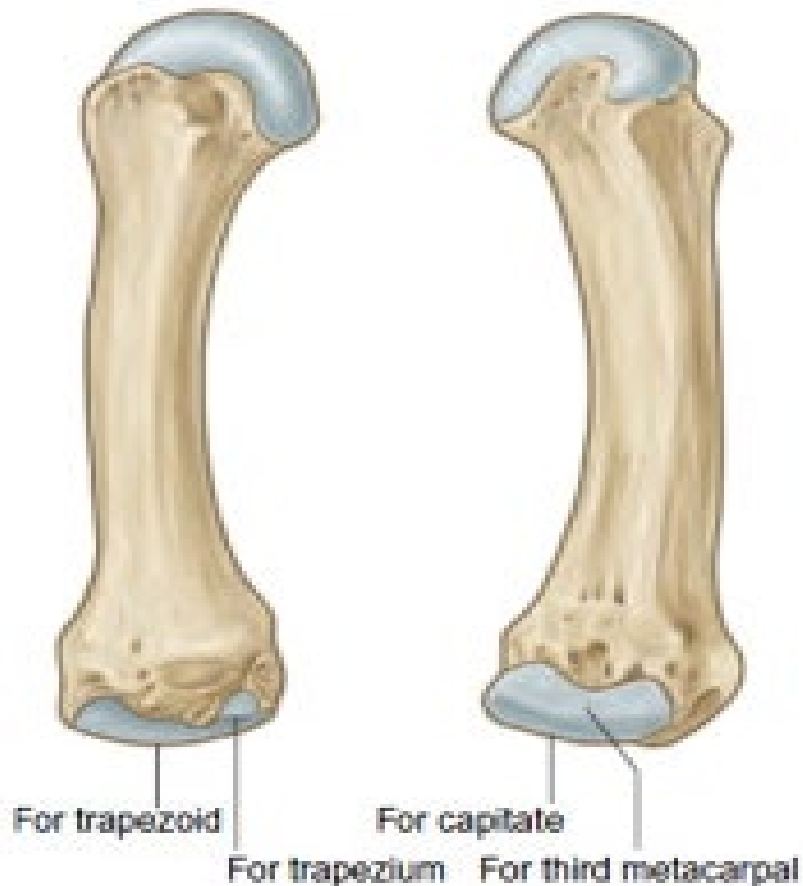
The metacarpophalangeal (MCP) joints are ellipsoid joints.

The first metacarpophalangeal (MCP) joint permits 50° to 70° flexion and 10° to 30° extension.

The first metacarpal provides the attaching points to the several hand muscles;

- The _____ muscle attaches to the radial border and the adjacent part of the shaft.
- The radial head of the first dorsal _____ muscle attaches to the ulnar border and the adjacent part of the shaft.
- The _____ muscle inserts to the palmar surface of the shaft.

Second Metacarpal:



It is the one with the largest base and the longest shaft. Its base shows several areas for the articulations with the carpal bones:

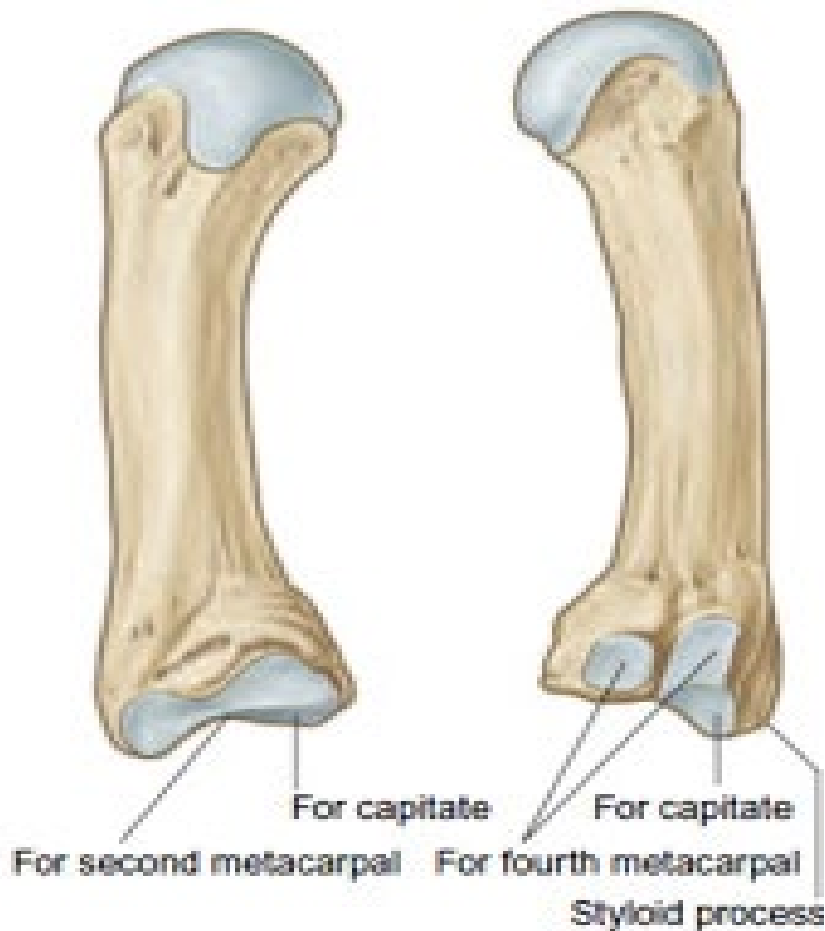
- A groove in the coronal plane via which it articulates with the _____ bone.
- Medially to this groove is a ridge for the articulation with the _____ bone, while laterally is a quadrangular surface for the joint with the _____ bone.
- An elongated facet on its medial surface for the articulation with the third metacarpal bone

Dorsally to the facet for the trapezium is a shallow impression of the insertion of the _____ muscle.

The palmar surface of the base provides the attaching site for the _____ muscle.

The shaft of the second metacarpal is convex towards the dorsum of the hand. The interossei muscles attach to the proximal part of the shaft; the ulnar head of the first dorsal interosseous attaches from the lateral side, while the second palmar and second dorsal interossei attach from the medial side.

Third metacarpal:



The metacarpal bone 3 is located at the base of the middle finger. It differs from the others by a styloid process that projects proximally from the laterodorsally edge of its base.

This process participates in the joint with the _____ bone.

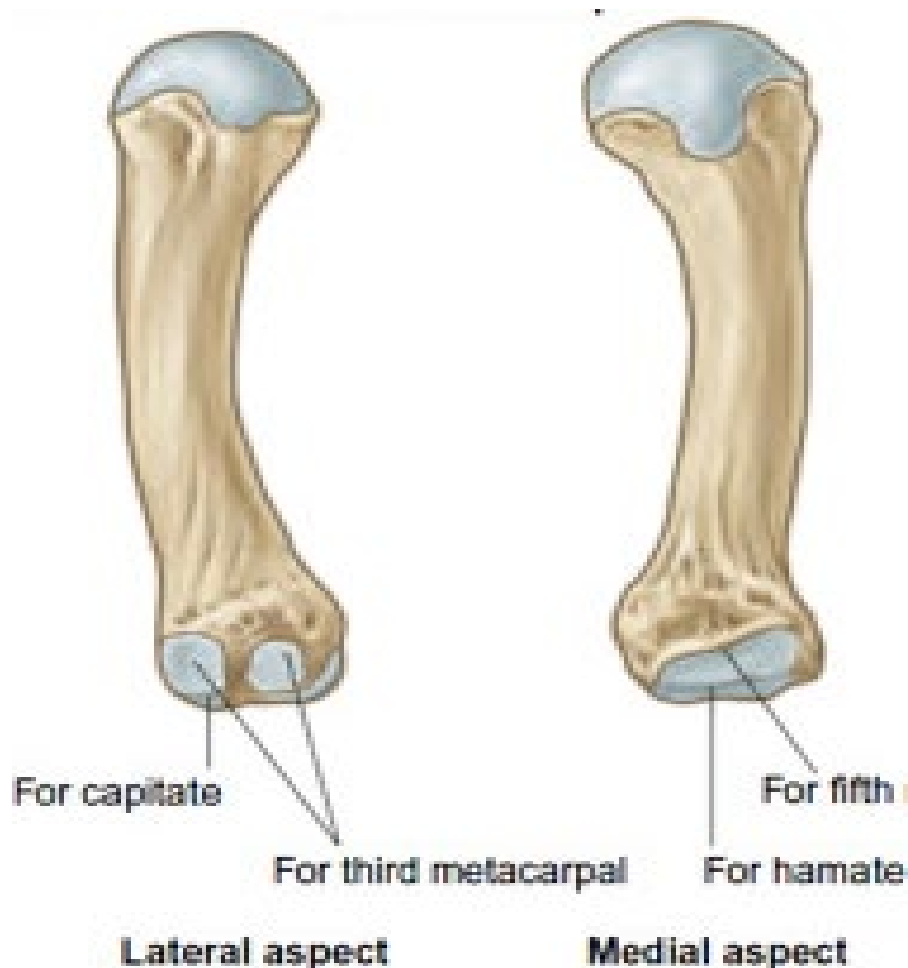
The lateral surface of the base articulates with the second metacarpal, while the medial surface articulates with the fourth metacarpal via two oval articular surfaces.

The palmar surface of the base is where the _____ muscle insert, while the _____ muscle inserts to its dorsal surface.

The shaft is similar to that of the second metacarpal, being dorsally convex. Its lateral side serves as an insertion point for the ulnar head of the second dorsal interosseous, while the medial side is where the radial head of the third dorsal interosseous attaches.

The distal two-thirds of the medial surface of the shaft provide an insertion point for the transverse head of _____ muscle.

Fourth metacarpal:

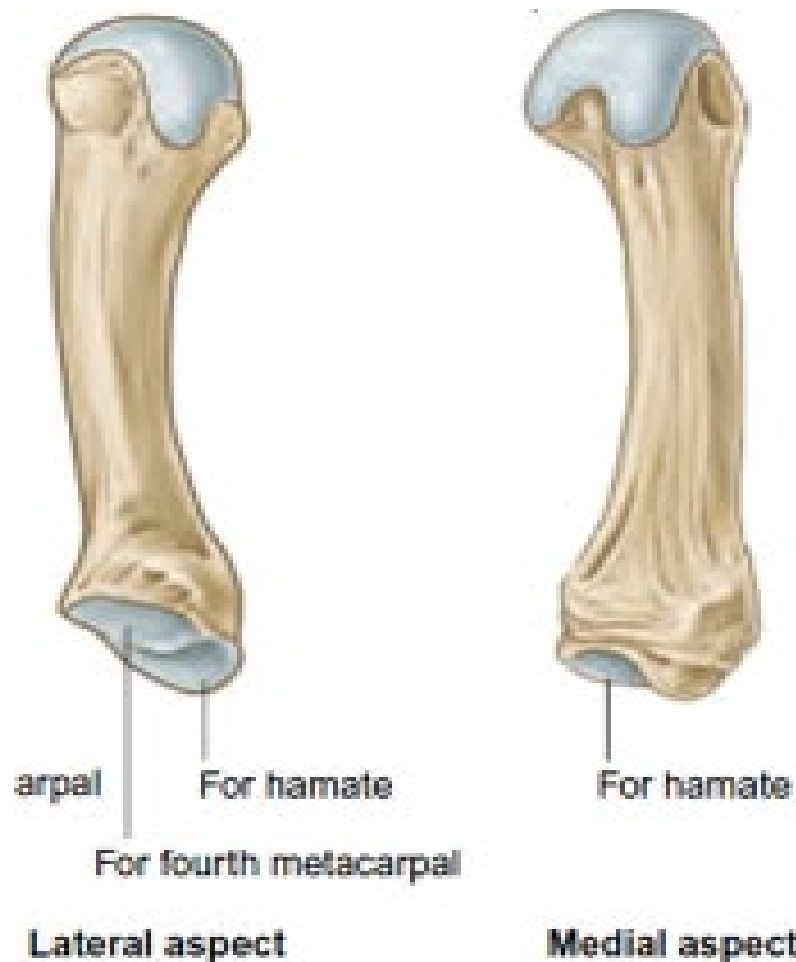


The metacarpal bone 4 shows a few specificities of its base.

- It has two oval facets on the lateral surface via which it articulates with the base of the third metacarpal
- It features a single elongated facet on the medial surface for the articulation with the base of the fifth metacarpal
- The proximal surface is quadrangular and serves for the articulation with the _____ bone

The shaft provides the insertion point for the third palmar interosseous and the ulnar head of third dorsal interosseous on its lateral side, while the medial side is where the fourth dorsal interosseous attaches.

Fifth metacarpal:



The metacarpal bone 5 is the smallest of all five metacarpals. Its base slightly differs from the other metacarpals, as its lateral part is non-articular and instead features a tubercle for the attachment of the _____ muscle.

The lateral side of the base, however, articulates with the hamate bone.

The proximal part of the lateral surface of the shaft articulates with the fourth metacarpal, while the medial surface serves to attach the _____ muscle.

The distal part of the lateral surface receives the fibres from the fourth palmar and fourth dorsal _____ muscles.

THE PECTORAL REGION

Q.1 Write down features of the pectoral region can be felt on the surface of the body and well label diagram?

Answer: The following features of the pectoral region can be felt on the surface of the body-

3. The clavicle
4. The jugular notch
5. The sterna angle
6. The epigastric fossa
7. The nipple
8. The midclavicular line
9. The infraclavicular fossa
10. The tip of the coronoid process
11. The acromion process
12. The deltoid muscle
13. Anterior wall of axilla

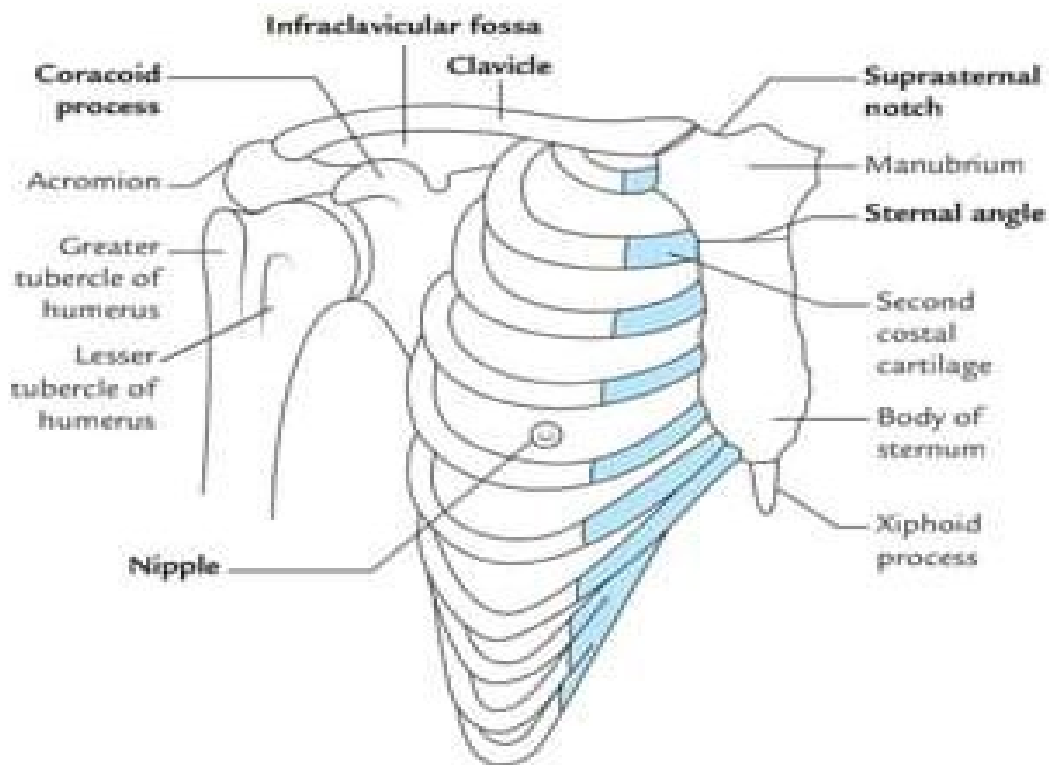


Fig: Pectoral Region: surface marking

Q.2 Draw a well label diagram of the lymphatic drainage of the breast?

Answer:

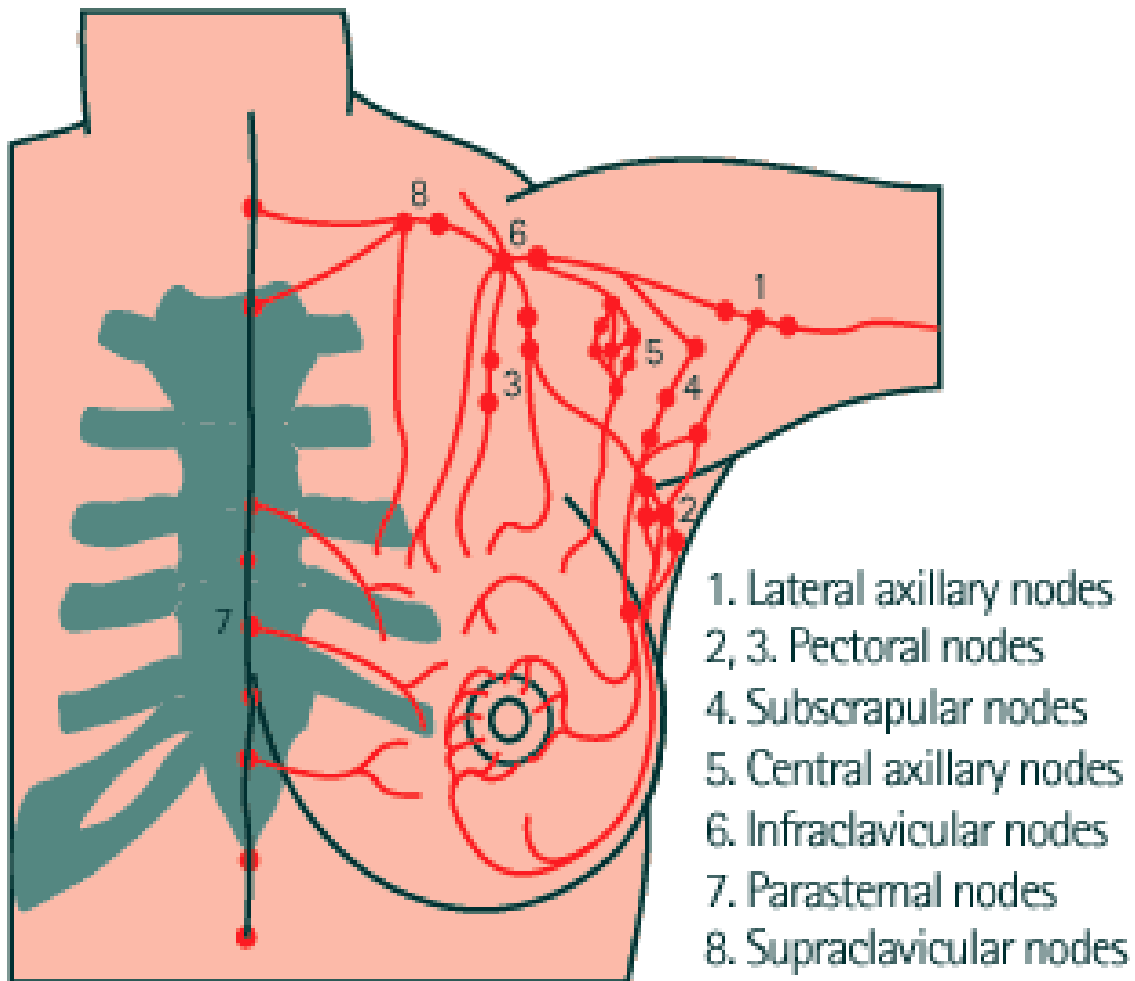


Fig: Lymphatic Drainage of the Breast

Q. 3 Enumerates the name of muscles of the pectoral region?

Answer: 1. 2.
3. 4.

Q. 4 Write down origin, insertion of the pectoralis major muscle and well label diagram?

Answer: 1) Anterior surface of medial half of the clavicle
 2) Half breadth of manubrium and sternum up to 5th costal cartilage
 3) 2nd to 6th costal cartilage
 4) Aponeurosis of external oblique muscle of abdomen
 5) Lateral border of intertubercular sulcus

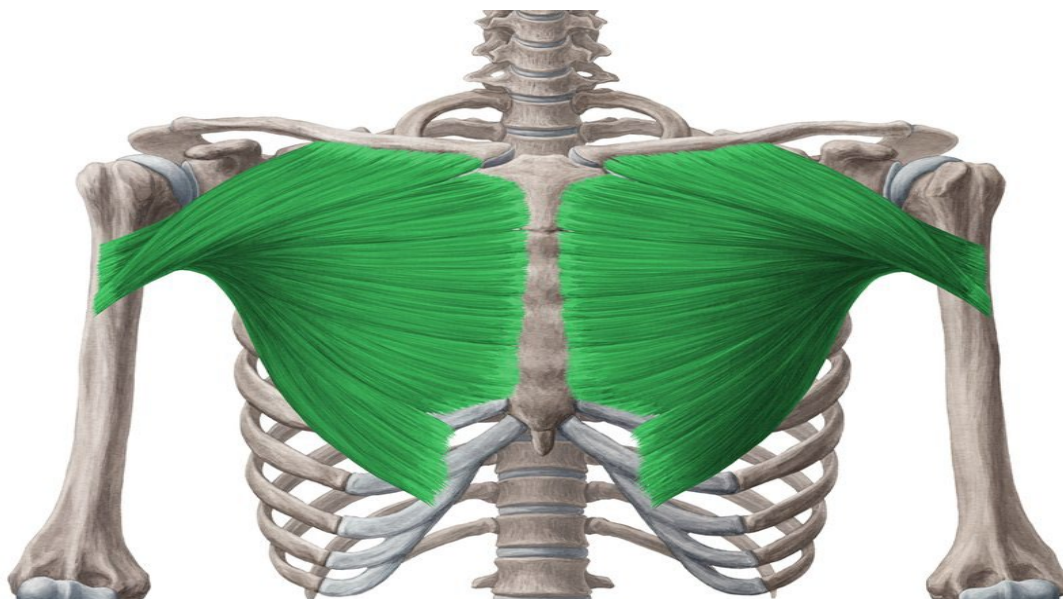


Fig: Pectoralis Major Muscle: origin, insertion

Q.5 Write down origin, insertion of the pectoralis minor muscle and well label diagram?

Answer: 1) 3rd, 4th, 5th rib near the costochondral junction

2) Medial border and upper surface of the coronoid process of the scapula

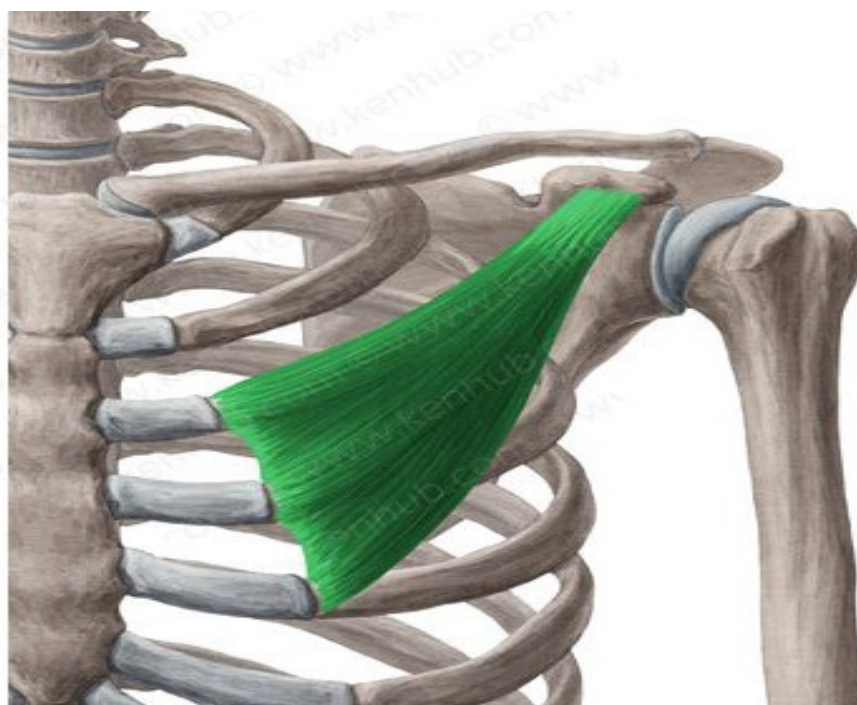


Fig: Pectoralis Minor Muscle: origin, insertion

Q. 6 Write down origin, insertion of the subclavius muscle and well label diagram?

Answer: 1) First rib and cartilage

2) Inferior surface of middle one third of the clavicle (subclavian groove)

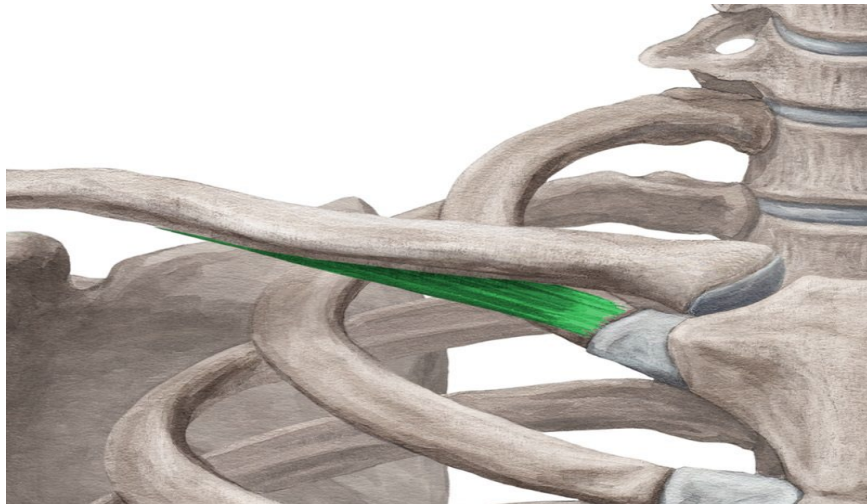


Fig Subclavius Muscle: origin, insertion

Q.7 Write down origin, insertion of the serratus anterior muscle and well label diagram?

Answer: 1) Eight digitations from upper eight ribs

2) Medial border costal surface of the scapula, 1st digitations from superior angle up to root of the spine

3) Medial border costal surface of the scapula, 2nd & 3rd digitations medial border between root of the spine and inferior angle

4) Medial border costal surface of the scapula, 4th 5th 6th & 7th digitations triangular area on inferior angle

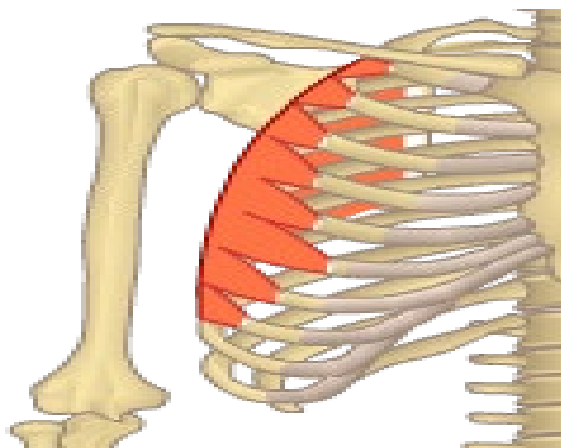


Fig: Serratus Anterior Muscle: origin, insertion

THE AXILLA

Q. 1 Write down definition of axilla and draw a well label diagram boundary of the axilla?

Answer: Definition of axilla-

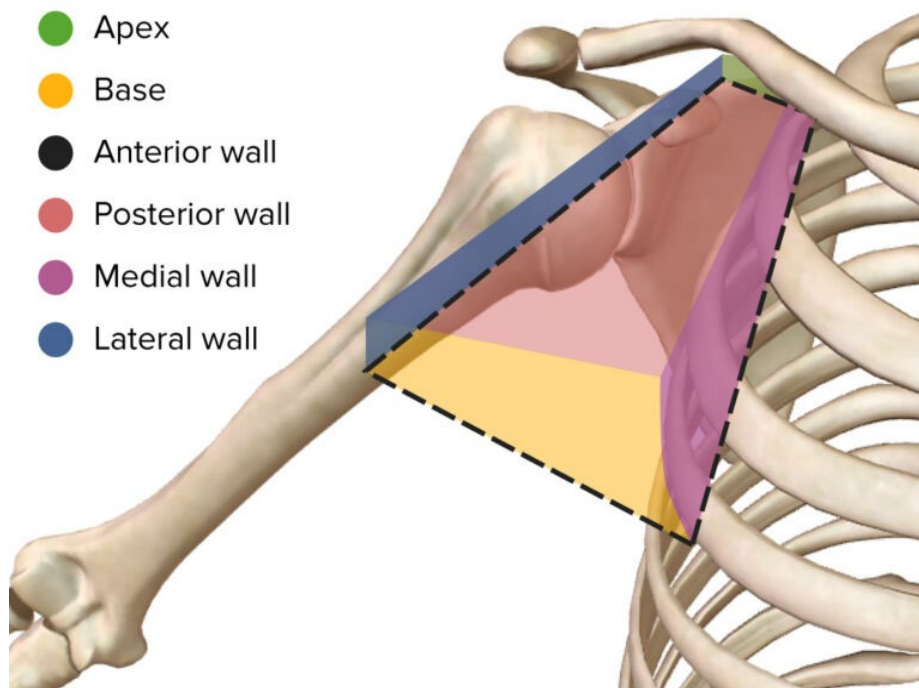


Fig: Axilla: Boundaries

Q. 2 Write down definition of apex of axilla or cervicoaxillary and draw a well label diagram boundaries of apex of axilla or cervicoaxillary canal?

Answer: Definition-

Anteriorly-

Posteriorly-

Medially-

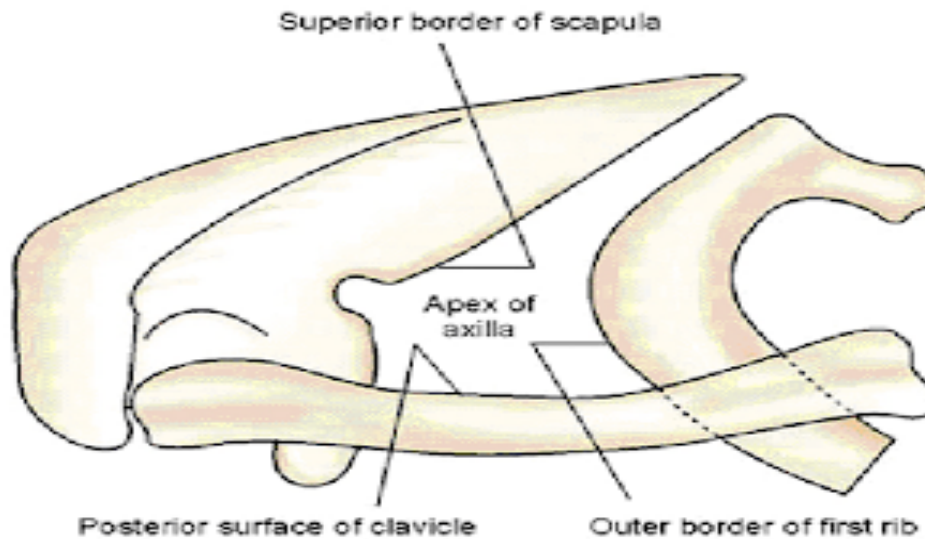


Fig: Cervicoaxillary canal: boundaries

Q.3 Write down contents of the axilla?

Answer: 1) Axillary artery & its branches

2) Axillary vein & its tributaries

3) Infraclavicular part of the brachial plexus

4) Five group of Axillary lymph nodes

5) Long thoracic & intercostobrachial nerves

6) Axillary fat, areolar tissue

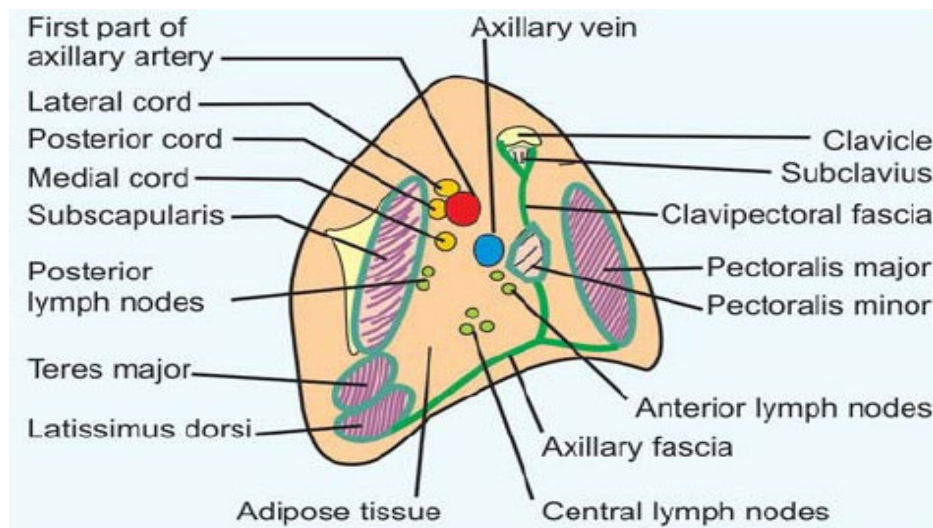


Fig: Axilla: contents

Q. 4 Write down formation of root & its branches, trunks & its division with branches, cords & its branches and draw a well label diagram of brachial plexus?

Answer: Root-These are constituted by the anterior primary rami of spinal nerves

C5, C6, C7, C8 and T1

Branches of root-	1)	2)	
Name of Trunk-1)	2)	3)	
Division of trunk-1)	2)		
Branches of trunk-1)	2)		
Name of cord- 1)	2)	3)	
Branches of lateral cord- 1)	2)	3)	
Branches of medial cord-1)	2)	3)	
	4)	5)	
Branches of posterior cord- 1)	2)	3)	
	4)	5)	

Brachial Plexus (schematic)

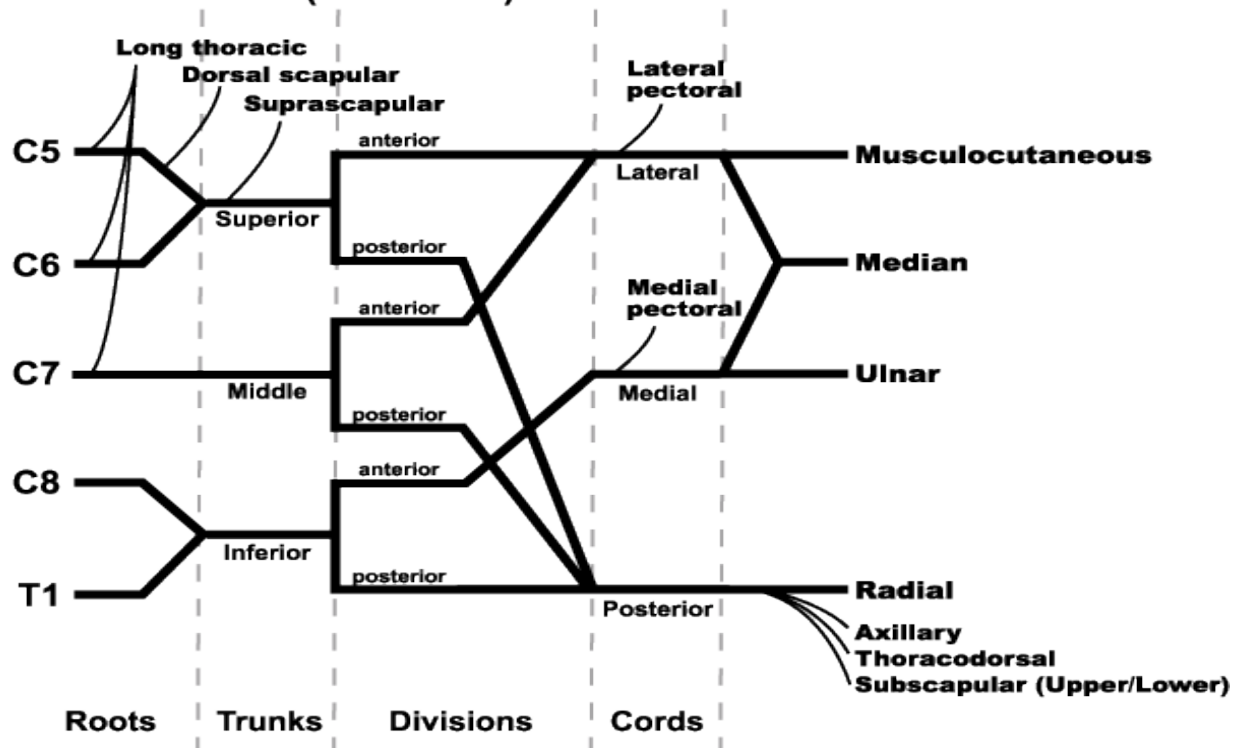


Fig: Brachial Plexuses

Q. 5 Write down deformity (position of the limb) of the erb's paralysis?

Answer: Position of arm-

Position of forearm-

This deformity is known as-



Fig: Erb's Paralysis

Q. 6 Write down disability (movement are lost) of the erbs paralysis?

Answer: 1)

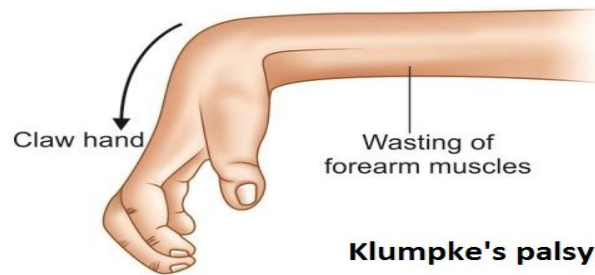
2)

3)

4)

Q. 7 Write down deformity (position of the hand) of the klumpke's paralysis?

Answer: Claw hand-



Q. 7 Write down deformity of injury to serratus anterior nerve or note on winging of the scapula?

Answer: Winging of scapula-

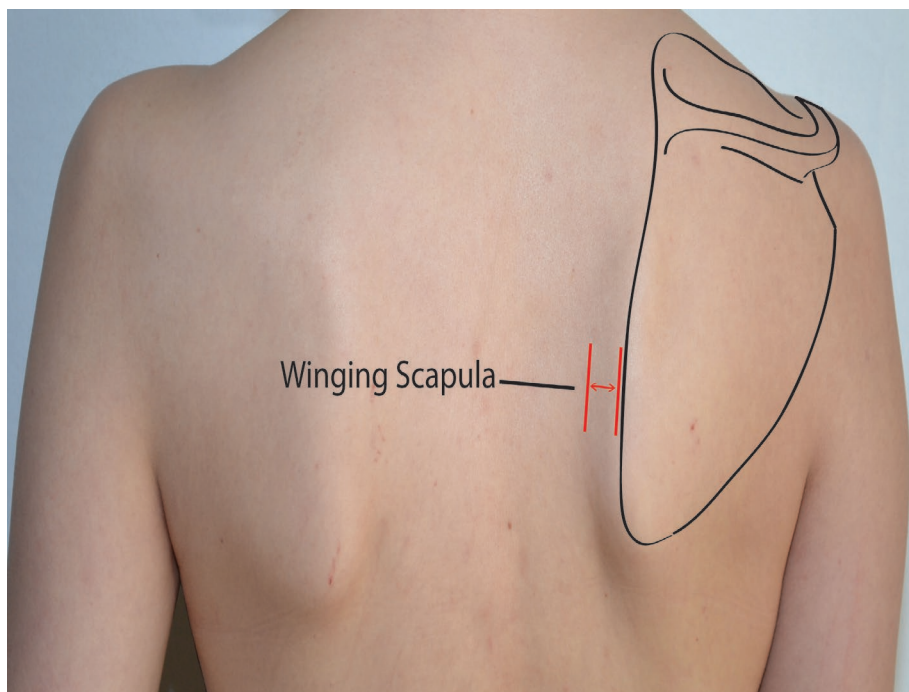


Fig: Winging Scapula

Q. 8 Draw a well label diagram of the extent and parts of Axillary artery and enumerates the name of branches of Axillary artery?

Answer: Branches of Axillary artery- 1

2

3

4

5

6

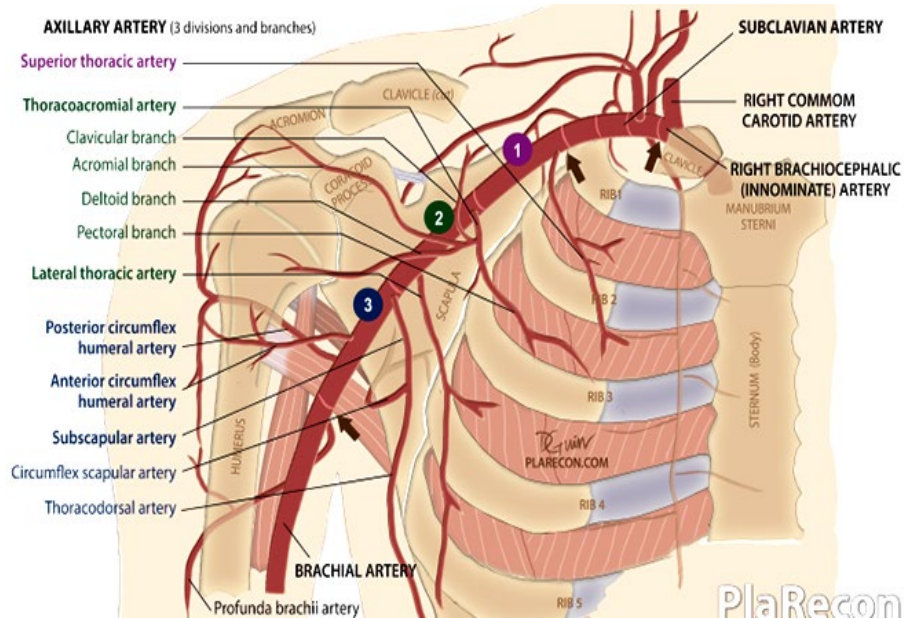


Fig: Winging Scapula

Q. 9 Enumerates the group name of Axillary lymph nodes?

Answer: 1

2

3

4

5

6

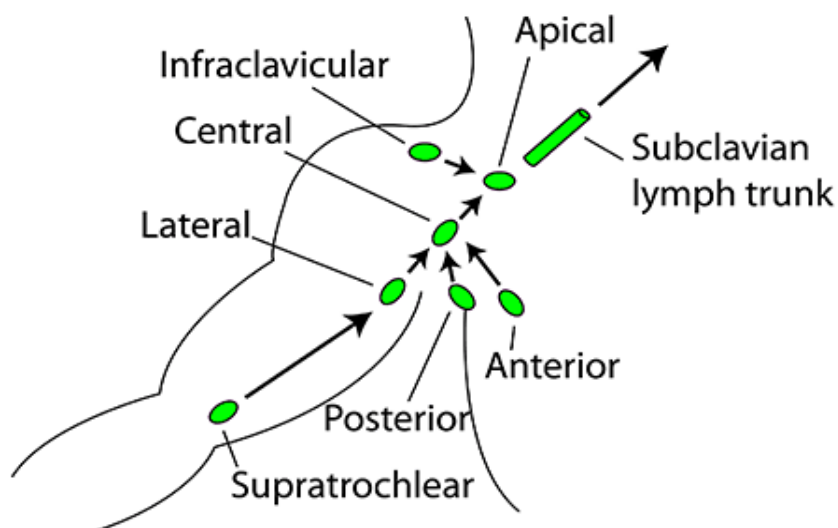


Fig: Axillary Lymph Nodes

THE BACK

Q.1 Write down name features of the back region can be felt on the surface of the body?

Answer:

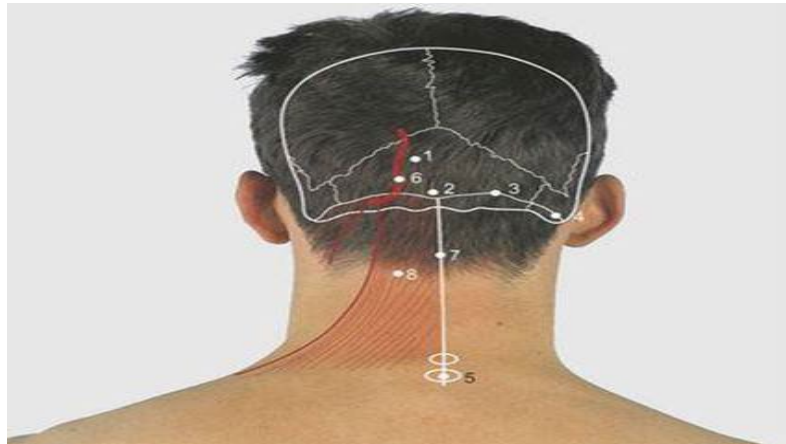


Fig: External Features: back of head & neck

- | | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | | |



Fig: External Features: back of head & neck

- | | | | |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
|---|---|---|---|

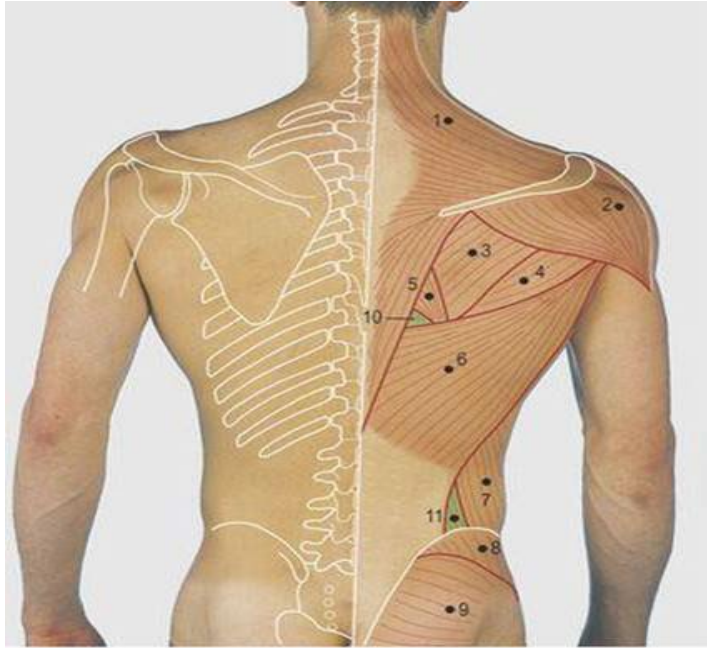


Fig: External Features: back of the body

- | | | | | | | |
|---|---|----|----|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | | | |

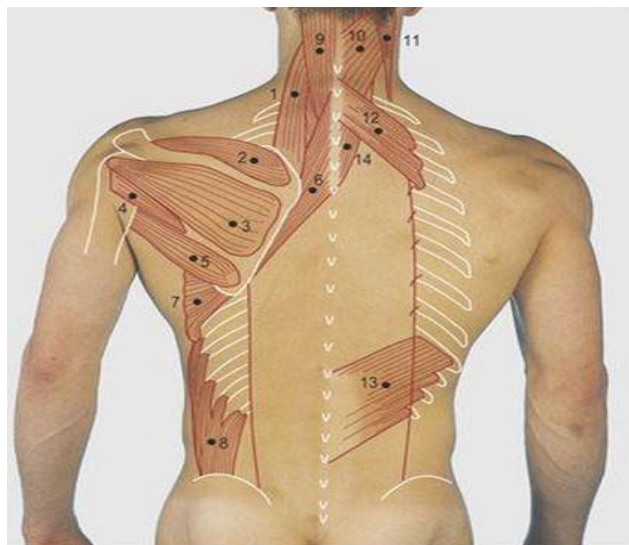


Fig: External Features: back of the body

- | | | | | | | |
|---|---|----|----|----|----|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | |

Q.2. Enumerates the name of muscles connecting the upper limb to the vertebral column?
Mention its origin & insertion?

Answer:

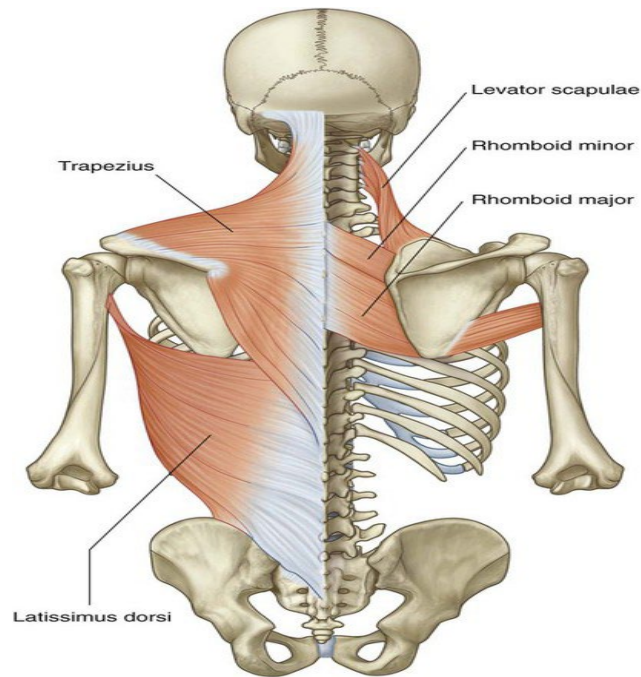


Fig: External Features: back of the body

Name of muscle- 1	2	3	4	5
1 st Muscle origin-				Insertion-
2 nd Muscle origin-				Insertion-
3 rd Muscle origin-				Insertion-
4 th Muscle origin-				Insertion-
5 th Muscle origin-				Insertion-

Q.3 Write down on triangle of auscultation?

Answer: Medially-
 Laterally-
 Inferiorly-
 Floor-
 Important-

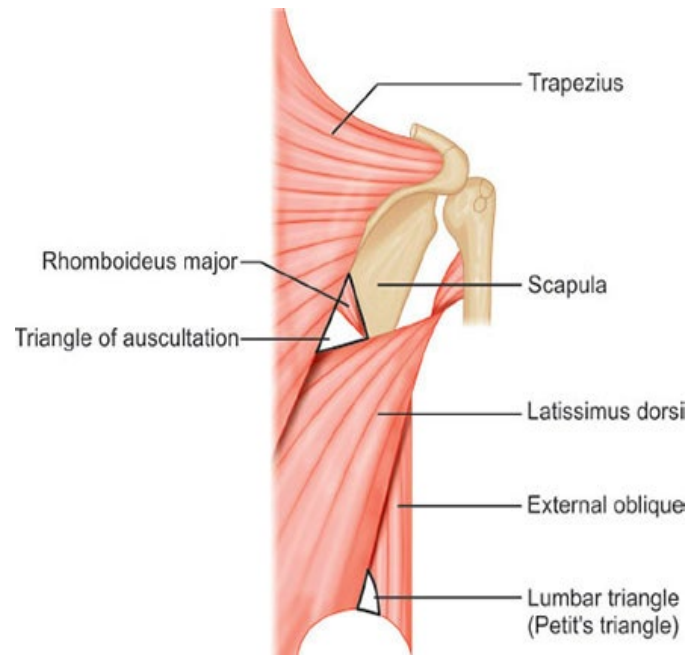


Fig: Triangle of Auscultation

Q.4 Write down on lumbar triangle of petit?

Answer: Medially-
Laterally-
Inferiorly-
Floor-
Important-

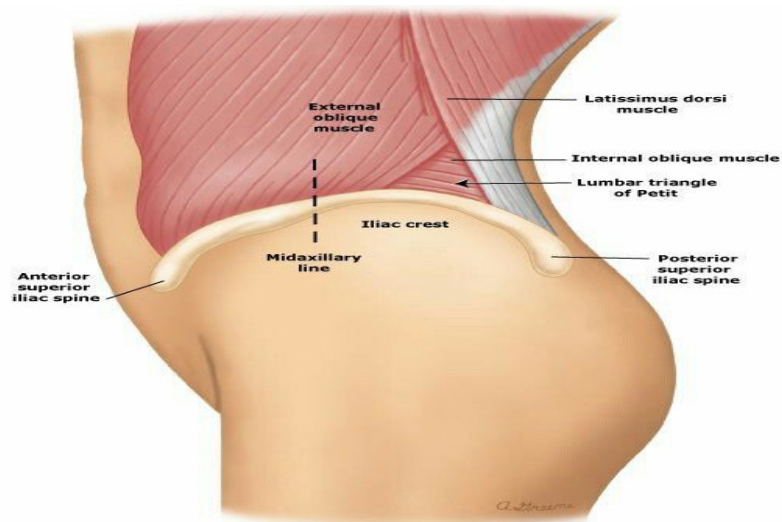


Fig: Triangle of Petit

THE SHOULDER AND SCAPULAR REGION

Q.1 Write down features of the shoulder or scapular region can be felt on the surface of the body?

Answer:

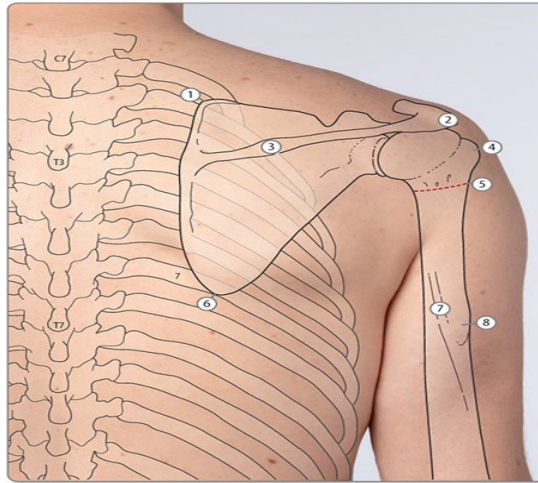


Fig: Scapular Region: Features

1	2	3	4	5
6	7	8		

Q.2 Enumerates the name and label of muscles of the scapular region?

Answer:	1	2
	3	4
	5	6

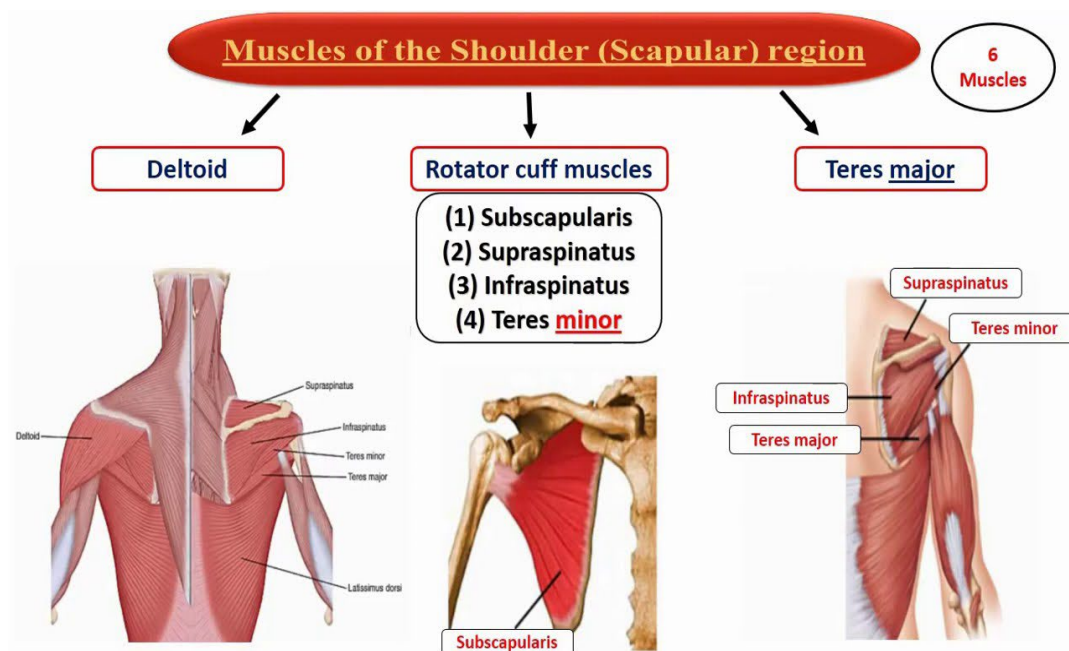


Fig: Scapular Region: muscles of shoulder region

Q.3 Why the deltoid muscle known as ‘multipennate’?

Or

Write down structure of the deltoid muscle?

Answer:

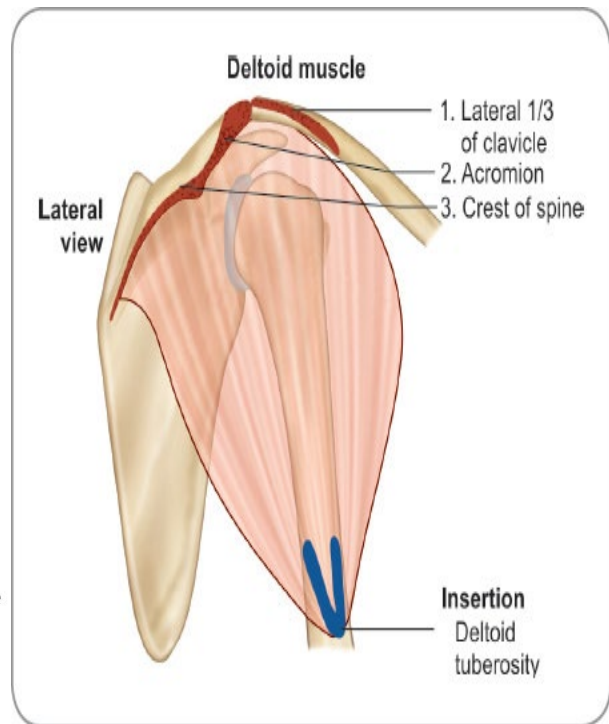
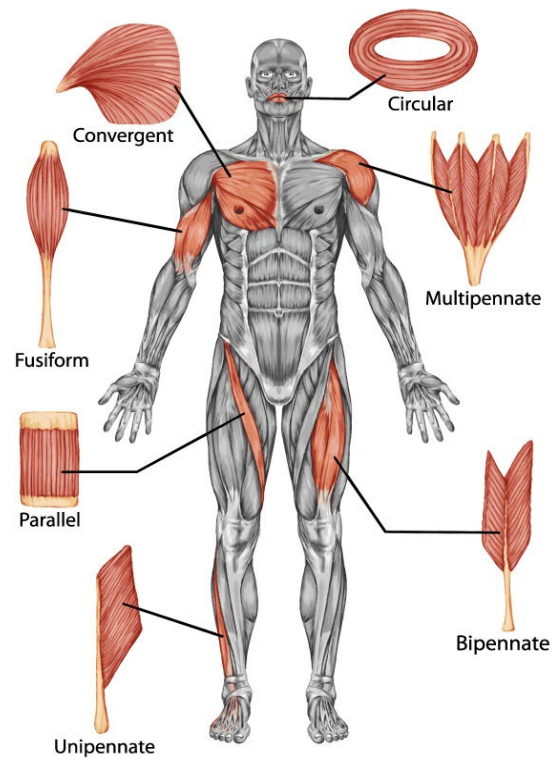


Fig: Deltoid Muscle

Origin-

Insertion-

Structure-

Q.4 Draw a well label diagram of nerve supply of the deltoid?

Or

Note on Axillary nerve?

Answer:

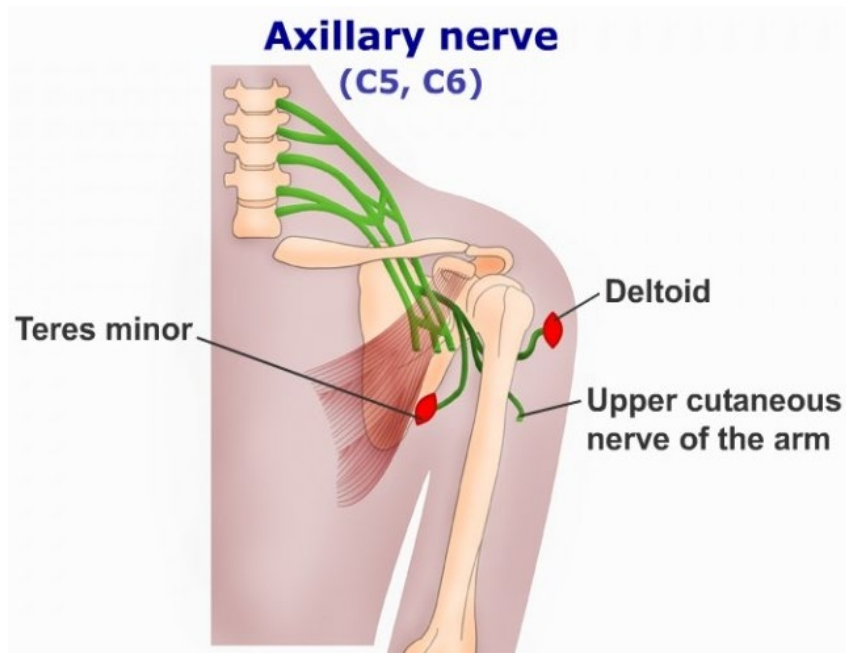


Fig: Axillary Nerve: course & branches

Root value:

Course & relations:

Branches:

Applied anatomy:

Q.5 Write down note on musculotendinous or rotator cuff of the shoulder with a well label diagram?

Answer: Diagram-

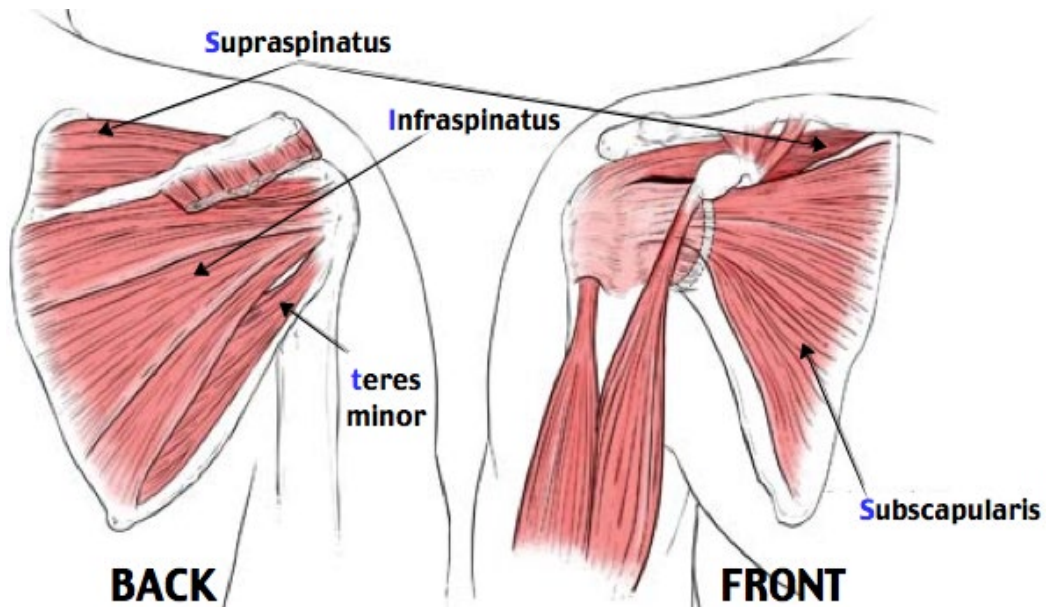


Fig: Rotator Cuff

Muscles of rotator cuff:

Important

Q.6 Write down on quadrangular space of the shoulder region with a well label diagram?

Answer: Diagram-

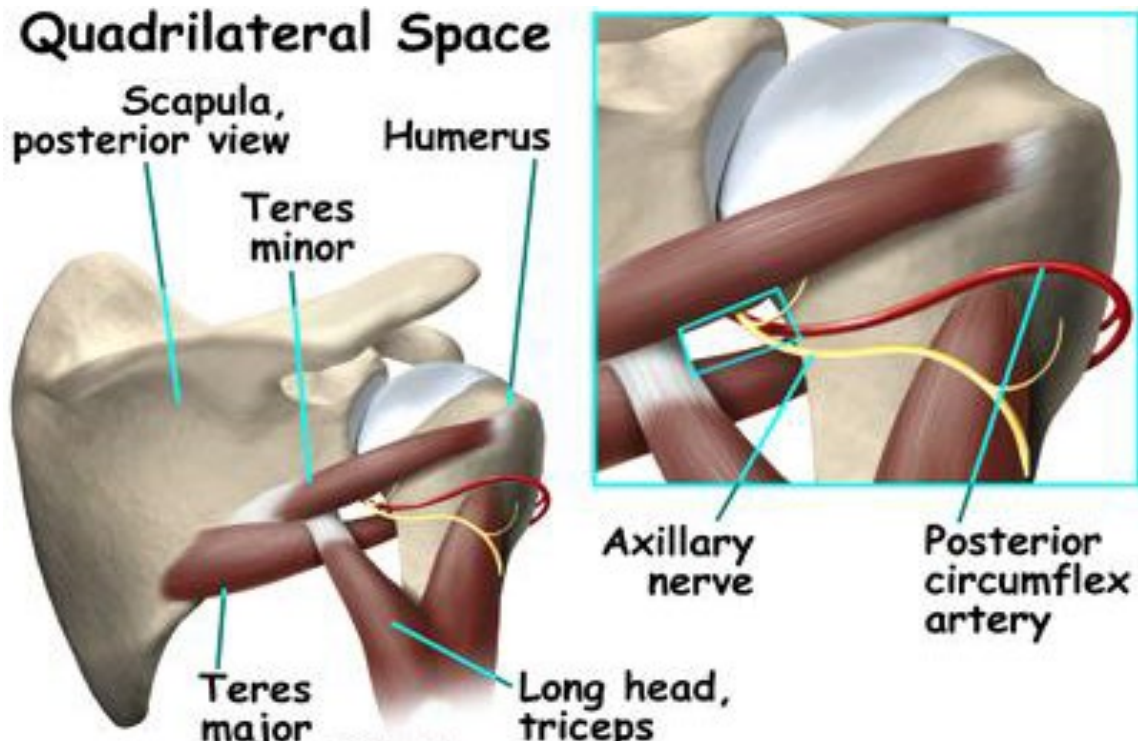


Fig: Quadrangular Space of the Shoulder Joint

Note on quadrangular space-

Superior- i

ii

iii

Medial-

Lateral-

Contents- i

ii

Q.7 Write down on upper & lower triangular space of the shoulder region with a well label diagram?

Answer: Diagram-

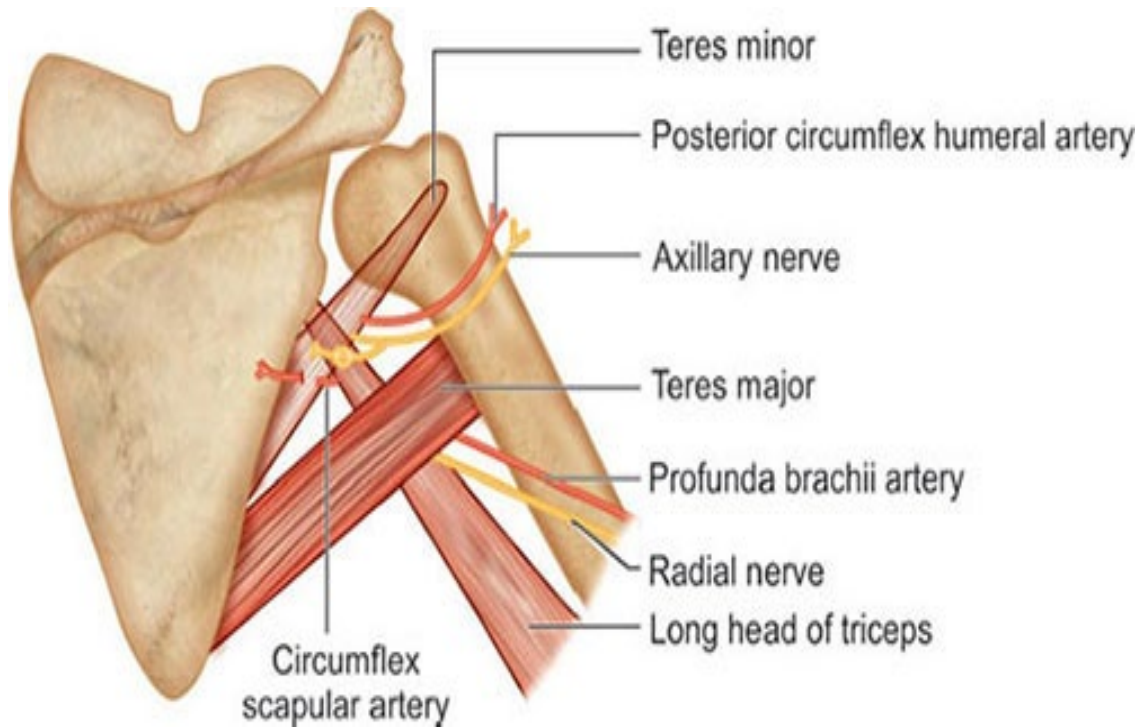


Fig: Scapular Region: spaces

Upper triangular space-

Boundaries: Medial-
Lateral-
Inferior-

Contents-

Lower triangular space-

Boundaries: Medial-
Lateral-
Superior-

Contents-

Q. 8 Draw a well label diagram of the anastomosis around the scapula and mention name of the artery by form anastomosis and note on its clinical anatomy?

Answer: Diagram-

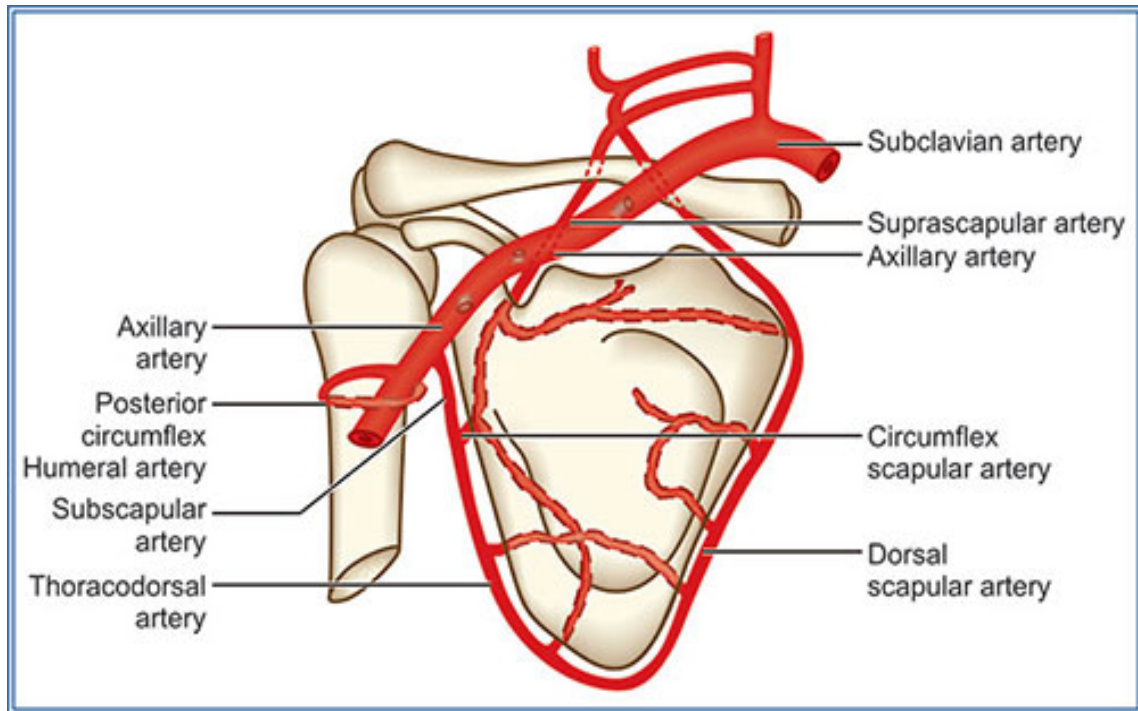


Fig: Scapular Region: arterial anastomosis around the scapula

Name of main artery & its branches-

Clinical anatomy-

THE ARM

Q.1 Write down features of the front of the arm region can be felt on the surface of the body?

Answer:

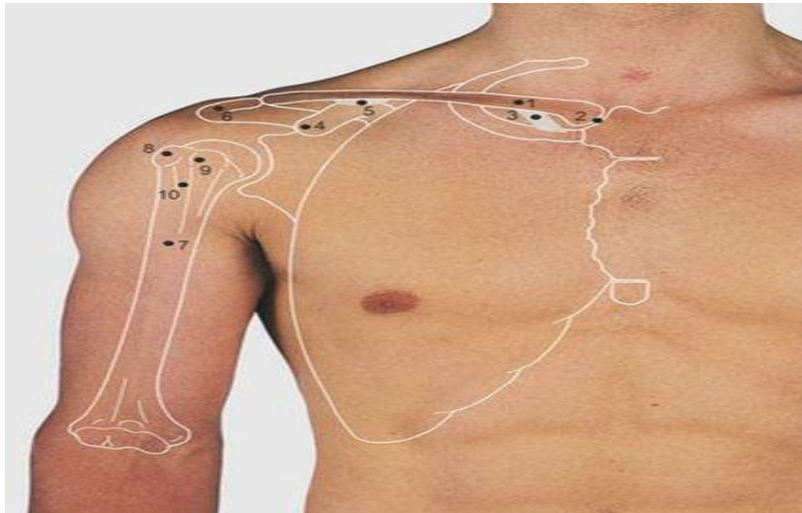


Fig: Anterior aspect of the shoulder and upper arm: bones

- | | | | | |
|---|---|---|---|----|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |

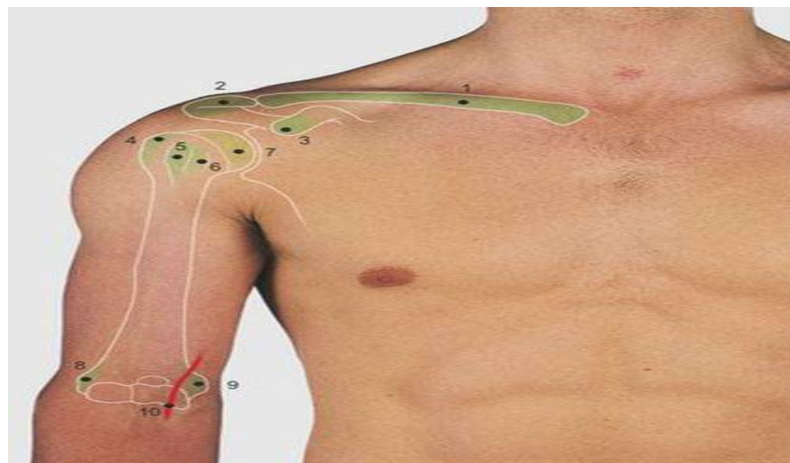


Fig: Anterior aspect of shoulder and upper arm: palpable structures

- | | | | | |
|---|---|---|---|----|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |

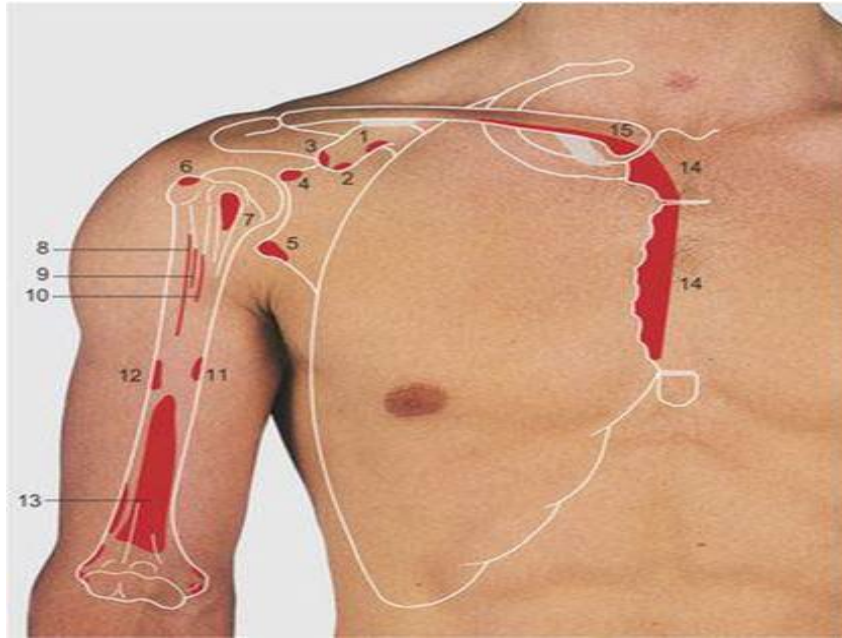


Fig: Anterior aspect of the shoulder and upper arm: muscle attachments

- | | | | | |
|---|---|---|---|----|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |

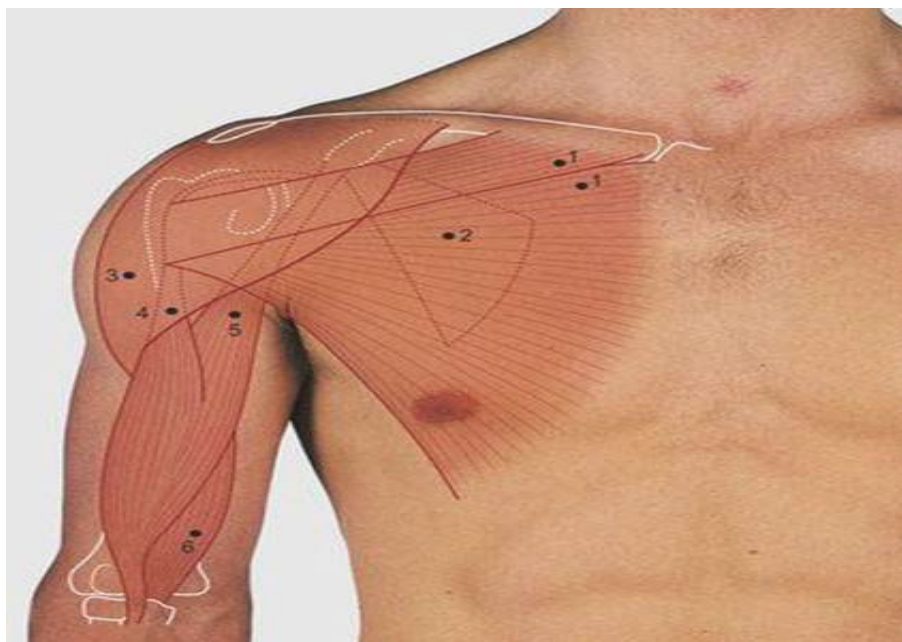


Fig: Anterior aspect of the shoulder and upper arm: muscles

- | | | |
|---|---|---|
| 1 | 2 | 3 |
| 4 | 5 | 6 |

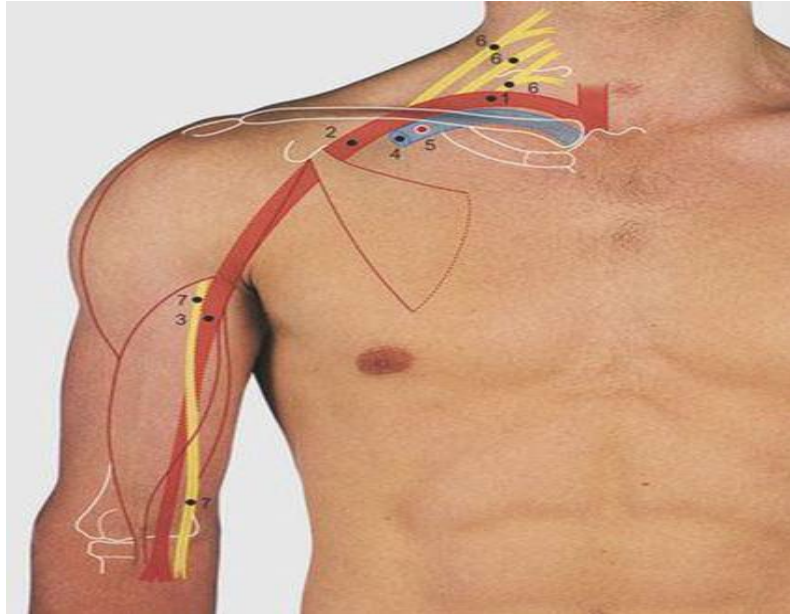


Fig: Anterior aspect of the shoulder and upper arm: vessels and nerves

- | | | | |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | |

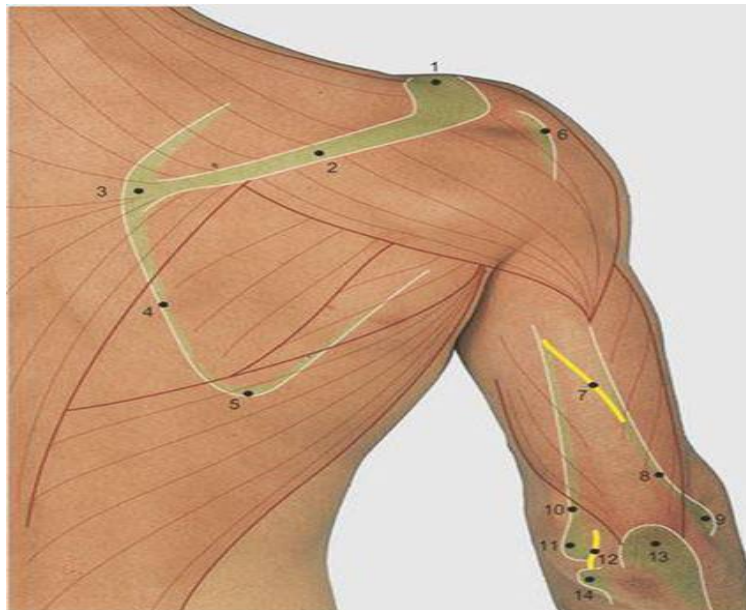


Fig: Posterior aspect of shoulder and upper arm: palpable structures

- | | | | | |
|----|----|----|----|----|
| 1 | 2 | 3 | 4 | |
| 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 |

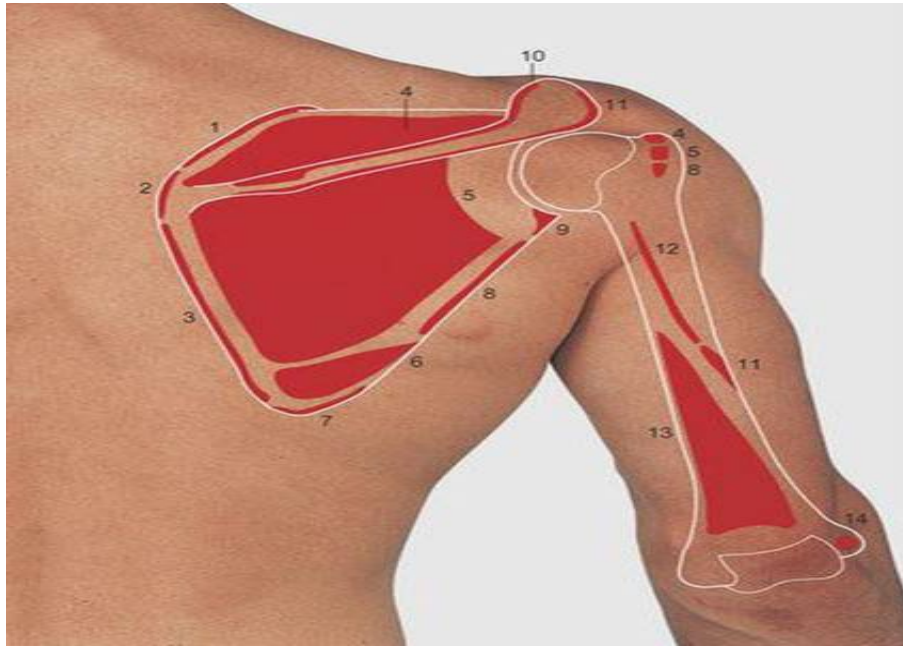


Fig: Posterior aspect of the shoulder and upper arm: muscle attachments

- | | | | |
|----|----|----|----|
| 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 |
| 13 | 14 | | |

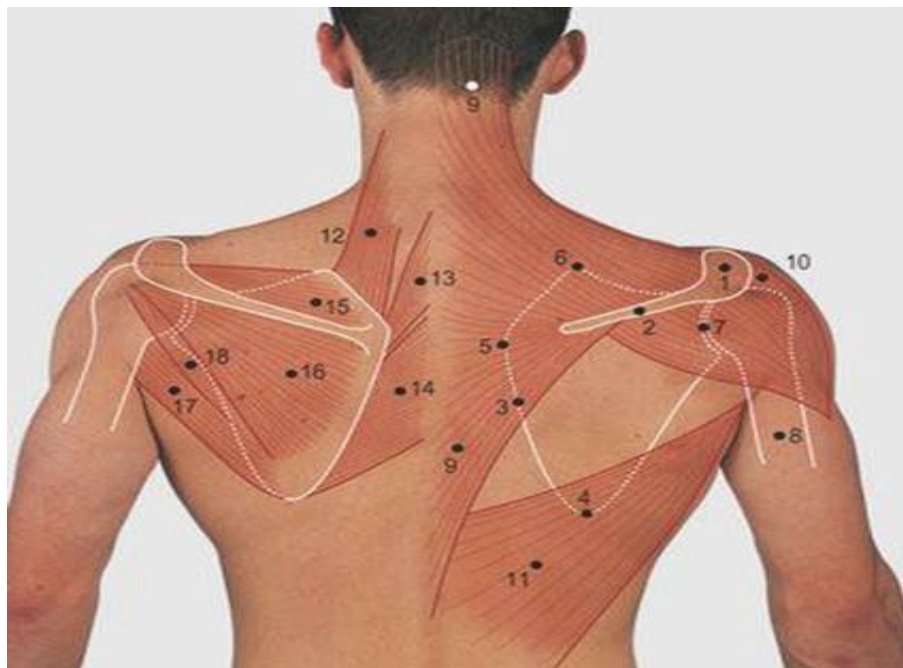


Fig: Posterior aspect of the shoulder and upper arm: bones and muscles of the shoulder girdle Right, superficial muscles; left, deep muscles

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18		

Q.2. Write down compartment & its contents of the arm with well a label diagram?

Answer:

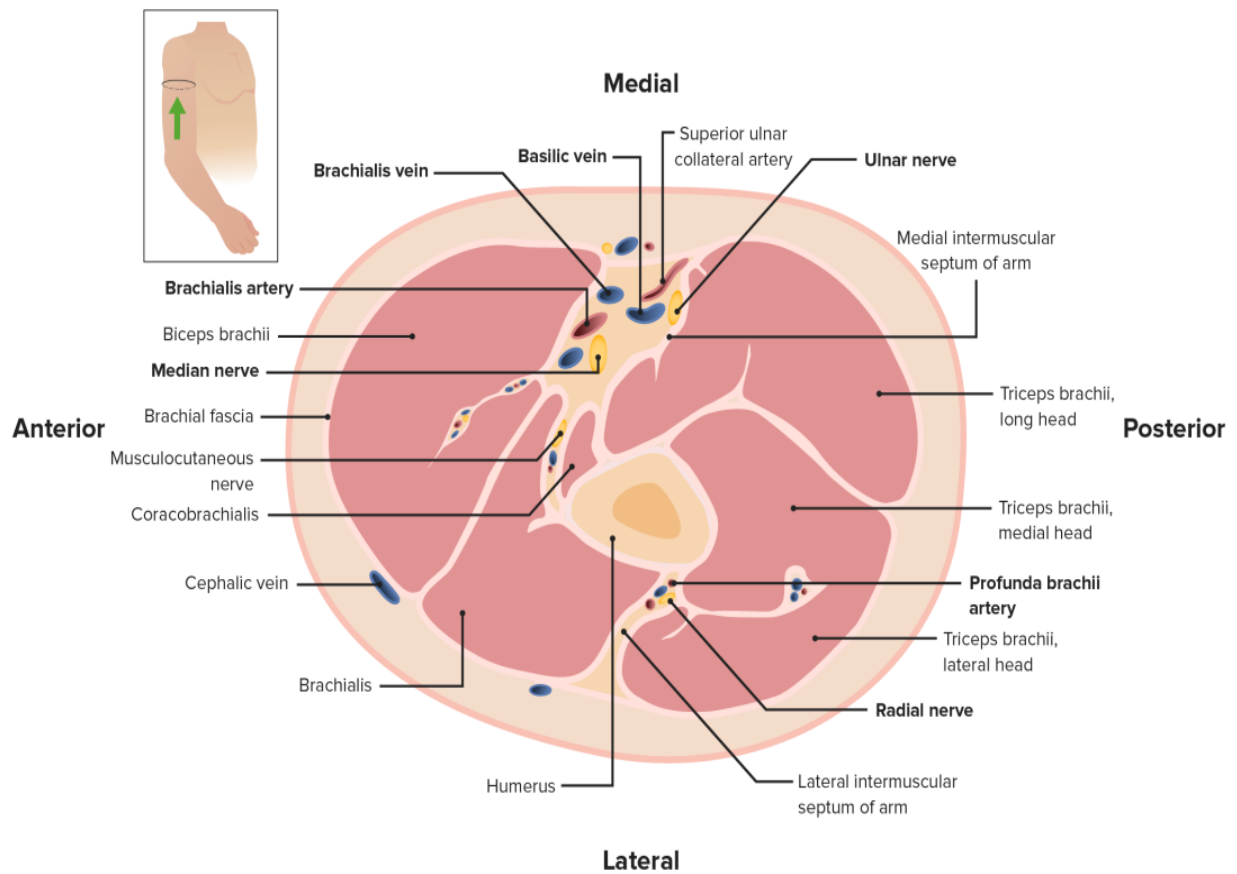


Fig: Compartment & its contents of the arm

Anterior compartment of the arm & its contents-

Posterior compartment of the arm & its contents-

Q.3 Enumerates the name of muscles of the front of the arm & writes its origin and insertion with a well label diagram?

Answer:

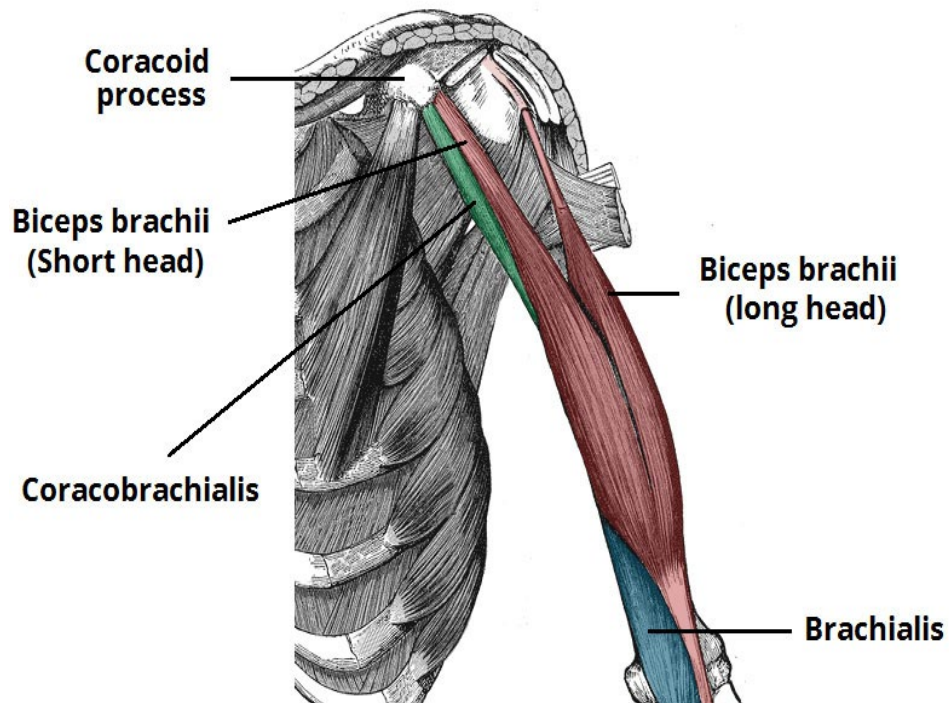


Fig: Muscles: front of the arm

Name of muscles front of arm-

i

ii

iii

i Origin-

Insertion

ii Origin-

Insertion-

iii Origin-

Insertion-

Q. 4 Draw a well label diagram & write following details of musculocutaneous nerve?

Answer:

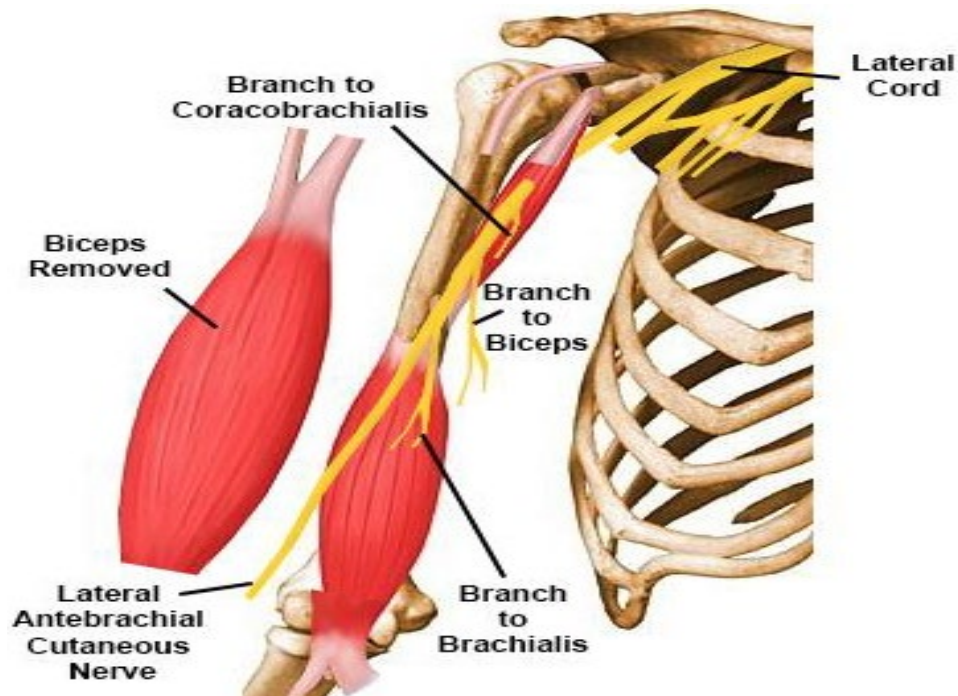


Fig: Musculocutaneous Nerve

Root value-

Course: In lower part of axilla-

In arm-

Cutaneous course in forearm-

Branches: Muscular-

Cutaneous-

Articular-

Applied anatomy:

Q. 5 Draw a well label diagram & write following detail of brachial artery?

Answer:

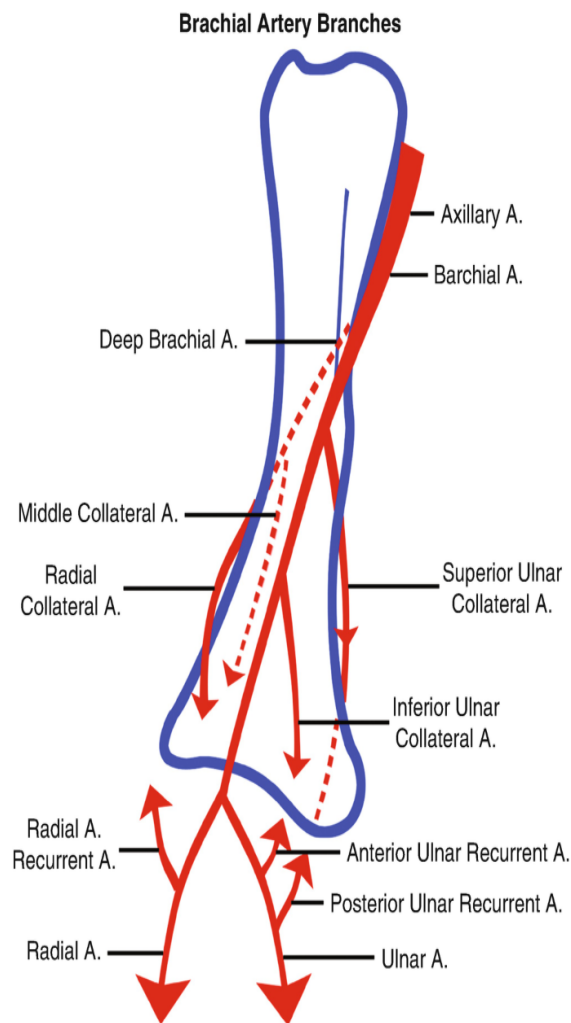


Fig: Brachial Artery: course, relations, branches

Continue from & continue to:

Branches: 1	2	3	4
5	6	7	8

Applied anatomy: Pulsation of the brachial artery is felt or auscultated in front of the elbow; this helps-recording the blood pressure.

Q. 6 Draw a well label diagram & write following details of profunda brachii artery?

Answer:

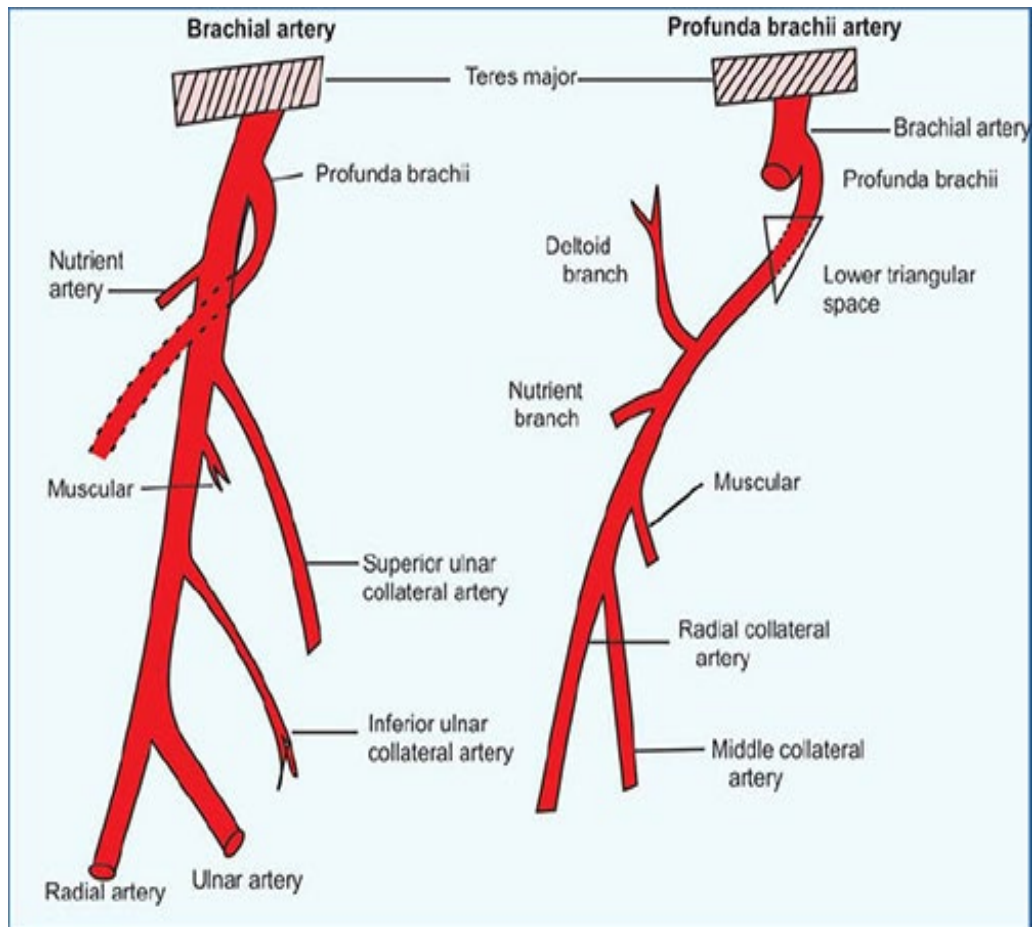


Fig: Profunda Brachial Artery: course, relations, branches

Course & relation-

Branches-

Anastomosis with-

Q.7 Write down arterial anastomosis around the elbow joint with a well label diagram?

Answer:

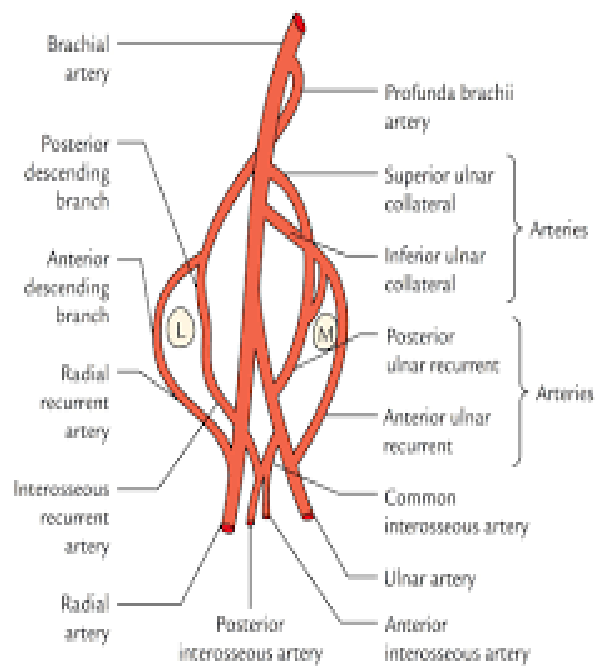


Fig: Anastomosis Around the Elbow Joint

In front of the lateral epicondyle-

Behind the lateral epicondyle-

In front of medial epicondyle-

Behind the medial epicondyle-

Q. 8 Draw a well label diagram & write following detail of cubital fossa?

Answer:

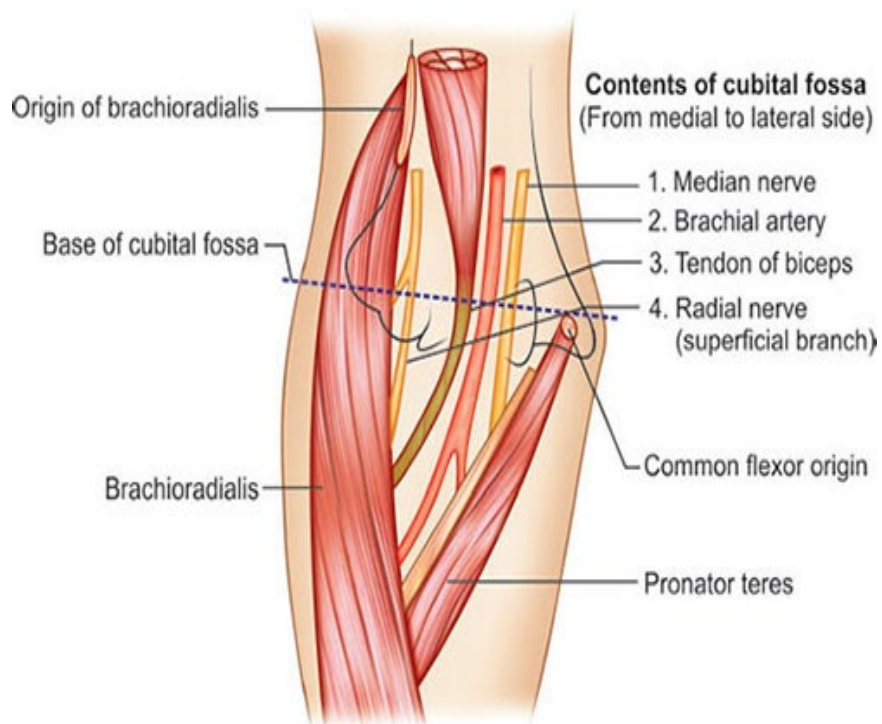


Fig: Cubital Fossa: boundaries & contents

Boundaries: Laterally-

Medially-

Base-

Apex-

Roof-

Contents-

Clinical Important-

Q. 9 Draw a well label diagram (origin& insertion) & write following details of triceps muscle?

Answer:

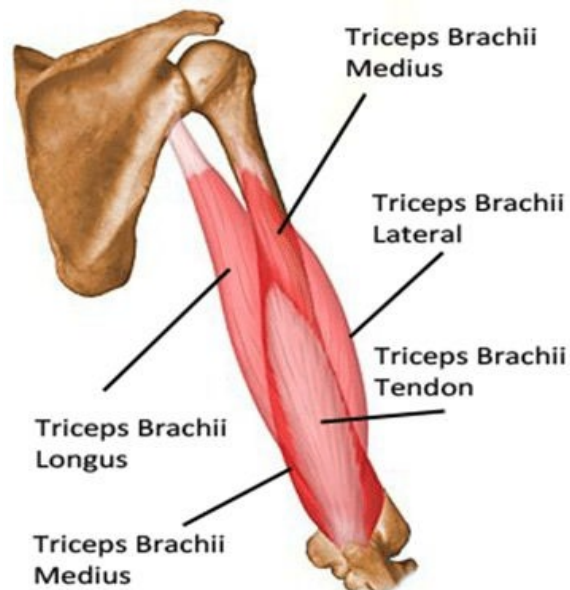


Fig: Triceps Muscle

Long head of triceps-

Lateral head of triceps-

Medial head of triceps-

Insertion of triceps-

Nerve supply-

Actions-

Q.10 Write down relation in between radial, ulnar and median nerve in arm region?

Answer:

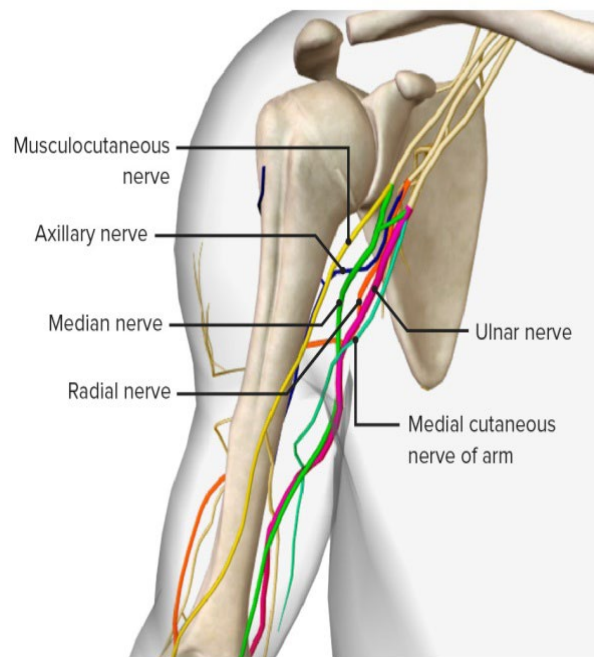


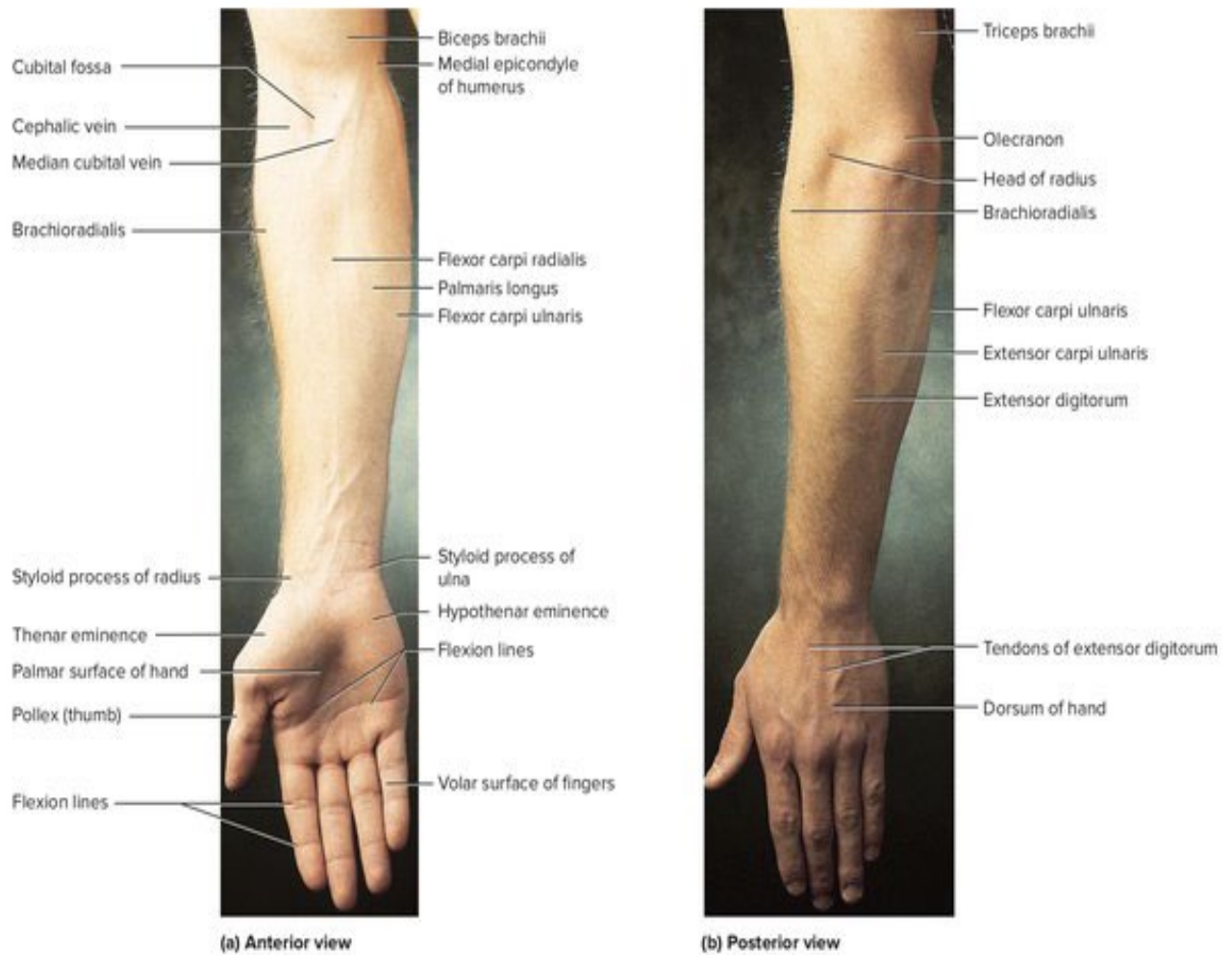
Fig: In Arm: relation of nerves

Relations of nerves in arm:

THE FOREARM AND HAND

Q. 1 Write down features of the front and side of the forearm region can be felt on the surface of the body?

Answer:



Surface marking forearm:

Front-

Back

Surface marking hand:

Back-

Answer:

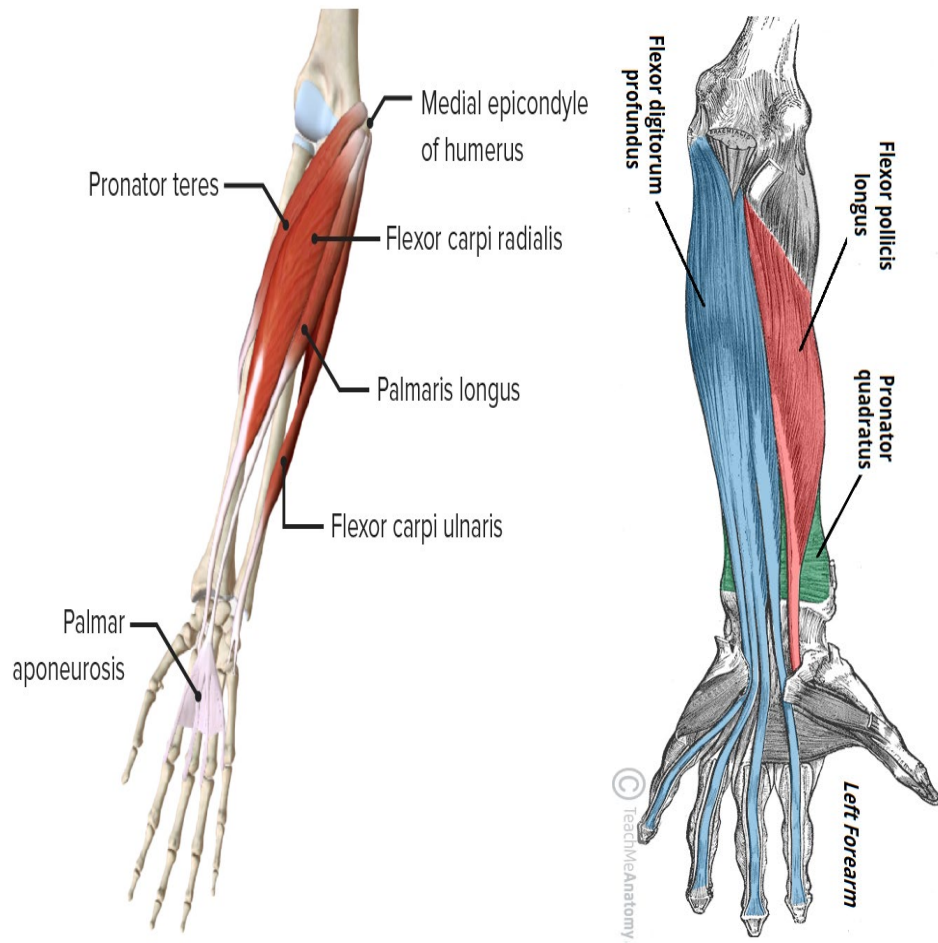


Fig: Superficial, Deep Group Muscles in Front of the Forearm

Superficial muscles front of the forearm-

1

2

3

4

5

Deep muscles front of the forearm-

1

2

3

Q. 3 Enumerate name of muscles of superficial, deep group muscles in back of the forearm and draw a well label diagram?

Answer:

Superficial muscles front of the forearm-

1	2	3	4	5
6	7			

Deep muscles front of the forearm-

1	2	3	4	5
---	---	---	---	---

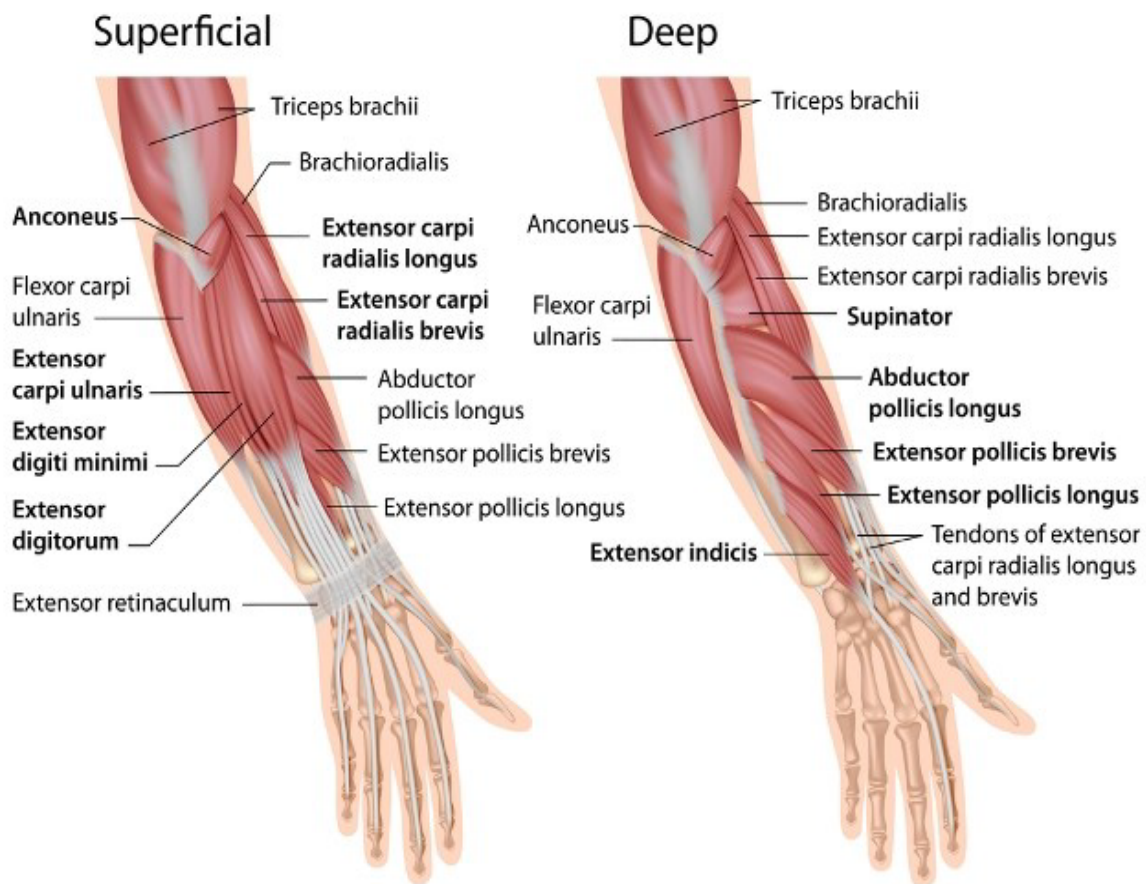


Fig: Superficial, Deep Group Muscles in Back of the Forearm

Q. 4 Mention common flexor & extensor origin with diagram?

Answer:



Fig: Common Flexor Origin

Common flexor origin (Golfer's elbow) -

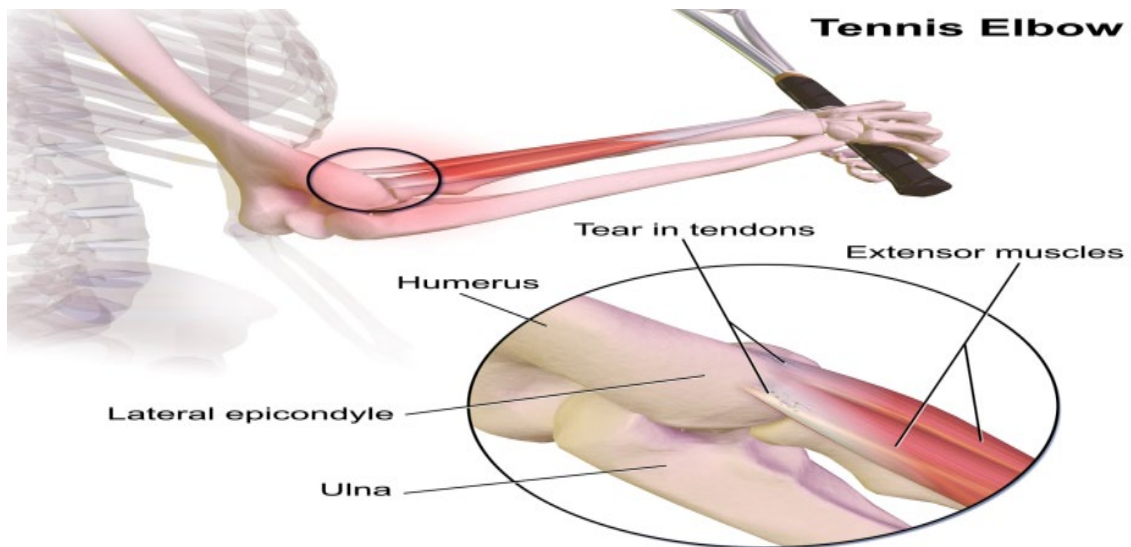


Fig: Common Extensor Origin

Common extensor origin (Tennis elbow) -

Q. 5 Draw a well label diagram & enumerates name of hand muscles?

Answer:

Intrinsic muscles of hand:

Name of thenar muscles-

1	2
3	

Name of hypothenar muscles-

1	2
3	

Name of lumbricals muscles-

1	2
3	4

Name of interossei muscles-

1
2

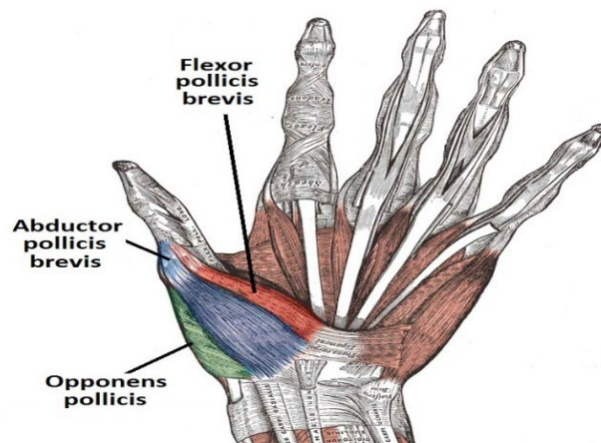


Fig: Muscles of the Hand: thenar muscles

Origin – 1	2	3
Insertion – 1	2	3

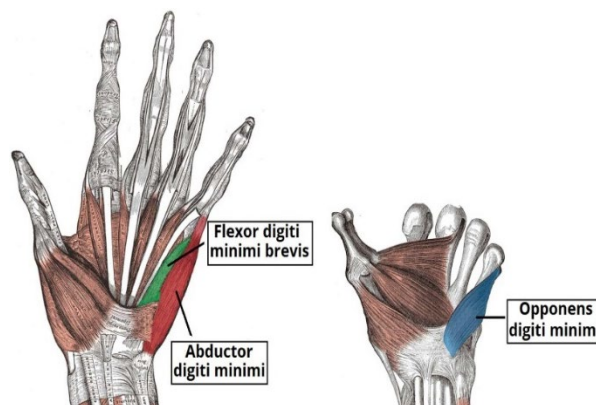


Fig: Common Flexor Origin: hypothenar muscles

Origin – 1	2	3
------------	---	---

Insertion – 1

2

3

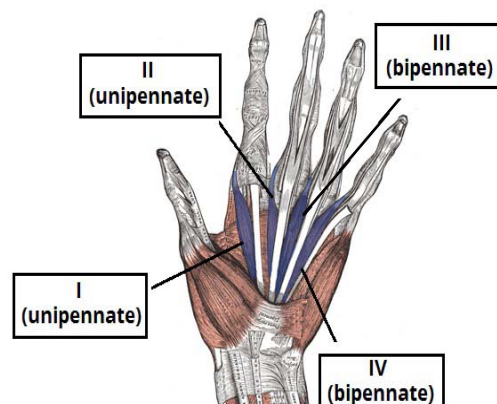


Fig: Common Flexor Origin: lumbricals muscles

Origin – 1

2

3

4

Insertion – 1

2

3

4

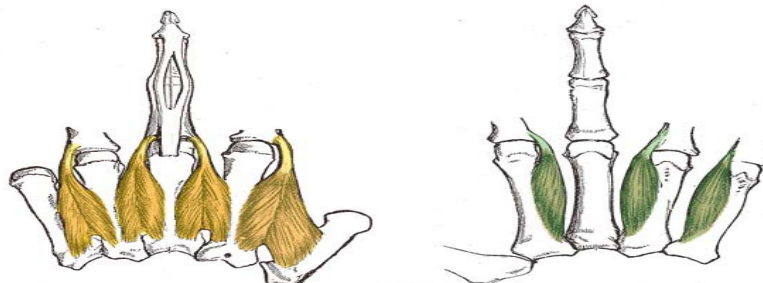


Fig: Common Flexor Origin: interossei muscles

Origin – 1

2

Insertion – 1

2

Q. 6 Enumerates name muscles in the palm that are not lumbricals or interossei and do not fit in the hypothenar or thenar compartments write following details of hand muscles?

Answer: Name of muscle: 1

2

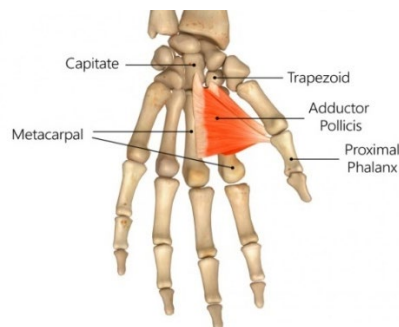


Fig: Adductor Pollicis Muscle

Origin –

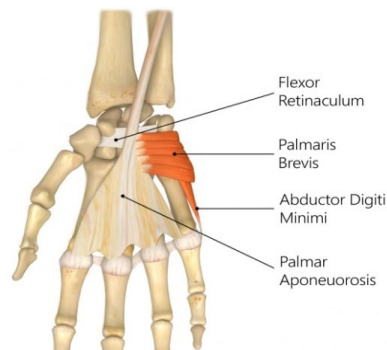


Fig: Palmaris Brevis Muscle

Origin –

Insertion -

Insertion –

Q. 7 Draw a well label diagram & write following detail of anatomical snuff box?

Answer:

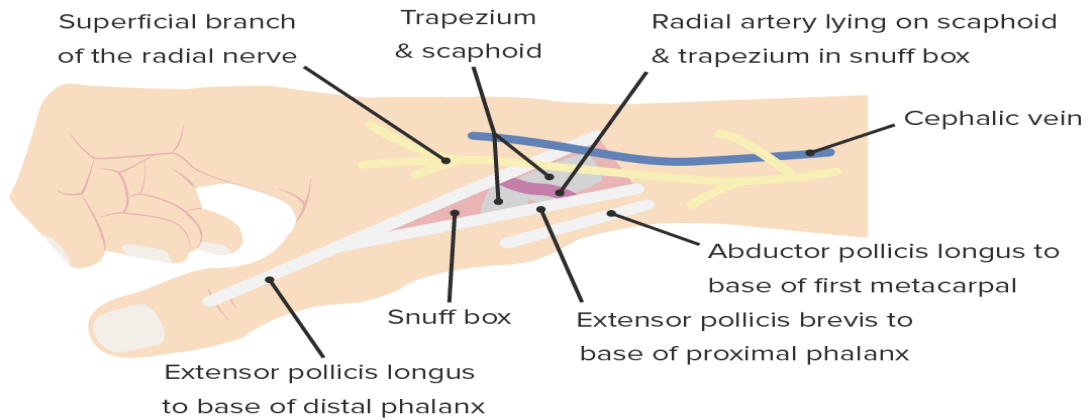


Fig: Anatomical Snuff Box

Laterally –

Medially –

Roof –

Floor –

Proximally –

Contents -

Q.8 Draw a well label diagram & write following details of radial artery and ulnar artery in forearm & hand?

Answer:

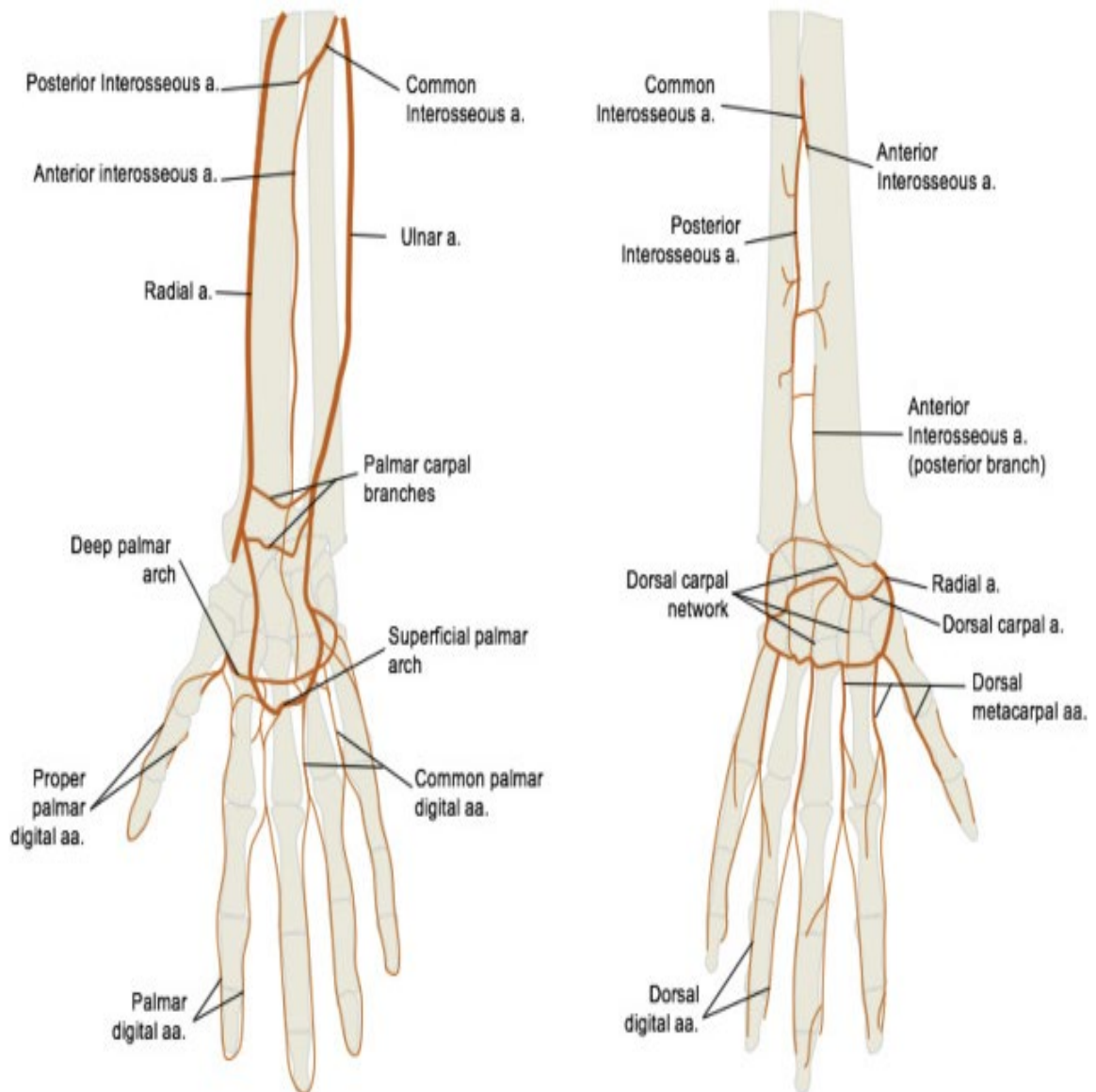
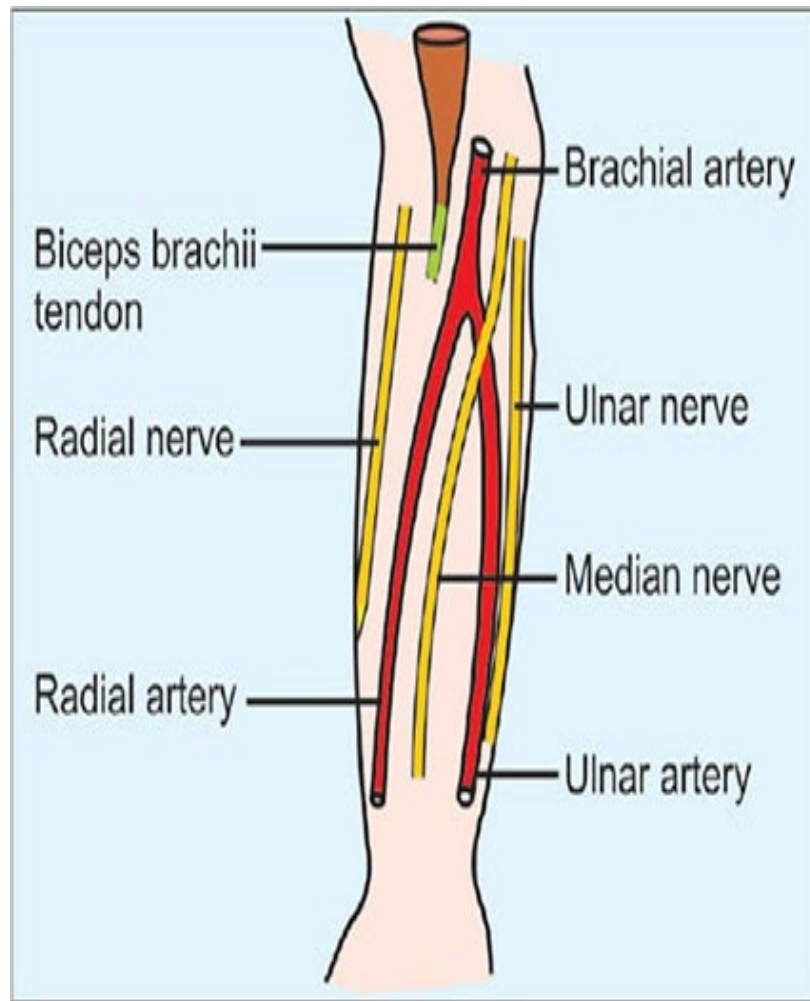


Fig: Forearm & Hand: radial & ulnar artery (anterior & posterior view)



Radial Artery

Ulnar Artery

Course & Relation:

Branches:

Applied:

Q.9 Draw a well label diagram & write following details of anterior & posterior interosseous artery and note on interosseous membrane?

Answer:

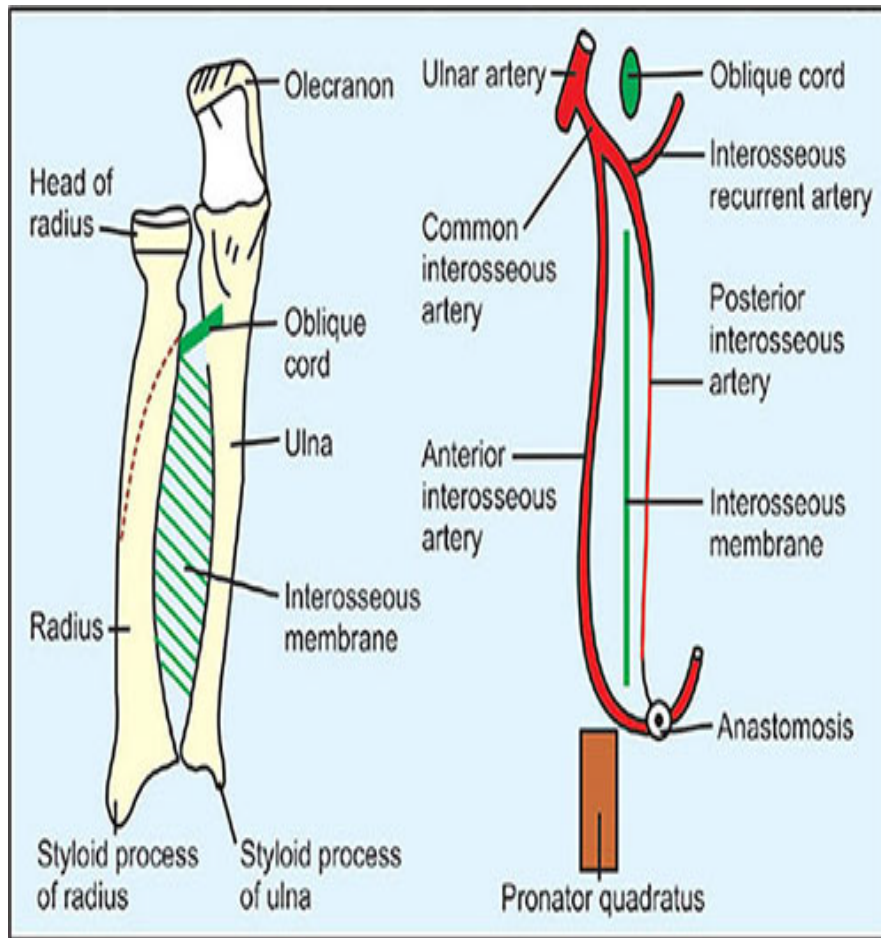


Fig: Anterior & Posterior Interosseous Artery and Interosseous Membrane

Anterior Interosseous

Posterior Interosseous

Course & Relations:

Branches:

Note on interosseous membrane:

Q.10 Draw a well label diagram & write following details of nerves of the forearm?

Answer:

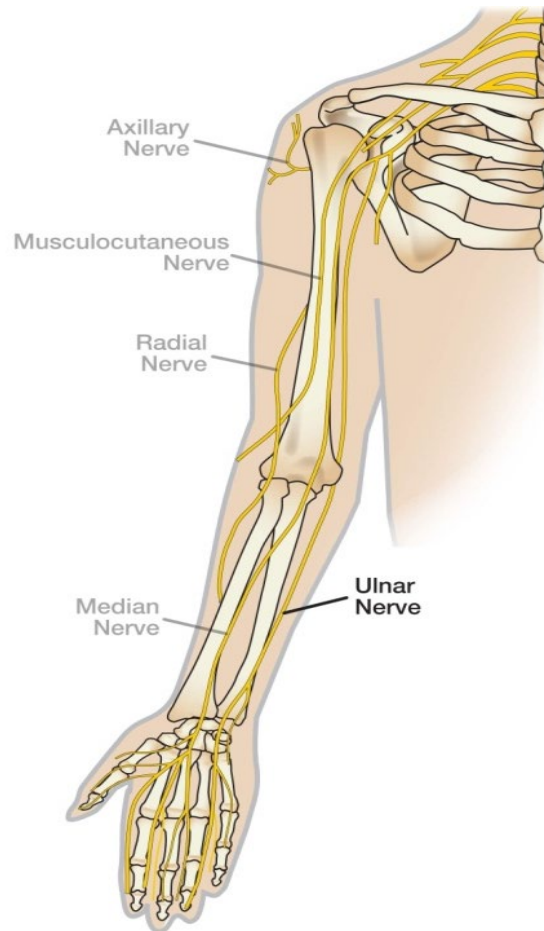


Fig: Nerves of the Forearm

Course & Relations

Branches:

Ulnar nerve

Radial nerve

Median nerve

Applied Anatomy:

Cubital Tunnel Syndrome

Wrist Drop

Carpel Tunnel Syndrome

Answer:



Structure passing superficial or above –

Structure passing deep or below –

Where is carpal tunnel located and how it is formed?

Q.12 Draw a well label diagram & write following detail of the extensor retinaculum?

Answer:

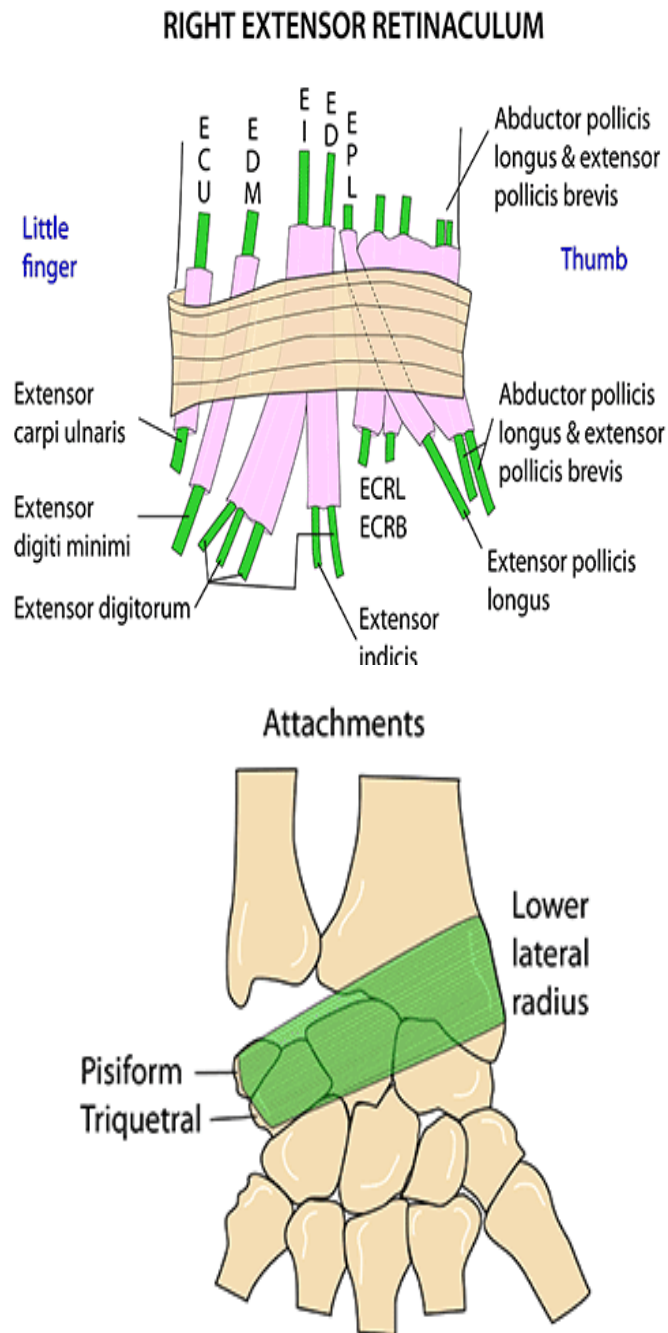


Fig: Extensor Retinaculum

Structure passing

First compartment –	1	2
Second compartment –	1	2

Third compartment – 1

Fourth compartment – 1

2

Fifth compartment – 1

Sixth compartment – 1

THE JOINTS OF THE UPPER LIMB

Q. 1 Define the joint? Write down classification of the joint with example and suitable diagram?

Answer:

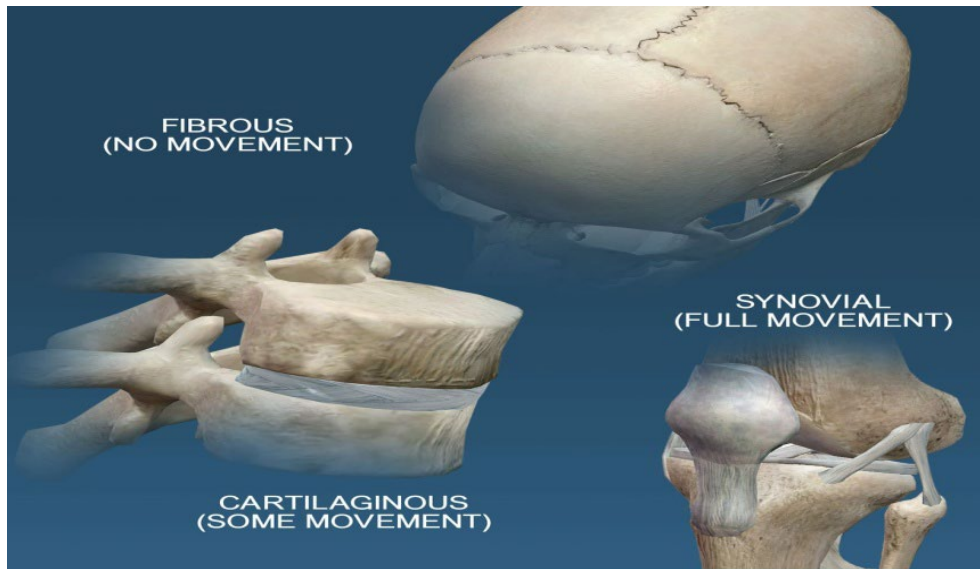


Fig: Classification of Joint

Fibrous joint: Definition-

a)

1

2

3

4

5

b)

c)

Cartilaginous joint: Definition-

a)

b)

Synovial joint: Definition-

1

2

3

4

5

6

Q.2 Draw a well label diagram & write following detail of the shoulder joint?

Answer:

Mention type and the factors of the stability of shoulder joint?

Type-

Factor for stability- 1

2

3

Why the shoulder joint dislocation inferiorly?

Answer:

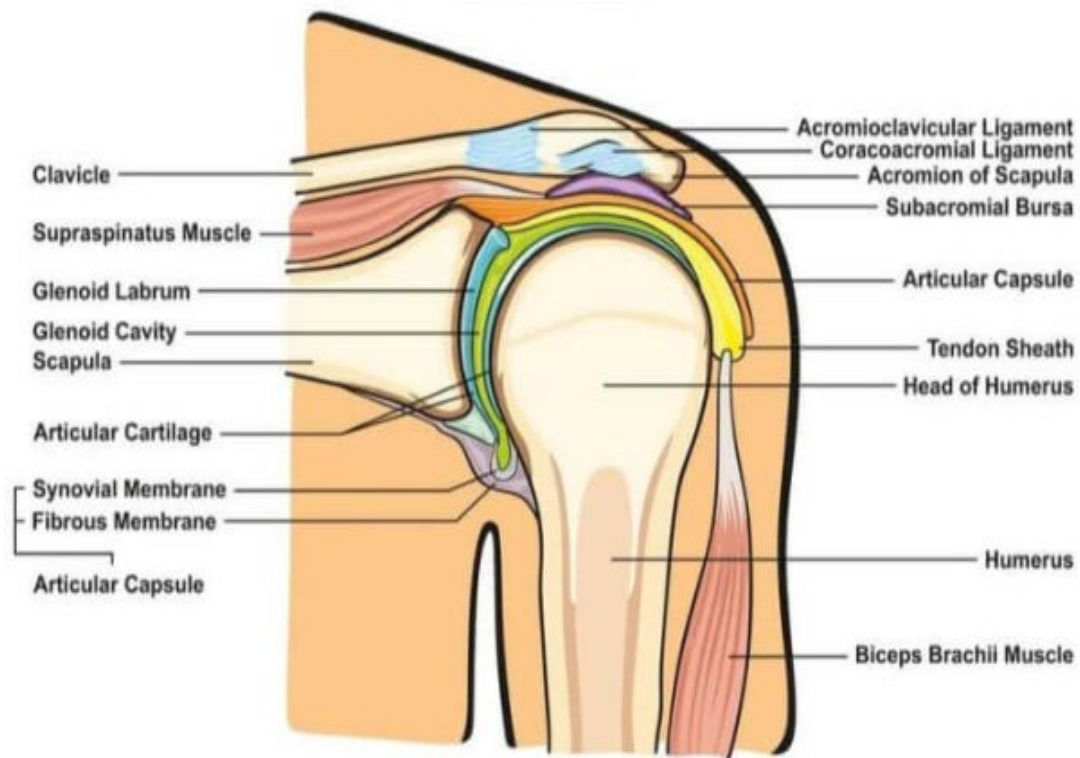


Fig: Shoulder Joint

Mention the name of ligaments of the shoulder joint?

1

2

3

4

Name the relations?

Anterior: 1

2

3

Posterior: 1

2

3

Superior: 1

2

3

4

Inferior: 1

2

3

4

What is mean by frozen shoulder?

Answer:

Enumerates muscles name as the following movements of shoulder joint?

Flexion:	1	2	
	3	4	
Extension:	1	2	3
Adduction:	1	2	3
Abduction:	1	2	
Internal rotation:	1	2	3
External rotation:	1	2	3

Q.3 Draw a well label diagram & write following detail of the elbow joint?

Answer:

Mention type and articular surface of elbow joint?

Type-

Articular surface: Upper –

Lower -

Write note on carrying angle?

Answer:

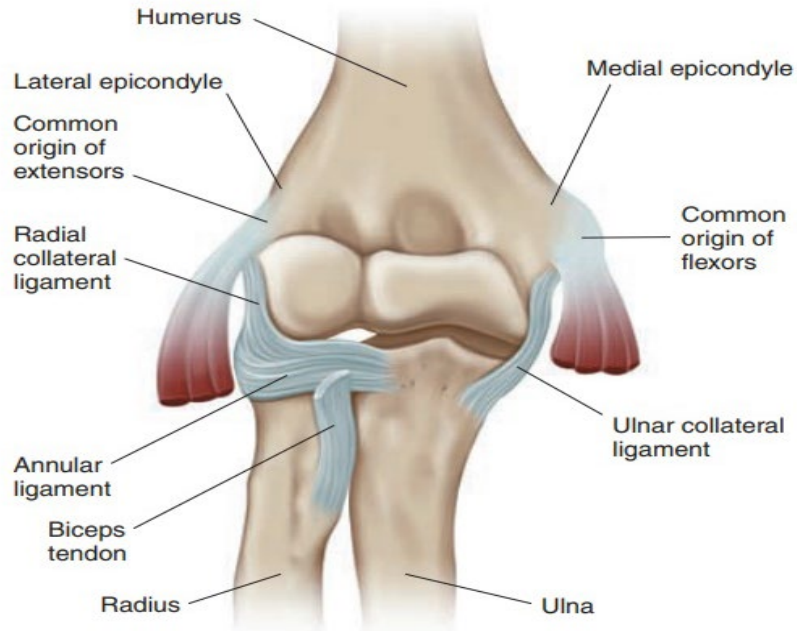


Fig: Elbow Joint: articulate area & ligaments

Mention the name of ligaments of the shoulder joint?

1	2	3	4
5			

Name the relations?

Anterior: 1	2	3	4
Posterior: 1	2		
Medial: 1	2	3	
Lateral: 1	2	3	

What is mean by tennis elbow?

Answer:

Enumerates muscles name as the following movements of shoulder joint?

Flexion: 1	2	3
Extension: 1	2	

Q.4 Draw a well label diagram & write following detail of the wrist joint?

Answer:

Mention type and articular surface of wrist joint?

Type-

Articular surface: Upper –

Lower –

Mention the name of ligaments of the wrist joint?

1 2 3 4 5

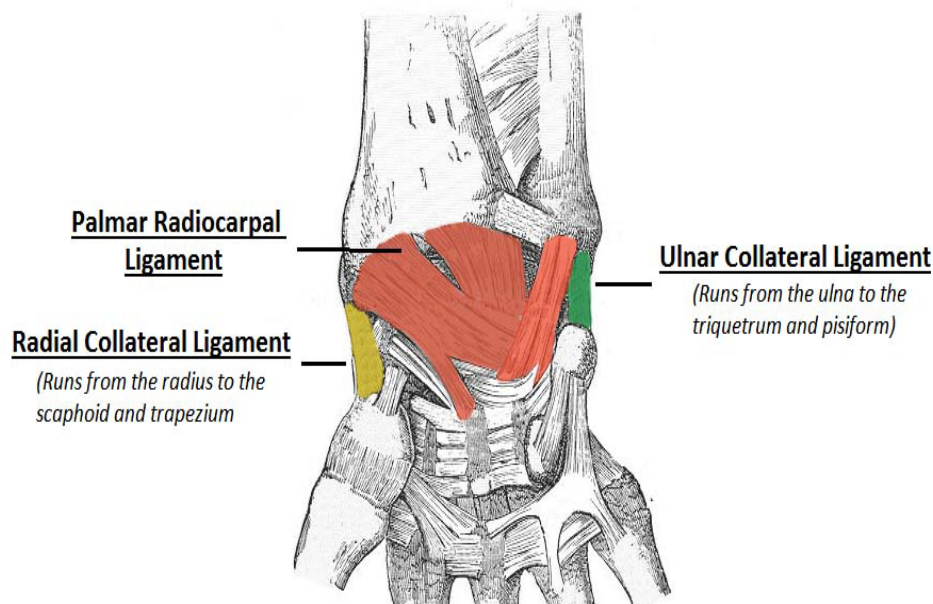


Fig: Elbow Joint: ligaments

Name the relations?

Anterior: 1	2	3	4
5	6	7	
Posterior: 1	2	3	4
5	6	7	
Medial: 1			
Lateral: 1	2		

Enumerates muscles name as the following movements of wrist joint?

Flexion:	1	2	3	
Extension:	1	2	3	4
Adduction:	1	2		
Abduction:	1	2	3	4

SECTION-2

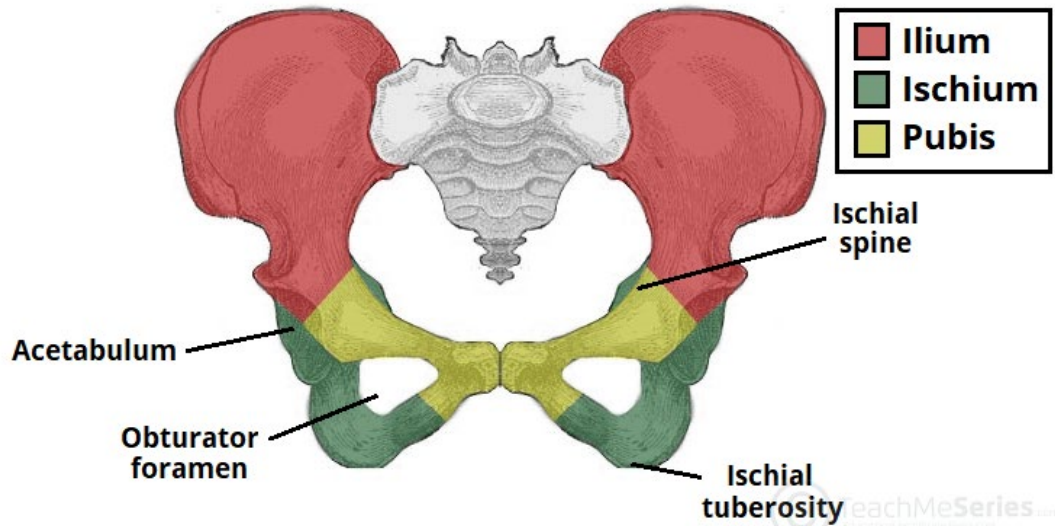
LOWER LIMB

BONES OF THE LOWER LIMB

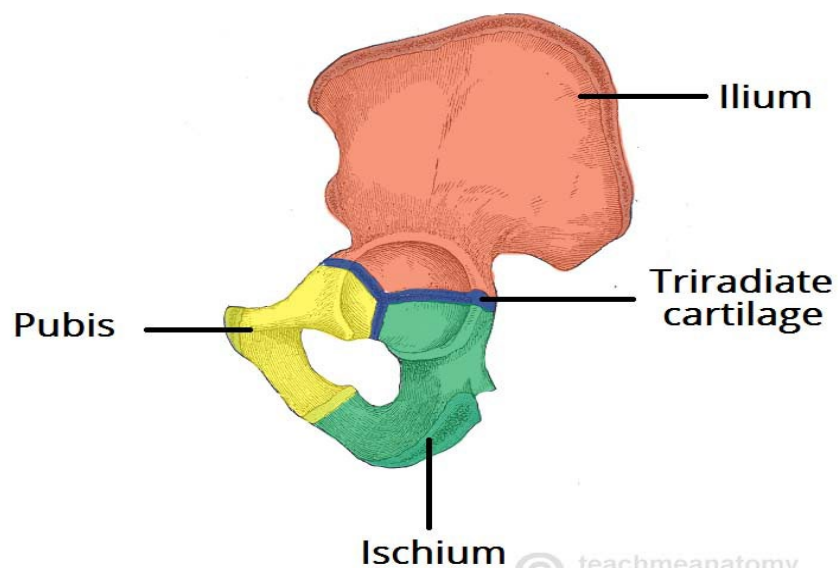
Q.1 Draw a well label diagram & write following detail of the hip bone?

Answer:

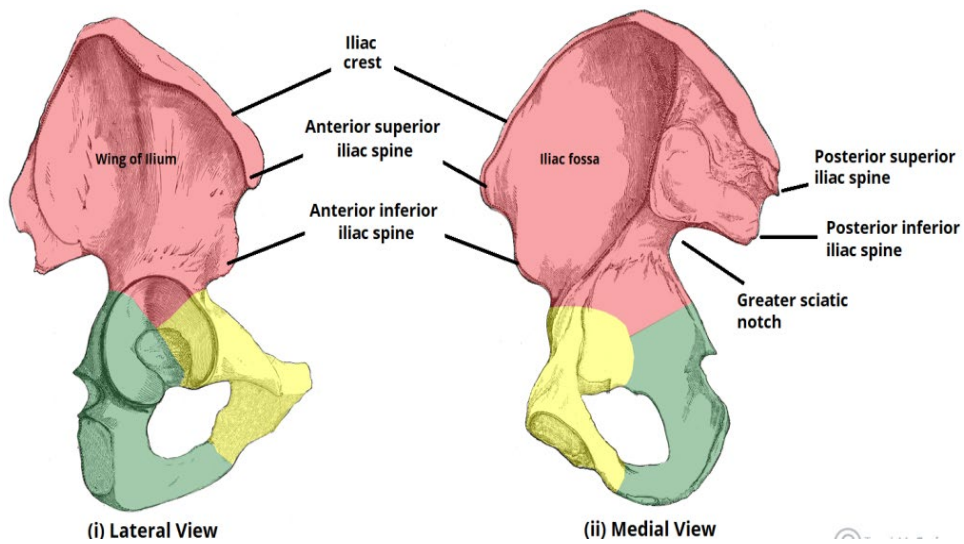
Hip bone with pelvis:



Hip bone & its parts:



The Ilium its lateral & medial view:



Iliac crest-

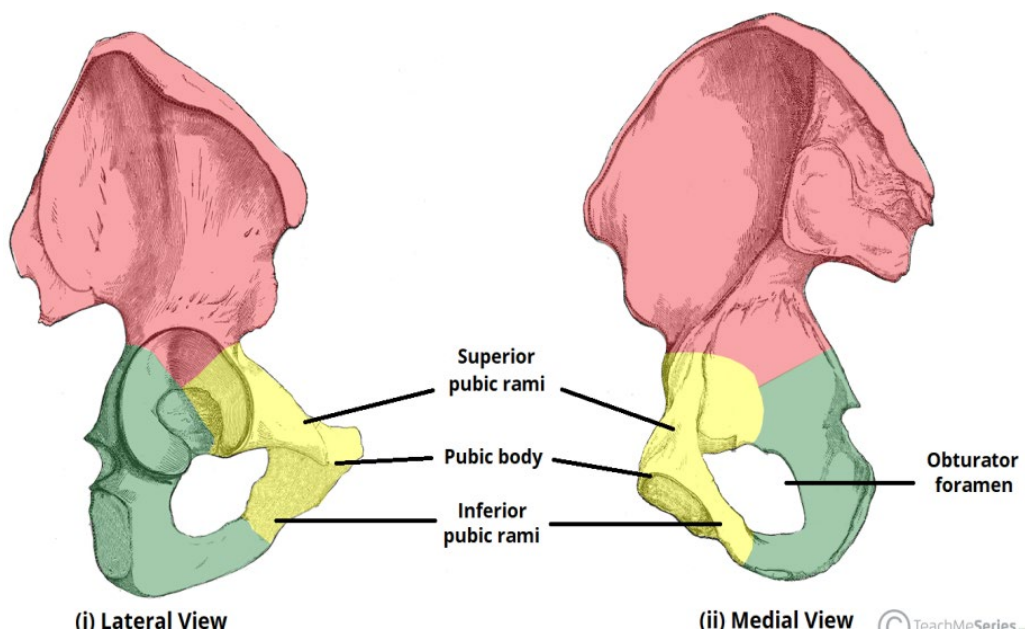
Anterior superior iliac spine-

Posterior superior iliac spine-

Iliac fossa-

Grater sciatic notch-

The Pubis its lateral & medial view:



Pubis body-

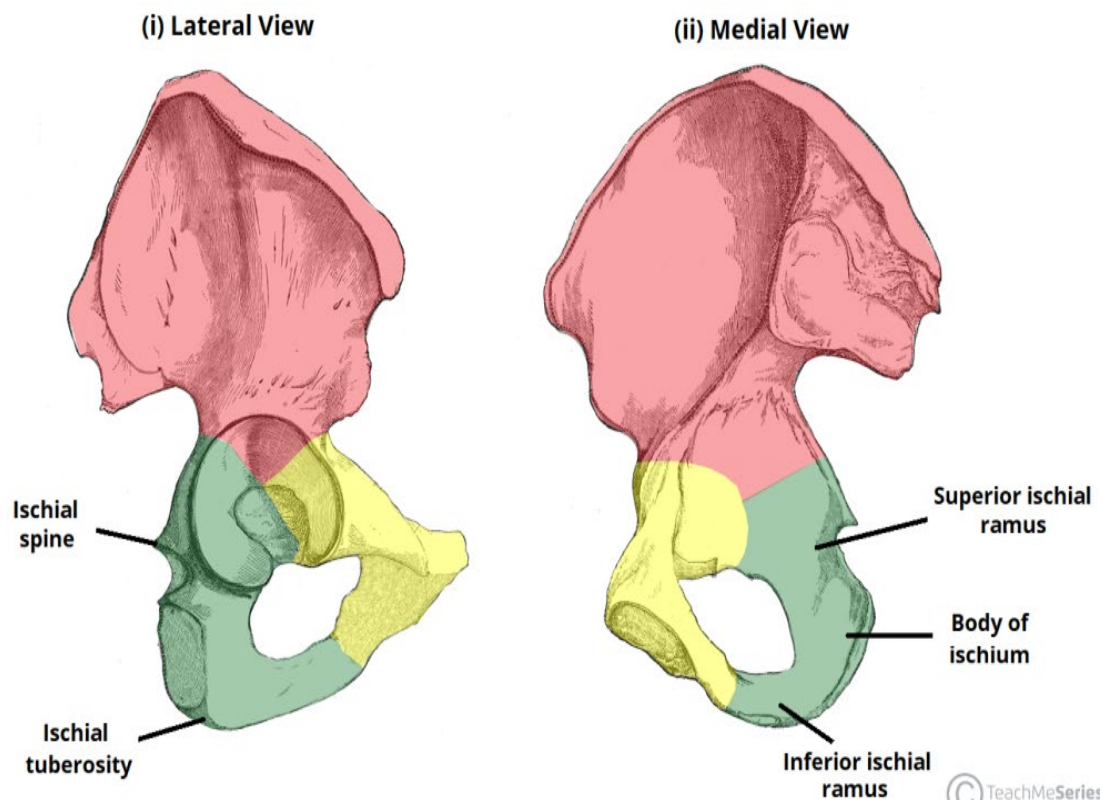
Superior pubis ramus-

Inferior pubis ramus-

Obturator foramen-

Symphysis pubis-

The Ischium its lateral & medial view:



Body of Ischium-

Ischial spine-

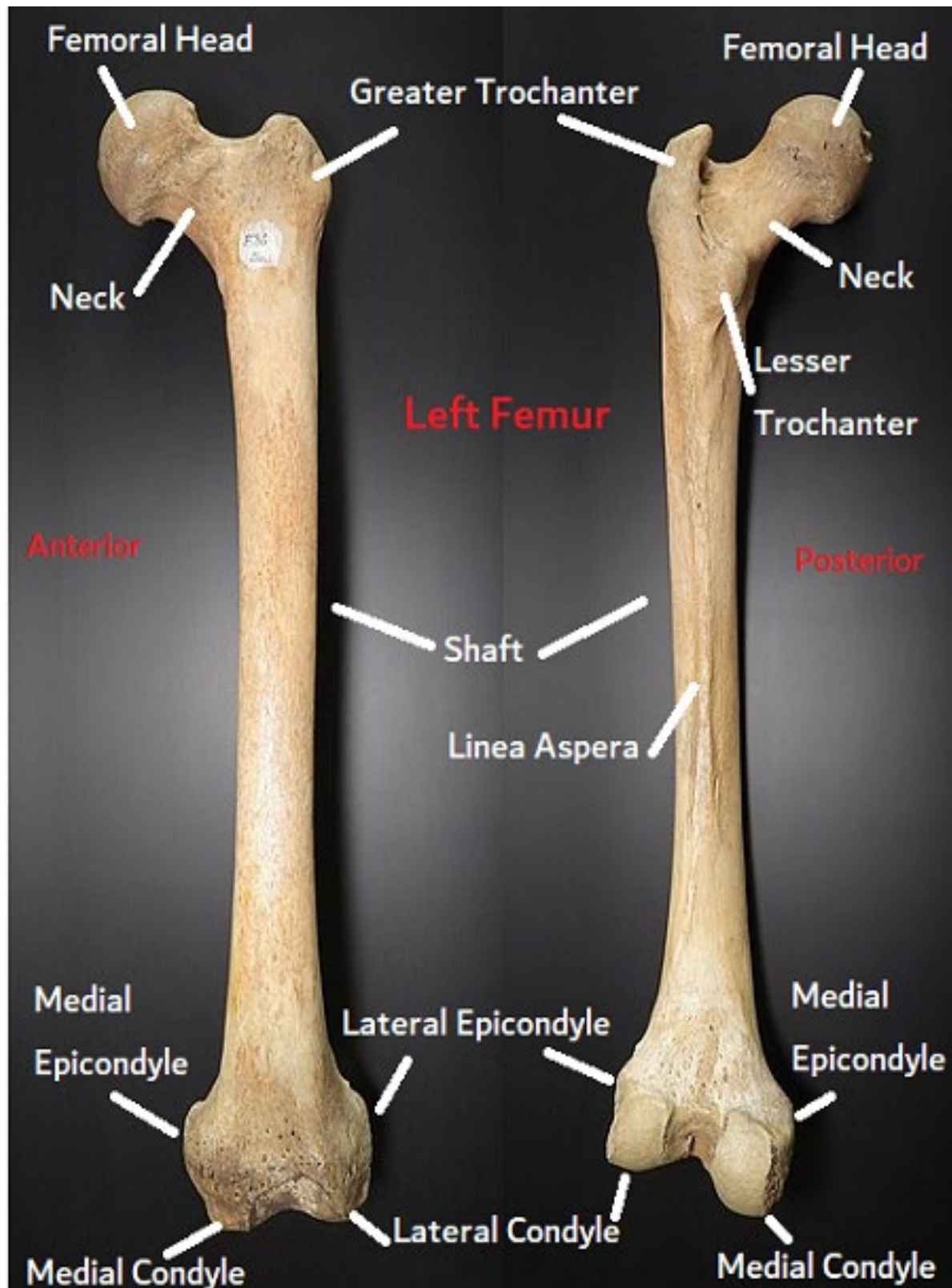
Superior ischial ramus-

Ischial tuberosity-

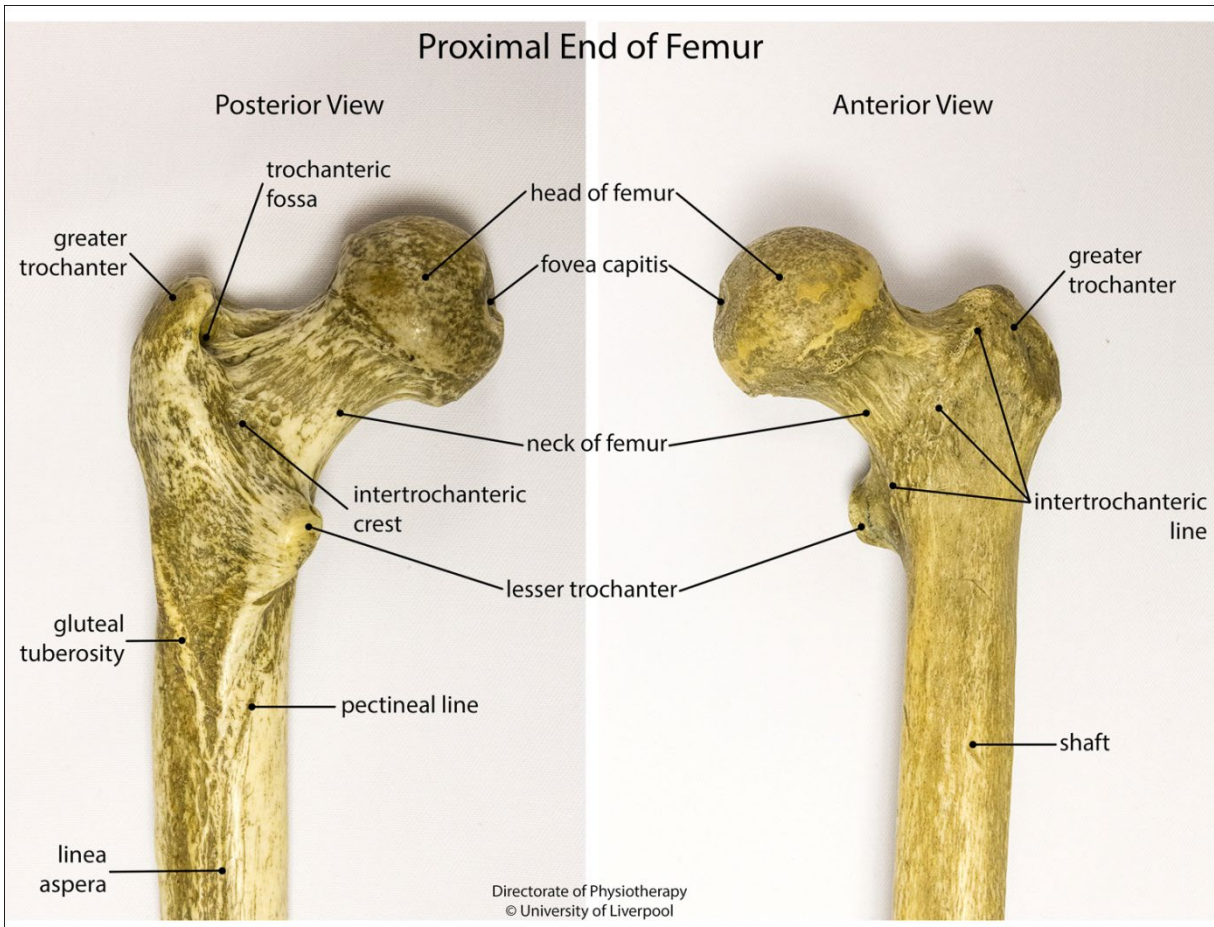
Inferior ischial ramus-

Q.2 Draw a well label diagram & write following detail of the femur bone?

Answer:



Upper end of femur are as following features-



Head: Directed-

Articulate with-

Pit of head is called-

Neck: How form neck of femur-

Greater trochanter: Apex-

Anterior surface-

Medial surface-

Lateral surface-

Lesser trochanter- How its form-

Intertrochanteric line-

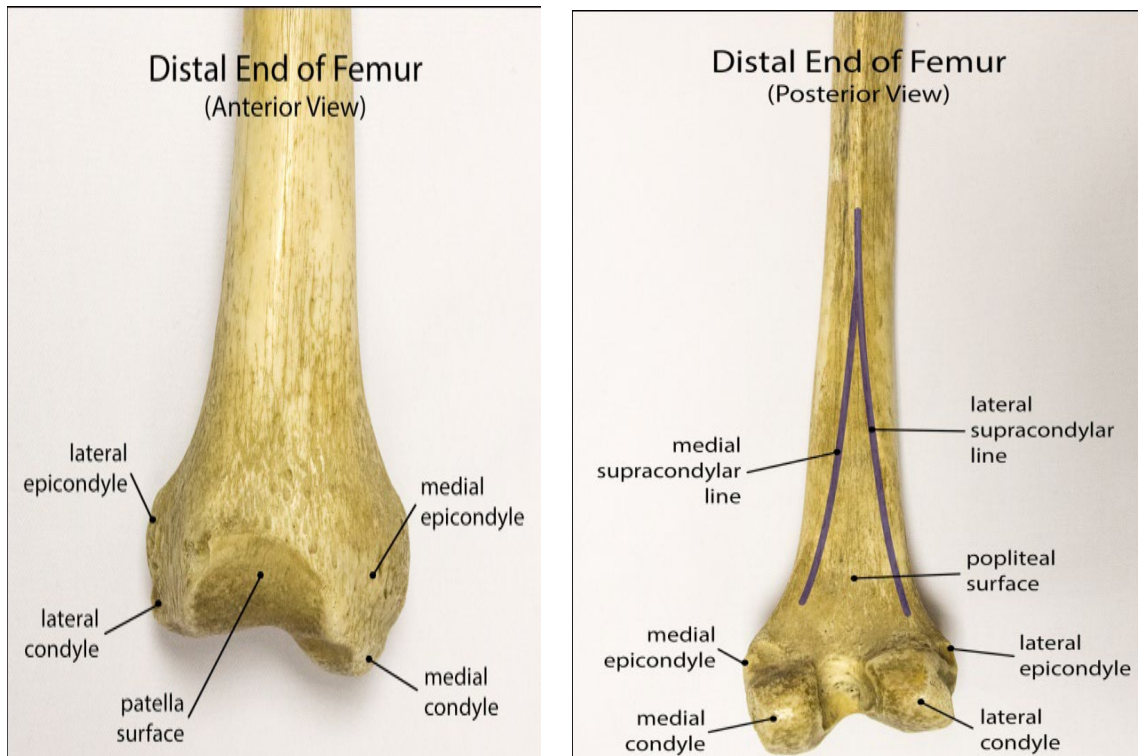
Intertrochanteric crest-

Shaft of femur are as following features-

Upper 1/3: Linea aspera

Middle 1/3: Borders-	1	2	3
Surface-	1	2	3

Lower end of femur are as following features-



Lateral condyle: Lateral epicondyle-

Popliteal groove-

Medial condyle: Medial epicondyle-

Adductor tubercle-

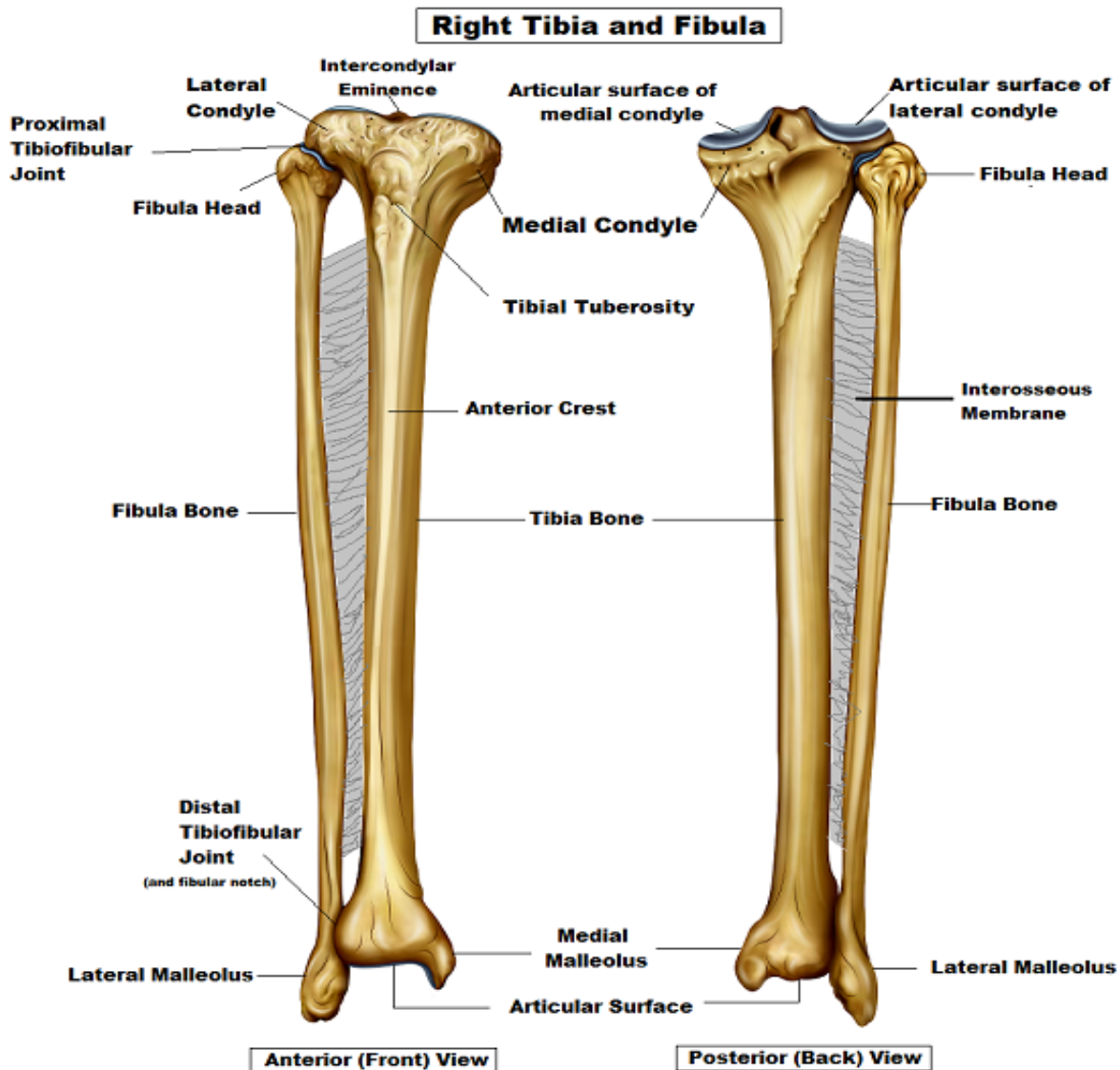
Intercondylar fossa-

Medial & lateral epicondyle-

Medial & lateral supracondylar line-

Q.3 Draw a well label diagram & write following detail of the tibia & fibula bone?

Answer:



Upper end of tibia are as following features-

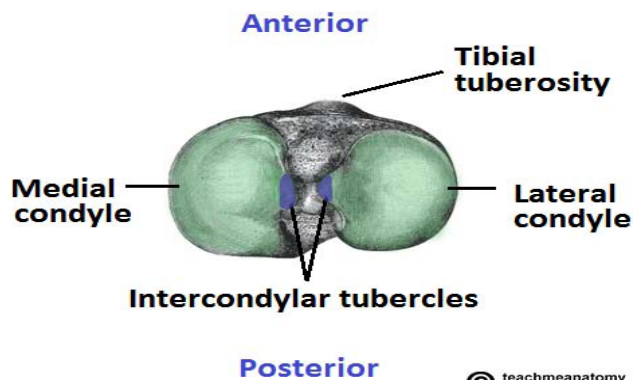


Fig: Superior view

Medial condyle:

Lateral condyle:

Intercondylar area:

Tuberosity of the tibia:

Shaft of tibia are as following features-

Anterior border:

Posterior border:

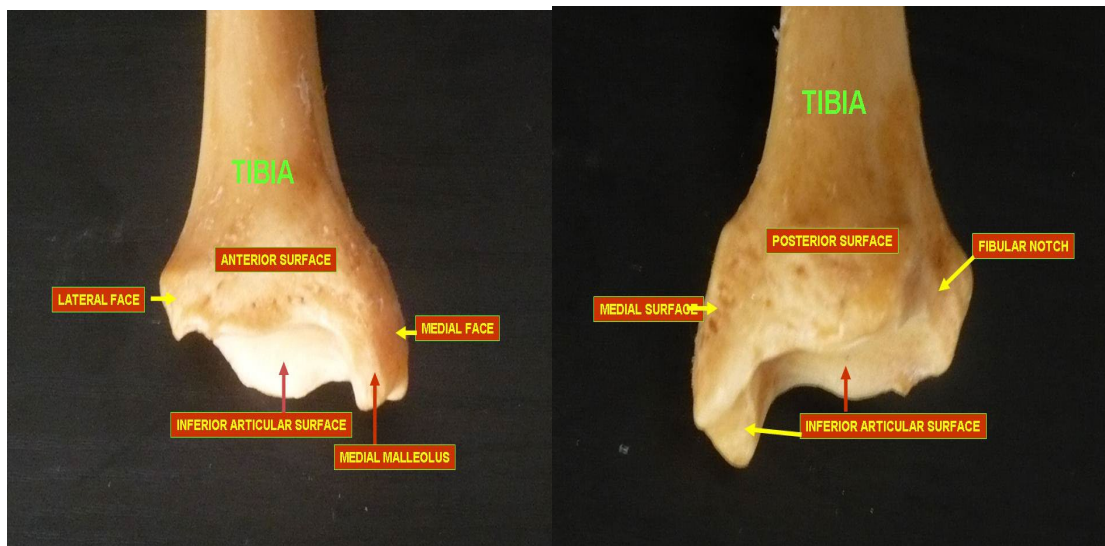
Interosseous border:

Lateral surface:

Medial surface:

Posterior surface:

Lower end of tibia are as following features-



Front side (right):

Back side (right):

Anterior surface-

Lateral face-

Medial face-

Inferior surface-

Medial malleolus-

Medial surface-

Posterior surface-

Fibular notch-

Inferior surface-

Interosseous membrane between tibia and fibula:

Upper end of fibula are as following features-

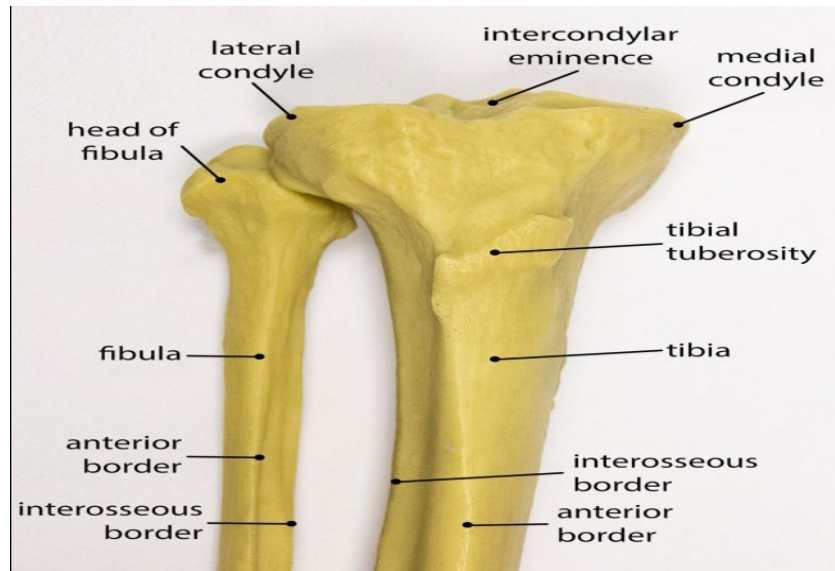
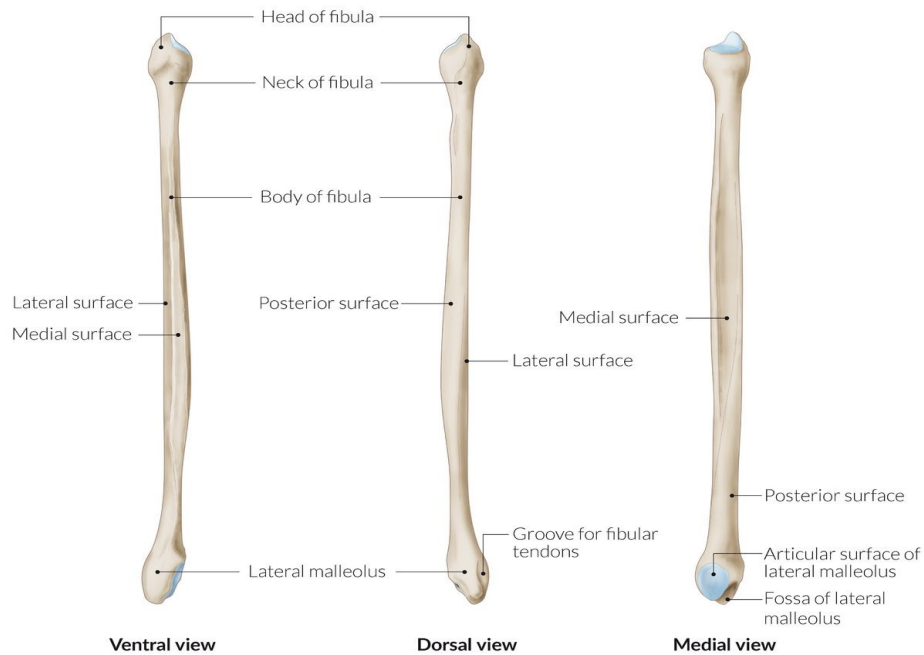


Fig: Proximal end of right tibia & fibula (anterior view)

Upper end (head) –

Shaft of tibia are as following features-



Anterior border:

Interosseous border:

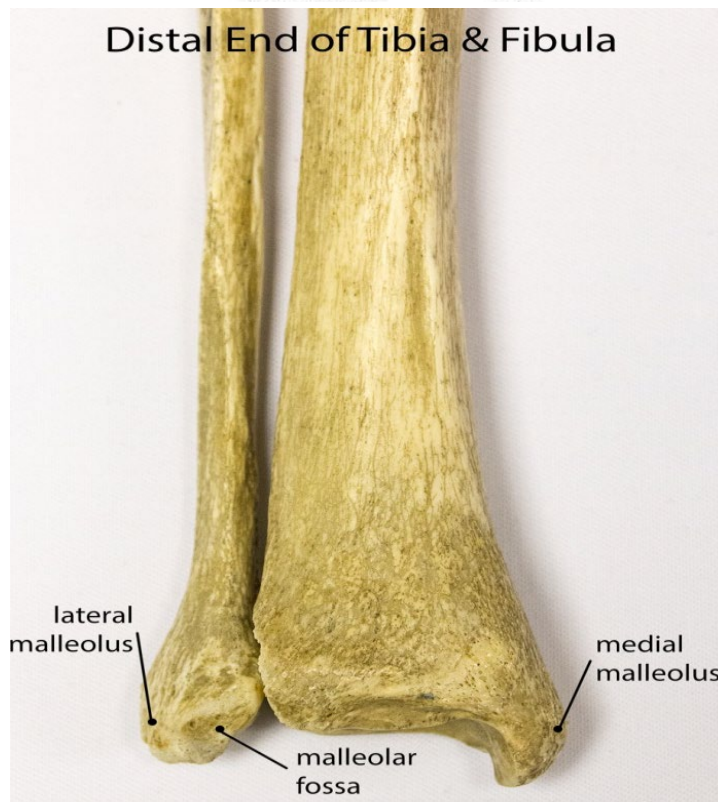
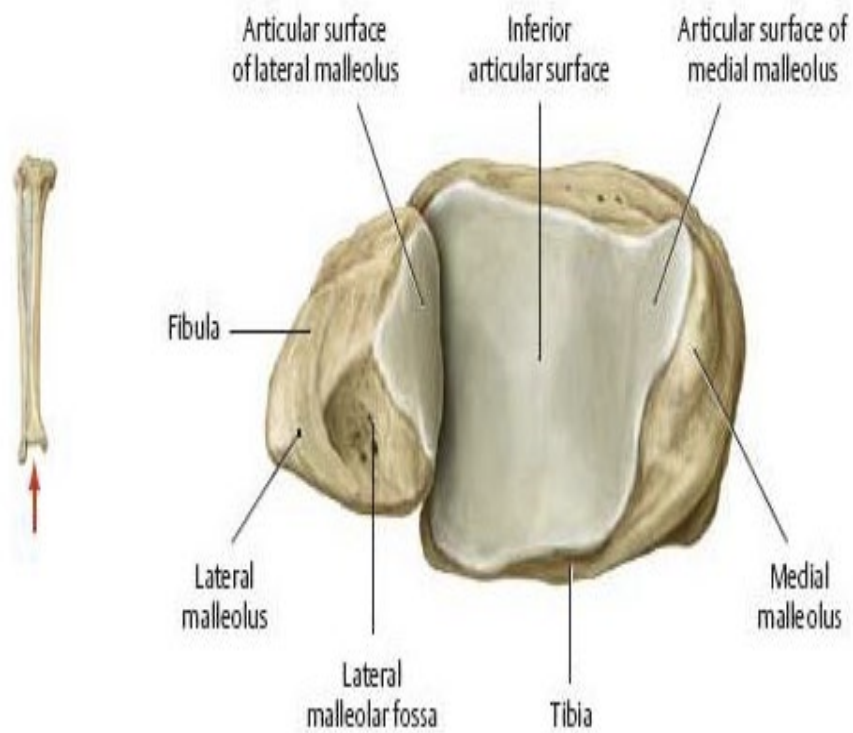
Medial surface:

Posterior border:

Lateral surface:

Posterior surface:

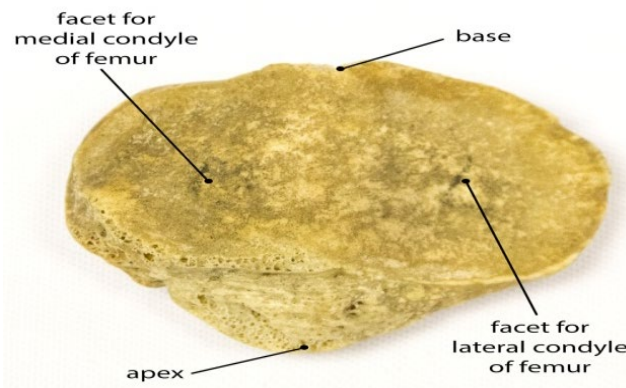
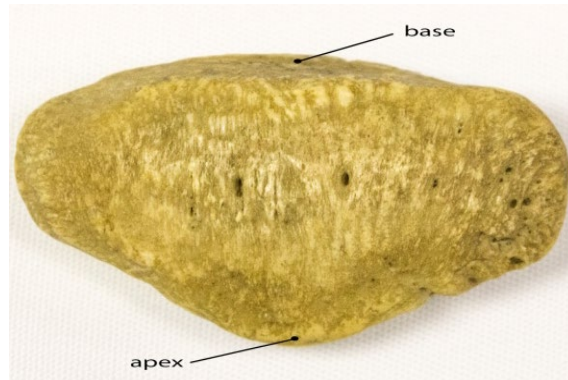
Lower end of fibula are as following features:



Lateral malleolus-
Articular surface-

Q.4 Draw a well label diagram & write following detail of the patella?

Answer:



Anterior view

Posterior view

Apex:

Superior border:

Lateral border:

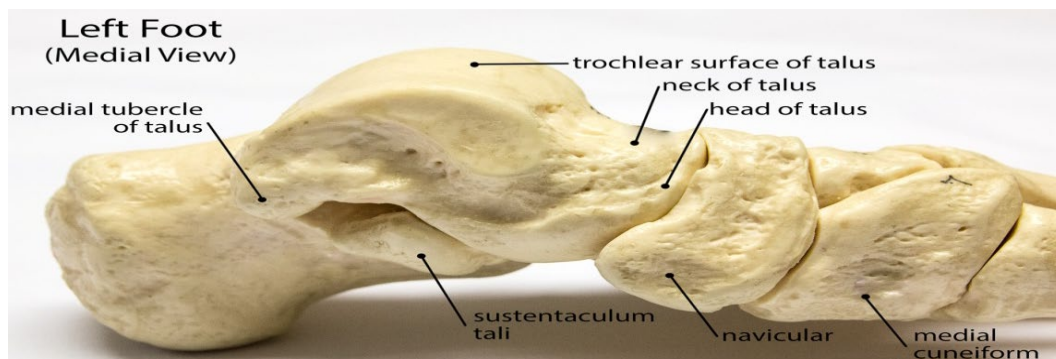
Medial border:

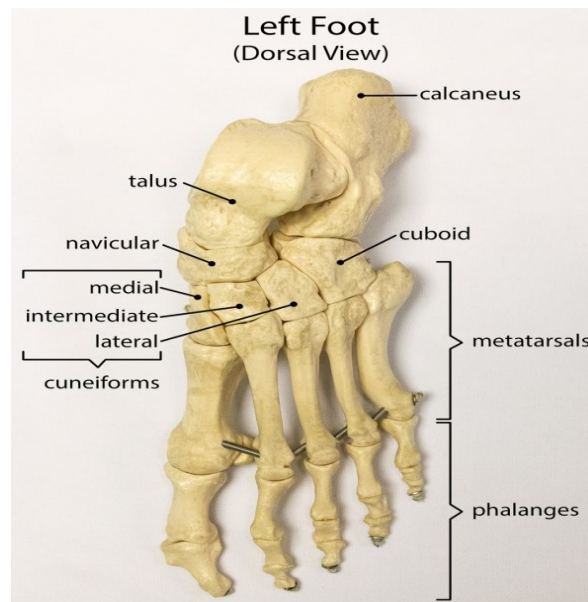
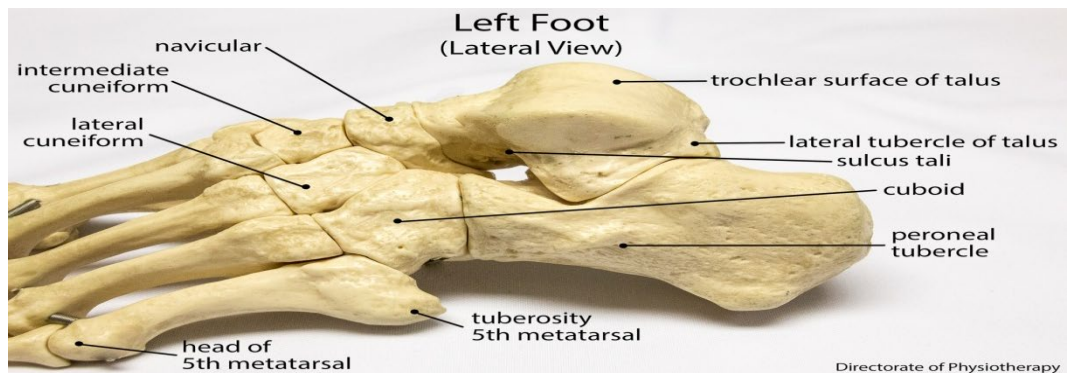
Anterior surface:

Posterior surface:

Q.5 Draw a well label diagram & write following detail of the foot bones?

Answer:





Enumerates name of foot bone:

FRONT OF THIGH

Q.1 Draw a well label diagram of superficial vessels of front of thigh & write following details of great (long) saphenous vein?

Answer:

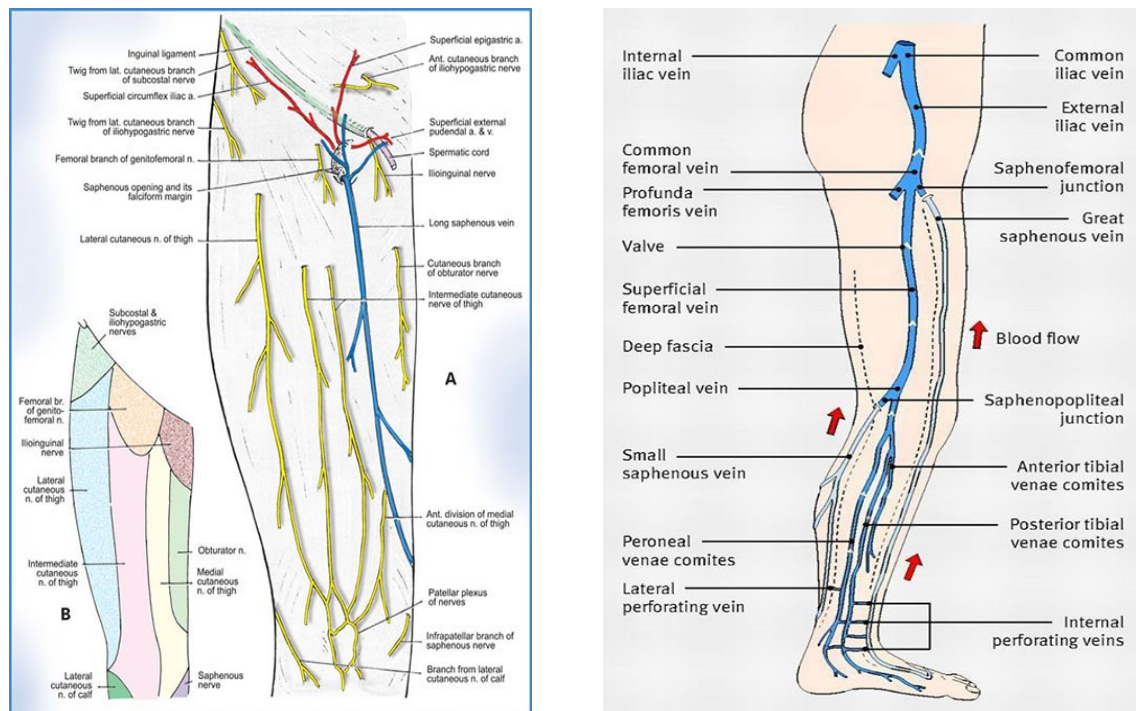


Fig: A) Superficial Vessels of Thigh B) Great Saphenous Vein: course & its tributaries

Enumerates name of superficial veins of lower limb:

- 1)
- 2)

Enumerates name of deep veins of lower limb:

- 1)
- 2)
- 3)
- 4)

What are perforating veins?

Enumerates the factors that help in venous return?

Why soleus is known as peripheral heart?

Write note on great saphenous vein under following points: It's longest vein.

Begins-

Course & relations-

Tributaries-

Q.2 Draw a well label diagram & write following detail of intermuscular septa, compartment of thigh?

Answer:

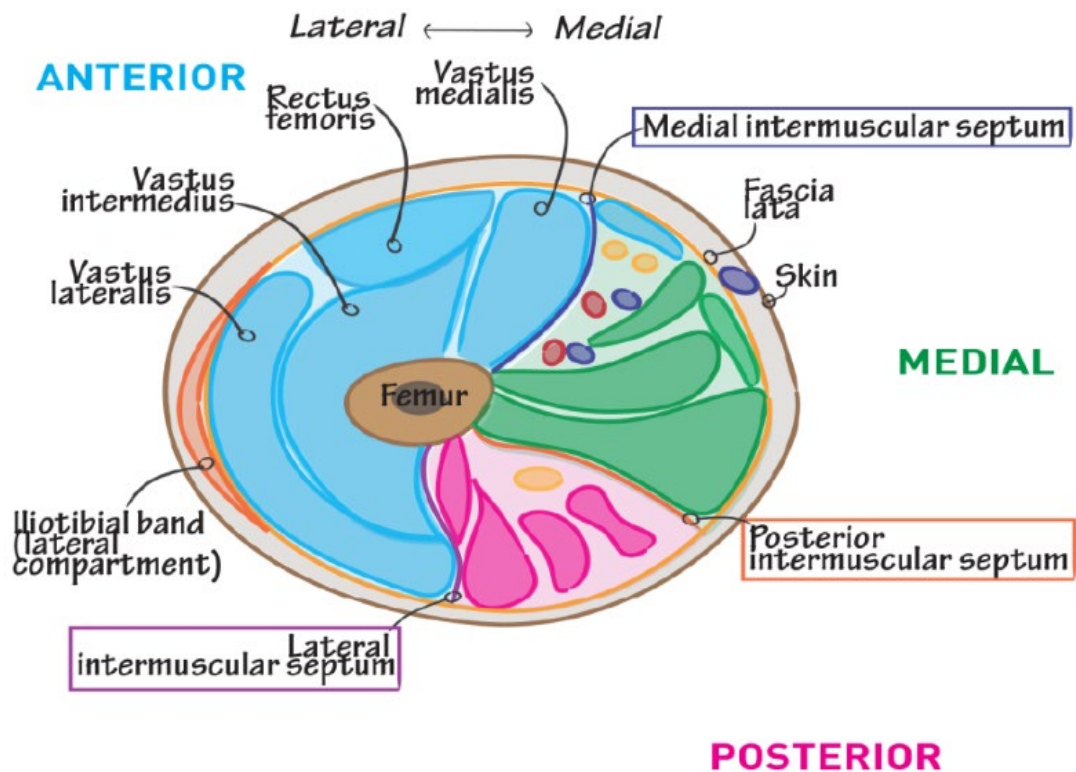


Fig: Compartment of Thigh

Intermuscular septa-

Compartment of thigh-

Q.3 Draw a well label diagram & write following detail of femoral triangle?

Answer:

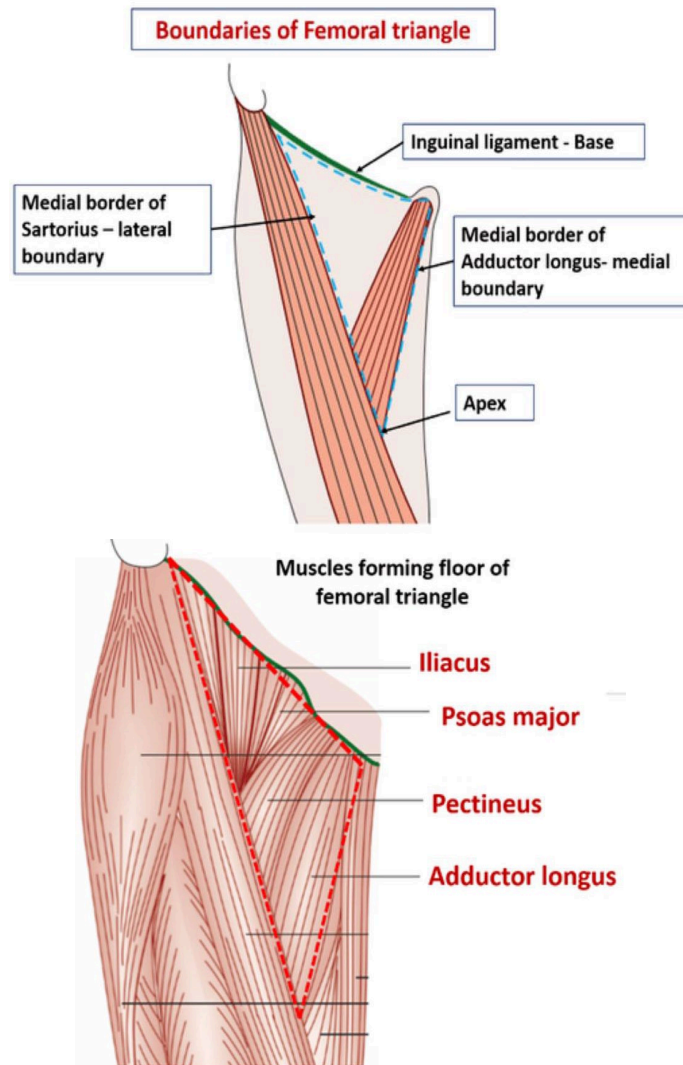


Fig: Front Triangle: boundaries & floor

Boundaries of femoral triangle:

Base-

Apex-

Medially-

Laterally

Floor (medial to lateral muscles)-

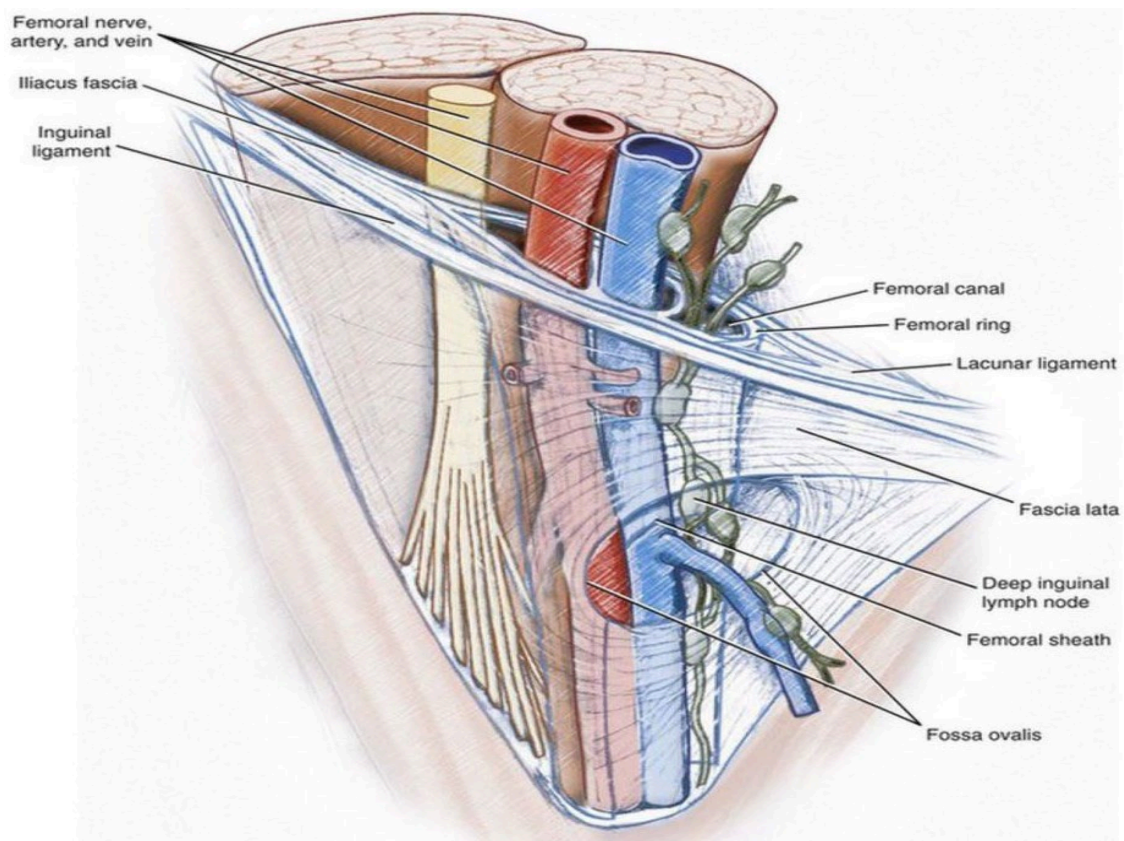


Fig: Front Triangle: contents

Roof-

Contents-

Important-

Clinical Anatomy-

Q.4 Draw a well label diagram & write following detail of femoral sheath?

Answer:

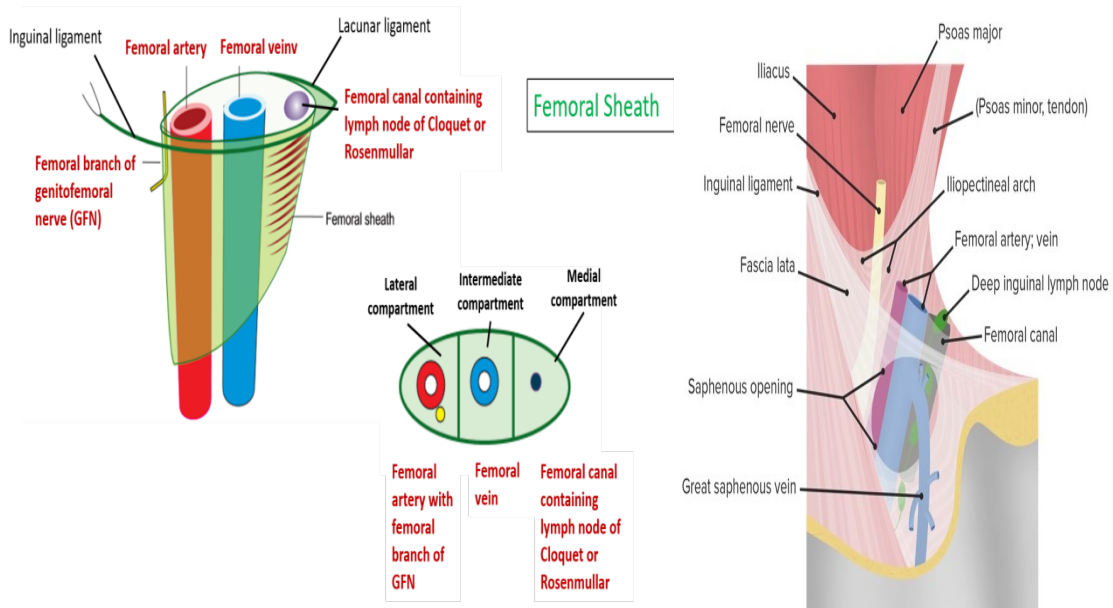


Fig: Femoral Sheath & its Contents

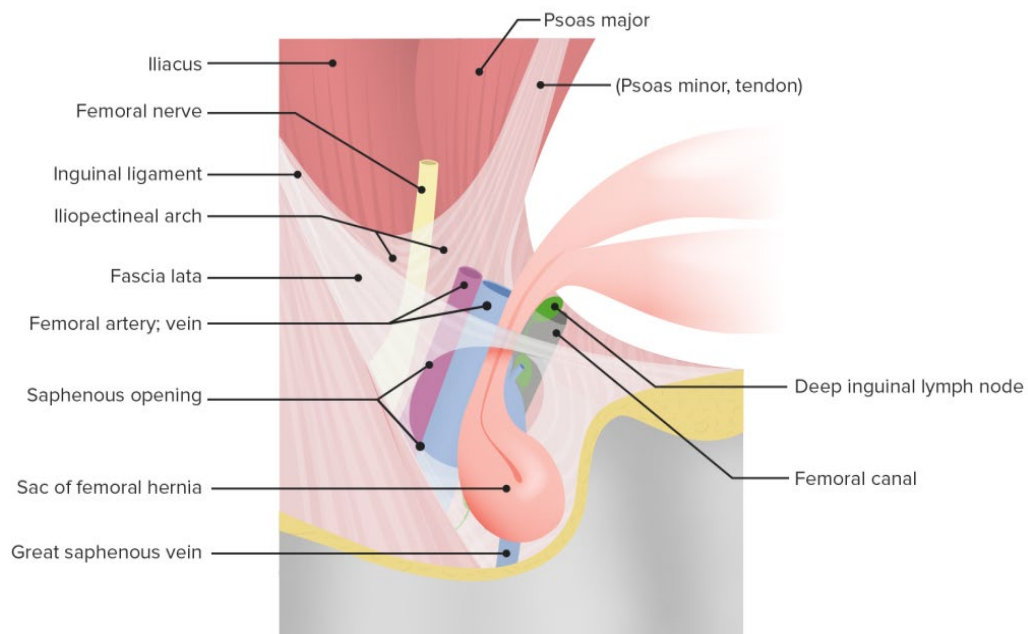


Fig: Femoral Hernia

Femoral sheath: Introduction-

Compartments – 1)

2)

3)

Femoral canal (medial compartment):

Shape-

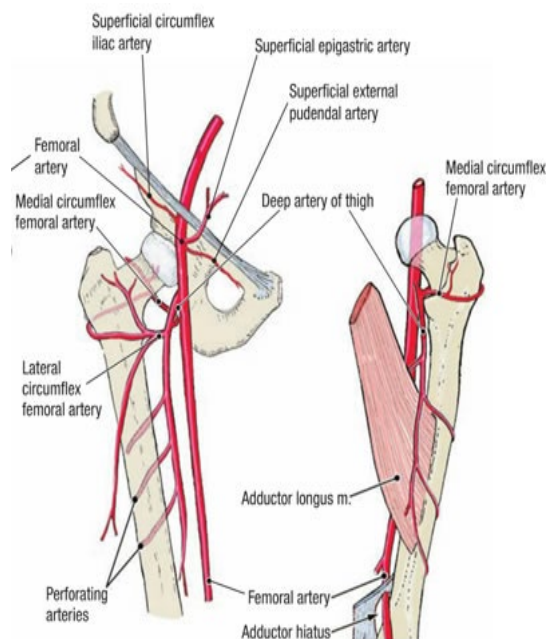
Femoral ring-

Femoral canal contents-

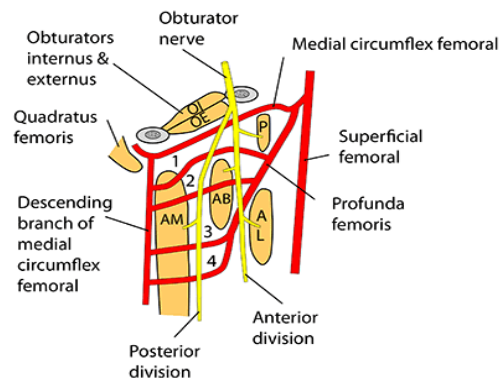
Femoral hernia:

Q.5 Draw a well label diagram & write following detail of femoral artery?

Answer:



PROFUNDA FEMORIS ARTERY



RELATIONSHIPS

Pectineus (P): Separates profunda from medial circumflex femoral artery
Adductor longus (AL): Separates profunda from femoral artery
Adductor brevis (AB): Separates anterior & posterior divisions of obturator nerve
Adductor magnus (AM): separates descending branch of medial circumflex femoral artery from profunda

Fig: Femoral Artery: branches & its course

What is the origin & course of femoral artery?

Origin-

Course-

Enumerates the branches of femoral artery?

Superficial-

Deep-

What is the origin & course of profunda femoris artery?

Origin-

Course-

Enumerates the branches of profunda femoris artery?

Q.6 Draw a well label diagram & write following details of muscles of the front of the thigh?

Answer:

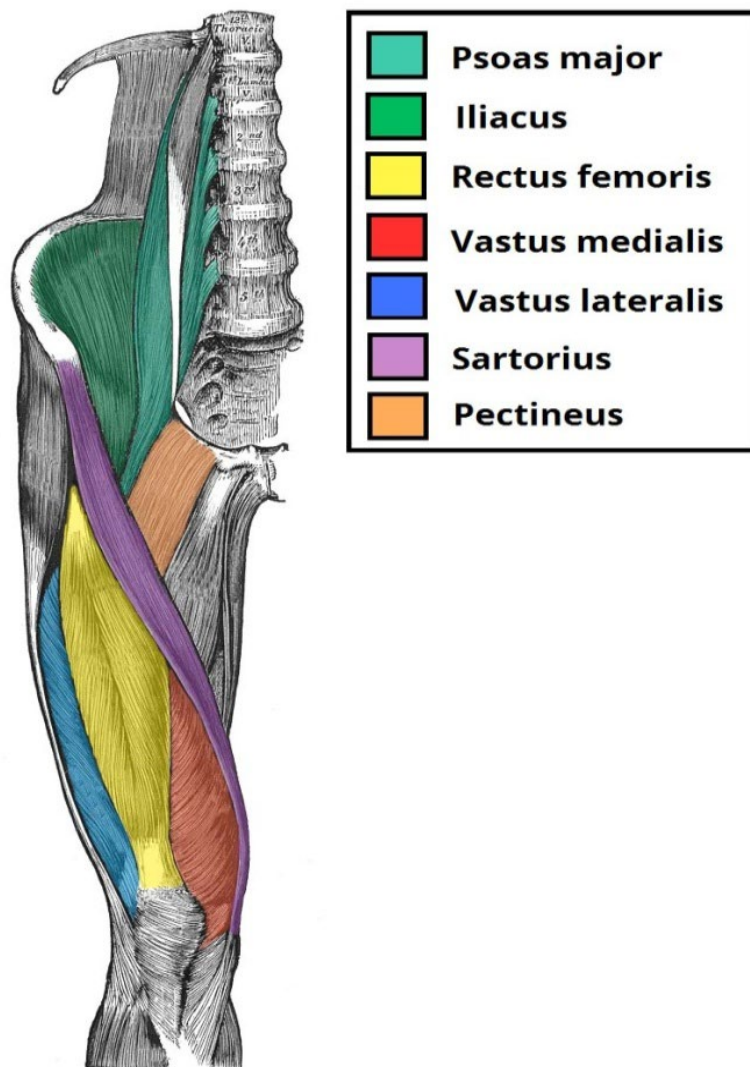


Fig: Front of Thigh: muscles & its course

Enumerates name of the muscles of the front of thigh:

- | | | |
|---|---|---|
| 1 | 2 | 3 |
| 4 | 5 | 6 |
| 7 | | |

Enumerates name of the muscles of the anterior compartment of the thigh:

- | | | |
|---|---|---|
| 1 | 2 | 3 |
| 4 | 5 | |

Q.7 Draw a well label diagram & write following details of adductor canal or sub sartorial canal or hunter's canal?

Answer:

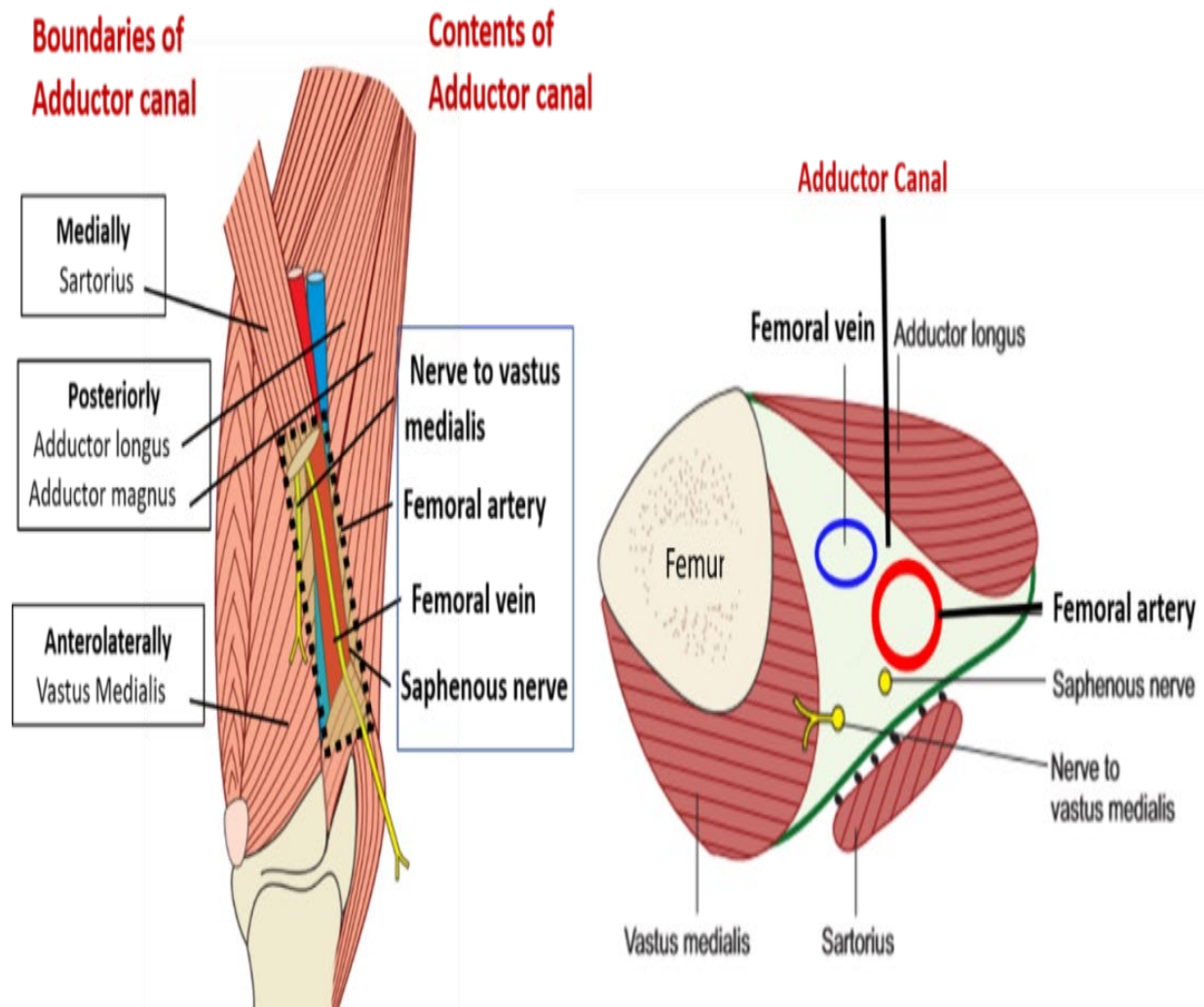


Fig: Adductor Canal: boundaries & contents

Boundaries: Extends-

Anterior wall

Posterior wall-

Medial wall-

Contents: 1

2

3

4

5

Important:

MEDIAL SIDE OF THIGH

Q.1 Draw a well label diagram of compartment of thigh and mention boundaries of medial compartment (adductor) thigh?

Answer: Name of compartment of thigh: 1)

2) 3)

Boundaries of medial compartment: A) Anteriorly-

B) Posteriorly-

C) Muscles: 1 2 3 4 5

D) Nerve: 1

E) Arteries: 1 2

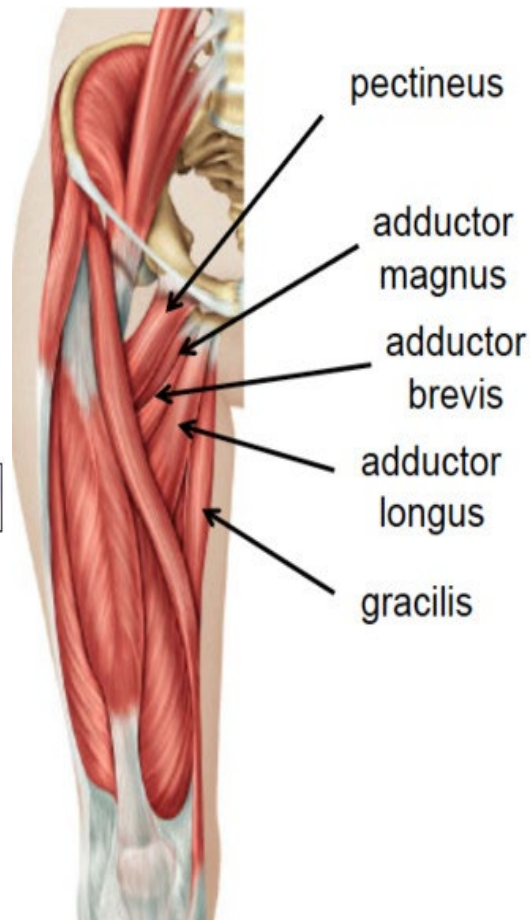
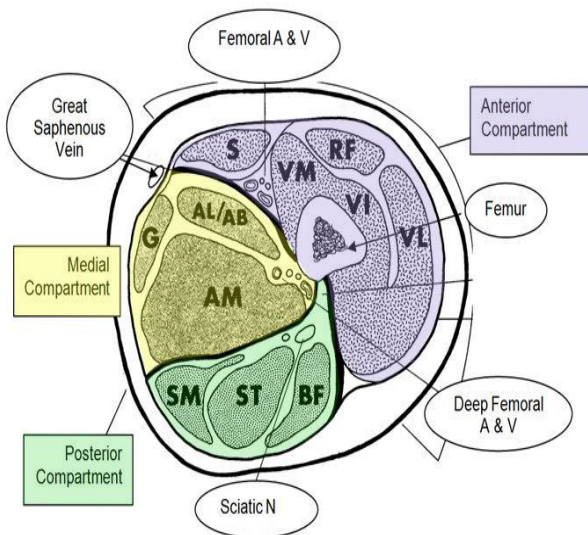


Fig: A: Compartment of thigh B: Adductor compartment

Q.2 Draw a well label diagram & write following detail of obturator nerve?

Answer:

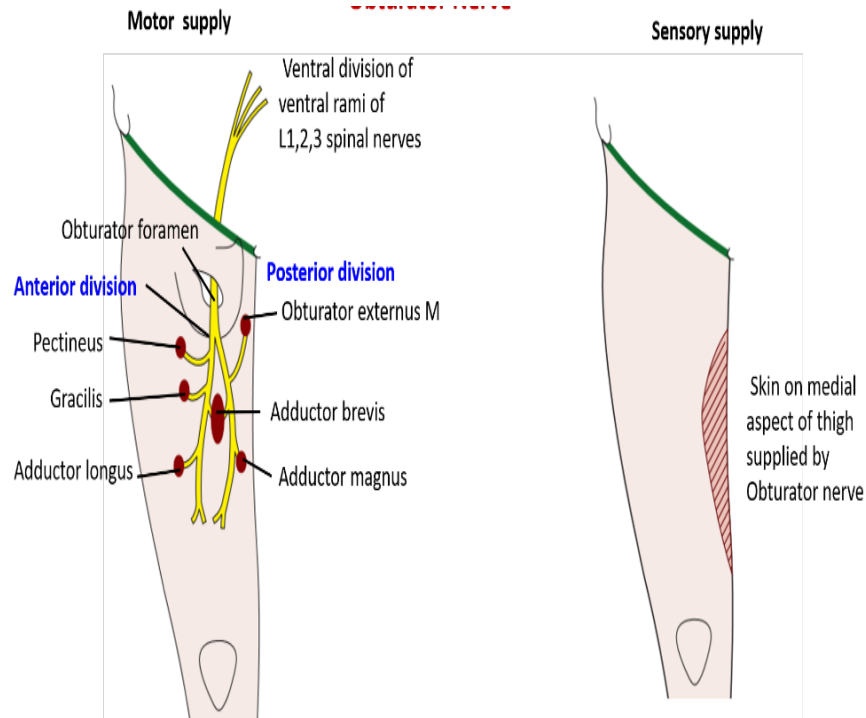


Fig: Obturator Nerve: divisions, motor supply, sensory supply

Origin:

Root value:

Course:

Branches of anterior division:

Branches of posterior division:

Applied aspect: Motor loss-

Sensory loss-

GLUTEAL REGION

Q.1 Draw a well label diagram & enumerates the muscles name of the gluteal region?

Answer:

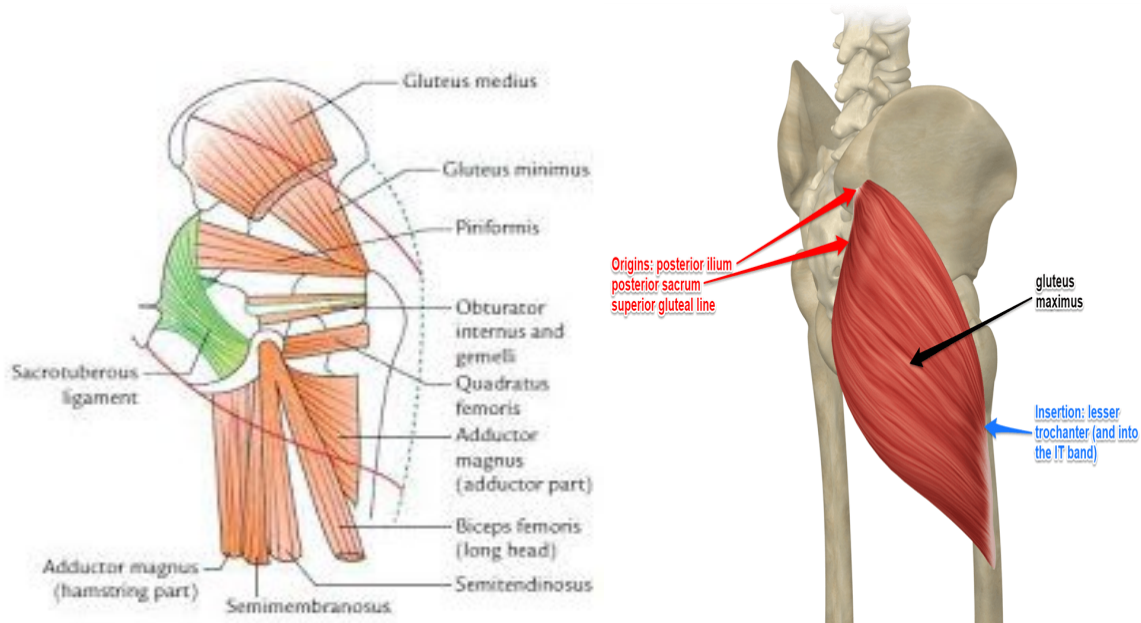


Fig: Muscles of the Gluteal Region

Muscles name of the gluteal region:

1	2	3	4	5
6	7	8	9	10

Gluteal maximus muscles:

Origin-

Insertion-

Structures under cover:

Muscles-

Vessels-

Nerves-

Bones & joints-

Ligaments-

Bursae-

Nerve supply-

Actions & applied of gluteal muscles-

Q.2 Draw a well label diagram sciatic foramen & write structure passing through the greater and lesser foramen?

Answer:

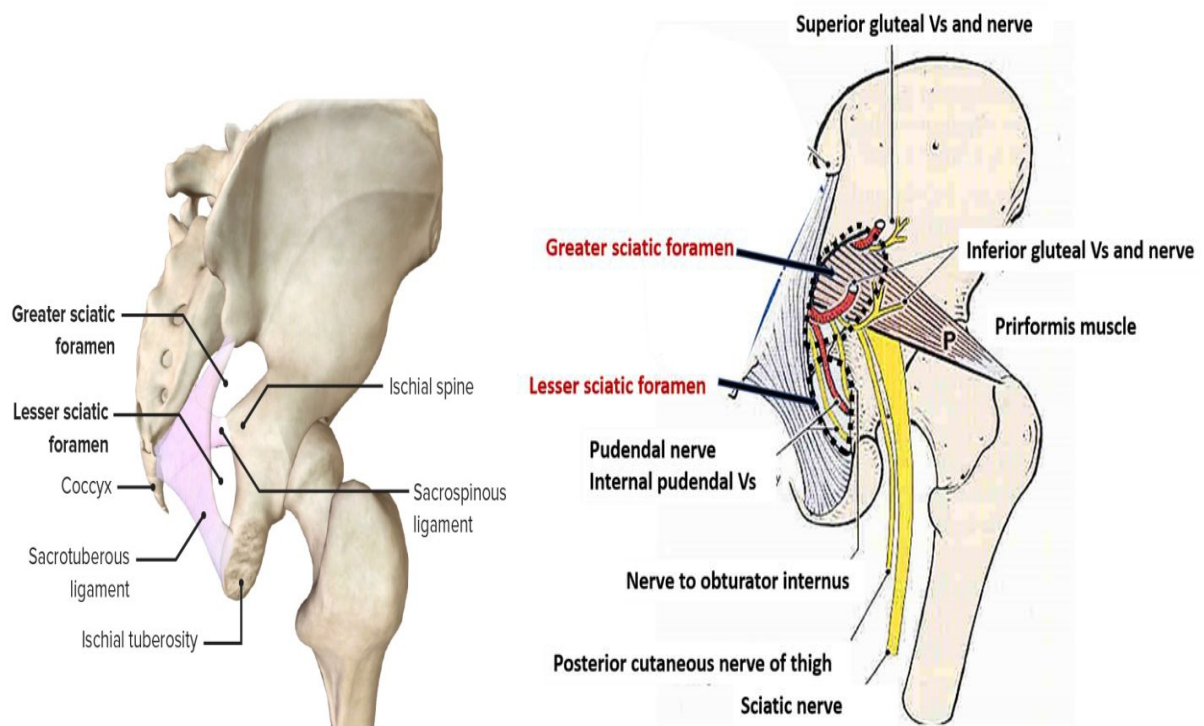


Fig: Sciatic Foramen: lesser & grater with its contents

Structures passing through the greater foramen:

A. Piriformis muscle

B. Structures passing above the piriformis:

1

2

C. Structures passing below the piriformis:

1	2	3
4	5	6
7	8	

Structures passing through the lesser foramen:

1	2	3	4
---	---	---	---

POPLITEAL FOSSA

Q.1 Draw a well label diagram & write following detail of popliteal fossa?

Answer:

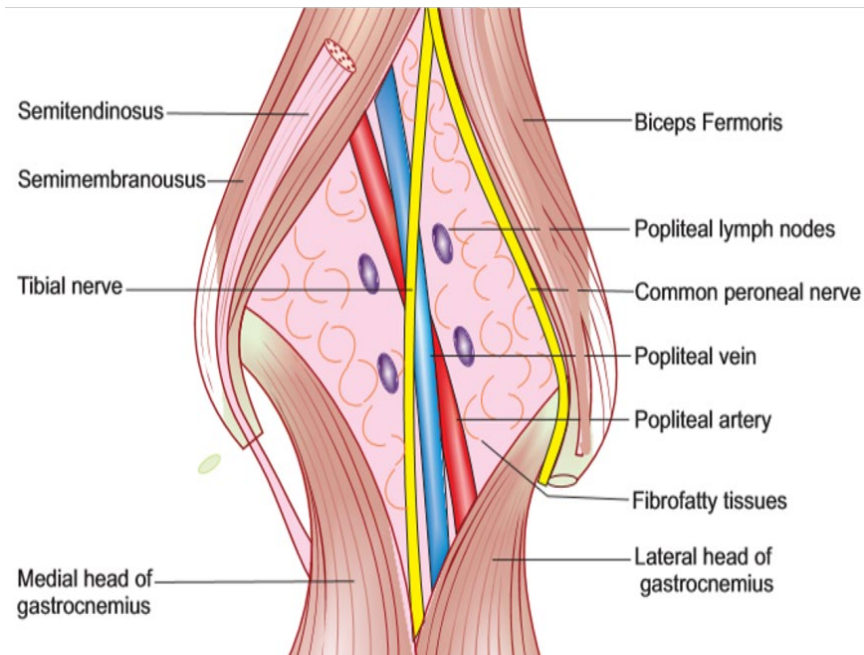


Fig: Popliteal Fossa: boundaries & contents

Boundaries: a) Superiorly-

b) Superomedial-

c) Inferolateral-

d) Inferomedial-

Roof: a)

b)

Floor: a)

b)

c)

Contents: a)

d)

g)

b)

e)

h)

c)

f)

Q.2 Draw a well label diagram & write following detail of popliteal artery?

Answer:

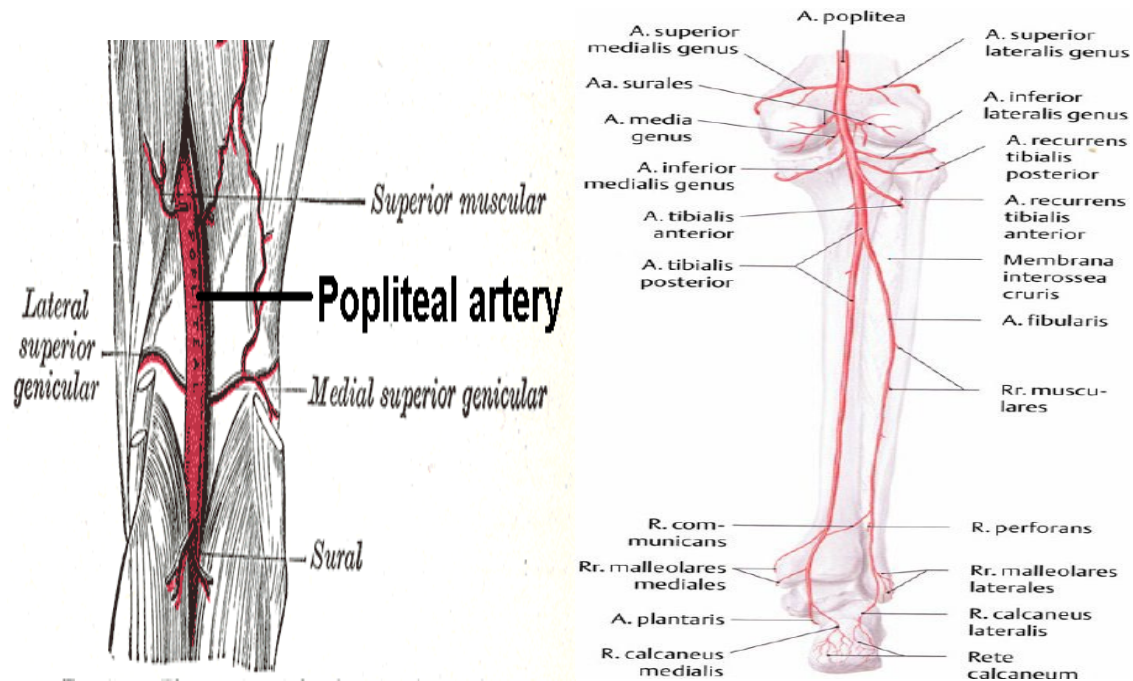


Fig: Popliteal Artery: in popliteal fossa & course

Continuation-

Begins-

Terminates & dividing-

Course:

Relations: Anterior (deep) - i)	ii)	iii)	
Posterior (superficial) - i)	ii)		
Laterally: upper part- i)	ii)	iii)	iv)
lower part- i)	ii)		
Medially: upper part- i)	ii)		
lower part- i)	ii)	iii)	
Branches: Muscular: upper part- i)	ii)	iii)	anastomosis
with lower part- i)	ii)	iii)	

Cutaneous:

Genicular: i)

ii)

iii)

iv)

v)

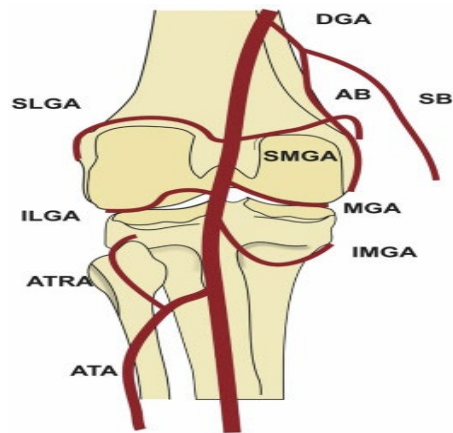


Fig: Popliteal Artery: Genicular Branches

Applied anatomy of popliteal artery:

BACK OF THIGH

Q.1 Draw a well label diagram & enumerates the muscles name of the back of the thigh (hamstring muscles)?

Answer:

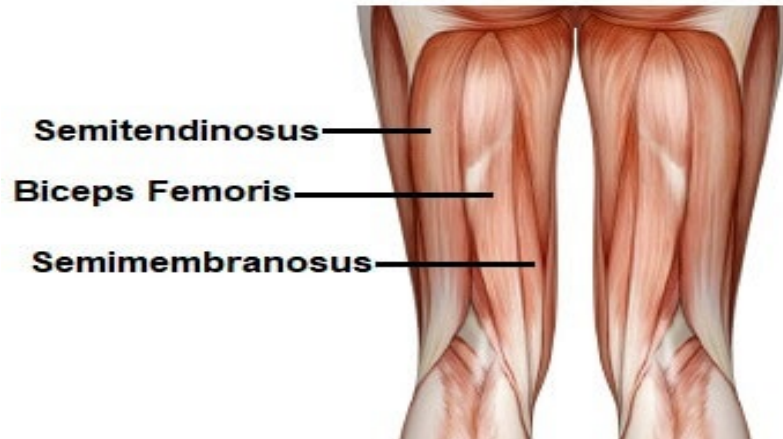


Fig: Back of Thigh: hamstring muscles

Muscles of the back of the thigh: 1

2

3

Q.2 Draw a well label diagram & write following detail of sciatic nerve?

Answer:

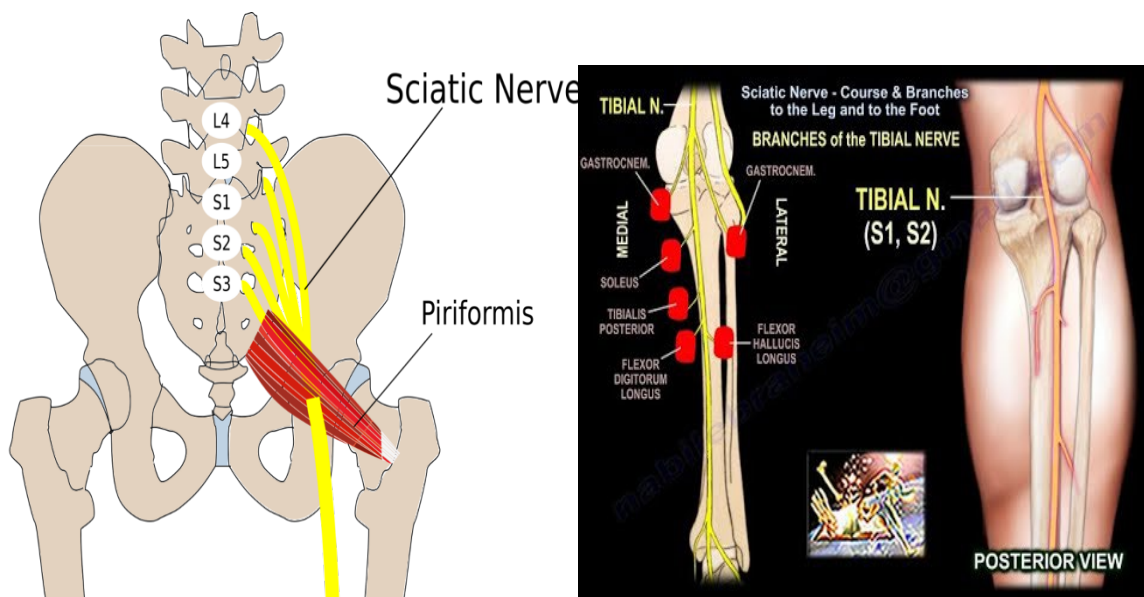


Fig: Sciatic Nerve: roots, course, branches

The sciatic nerve is the thickest nerve in the body.

Begins-

Terminates & dividing-

Origin & root value-

Course: Pelvis-

Gluteal region-

Thigh-

Relations: Pelvis-

Gluteal region-

Superficial- 1	2				
Deep- 1	2	3	4	5	
Medial- 1		2			
Thigh-					
Superficial- 1					
Deep- 1					
Medial- 1		2			
Lateral-1					

Branches: 1) Articular-

2) Muscular: Tibial part-	1	2
	3	4

Common peroneal part- 1

Applied Anatomy:

FRONT OF LEG & DORSUM OF FOOT & SOLE OF FOOT

Q.1 Draw a well label diagram & write following detail of superficial & deep extensor retinaculum?

Answer:

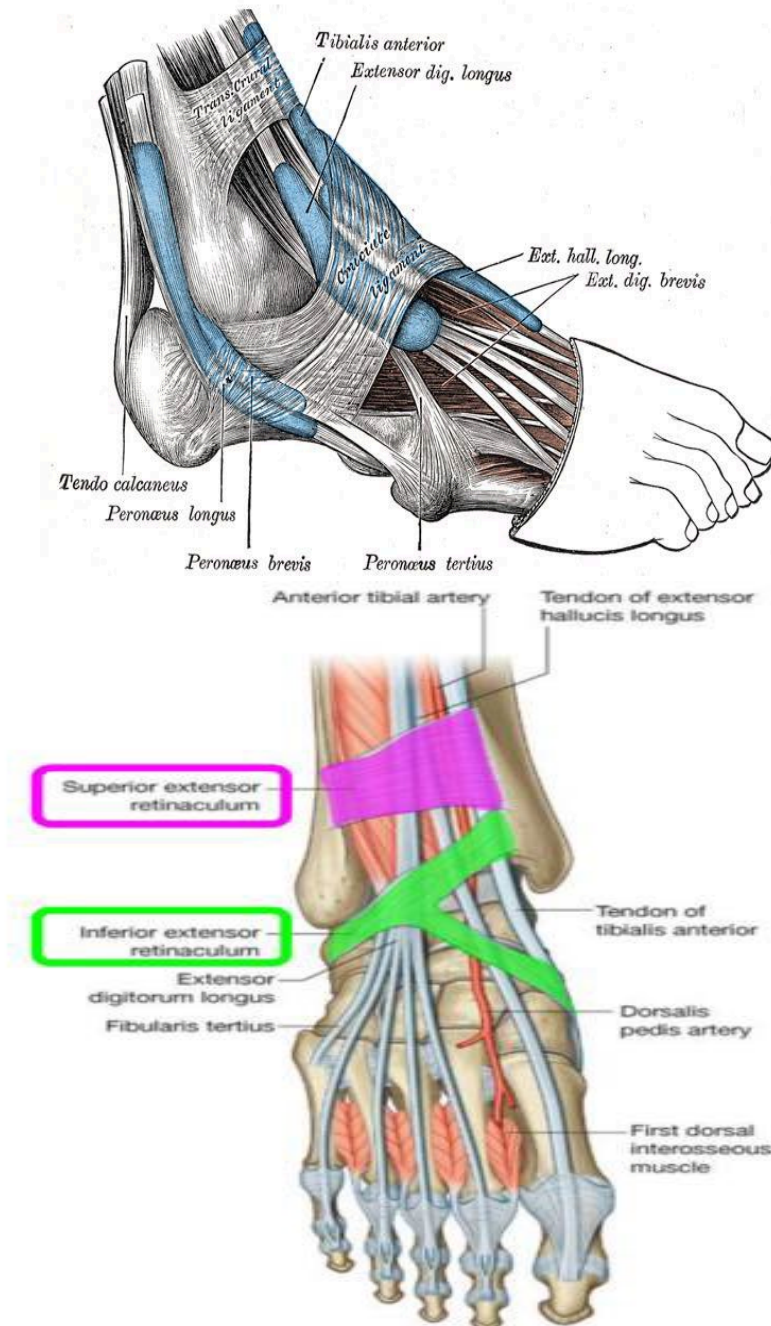


Fig: Extensor Retinaculum of Front of Leg & Dorsum of Foot: attachments' & relations

Superior extensor retinaculum:

Attachments: Medially-

Laterally-

Inferior extensor retinaculum:

Attachments: Stem-

Upper band-

Lower band-

Structures passing under cover (lateral to medial side)-

1

2

3

4

Q.2 Draw a well label diagram of compartment of leg & enumerates name the muscles of the anterior compartment of the leg?

Answer:

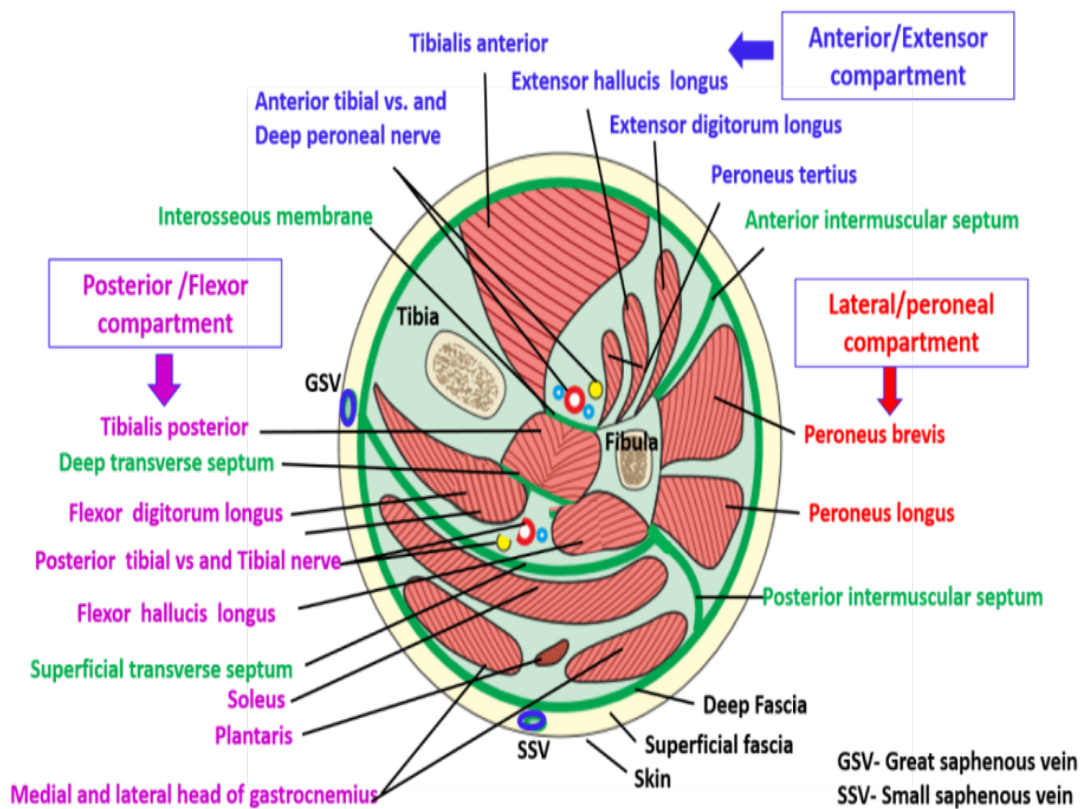


Fig: Compartment of Leg

Muscles of the anterior compartment of the leg:

1

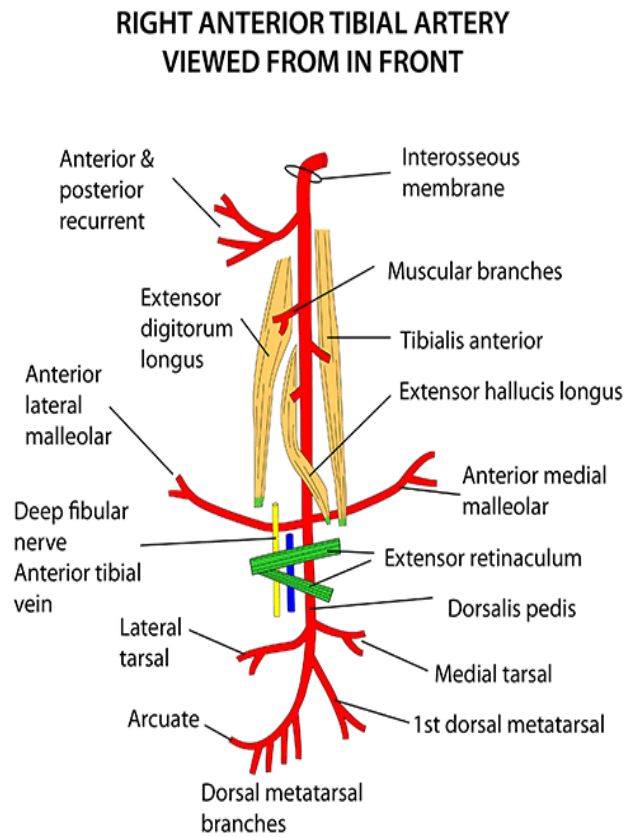
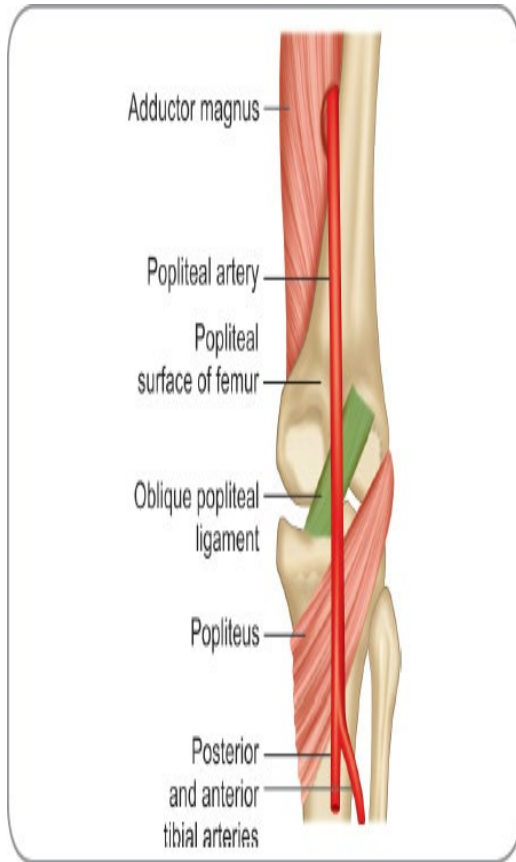
2

3

4

Q.3 Draw a well label diagram & write following detail of anterior tibial artery?

Answer:



Terminal branch of:

Begins & Enter:

Course & Relations:

Anterior compartment-

Upper 1/3 of the leg-

Lower 1/3 of leg-

Accompanied by-

Branches:

Muscular-

Anastomotic-

Q.4 Draw a well label diagram & write following details of dorsalis pedis artery (dorsal artery of the foot)?

Answer:

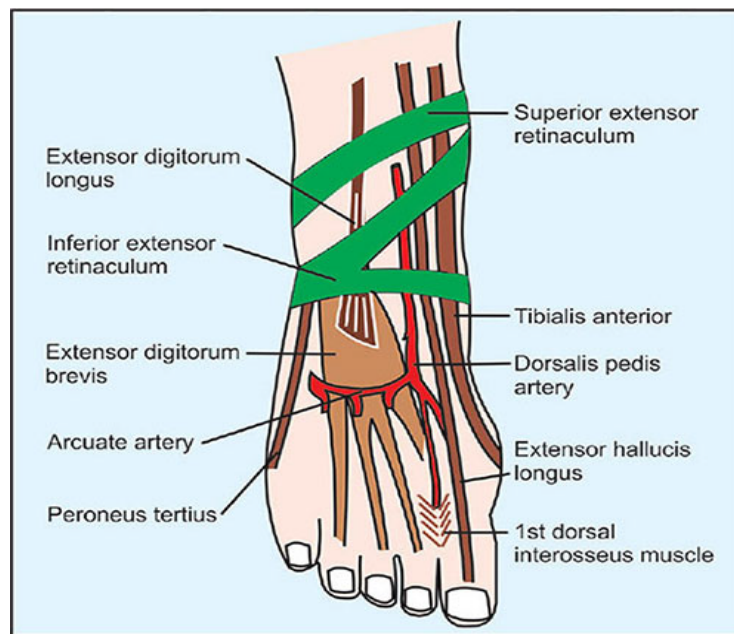


Fig: Dorsalis Pedis Artery: course & relations in dorsum of foot

This is the chief artery of the dorsum of the foot.

Continuation of:

Course:

Relations: Superficial- 1

2

Deep- 1

2

Medial- 1

Lateral- 1

2

Branches: 1)

2)

3)

4)

Applied Anatomy:

Q.5 Draw a well label diagram & write following detail of anterior tibial nerve (deep peroneal)?

Answer:

This is nerve of the anterior compartment of the leg and foot.

This is one of the two terminal branches of common peroneal nerve.

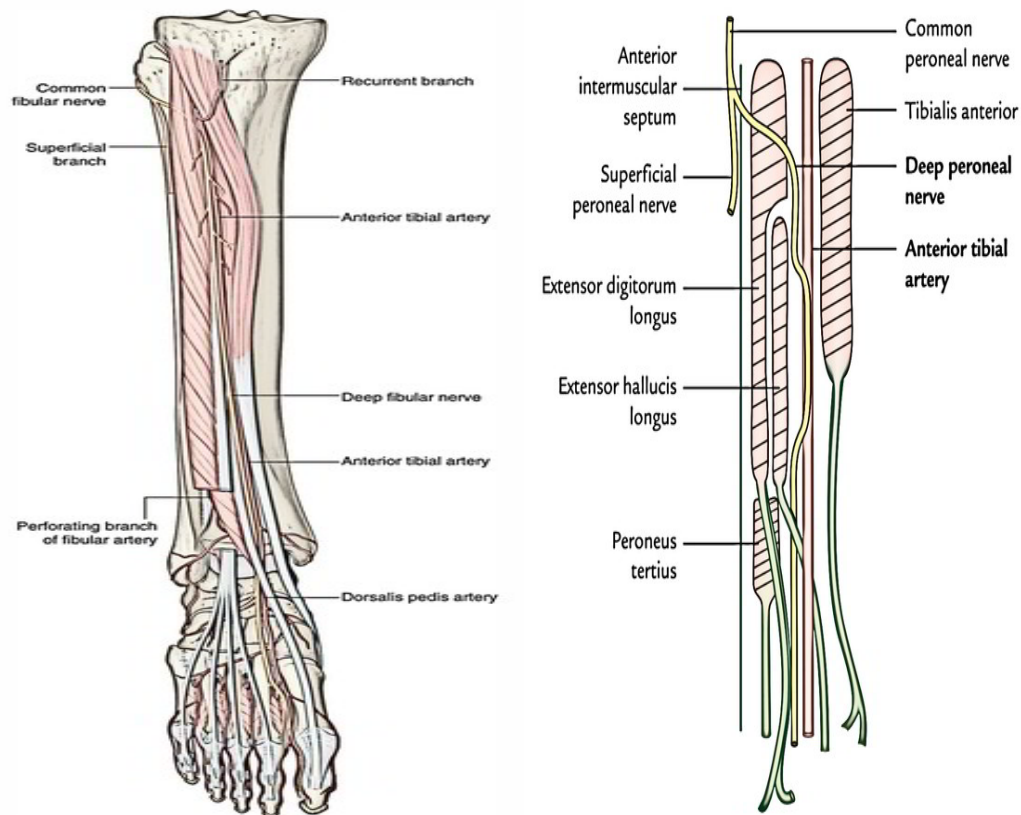


Fig: Anterior Tibial Nerve: course & relations in leg

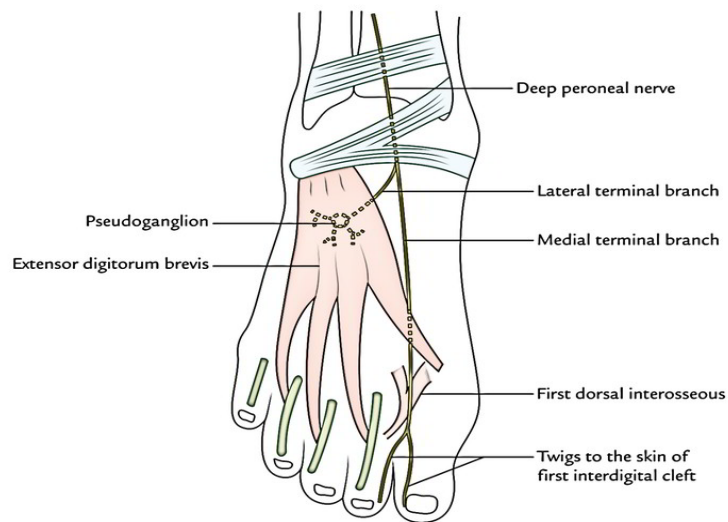


Fig: Anterior Tibial Nerve: course & relations in dorsum of foot

Course & Relations:

Begins-

How enter in anterior compartment-

In leg-

In dorsum of foot-

Lateral terminal branch-

Medial terminal branch-

Branches of distributions:

Muscular branches- 1

2

3

Cutaneous branch-

Articular branch-

Q.5 Draw a well label diagram & write following details muscles of foot (dorsal & planter aspect)?

Answer:

The muscles acting on the foot can be divided into two distinct groups; extrinsic and intrinsic muscles.

The extrinsic muscles arise from the anterior, posterior and lateral compartments of the leg. They are mainly responsible for actions such as eversion, inversion, plantar flexion and dorsiflexion of the foot.

The intrinsic muscles are located within the foot and are responsible for the fine motor actions of the foot, for example movement of individual digits.

In this article we shall be considering the anatomy of the intrinsic muscles of the foot. They can be divided into those situated on the dorsum of the foot, and those in the sole of the foot.

Dorsal aspect of foot muscles:

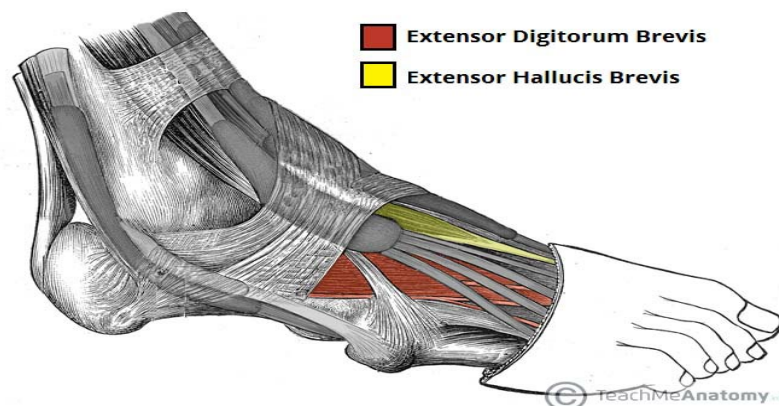


Fig: The dorsal layer of foot muscles

1) Extensor Digitorum Brevis

Origin- 1

2

3

Insertion-

Nerve supply-

Actions- 1

2

2) Extensor Hallucis Brevis

Origin-

Insertion-

Nerve supply-

Actions-

Planter aspect of foot muscles: (SOLE OF FOOT)

There are 10 **intrinsic muscles** located in the sole of the foot.

The muscles of the plantar aspect are described in four layers (superficial to deep). First Layer:

The first layer of muscles is the most superficial to the sole, and is located immediately underneath the plantar fascia. There are three muscles in this layer.

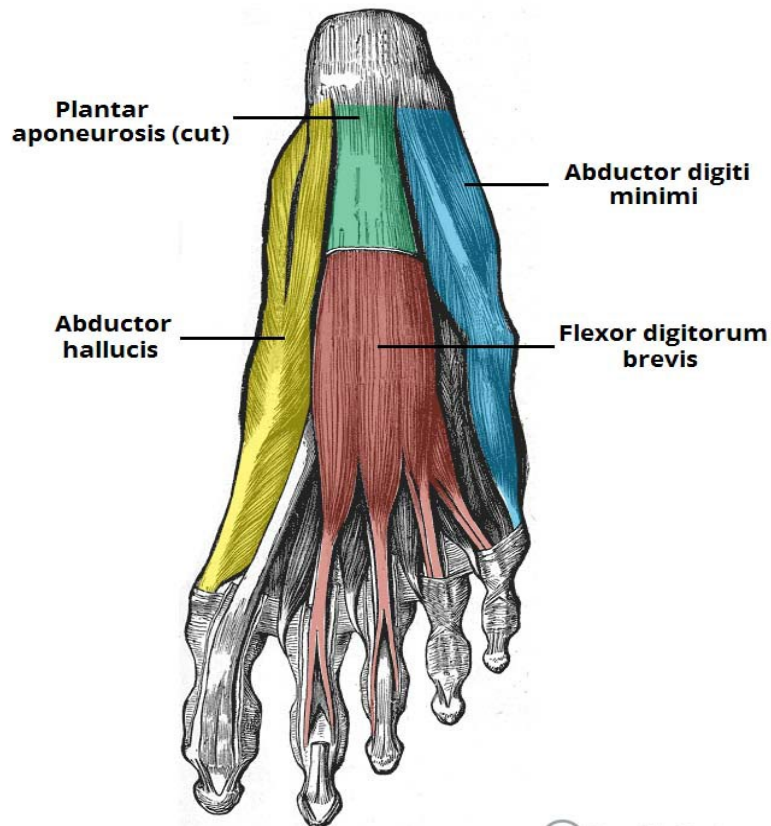


Fig: The first layer of plantar muscles. The plantar aponeurosis has been cut to reveal the underlying flexor digitorum.

Enumerates muscles name of first layer: 1 2 3

Second Layer:

In addition, the tendons of the flexor digitorum longus (an extrinsic muscle of the foot) pass through this layer.

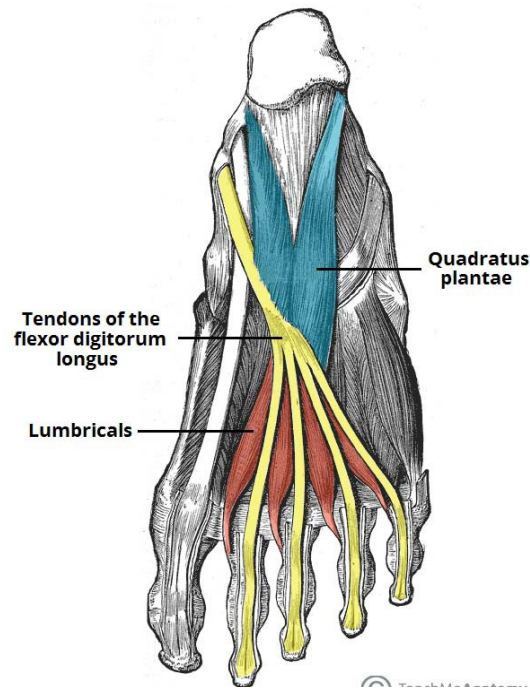


Fig: The second layer of the plantar muscles.

Enumerates muscles name of second layer: 1 2

Third Layer:

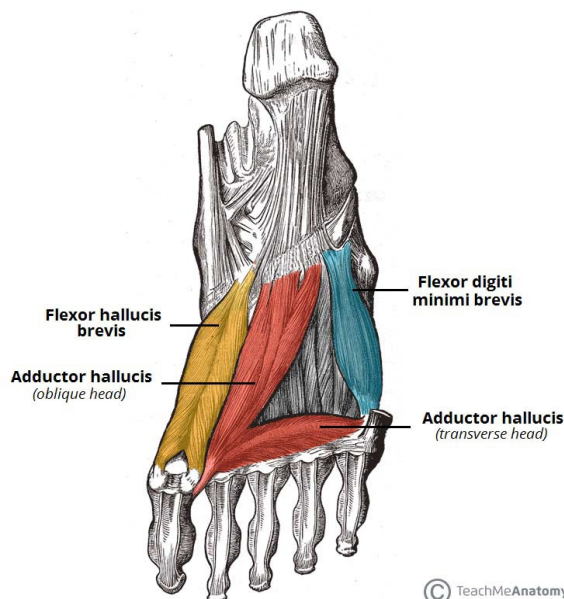
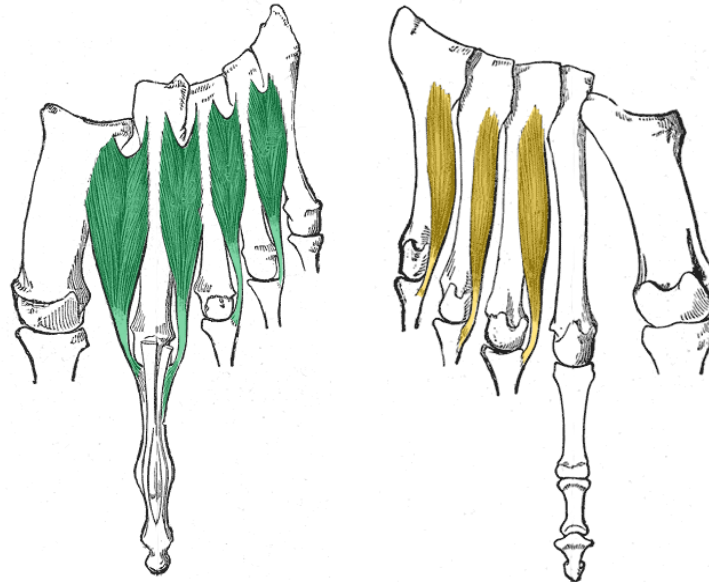


Fig: The third layer of the plantar muscles.

Enumerates muscles name of third layer: 1 2 3

Fourth Layer:

There are three plantar interossei and four dorsal interossei muscles.



a) Dorsal Interossei

b) Plantar Interossei

Fig: The fourth layer of the plantar muscles. Note the unipennate shape of the plantar interossei, and the bipennate shape of the dorsal interossei

LATERAL SIDE OF THE LEG (PERONEAL COMPARTMENT)

Q.1 Draw a well label diagram of compartment of leg & write down details of lateral compartments are as follows?

Answer:

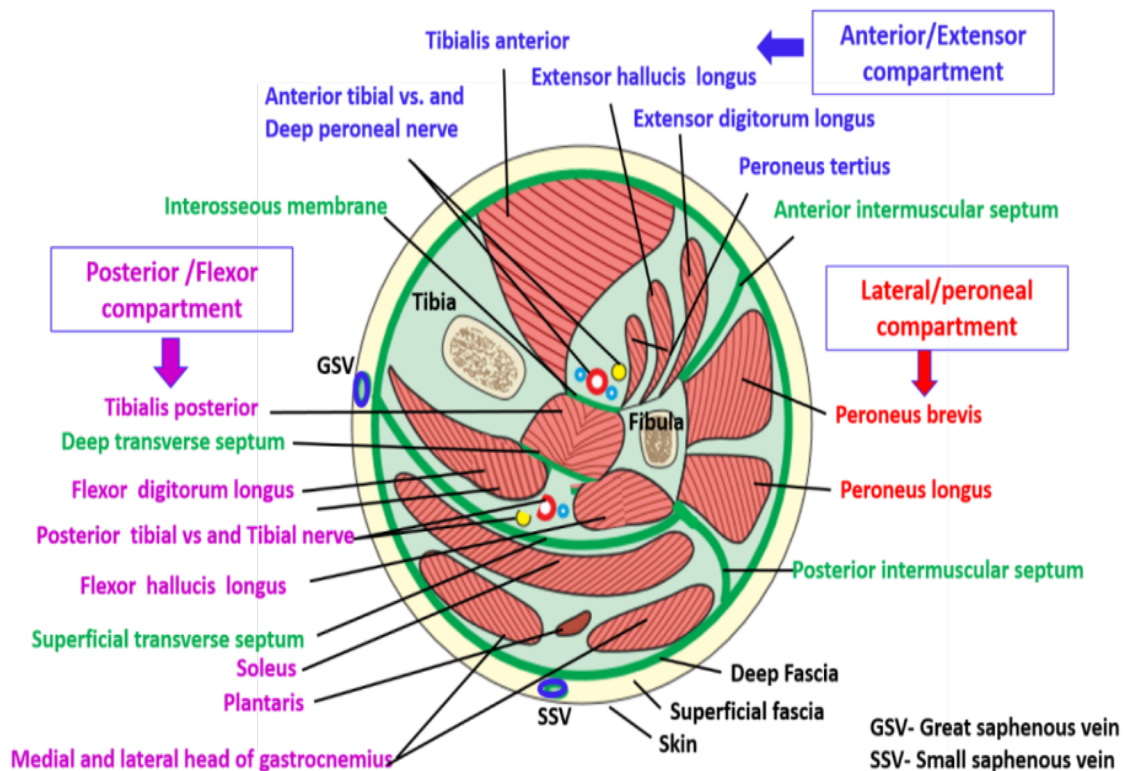


Fig: Compartment of Leg

- Boundaries:
- 1) Anteriorly-
 - 2) Posteriorly-
 - 3) Medially-
 - 4) Laterally-

- Contents:
- 1) Muscles- 1
 - 2
 - 2) Nerve:
 - 3) Vessels-

MEDIAL SIDE OF THE LEG

Q.1 Draw a well label diagram & write down details of anserine bursa & guy ropes?

Answer:

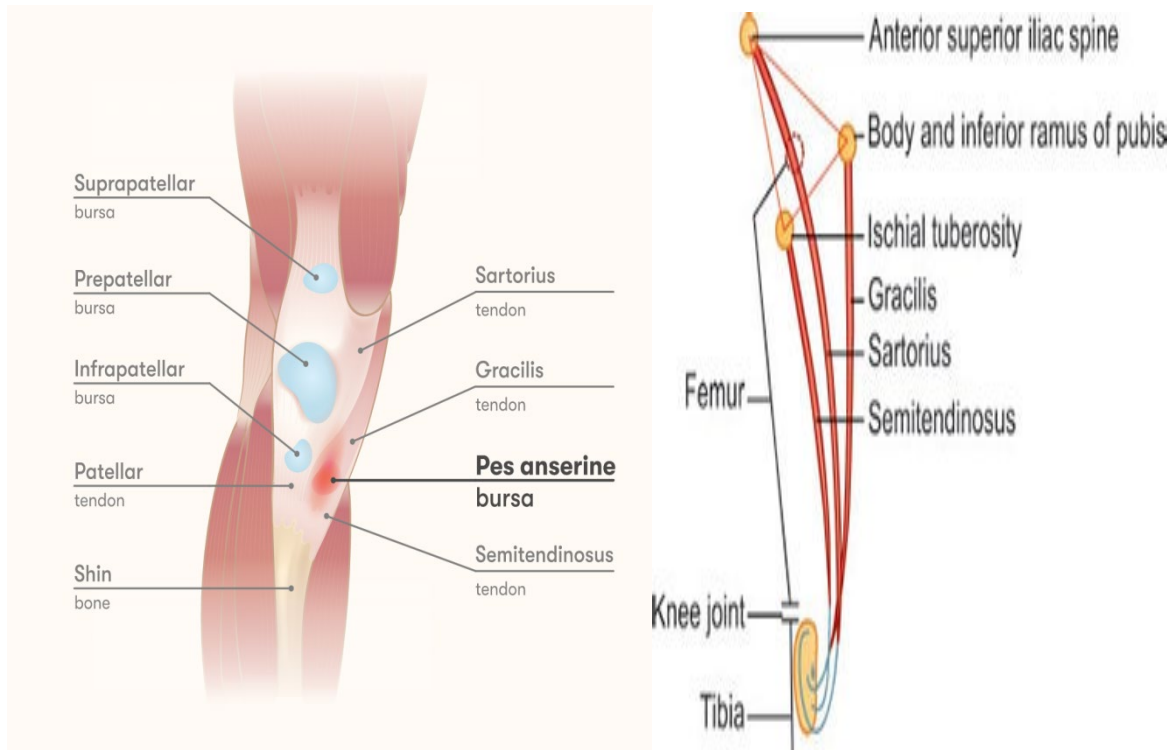


Fig: Anserine Bursa & Guy Ropes

1) Anserine bursa:

2) Guy ropes:

BACK OF LEG (POSTERIOR COMPARTMENT)

Q.1 Draw a well label diagram & write down details of back of the leg?

Answer:

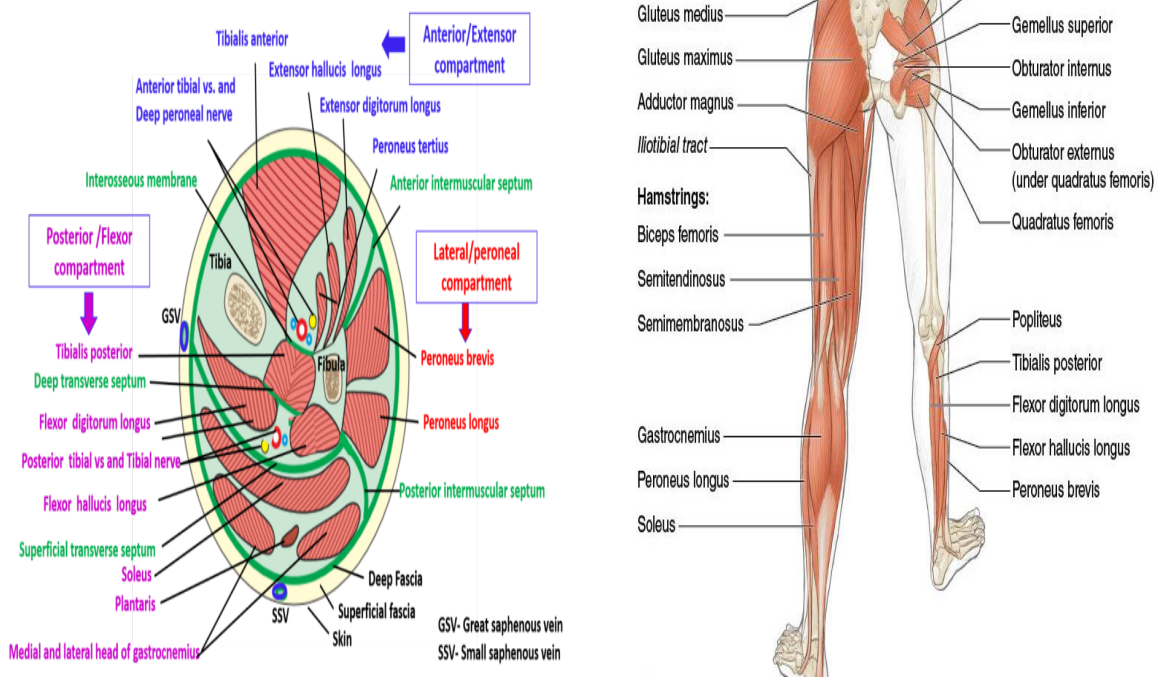


Fig: Back of Leg: compartments & superficial and deep muscles

Boundaries: 1) Anteriorly- 1 2 3 4
2) Posteriorly-

Subdivisions: Posterior compartment is subdivided into three parts (superficial, middle, deep) by two strong fascial septa:

1) Superficial transverse fascial septum-

2) Deep transverse fascial septum-

Contents: 1) Muscles- Superficial- 1
2
3

Deep- 1
2
3
4

2) Nerve:
3) Vessels-

Q.2 Draw a well label diagram & write down details of posterior tibial artery?

Answer:

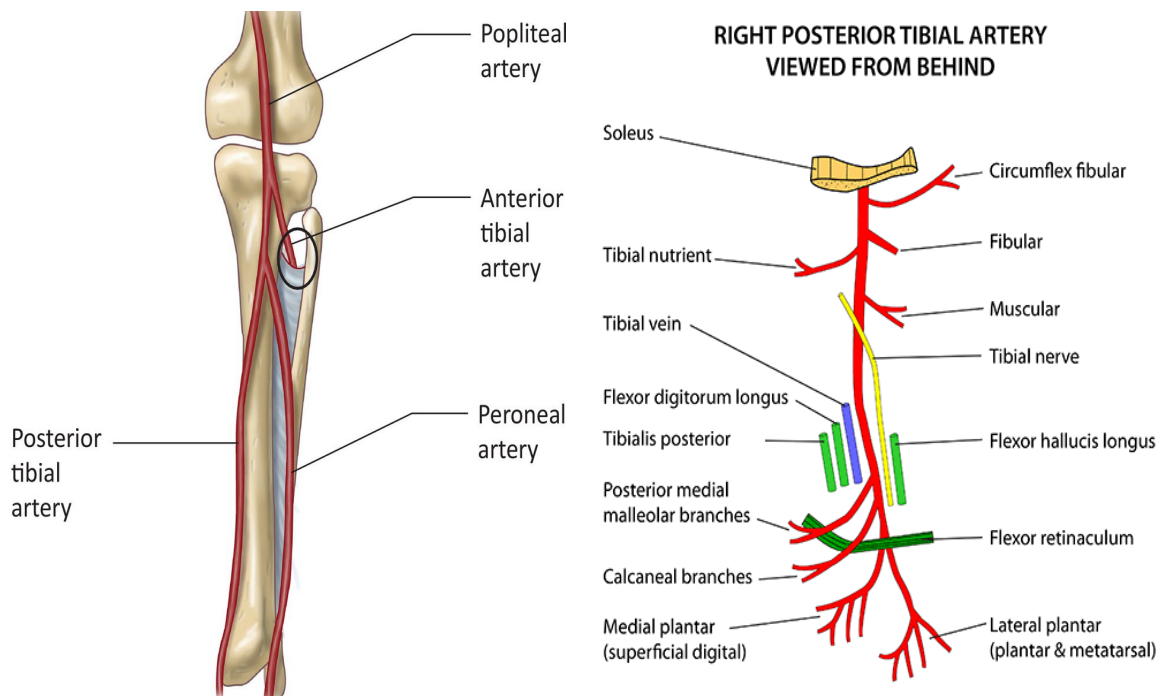


Fig: Posterior Tibial Artery: course & branches

Terminal branch of-

Begins-

Course: In leg-

Terminate- 1)

2)

Relations:

Superficial

Deep

a) Upper 2/3-

b) Lower 1/3-

c) At the ankle-

Branches:

a) Peroneal artery-

b) Several muscular arteries-

c) A nutrient artery-

d) Anastomosis branches-	1	2
--------------------------	---	---

3 4

e) Terminal branches-	1	2
-----------------------	---	---

Applied Anatomy-

Q.3 Draw a well label diagram & write down details of peroneal artery?

Answer:

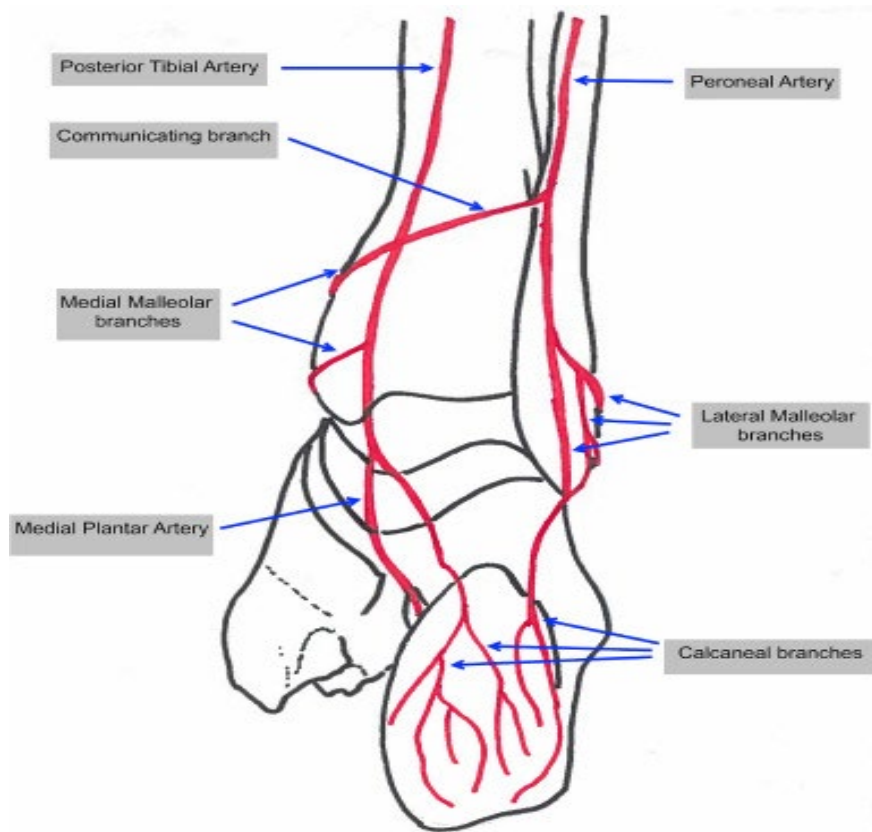


Fig: Peroneal Artery: course & branches

Origin:

Course & relations:

Branches: 1) Muscular-
2) Nutrient-
3) Anastomotic-

THE JOINTS OF THE LOWER LIMB

Q.1 Draw a well label diagram & write following detail of the hip joint?

Answer:

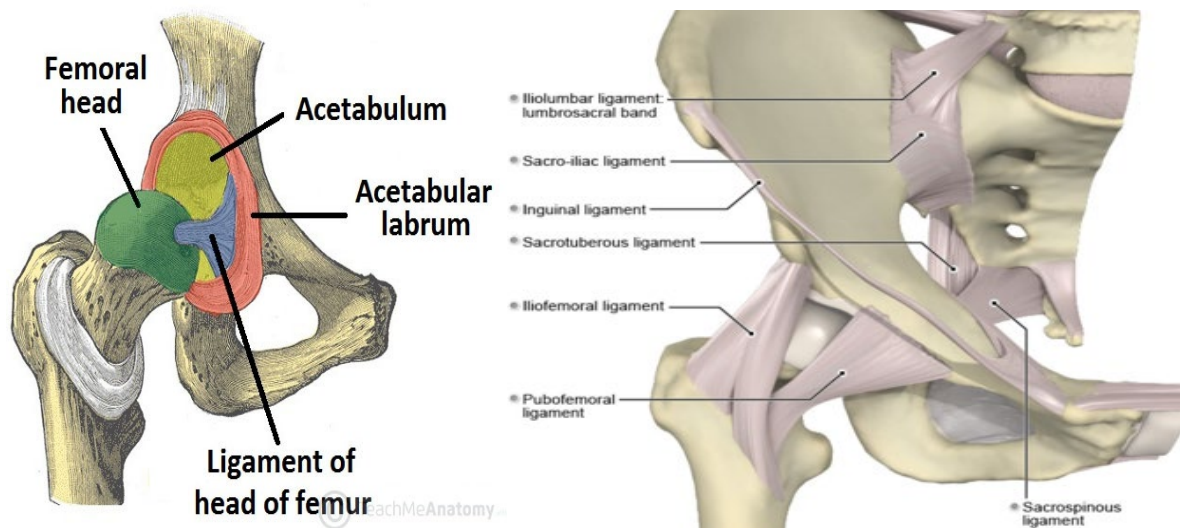


Fig: Hip Joint: articular part & ligaments

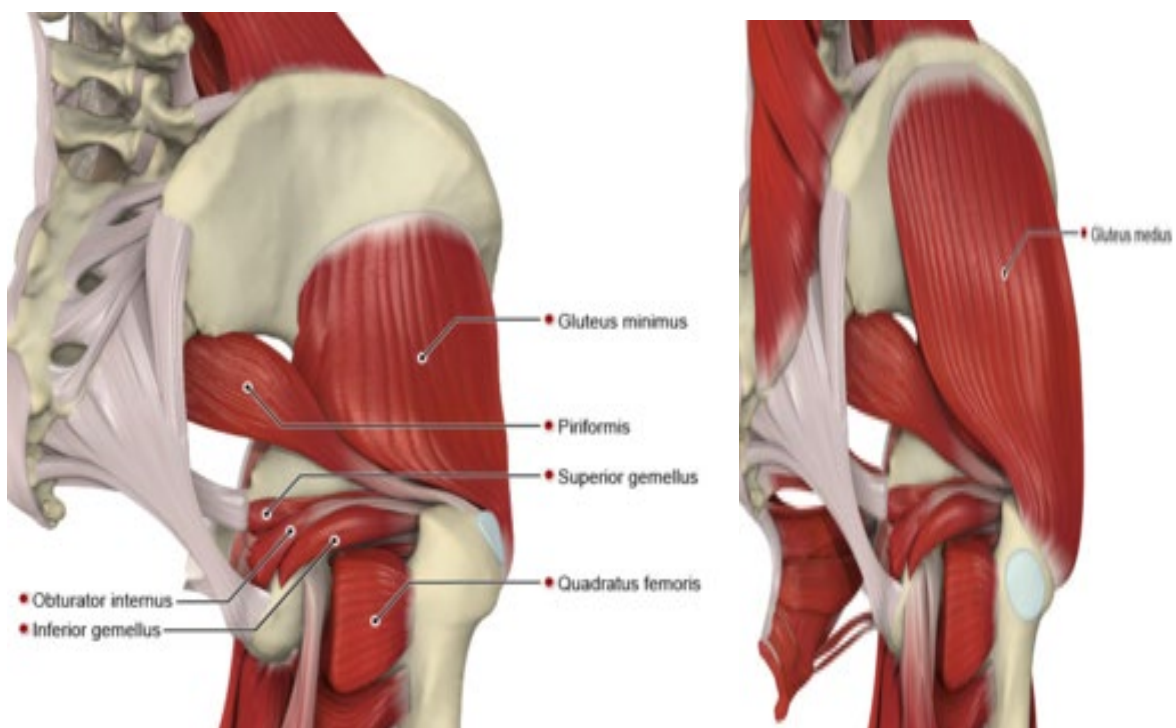


Fig: Hip Joint: related muscles

Mention type, articular surface and the factors of the stability of hip joint?

Type-

Articular surface: Femur-

Hip bone-

Factor for stability- 1 2 3
4 5

Mention the name of ligaments of the hip joint?

1 2 3 4
5 6 7

Name the relations of hip joint?

Anterior: 1 2 3
4 5 6

Posterior: 1 2 3

Superior: 1

Inferior: 1

Write blood & nerve supply of hip joint?

Answer: Blood supply-

Nerve supply- 1 2 3
4 5

Enumerates chief muscles name as the following movements of hip joint?

Flexion: 1 2

Extension: 1 2

Adduction: 1 2 3

Abduction: 1 2

Medial rotation: 1 2 3

Lateral rotation: 1 2 3

Q.2 Draw a well label diagram & write following detail of the knee joint?

Answer:

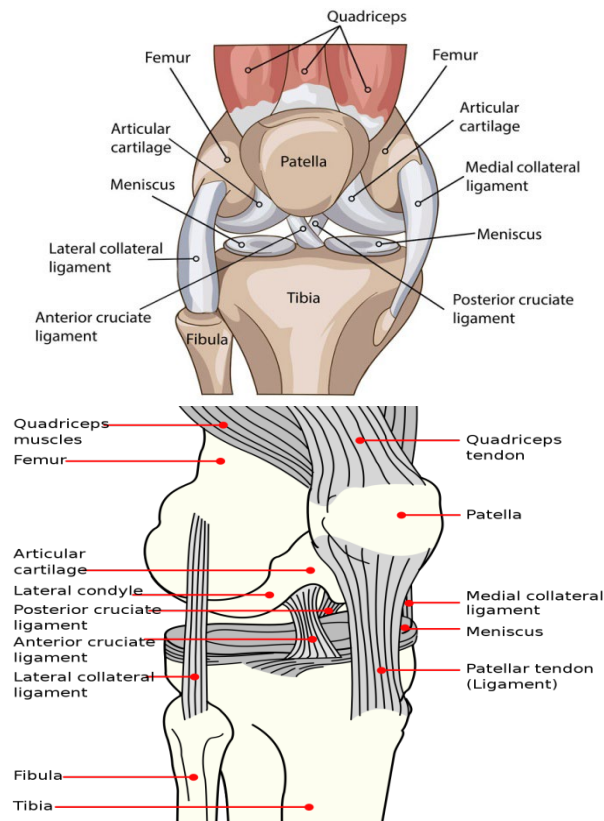


Fig: Knee Joint: articular part & ligaments

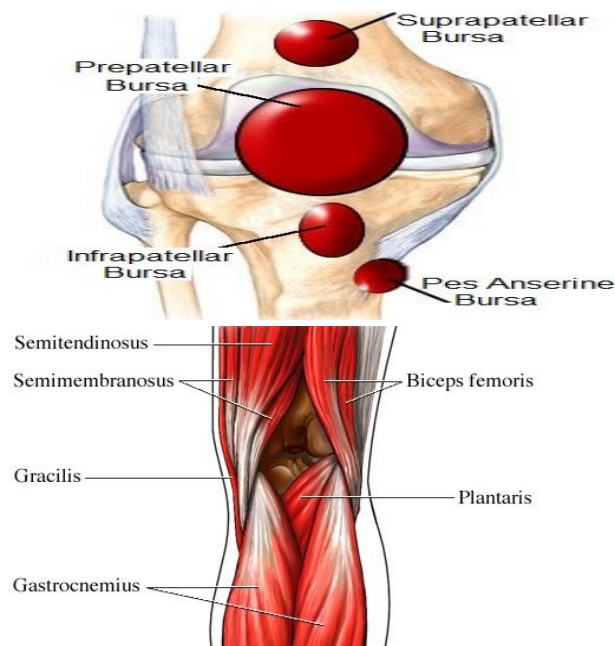


Fig: Knee Joint: bursae & muscles related

Mention type, articular surface of the knee joint?

Type-

Articular surface: Femur-

Tibia bone-

Patella-

Mention the name of ligaments of the knee joint?

1	2	3	4
5	6	7	8
9	10		

Name the relations of knee joint?

Anterior: 1 2 3

Posterior: At middle- 1 2 3

Posterolateral – 1 2 3

Posteromedial- 1 2 3
4 5

Medially: 1 2 3

Laterally: 1 2 3

Write blood & nerve supply of knee joint?

Answer: Blood supply- 1 2 3
4 5

Nerve supply- 1 2 3

Enumerates chief muscles name as the following movements of hip joint?

Flexion: 1 2
3

Extension: 1

Medial rotation of flexed leg: 1 2
3

Lateral rotation of flexed leg: 1

Q.3 Draw a well label diagram & write following detail of the ankle joint?

Answer:

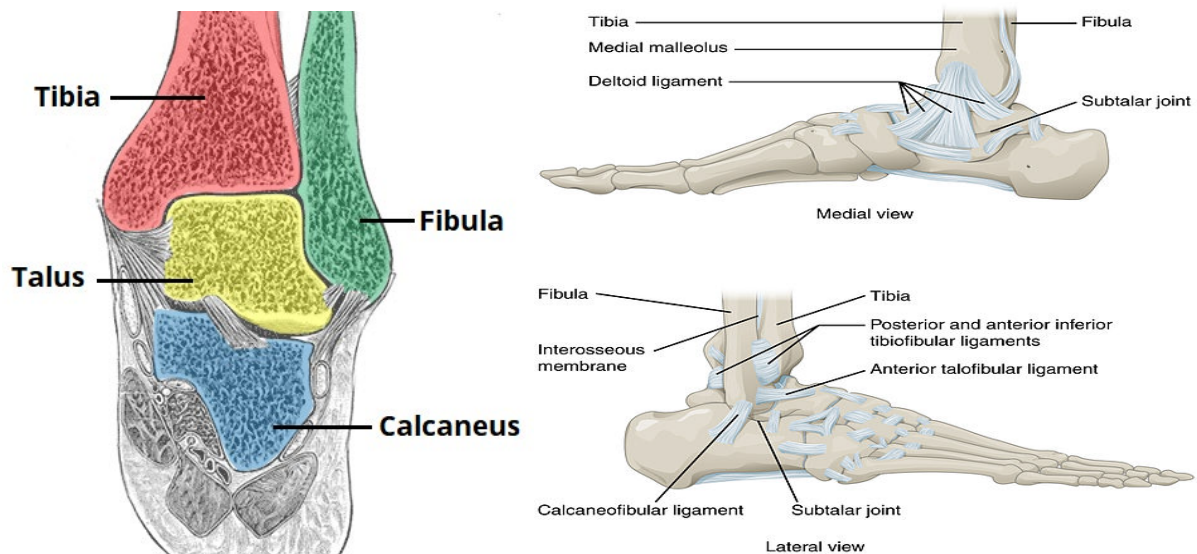


Fig: Ankle Joint: articular part & ligaments

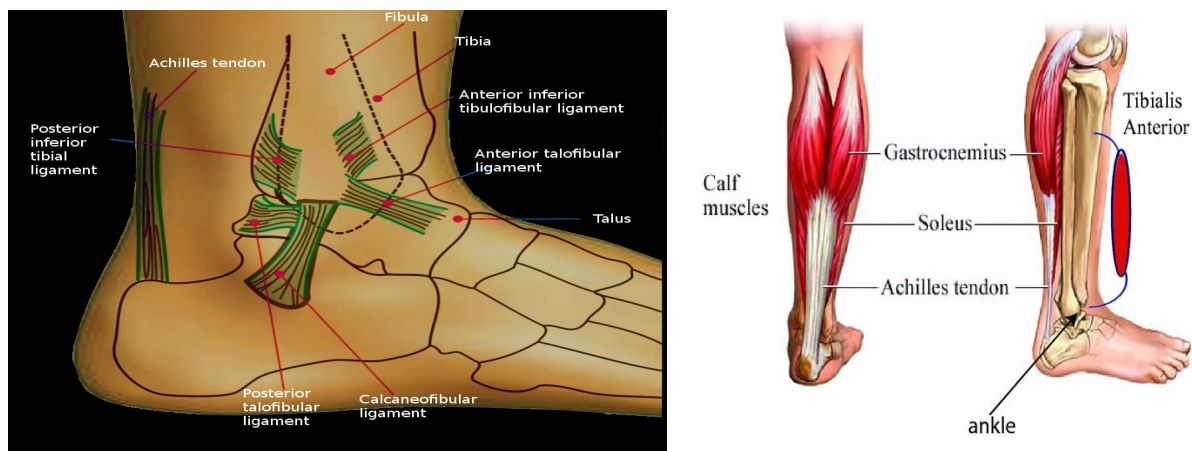


Fig: Ankle Joint: muscles related

Mention type, articular surface of the ankle of hip joint?

Type-

Articular surface: Tibia-

Fibula-

Mention the name of ligaments of the ankle joint?

1

2

3

Name the relations of hip joint?

ARCHES OF FOOT

Q.1 Draw a well label diagram & write following details of arches of foot?

Answer:

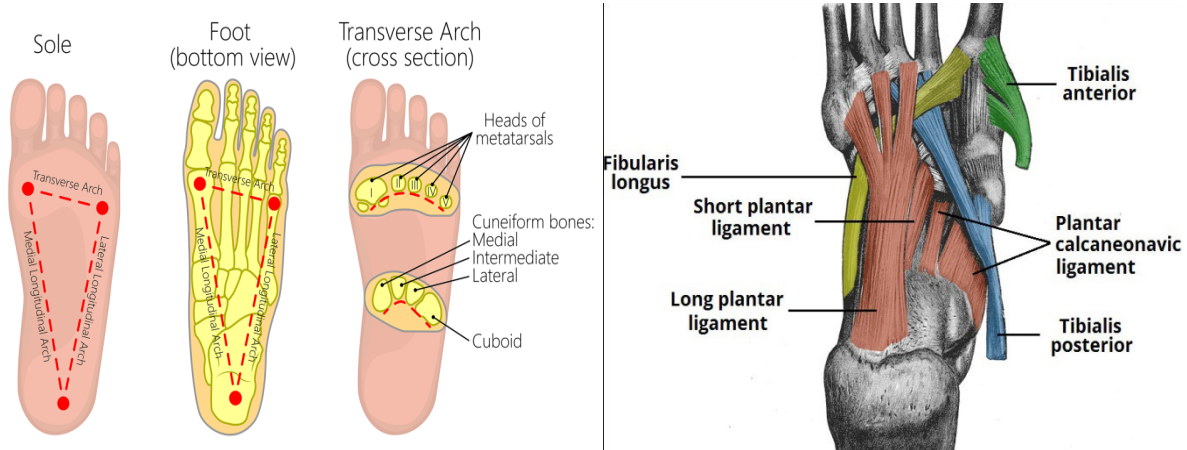


Fig: Arches of Foot: longitudinal & transverse arches, ligaments

Classification of arches: a) Longitudinal – 1.

2.

b) Transverse – 1.

2.

Structure of arches:

a) Medial longitudinal arch – 1. Ends: Anterior end-

Posterior end-

2. Summit:

3. Pillars: Anterior pillar-

Posterior pillar-

4. Main joint:

b) Lateral longitudinal arch – 1. Ends: Anterior end-

Posterior end-

2. Summit:

3. Pillars: Anterior pillar-

Posterior pillar-

4. Main joint:

c) Transverse arches – 1. Anterior transverse arch:

2. Posterior transverse arch:

Factors responsible for maintenance of arches:

a) Bony factor –

b) Ligaments –

c) The beams –

d) Slings –

Functions of the arches:

Applied anatomy: