

The Upper Limb: An Overview

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APPENDICULAR SKELETON

BONES OF SHOULDER GIRDLE & UPPER LIMB

Shoulder girdle -

1. Clavicle (Collar Bone)
2. Scapula (Shoulder Blade)

Upper limb

1. Humerus
2. Radius
3. Ulna
4. Carpel Bones (8)
6. Metacarpals (5)
7. Phalanges (14)



ANATOMY OF THE SHOULDER GIRDLE

CLAVICLE

- Longest horizontal bone in the body.
- Anterior to the root of neck.
- “S” shaped bone subcutaneous throughout its length.
- 1st bone to ossify in the body (5-6th week of fetal life)

FUNCTIONS

- Acts as a mobile strut.
- Prevents dropping of shoulder point.
- Transmit Weight of upper limb to the trunk



CLAVICLE

PARTS

1. SHAFT

- a) Lateral 1/3 (Flattened)
- b) Medial 2/3 (cylindrical shape)

2. ACROMIAL END

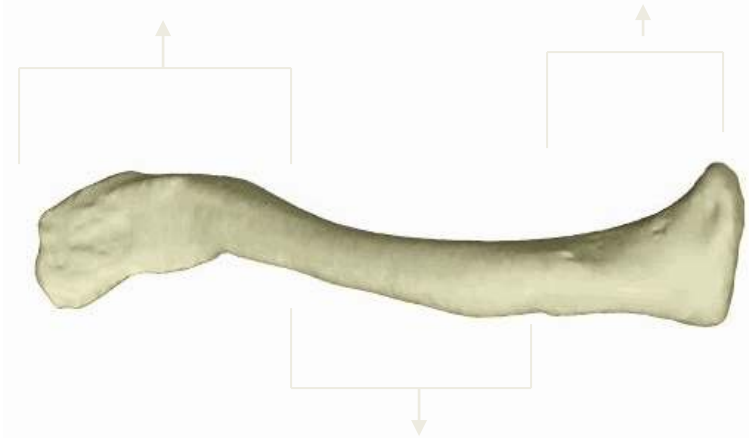
Flattened with small oval facet

Articulates with acromion process of scapula

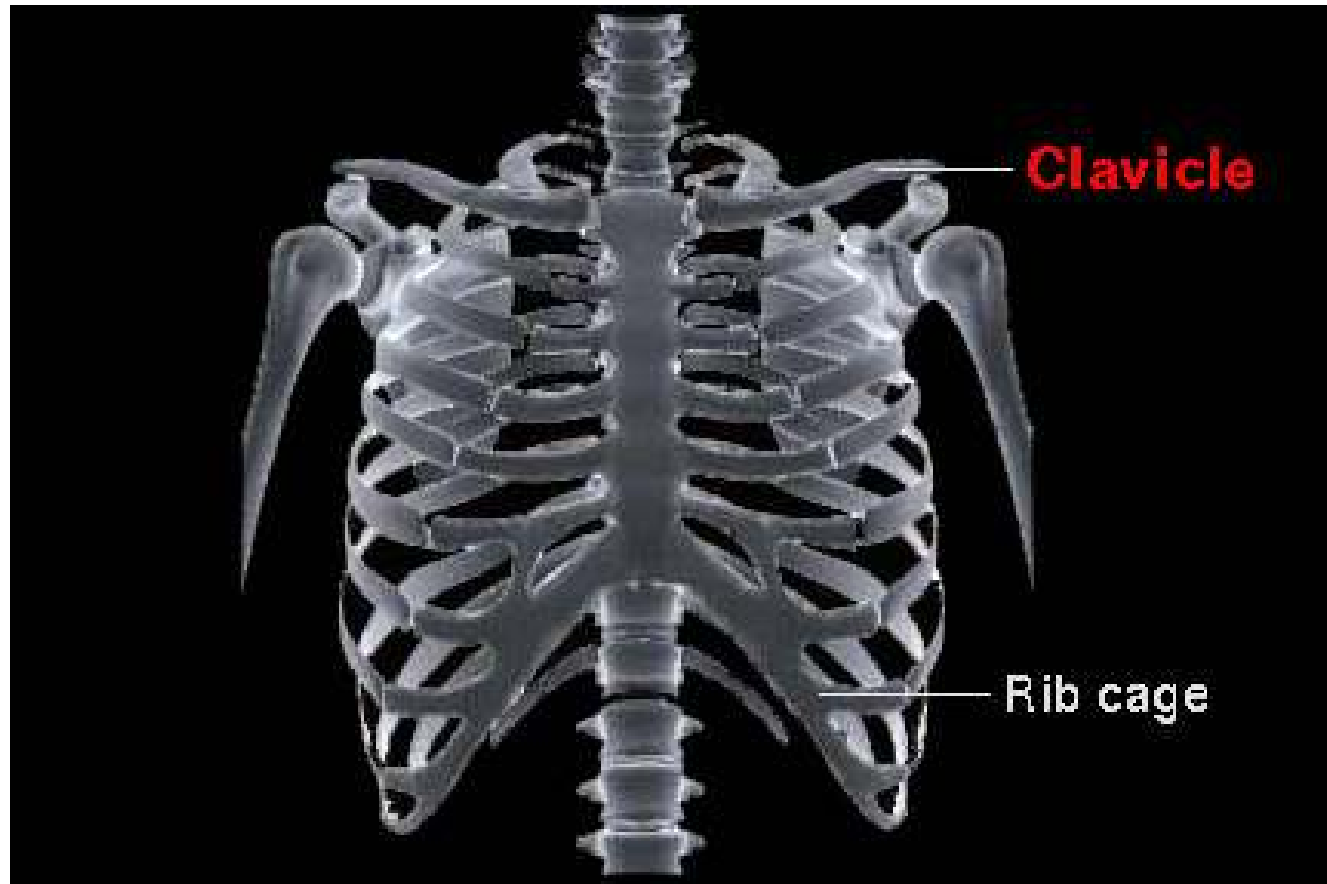
3. STERNAL END

Quadrangular and expanded, upper part rough

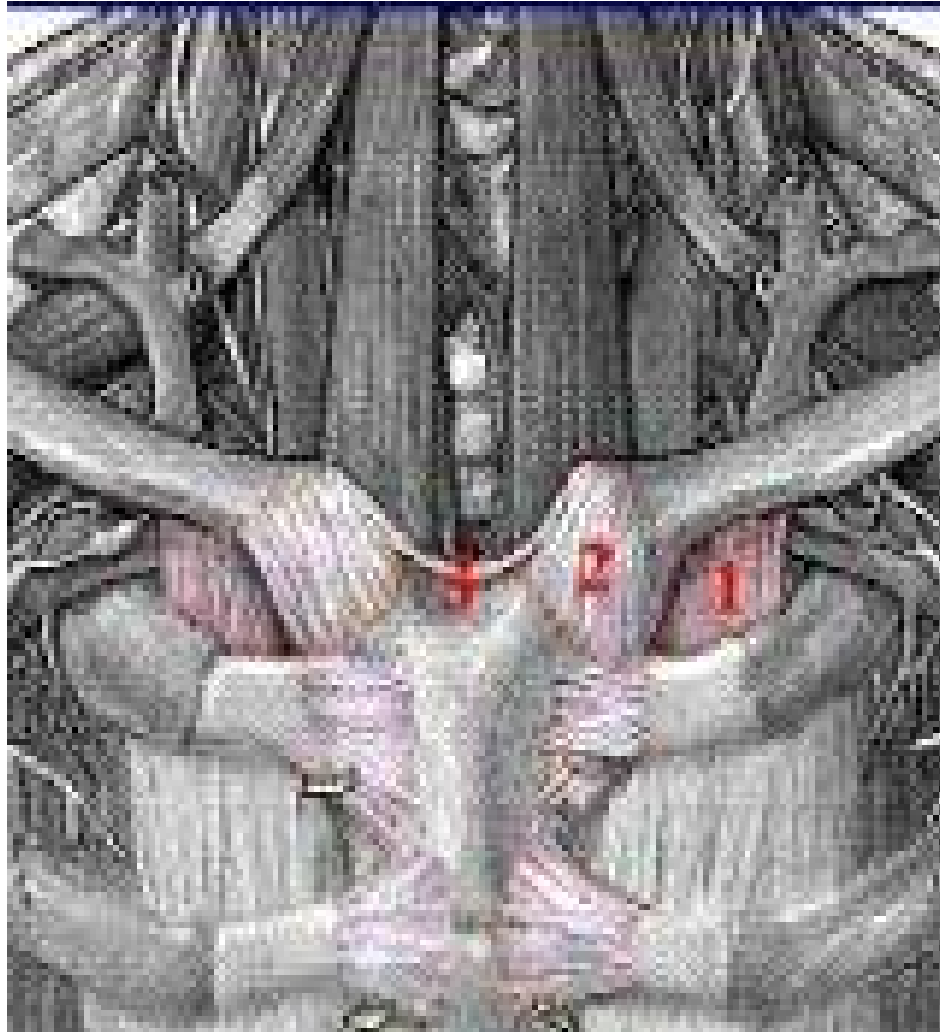
Articulates with manubrium sterni.



Clavicle

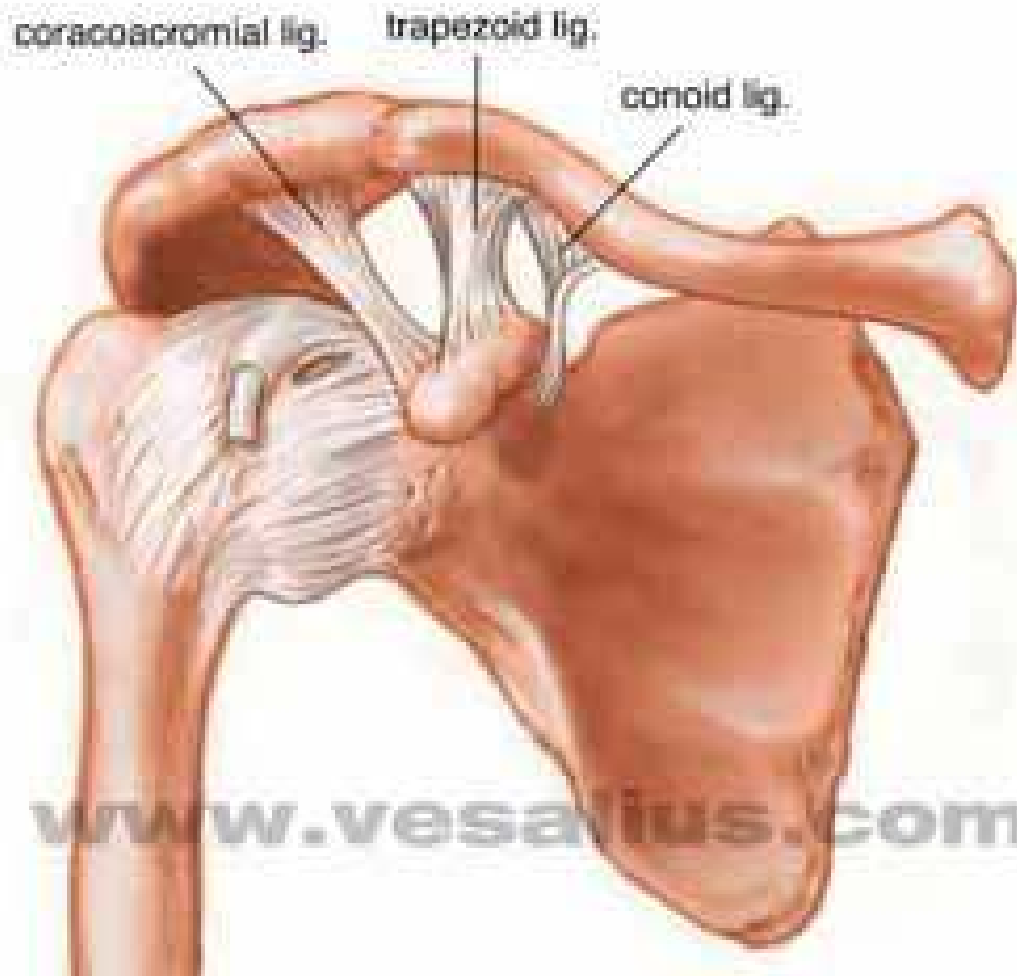


Sternoclavicular Joint (SC)



Acromioclavicular Joint (AC)

Handwritten note:
Acromioclavicular
Jt

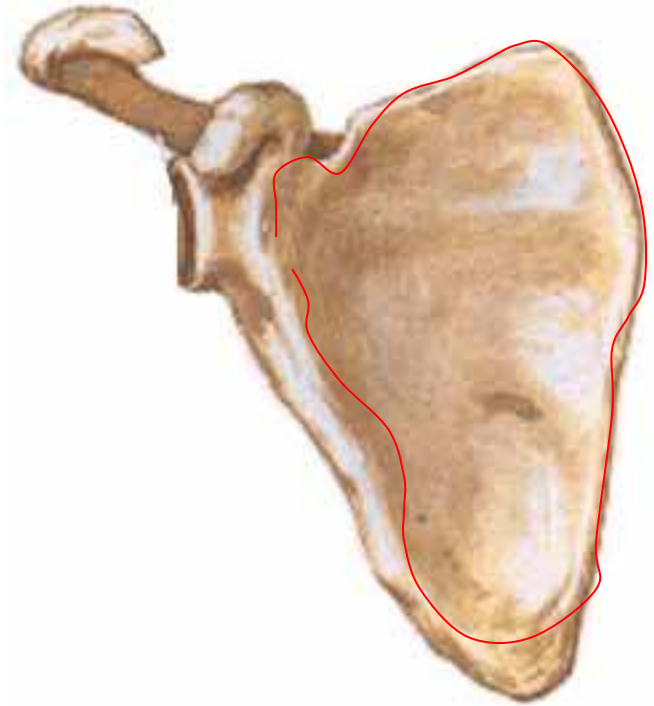


SCAPULA

Surfaces

1. COSTAL SURFACE:

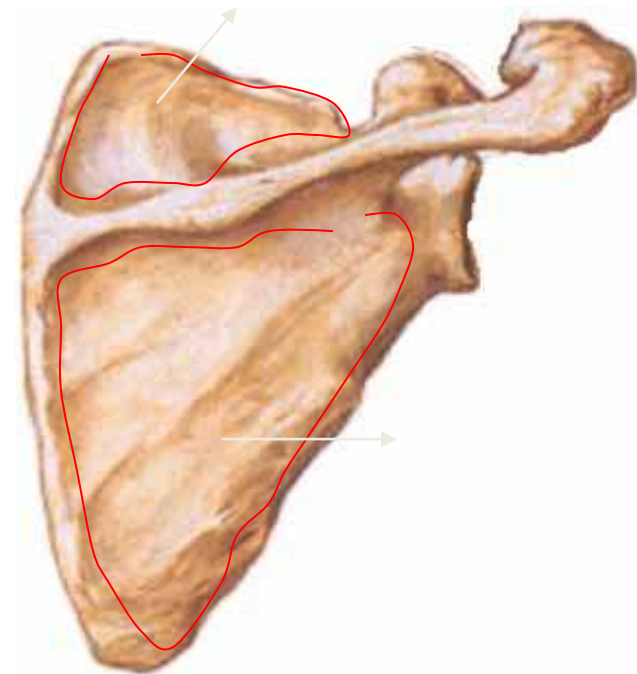
- Faces forward and medially
- Concave and hollow
- This concave and hollow part is called the subscapular fossa



SCAPULA

2. DORSAL SURFACE :

- It is divided into 2 halves by the spine of scapula.
- Upper small part is called the supra spinous fossa
- Lower large part is called the infra spinous fossa
- Both communicate with each other through the spinoglenoid notch



SCAPULA

BORDERS : Three borders

1. LATERAL BORDER :

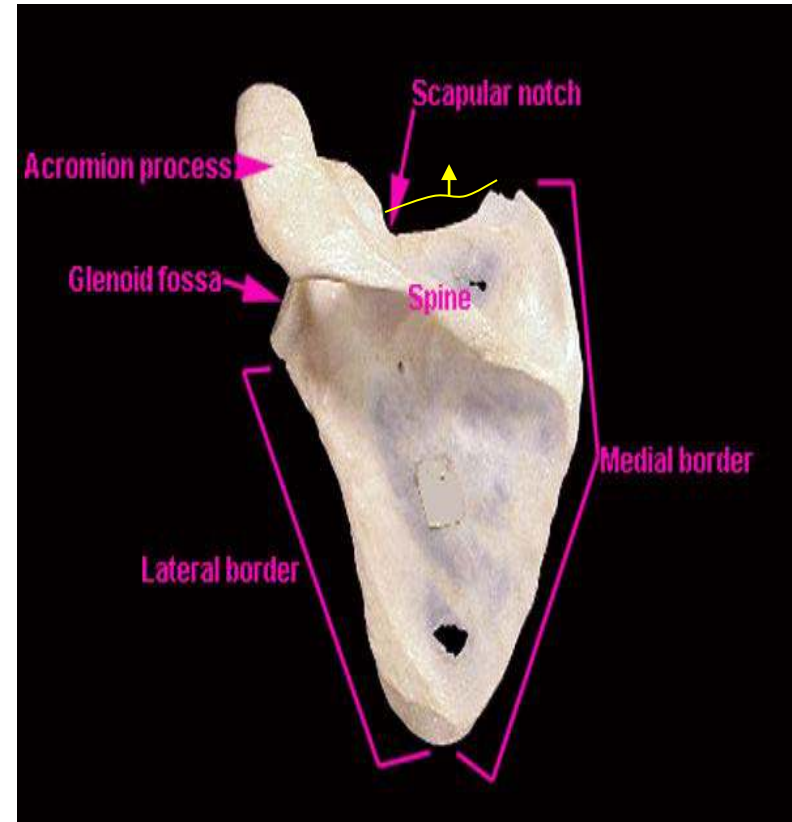
- Thickest border
- Extends from glenoid cavity to inf. angle

2. MEDIAL BORDER :

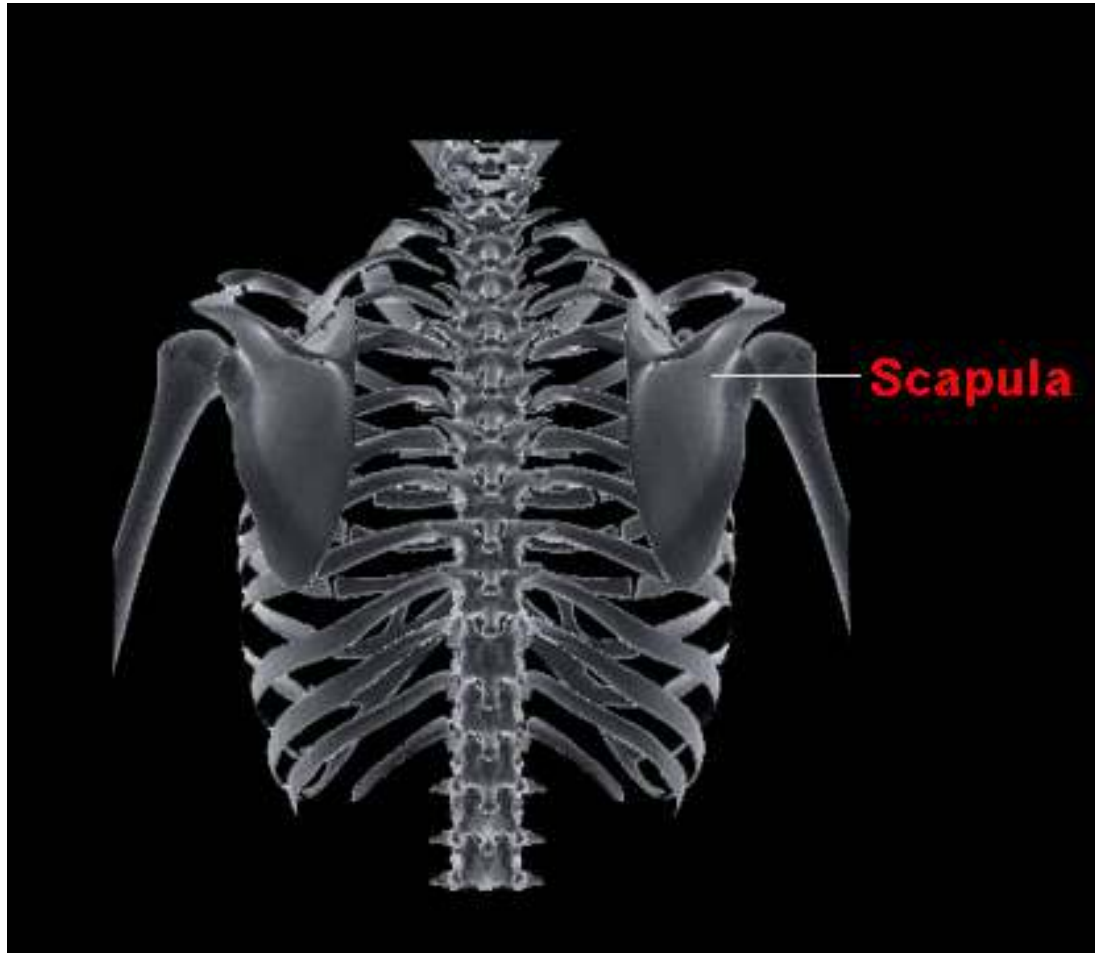
- Longest border
- Extends from superior angle to inferior angle.

3. UPPER BORDER :

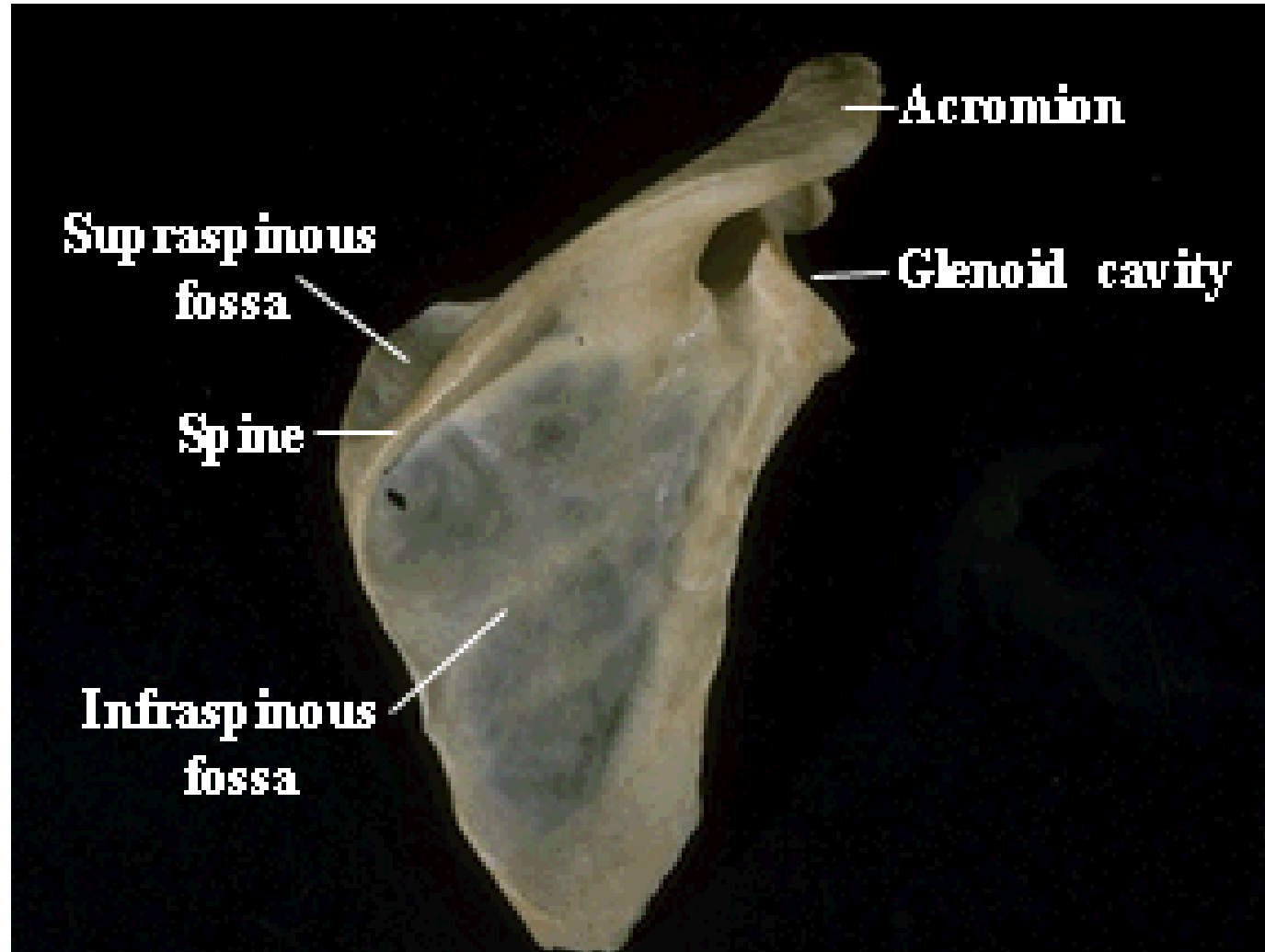
- Thinnest & shortest border
- Extends from superior angle to supra scapular notch.



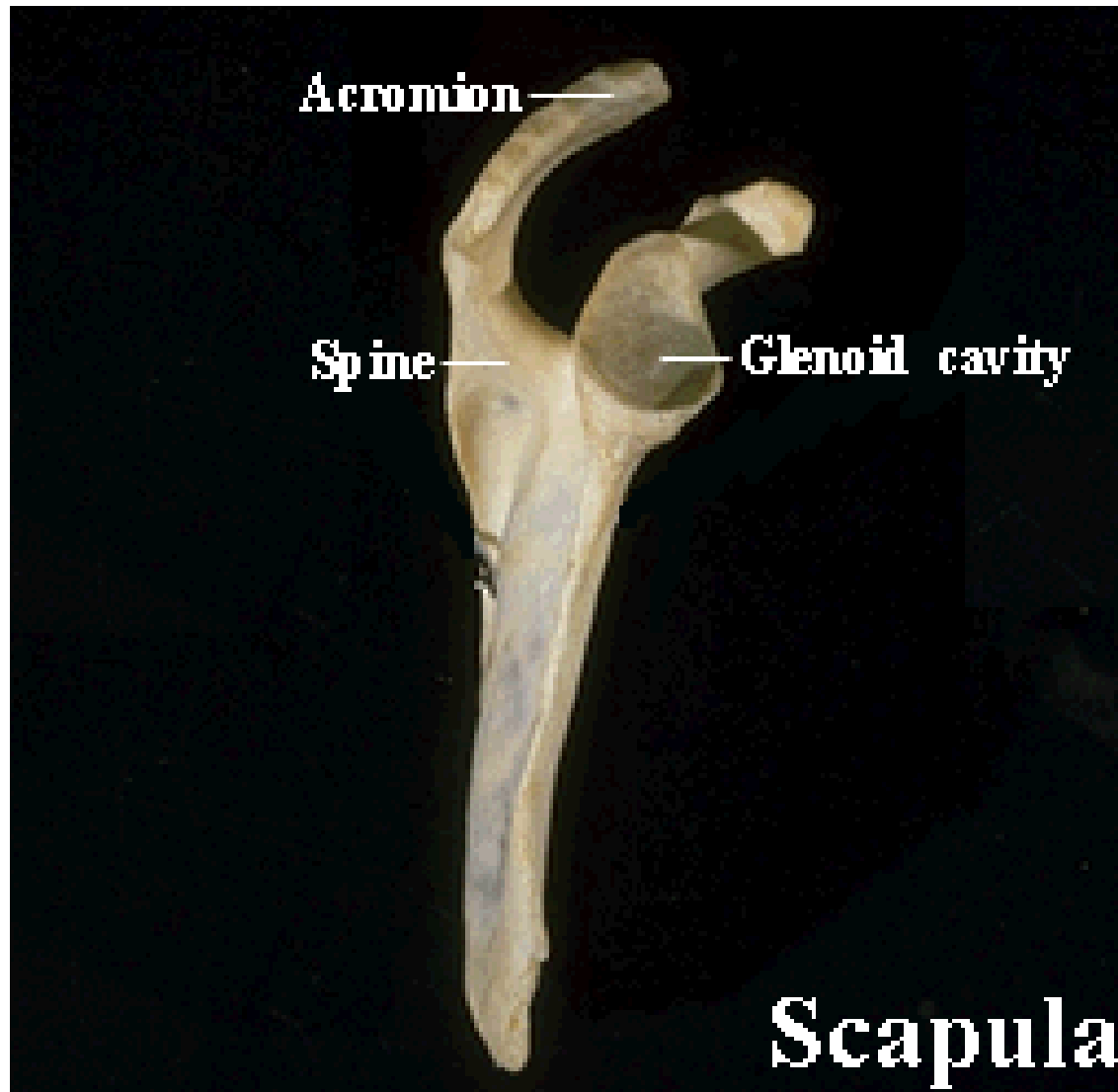
Scapula



Scapula: Posterior view



Scapula: Lateral View

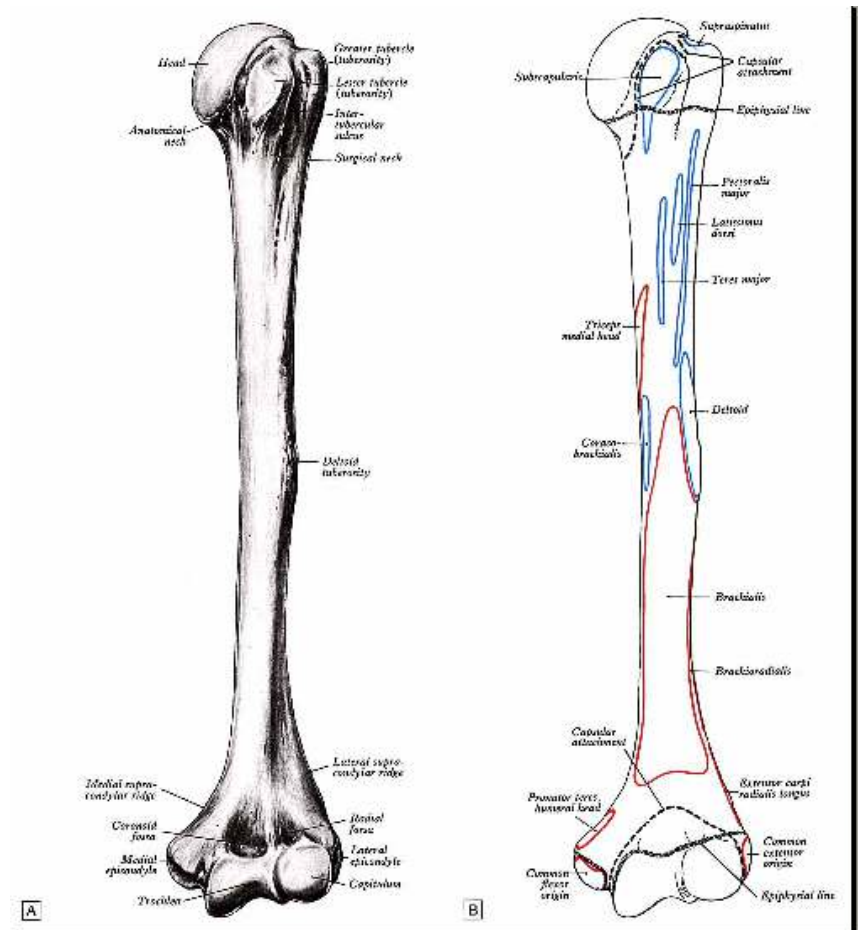


HUMERUS

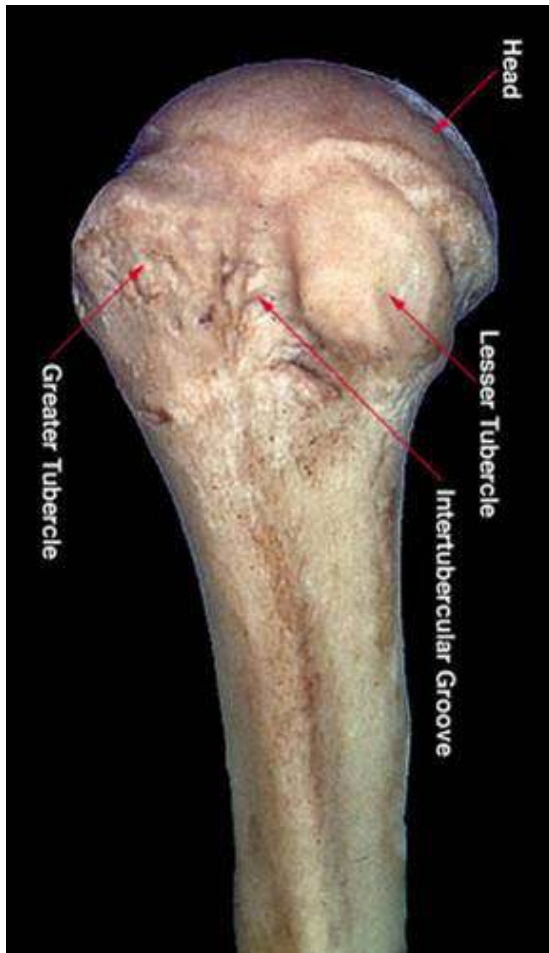
Longest and strongest bone of upper limb

PARTS :

1. Proximal end
2. Shaft
3. Distal end



HUMERUS



1. PROXIMAL END

i) Head

ii) Neck

a) anatomical neck

b) surgical neck

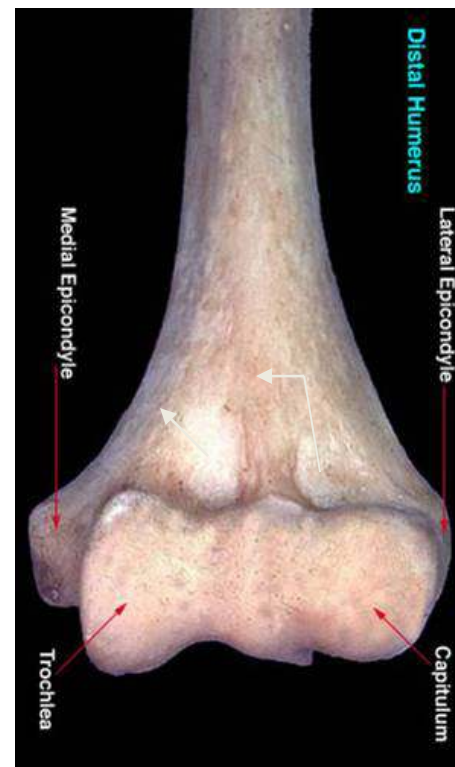
iii) greater tuberosity

iv) lesser tuberosity

v) intertubercular sulcus
(bicipital groove)

HUMERUS

- 3. DISTAL END:
 - A) Articular part
 - Capitulum
 - Trochlea
 - B) Non-articular part
 - Medial epicondyle
 - Lateral epicondyle
 - Olecranon fossa
 - Coronoid fossa
 - Radial fossa

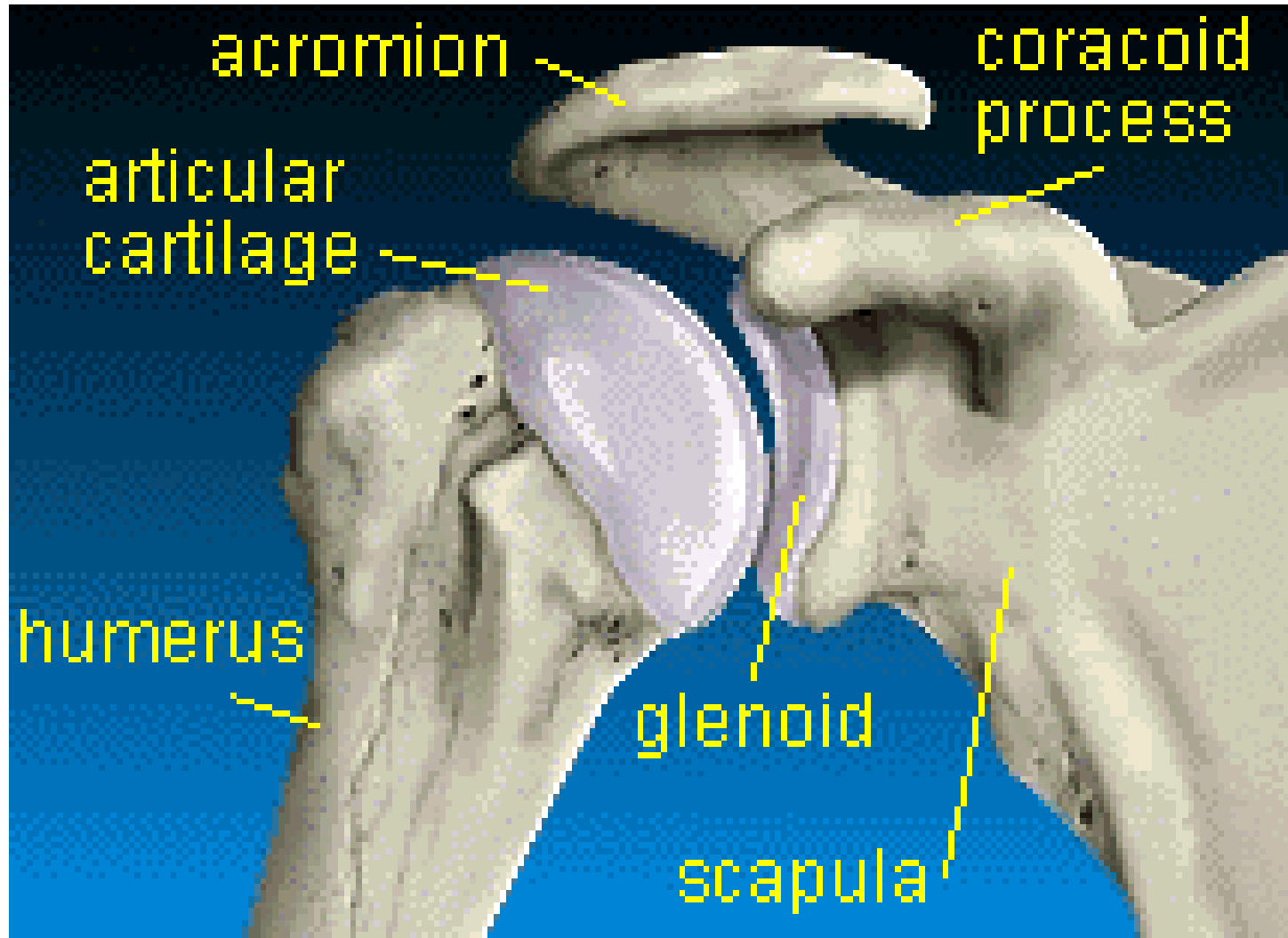


Humerus

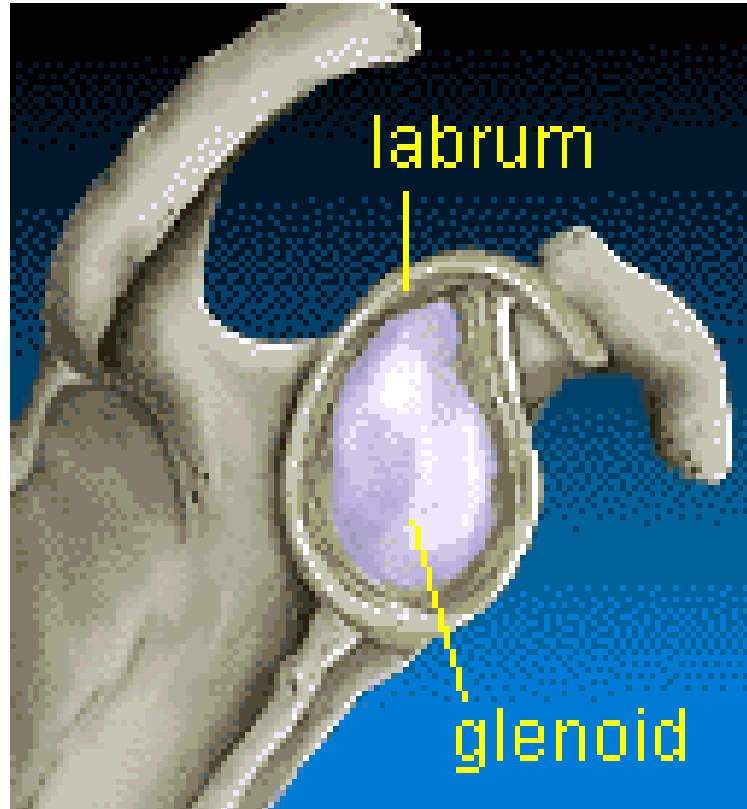
Posterior surface of the proximal end of the right humerus



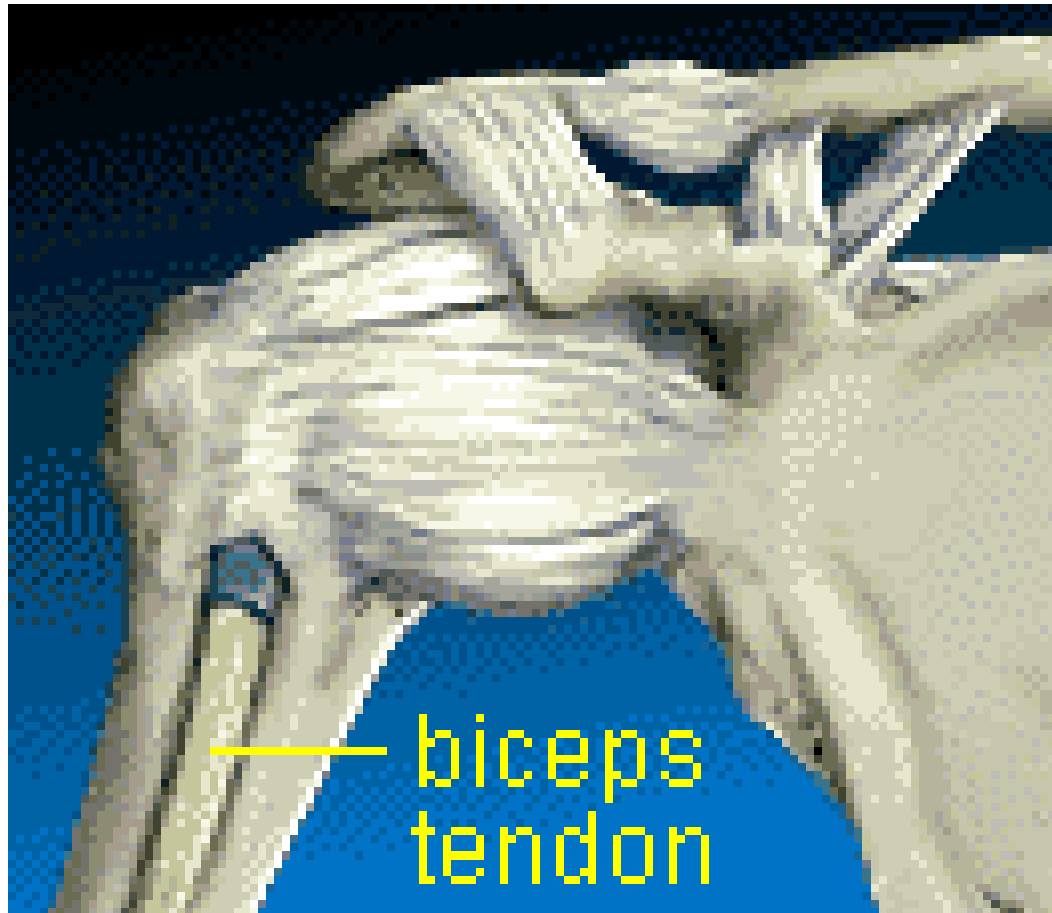
Glenohumeral Joint (Shoulder)



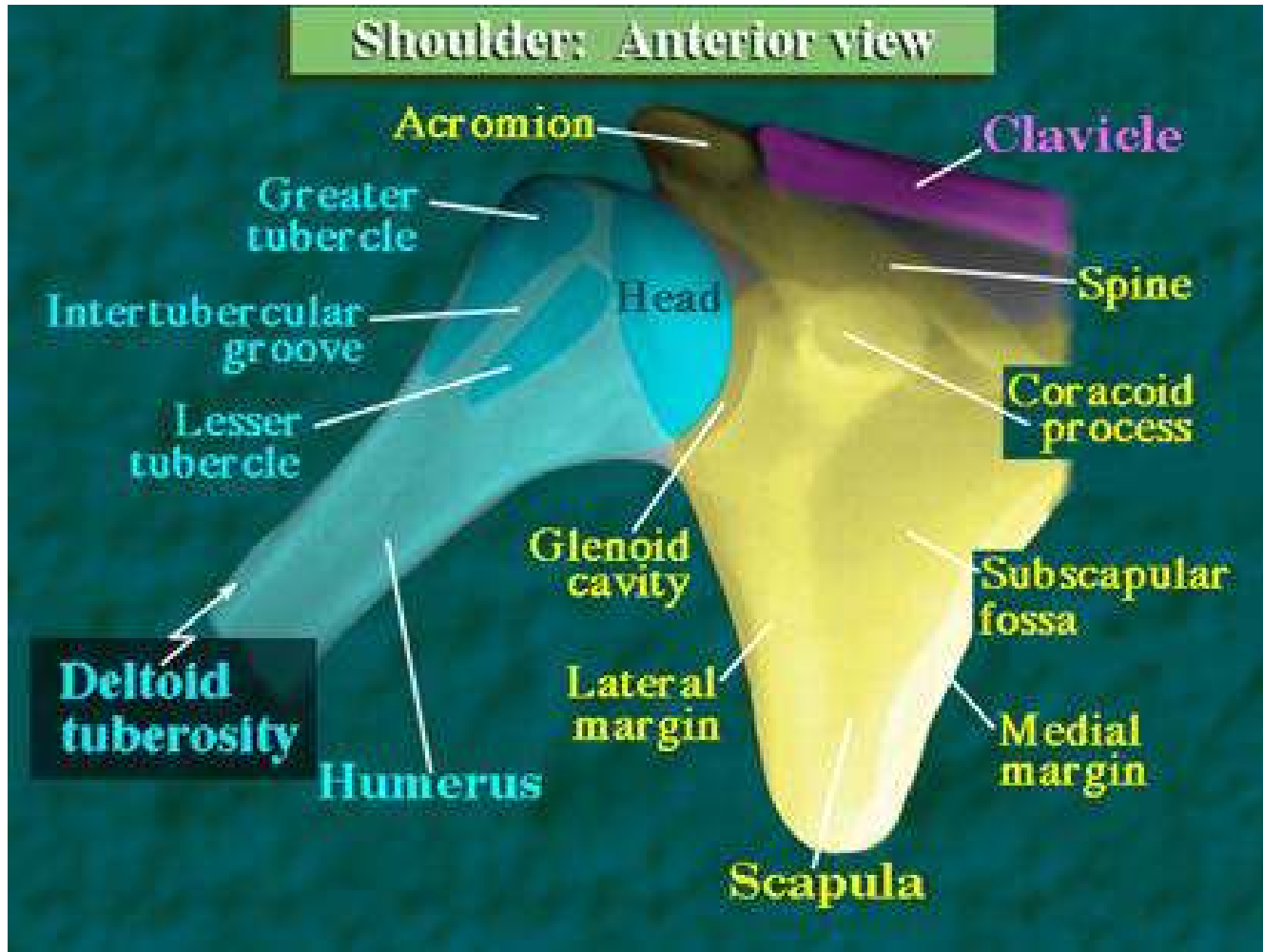
Labrum



Shoulder (anterior)



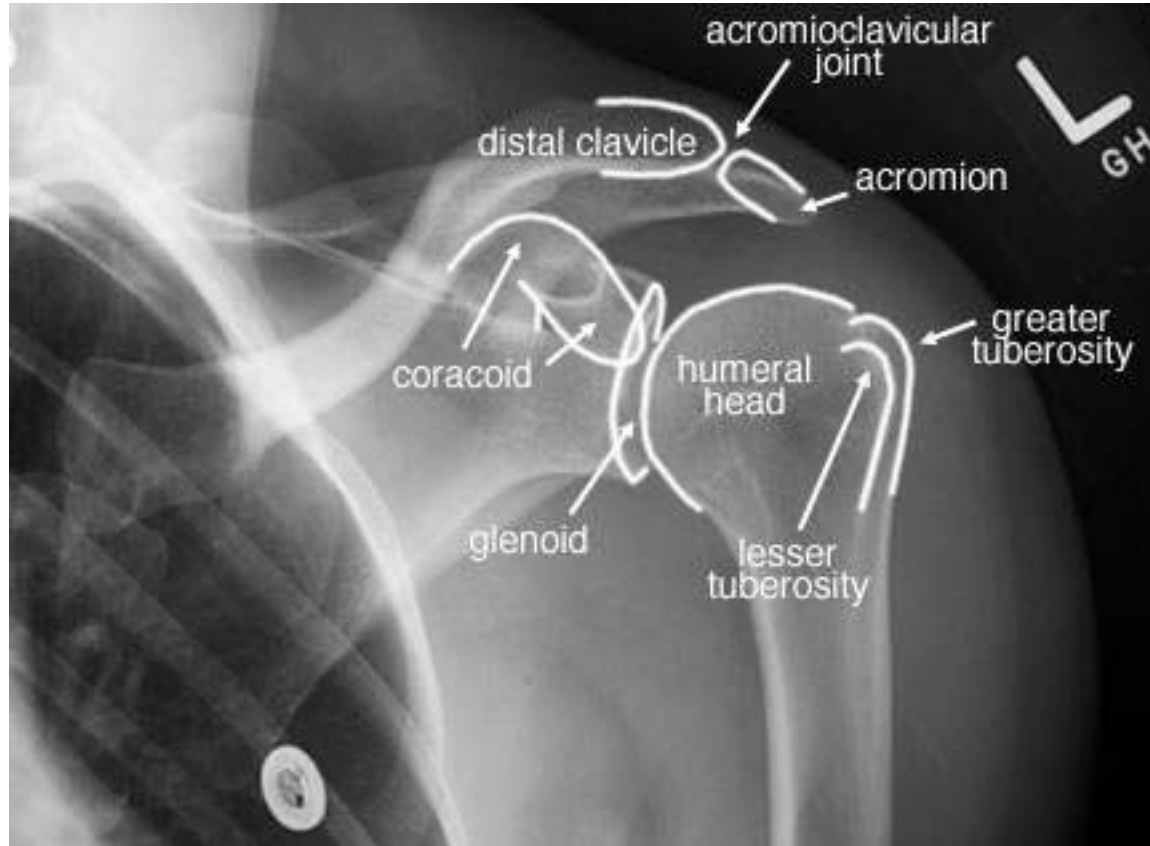
Shoulder (anterior)



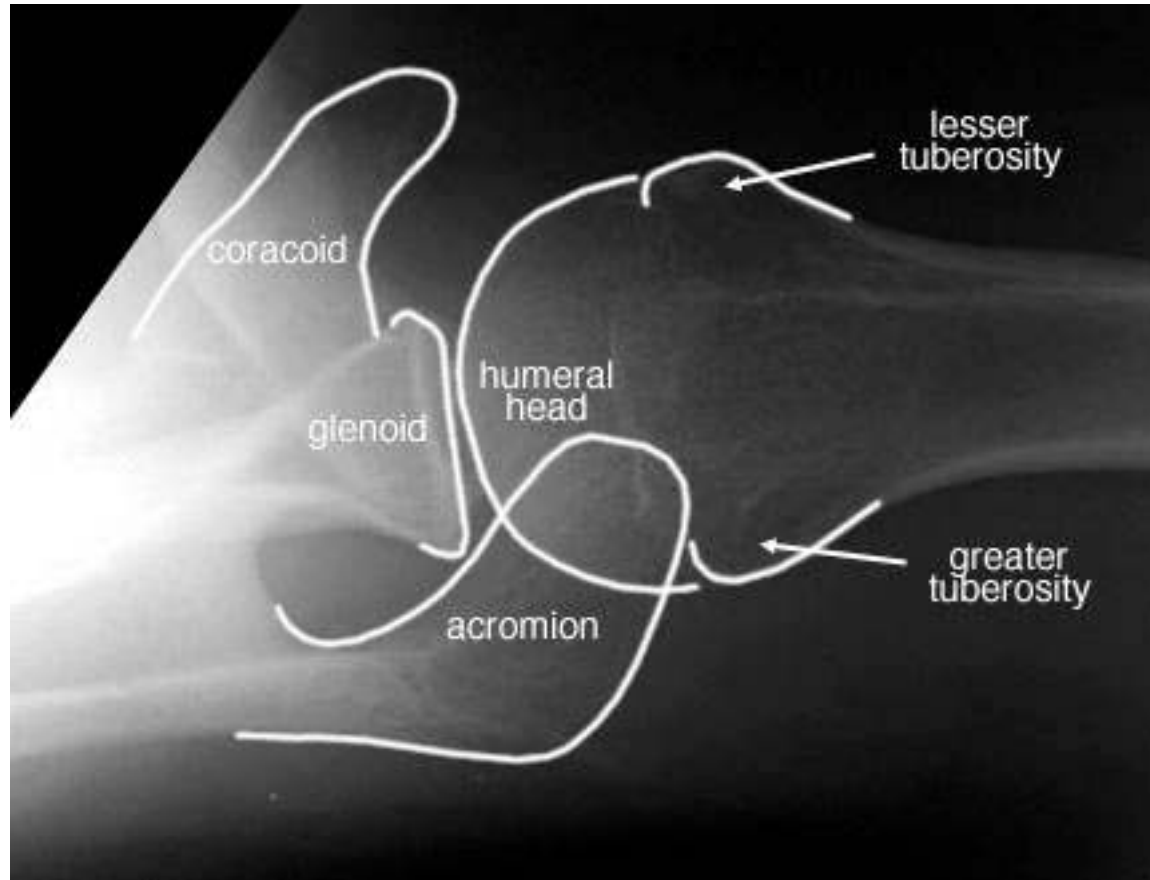
Shoulder Girdle (Internal Rotation) X-Ray View



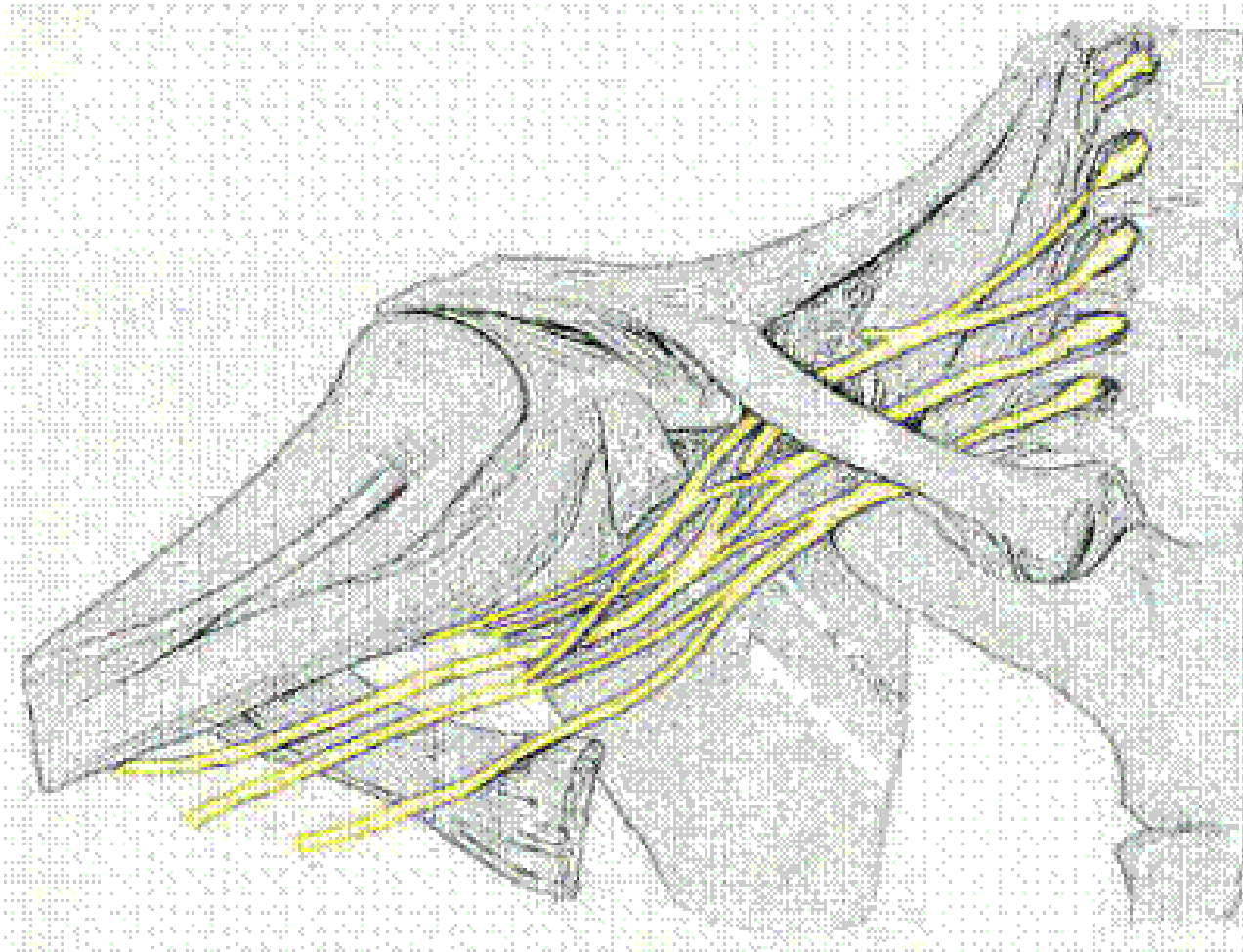
Shoulder Girdle (External Rotation)



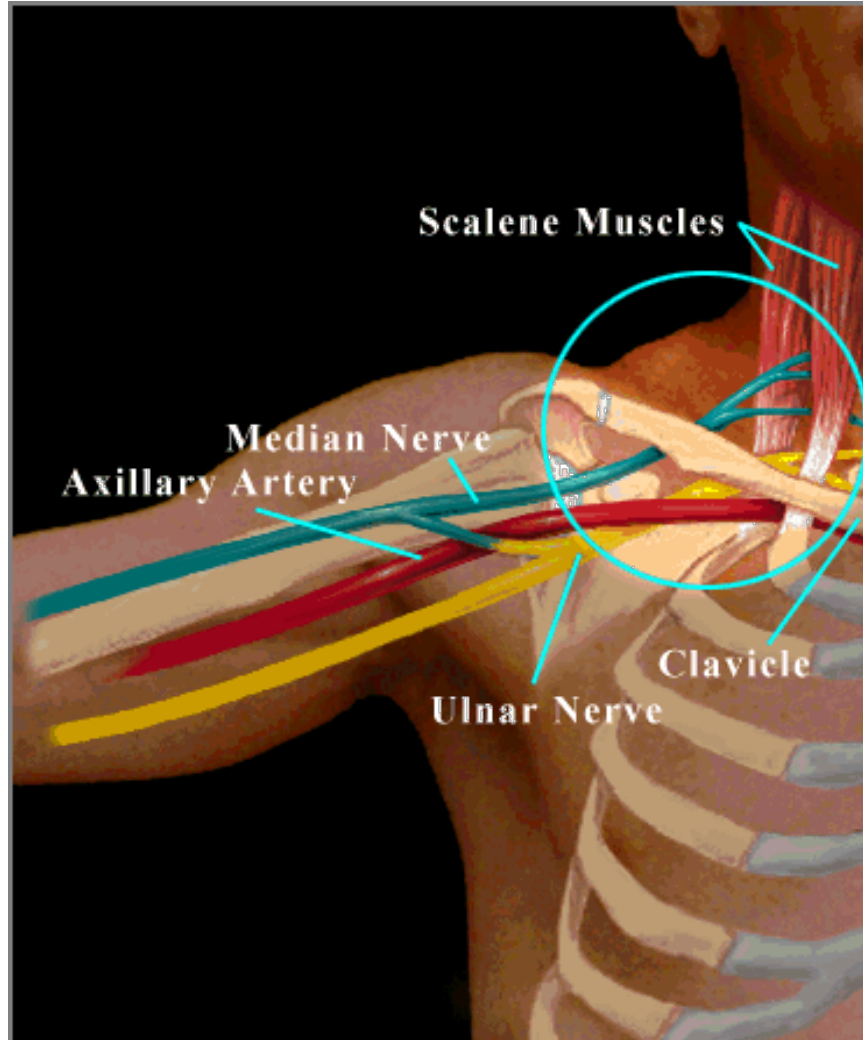
Shoulder Girdle (Axillary)



Brachial Plexus

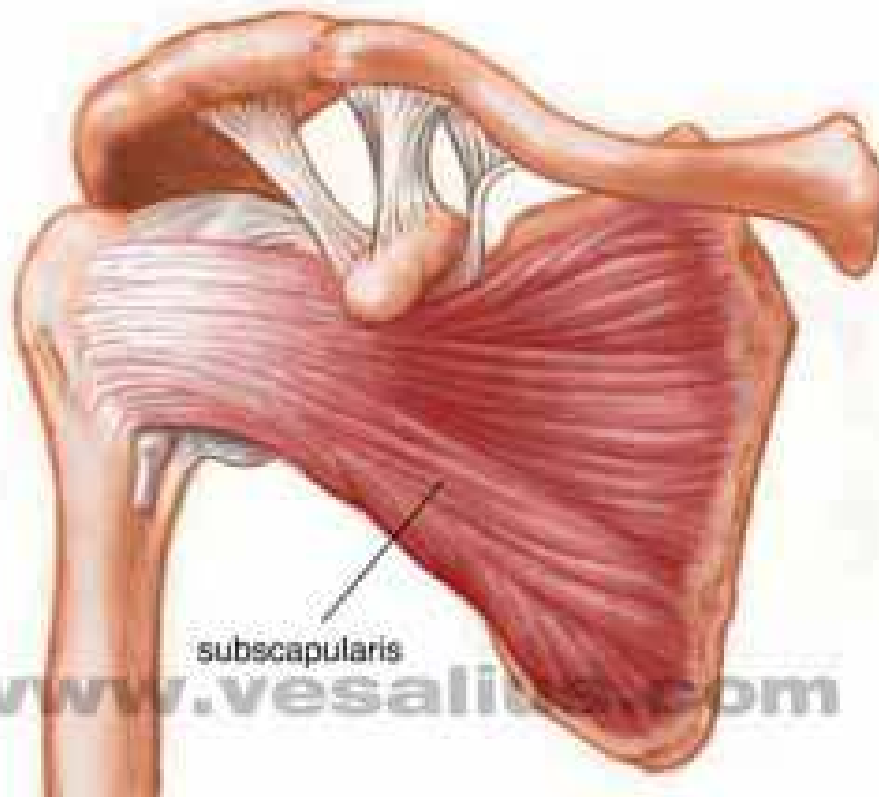


Brachial Plexus



Muscles

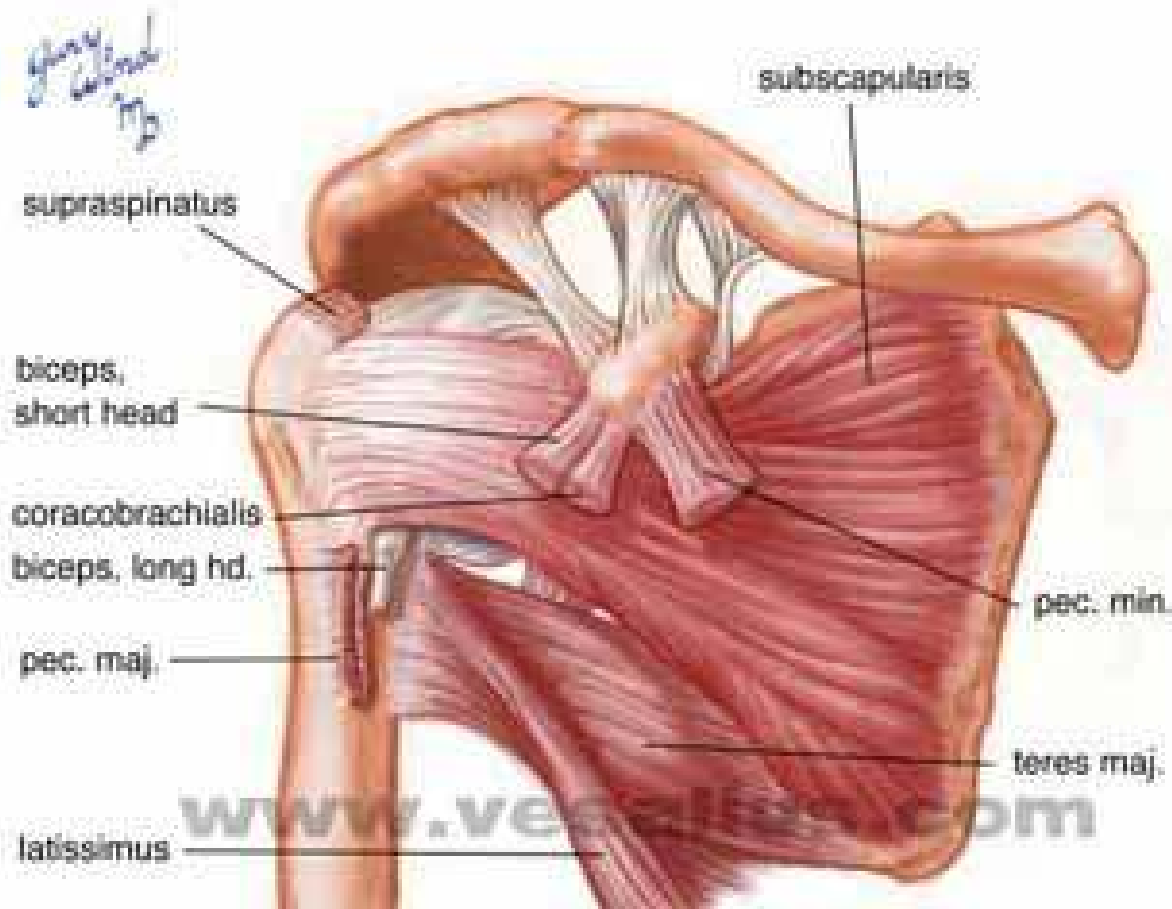
*Glans
subscapularis
m.*



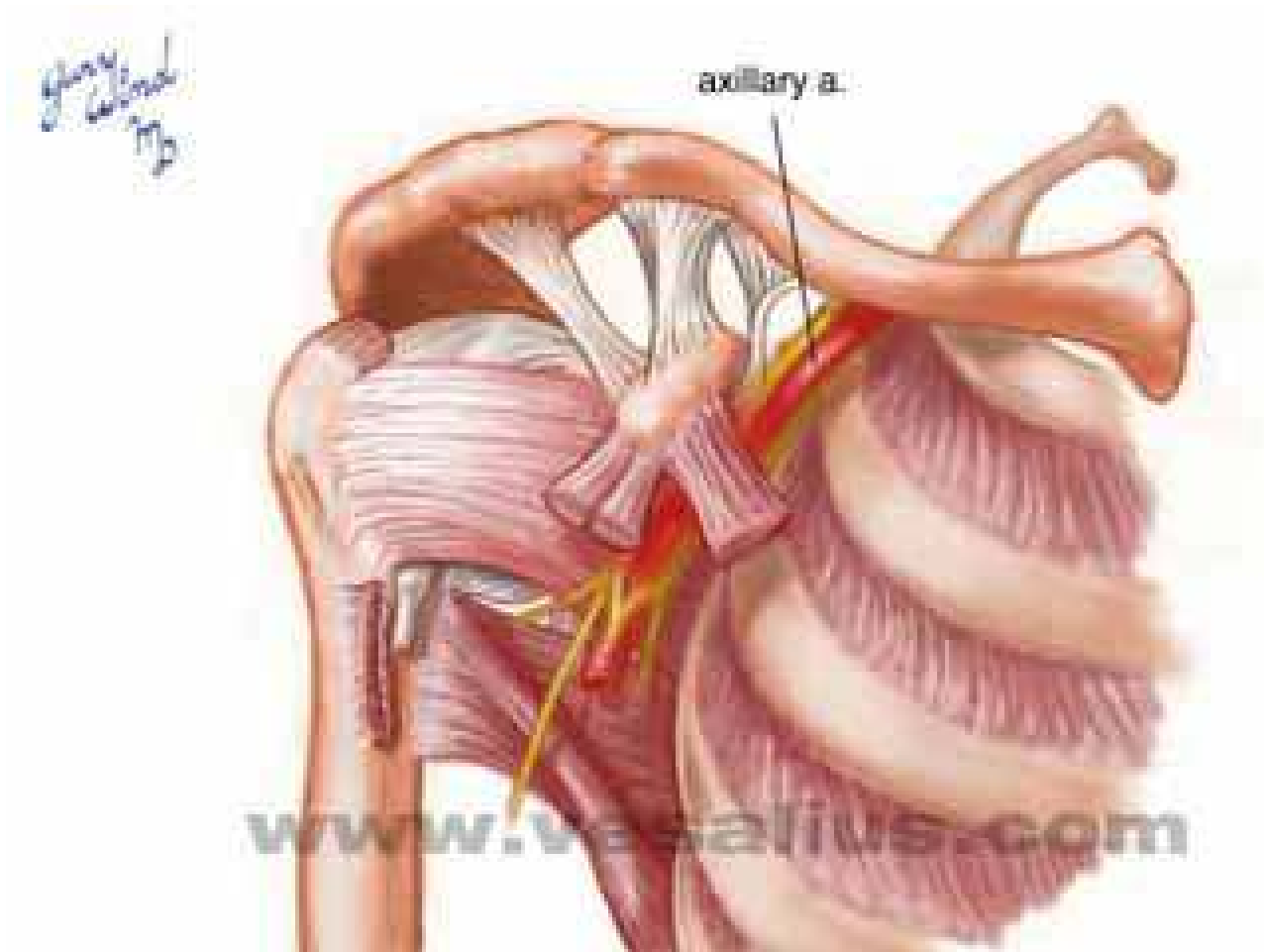
subscapularis

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Muscles



Muscles

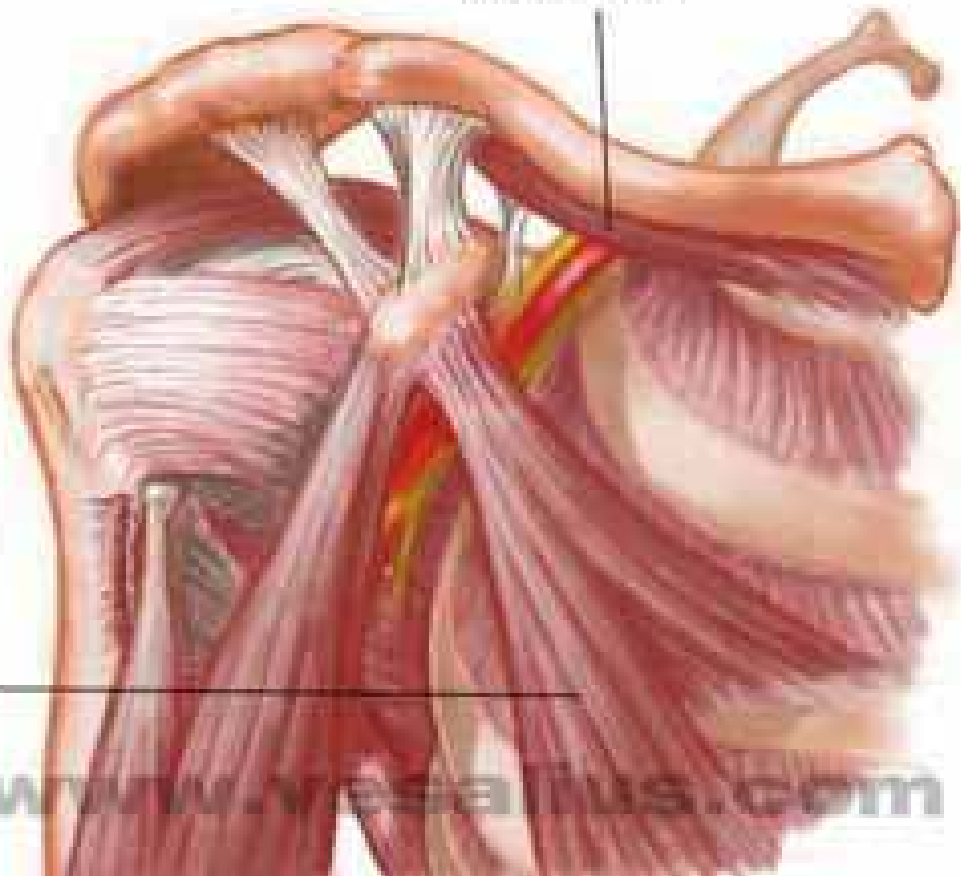


Handwritten note:
Glenohumeral
Jt

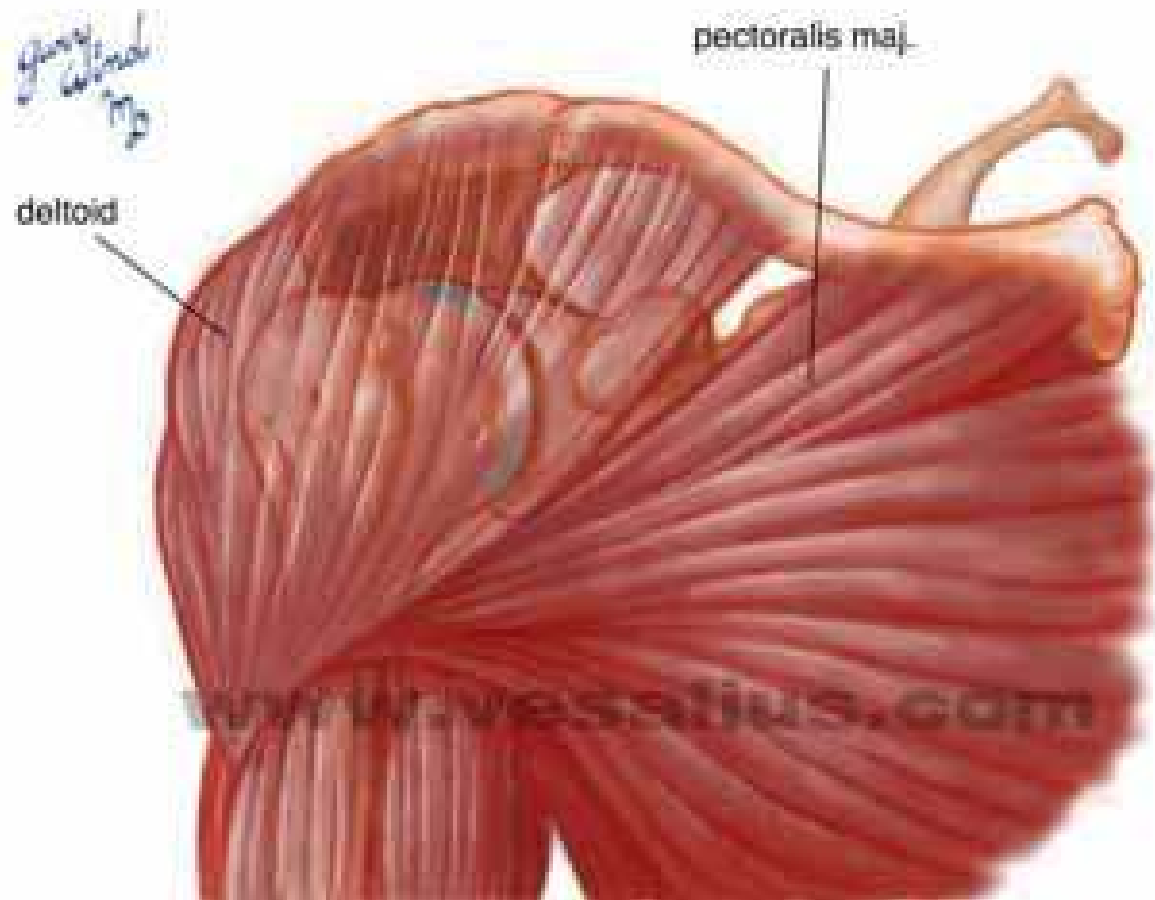
subclavius m.

pec. min.

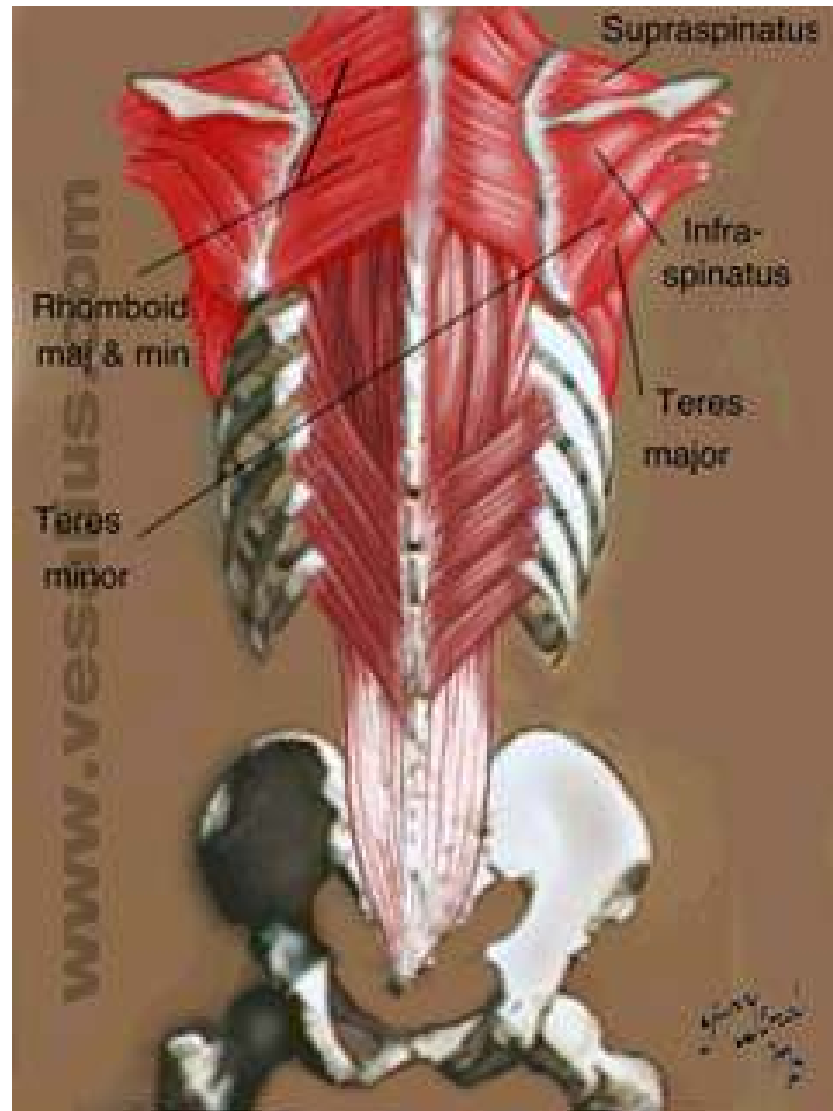
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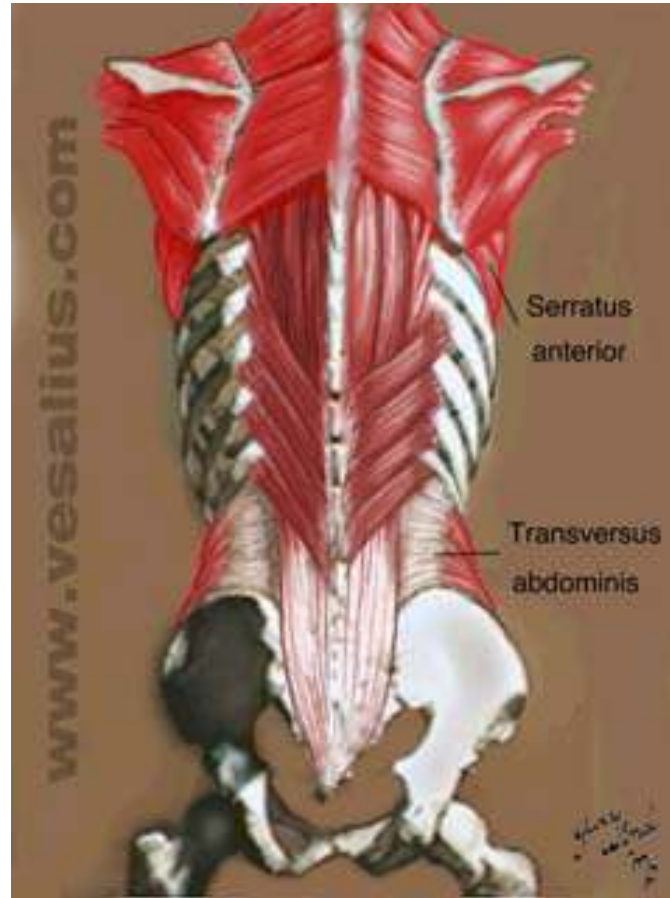
Muscles



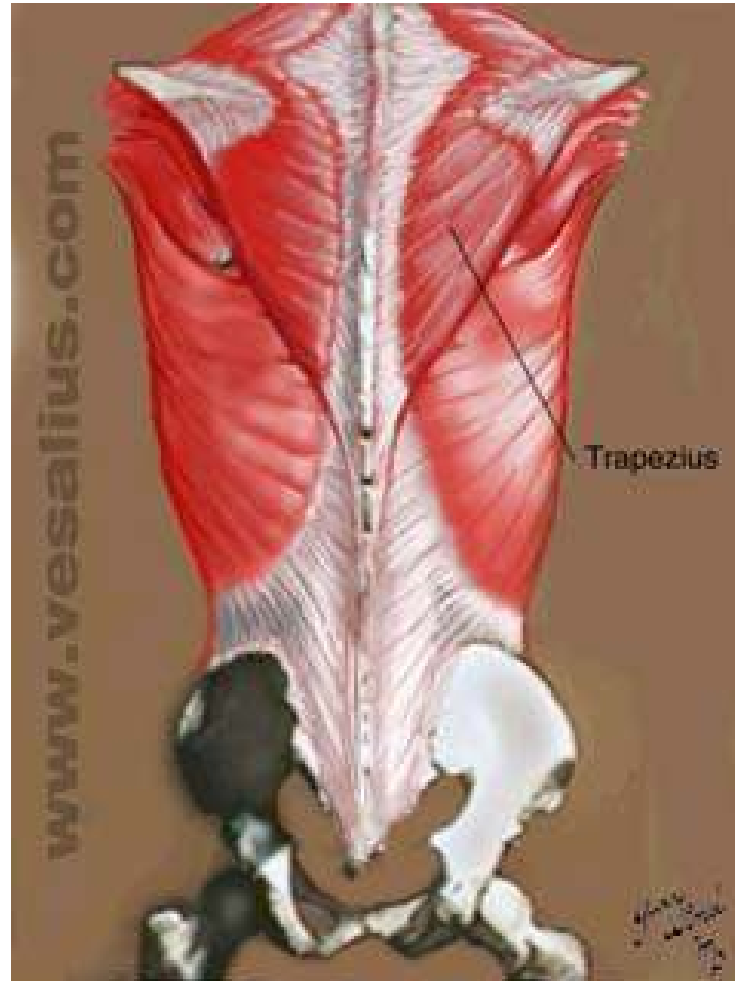
Muscles



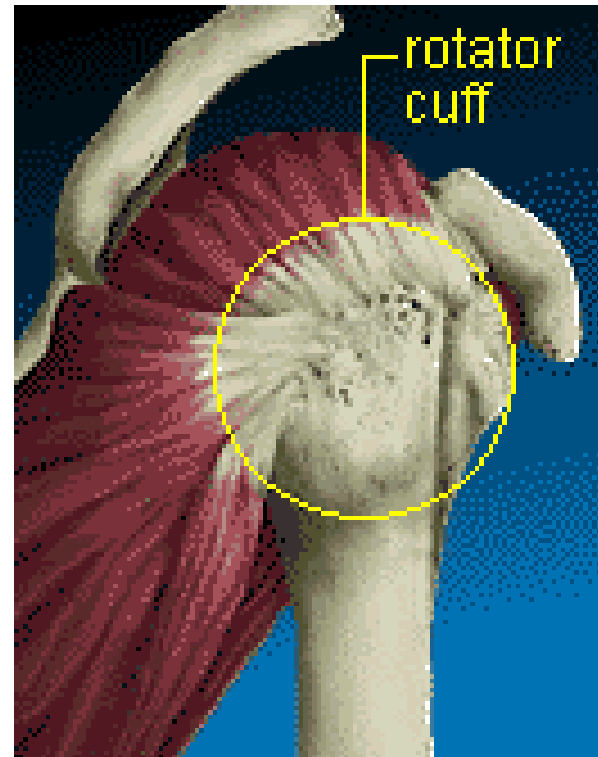
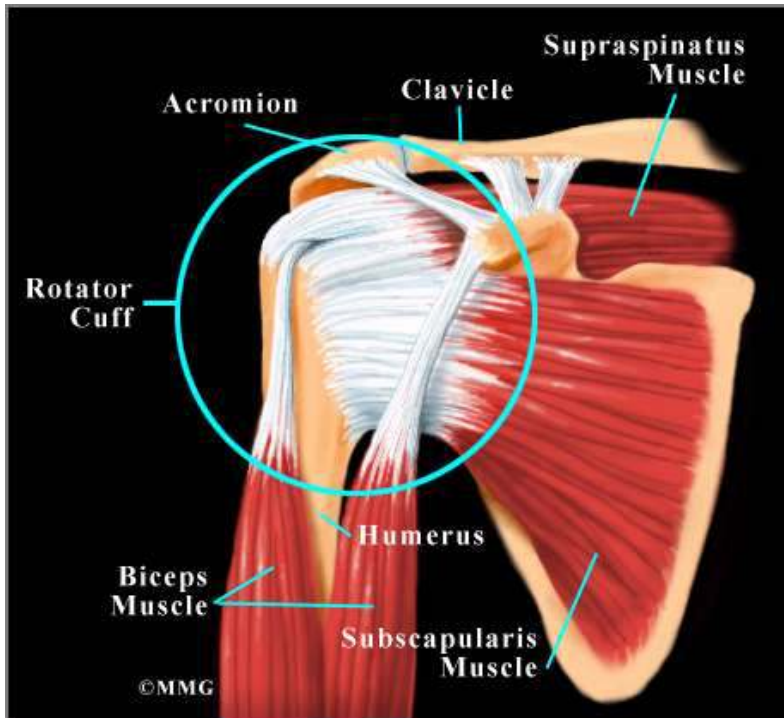
Muscles



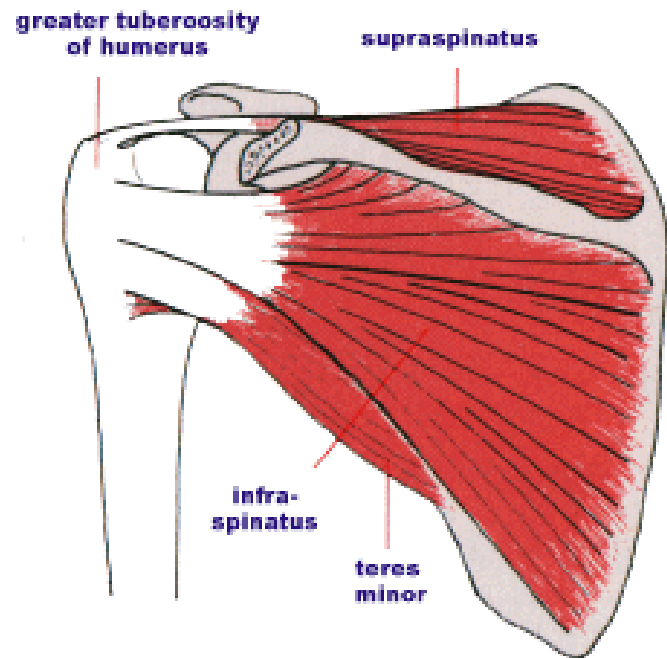
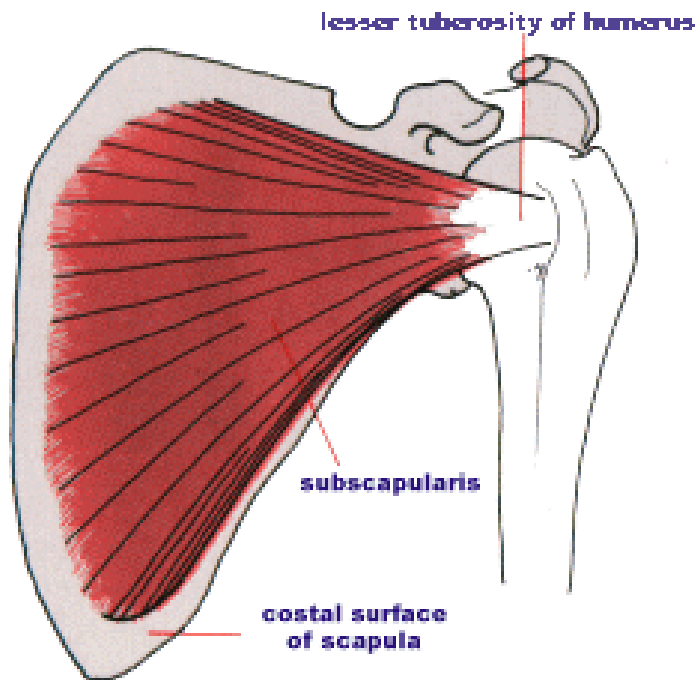
Muscles



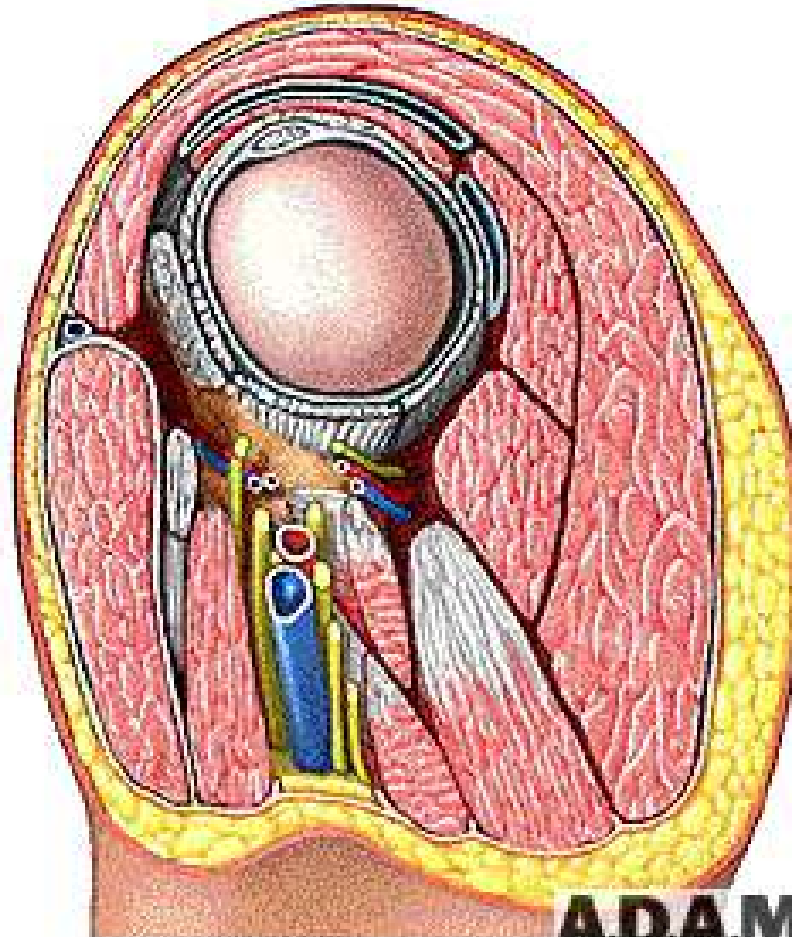
Rotator Cuff



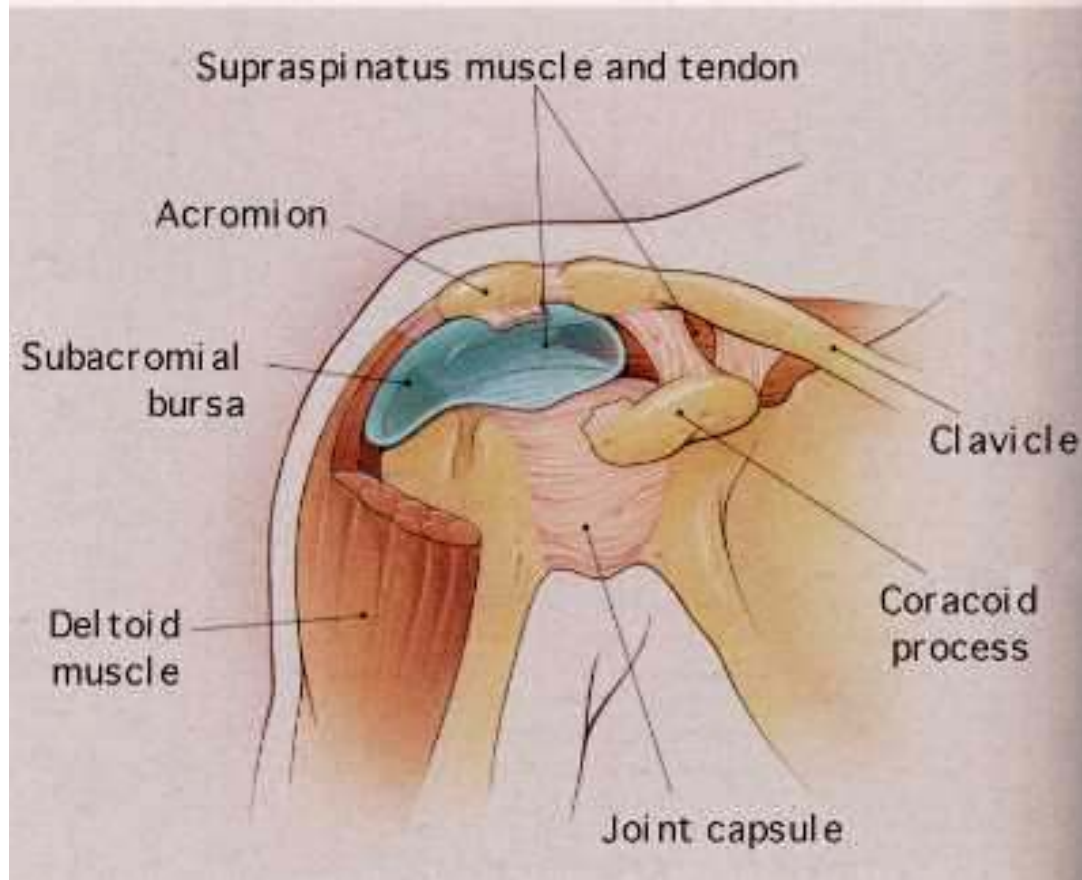
Rotator Cuff



Cross Section View



Subacromial Bursa



ANATOMY OF THE ELBOW

RADIUS

- Lateral bone of forearm
- PARTS
 1. PROXIMAL END
 - a). Head
 - b). Neck
 - c). Bicipital Tuberosity
 2. SHAFT
 - a). Interosseous border *
 3. DISTAL END
 - a). STYLOID PROCESS
 - b). ULNAR NOTCH
 - c). DORSAL TUBERCLE



ULNA

- Medial bone of forearm
- Size diminishes from proximal to distal
- PARTS



1. PROXIMAL END – STRONG & EXPANDED

- Olecranon process
- Coronoid process
- Trochlear notch
- Radial notch

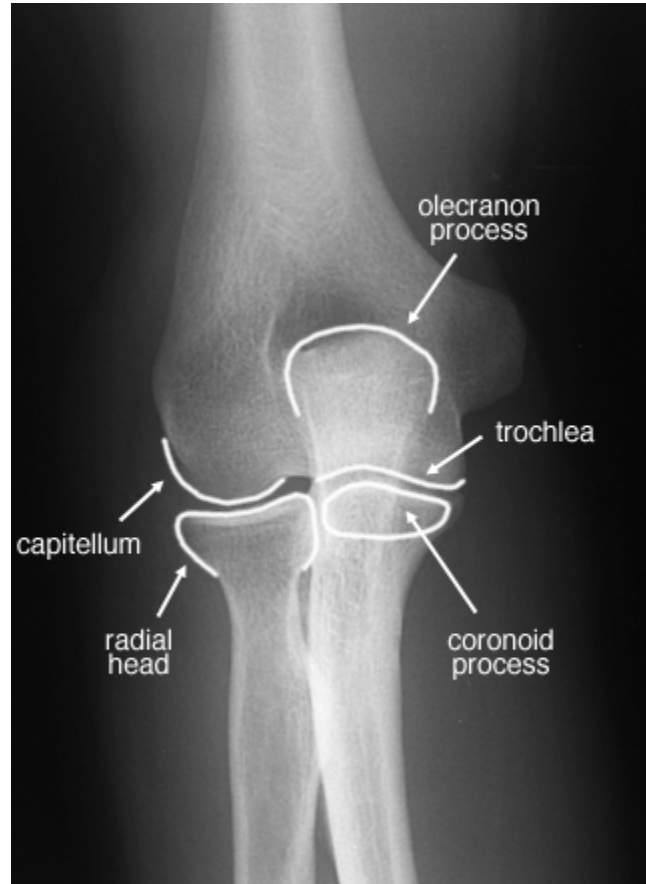
2. SHAFT

- * Interosseous border

3. DISTAL END

- a). Head
- b). Styloid process

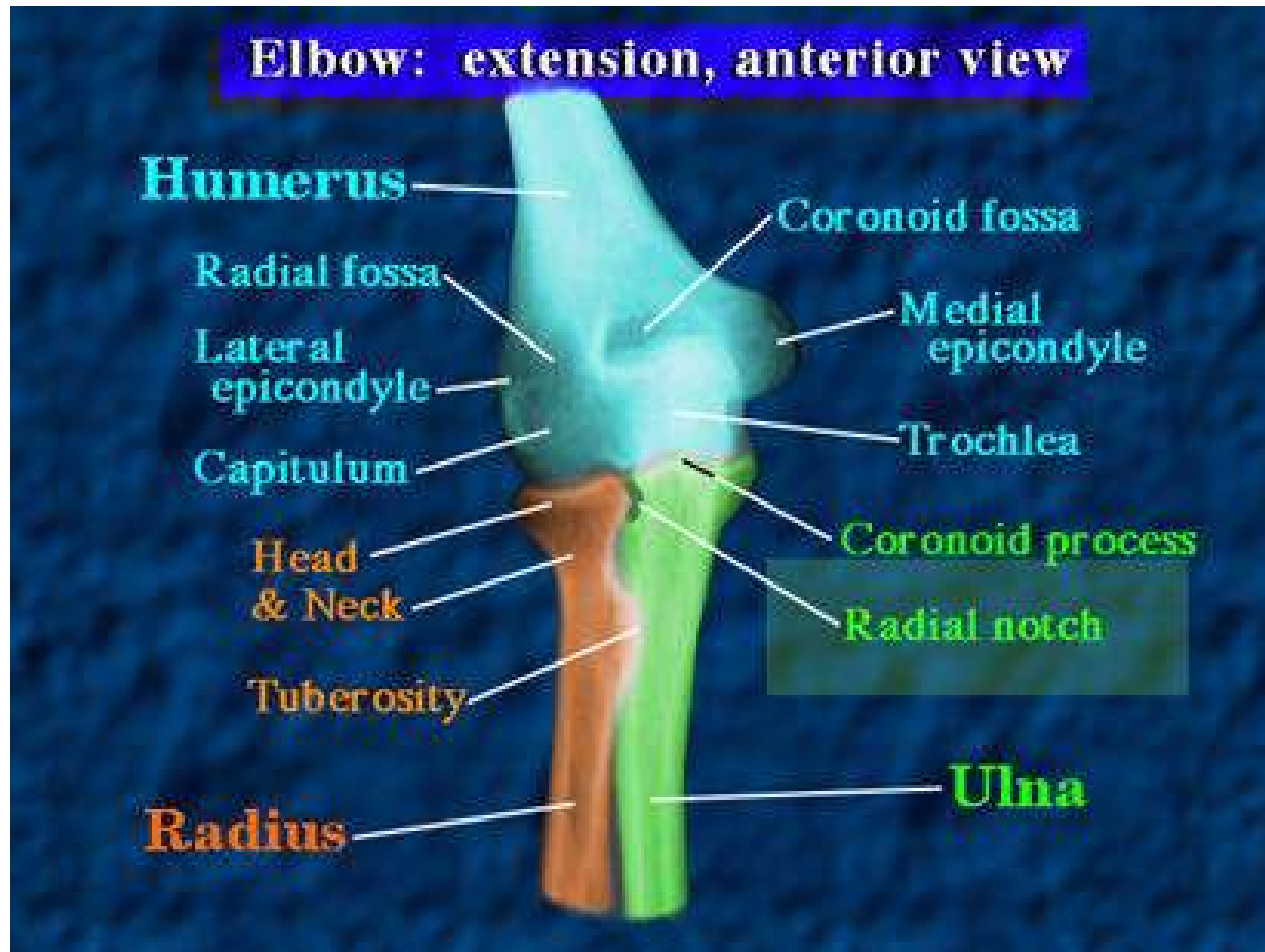
Elbow (Anterio-Posterior)



Elbow (post)



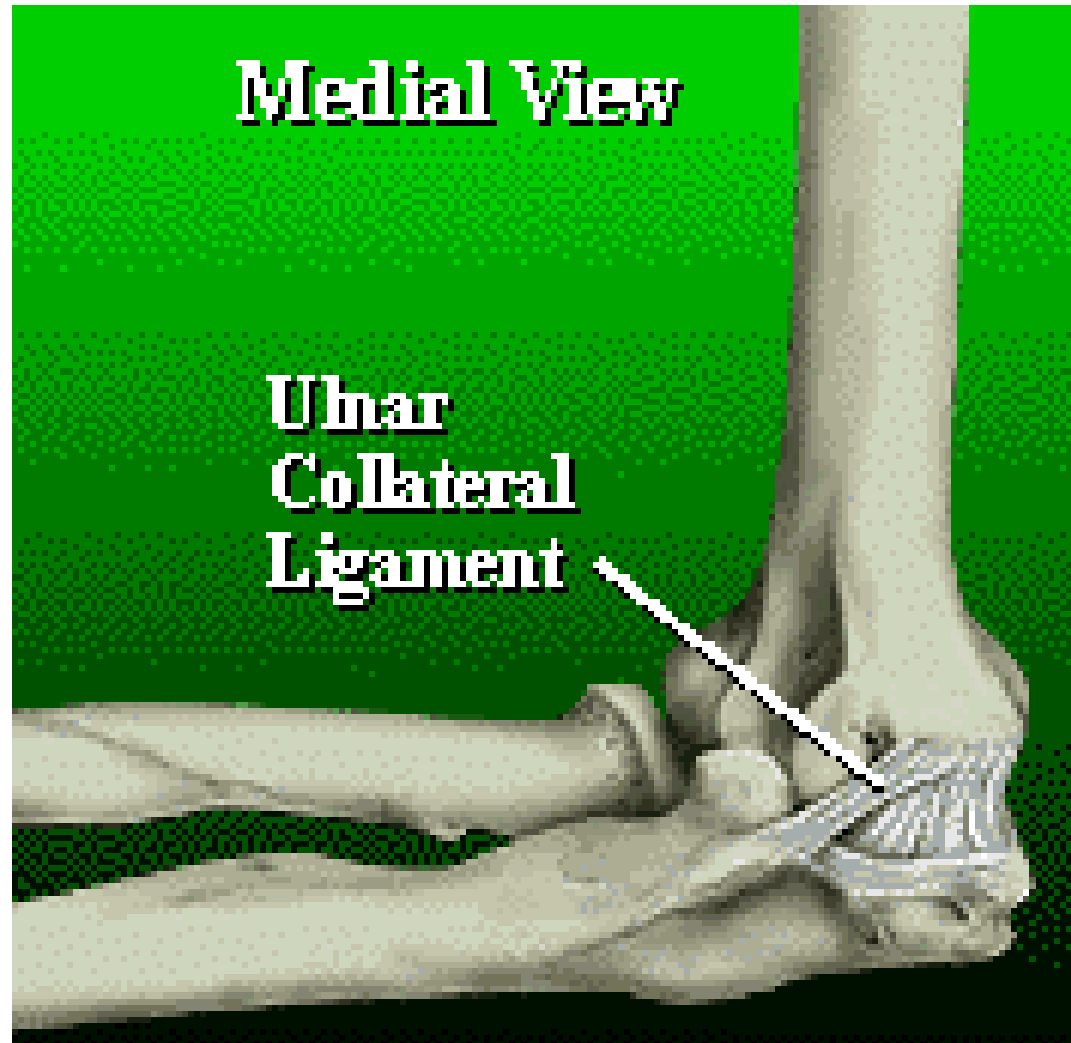
Elbow (ant)



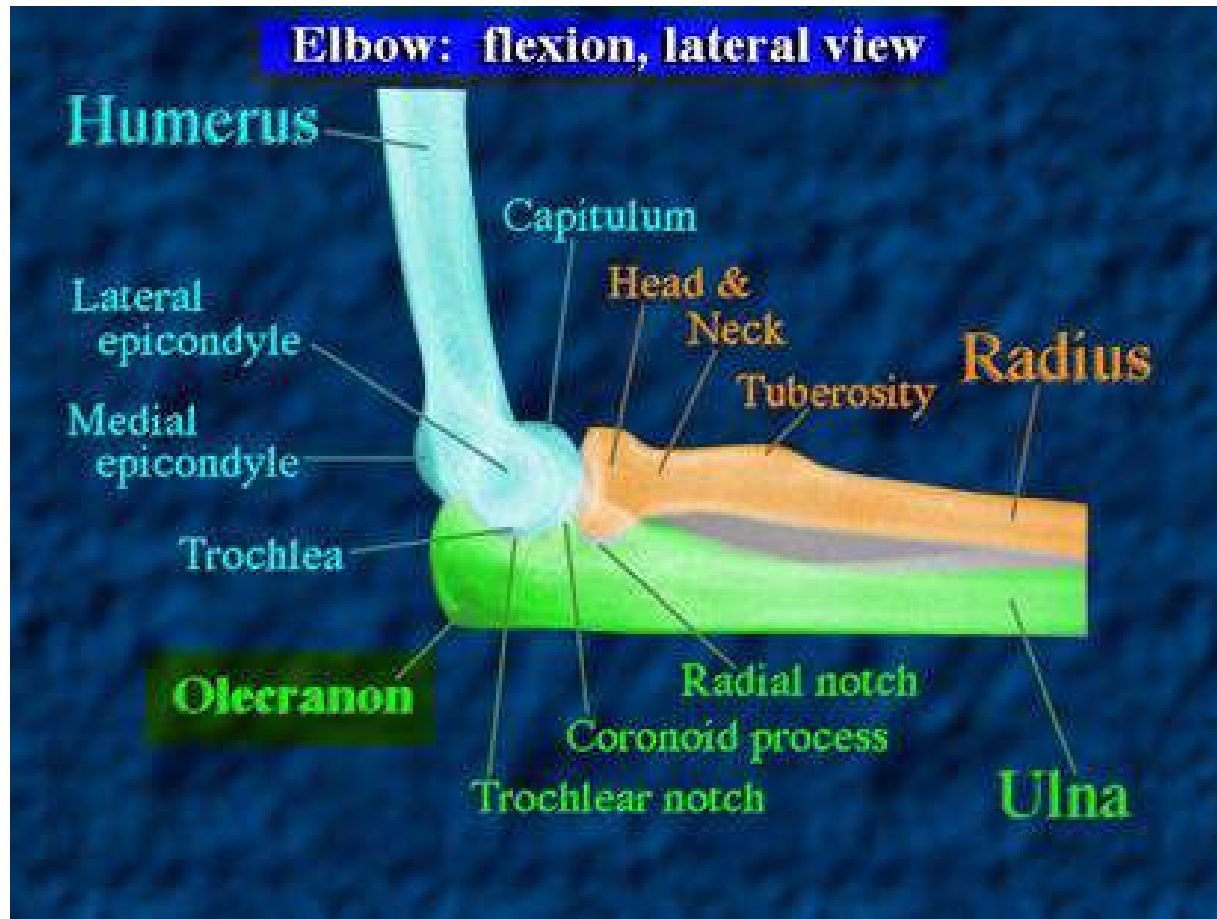
Elbow (lateral)



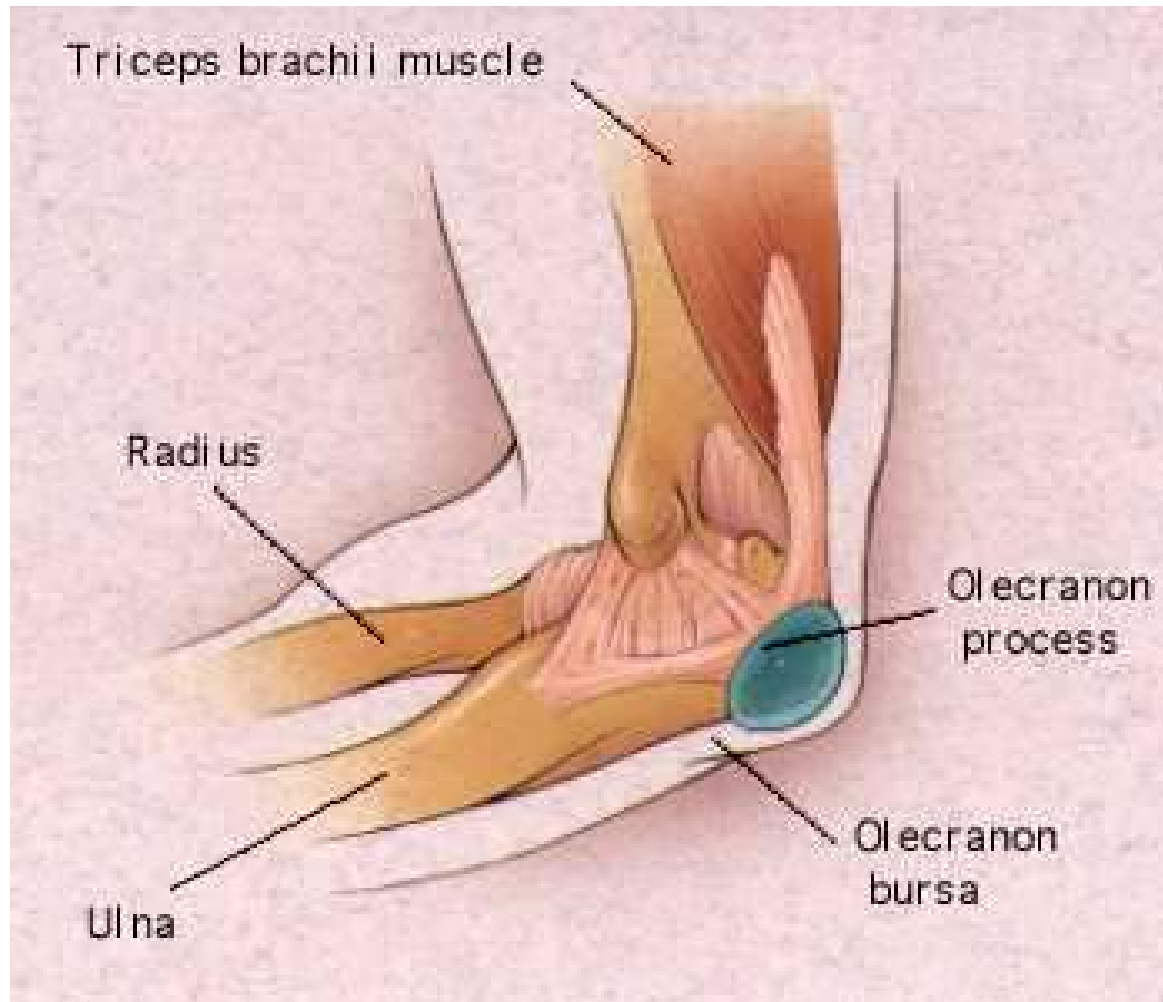
Elbow (medial)



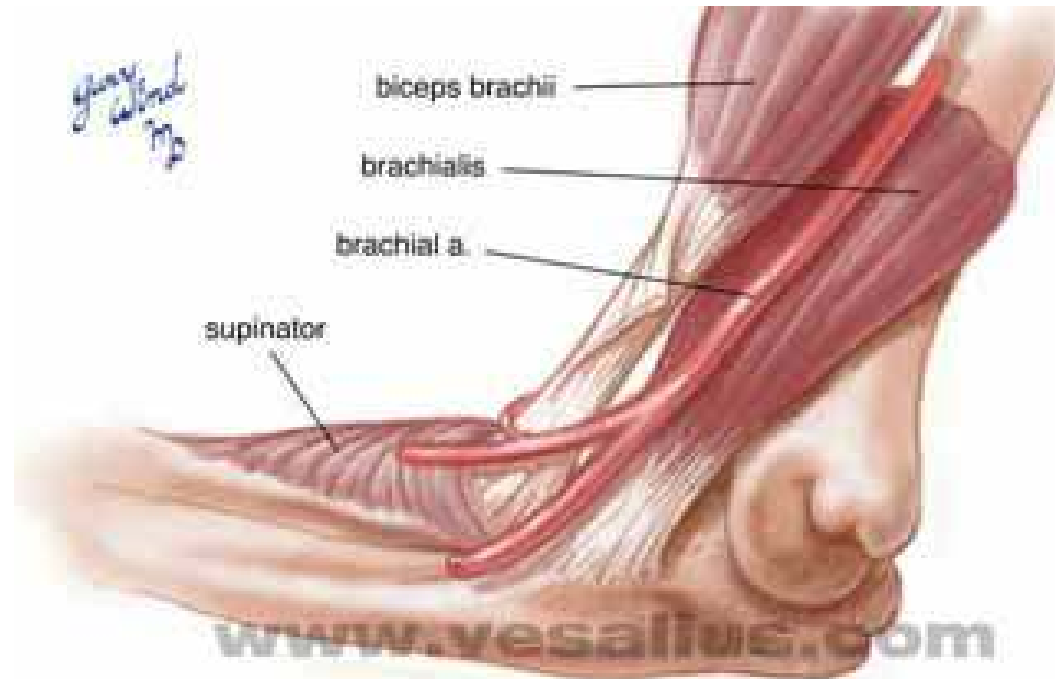
Elbow (lateral)



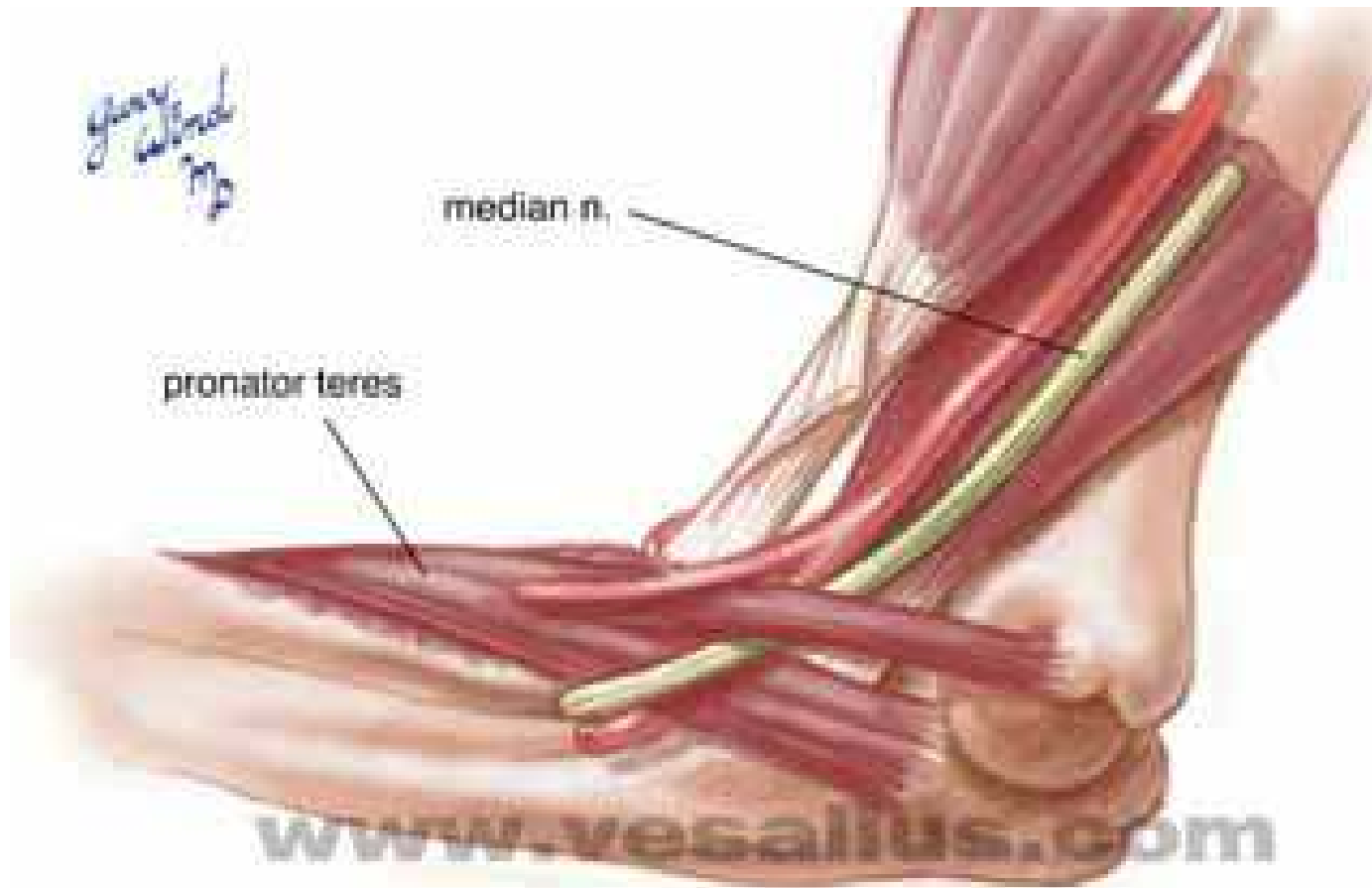
Olecranon Bursa



Muscles



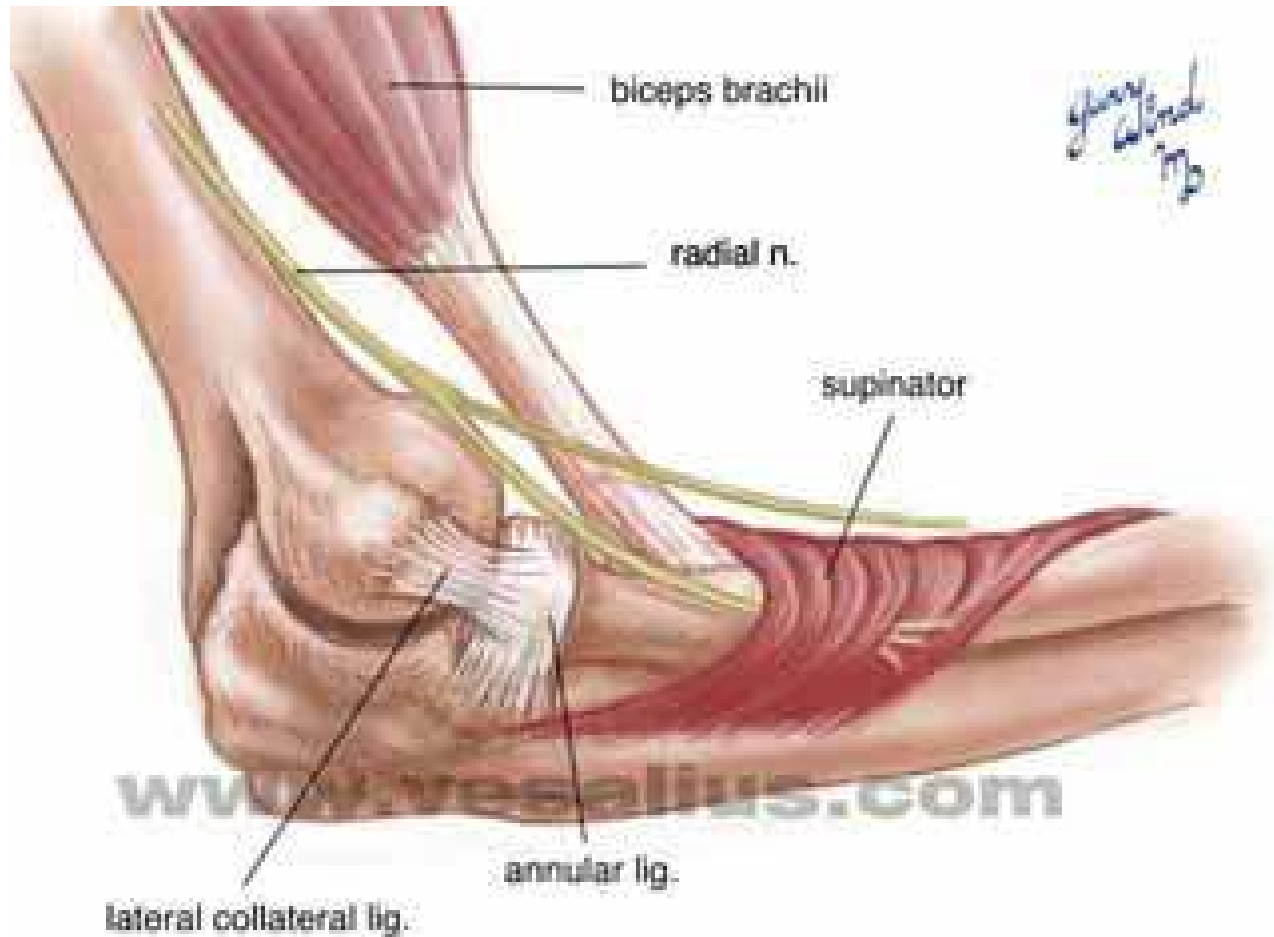
Muscles



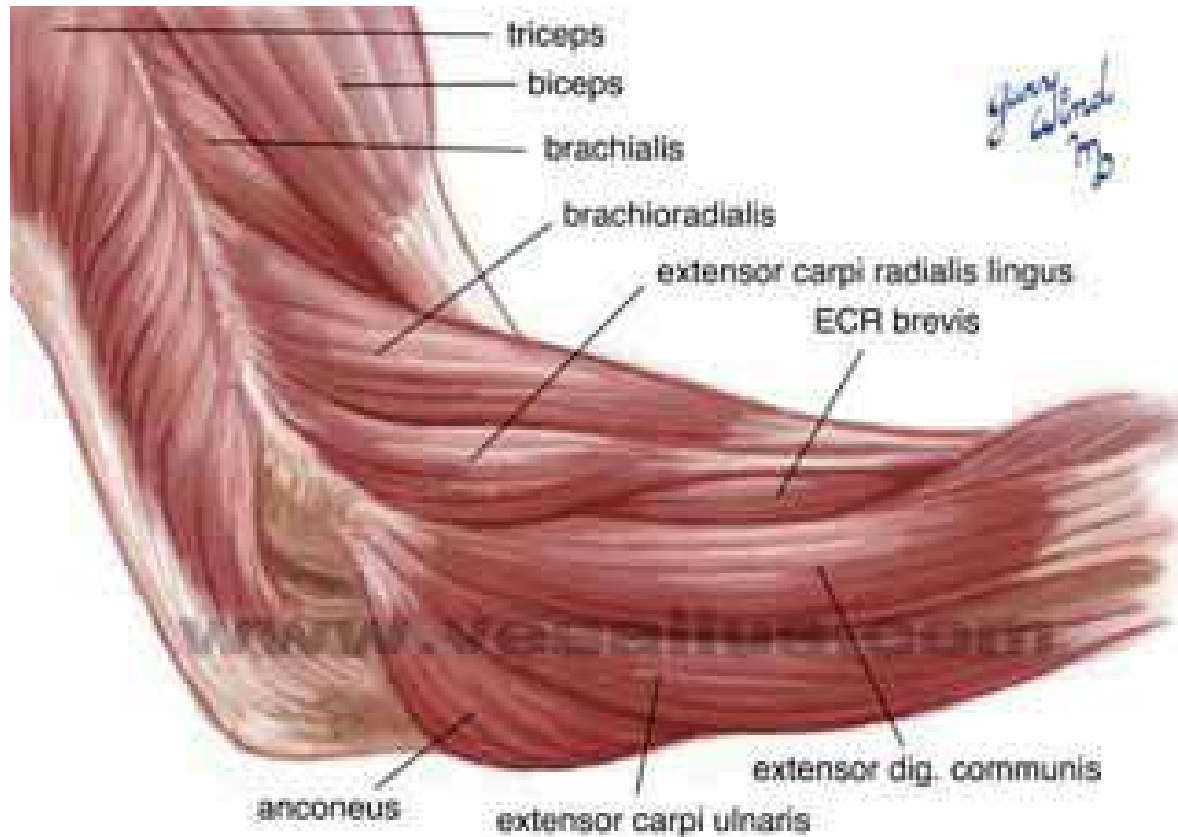
Muscles



Muscles

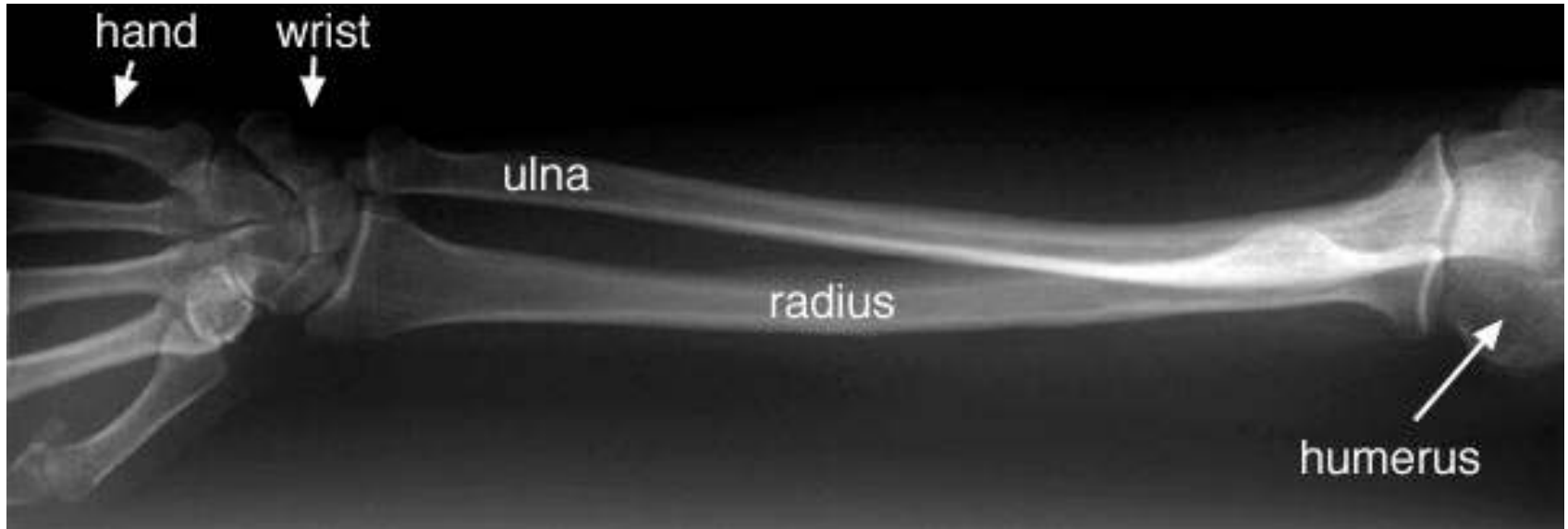


Muscles

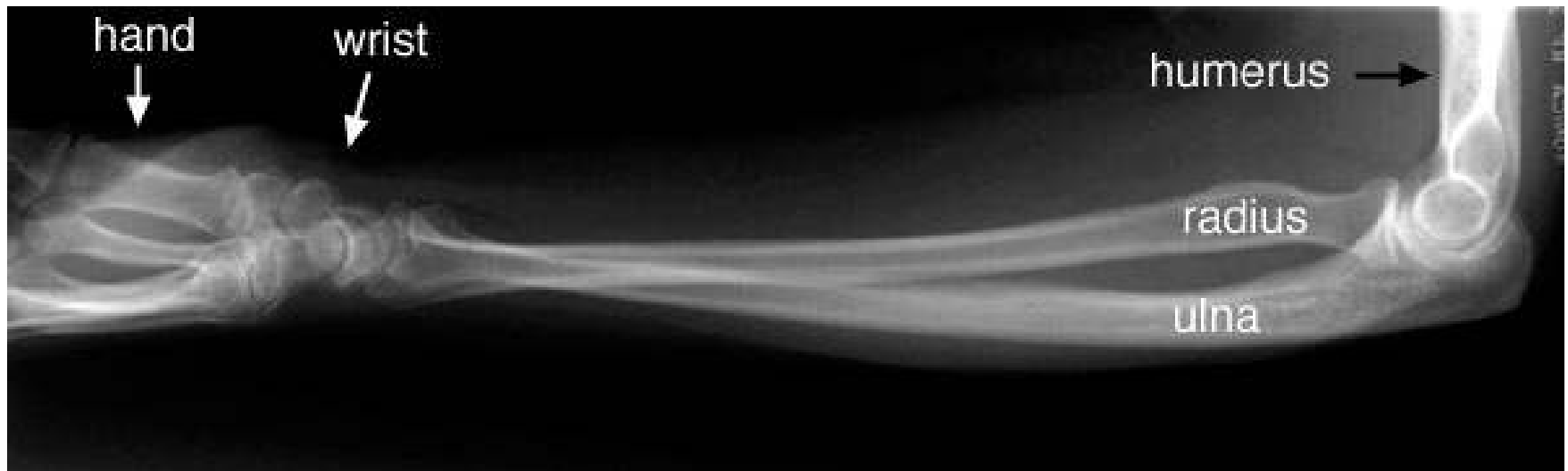


ANATOMY OF THE FOREARM, WRIST, AND HAND

Bones of Forearm (AnterioPosterior)

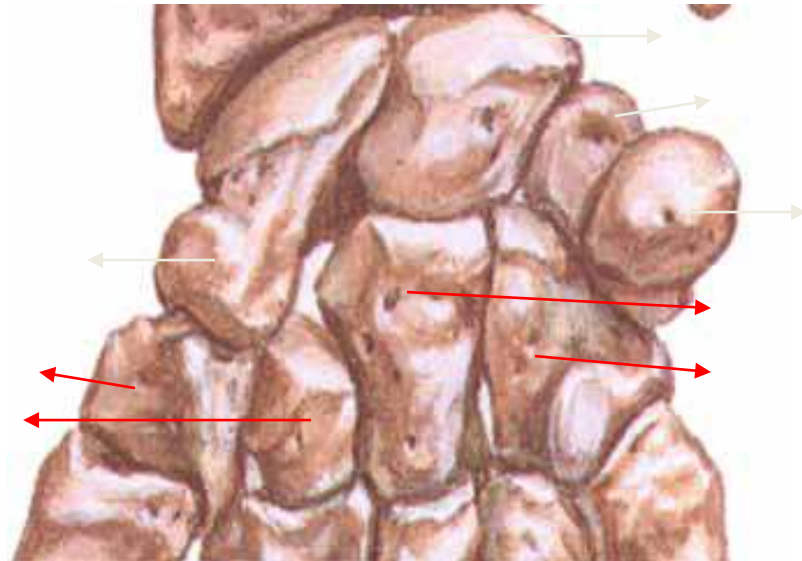


Bones of Forearm (lateral)



CARPAL BONES

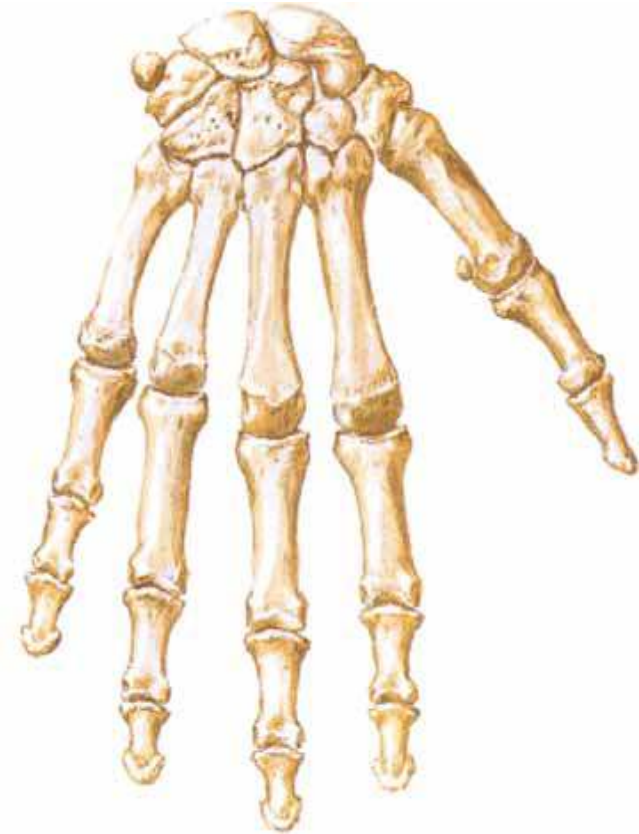
- 8 – IN 2 ROWS
- PROXIMAL ROW – 4
 1. SCAPHOID – BOAT SHAPED
 2. LUNATE - SEMILUNAR
 3. TRIQUETRAL - PYREMIDAL
 4. PISIFORM - PEA SHAPED
- DISTAL ROW – 4
 1. TRAPEZIUM -
 2. TRAPEZOID -
 3. CAPITATE -
 4. HAMATE -



***She Looks Too Pretty Try To Catch Her**

METACARPALS

- Short long bones – 5
- PARTS :
 1. HEAD – lies distally
 2. BASE – lies proximally
 3. SHAFT – lies in the middle



ARTICULATIONS :

1st – Trapezium

2nd – Trapezium + Trapezoid + capitate

3rd – Capitate + 2nd Metacarpal + 4th Metacarpal

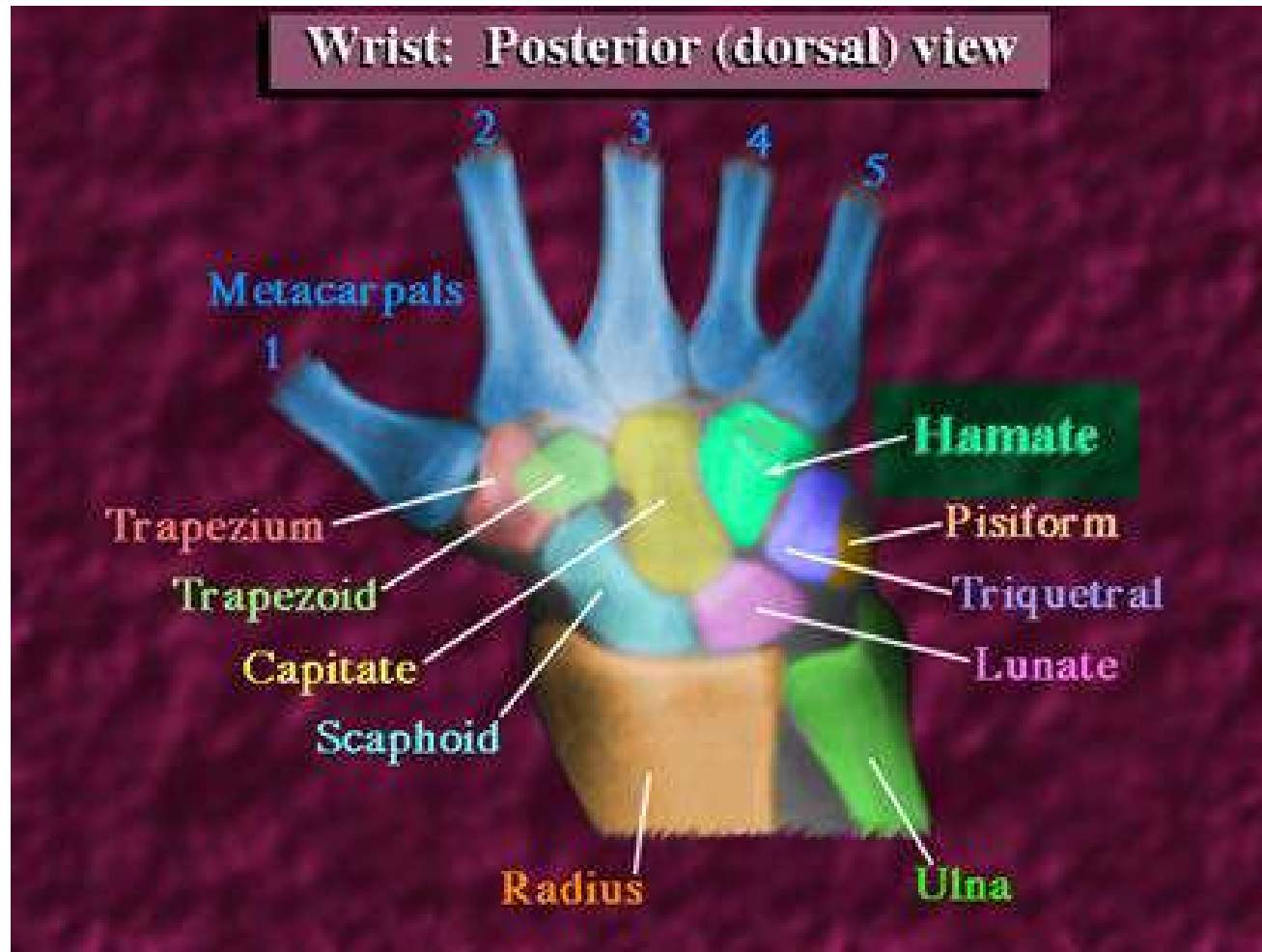
4th – Hamate + 3rd Metacarpal + 4th Metacarpal

5th – Hamate + 4th Metacarpal

Bones of the Wrist

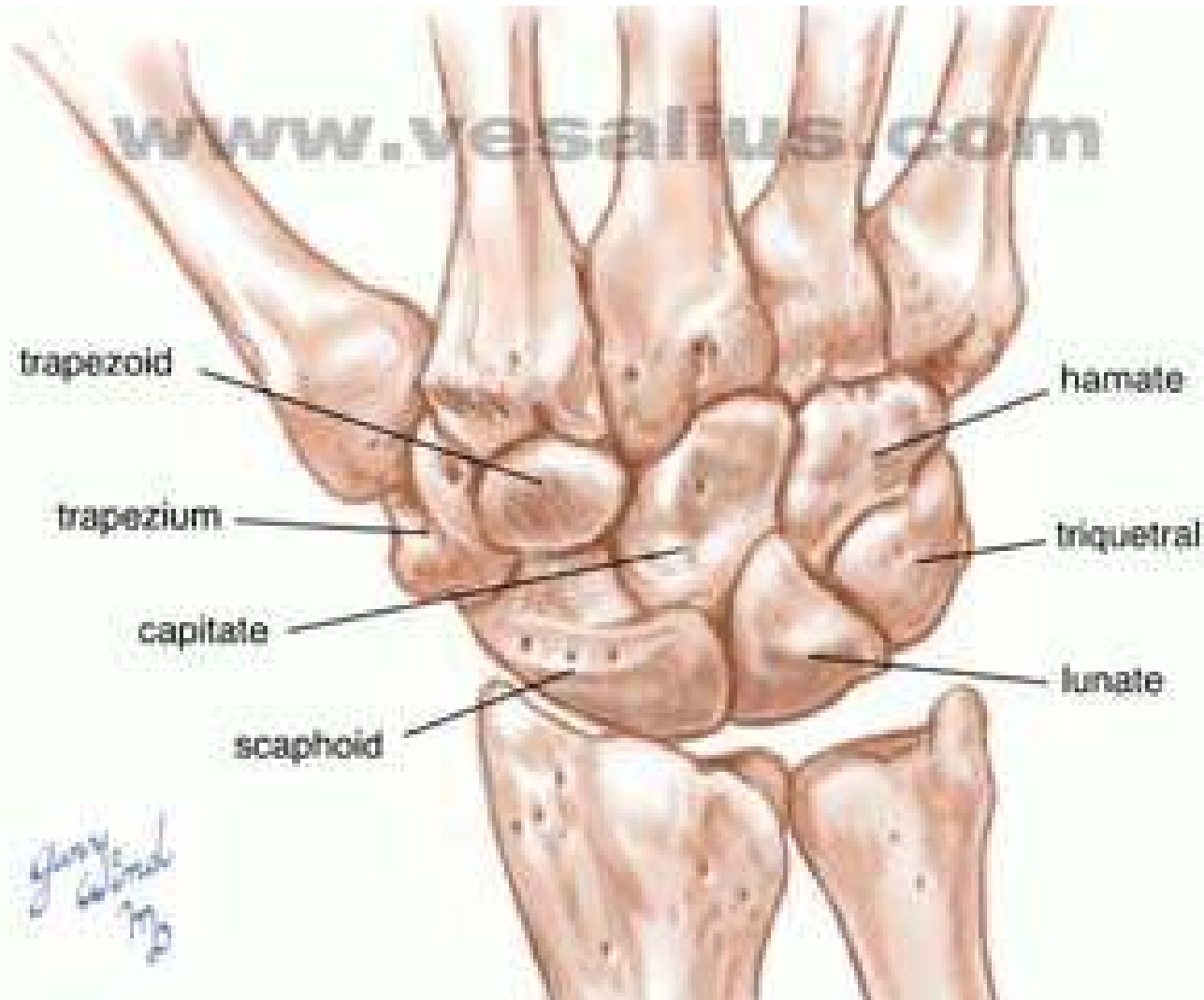


Bones of the Wrist





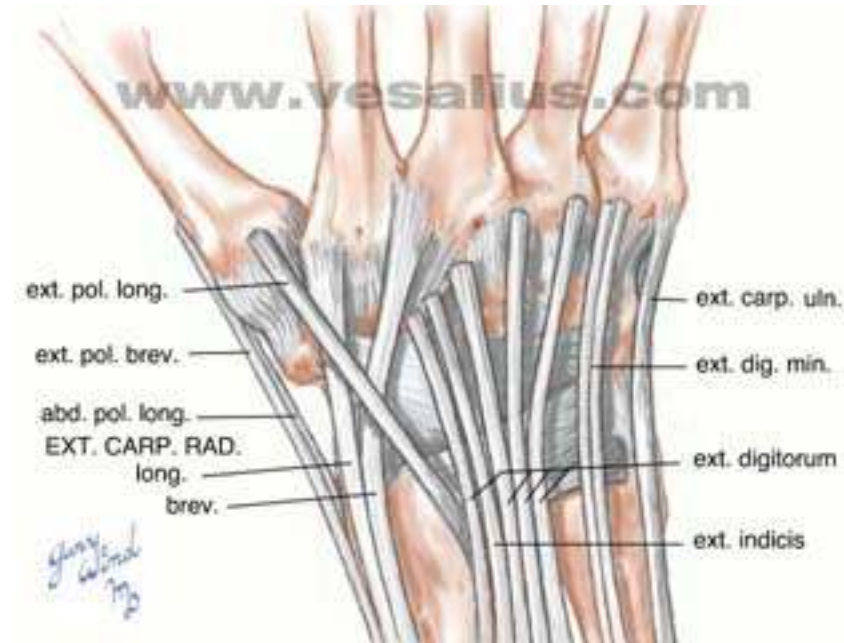
Bones of Wrist (dorsal)



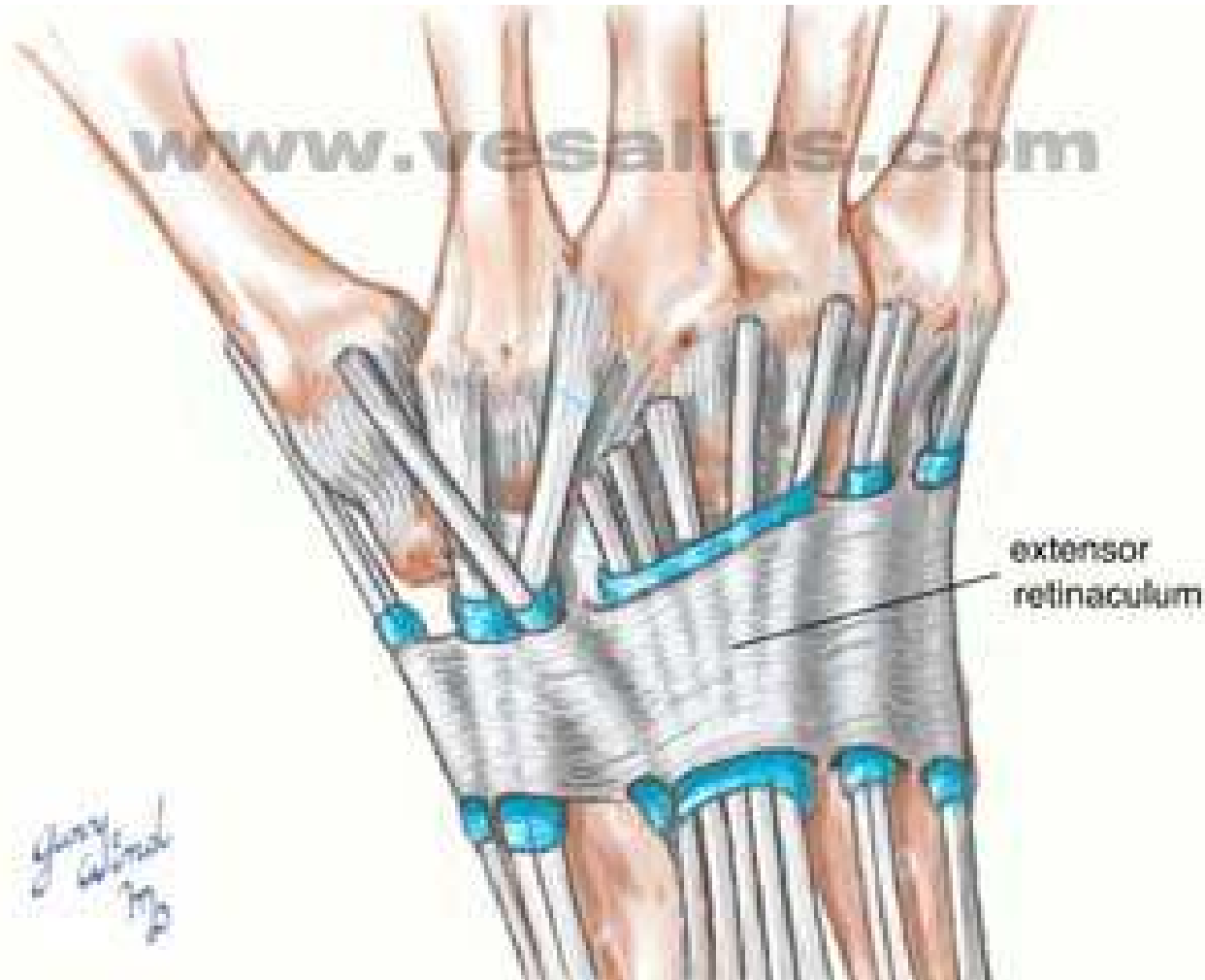
Ligaments of Wrist (dorsal)



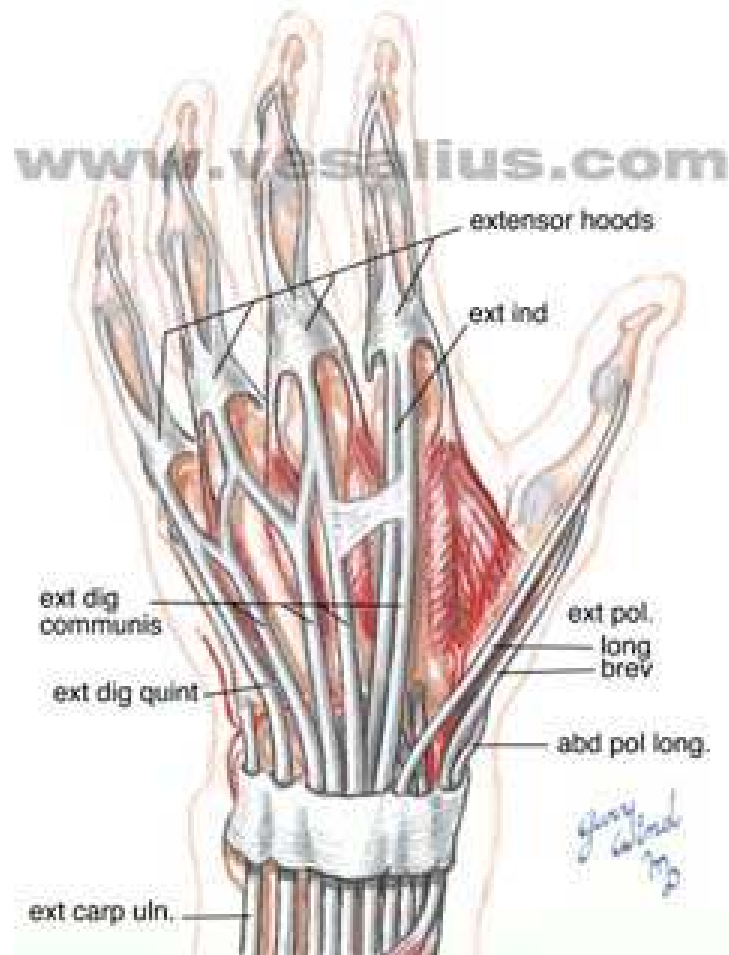
Tendons of Wrist (dorsal)



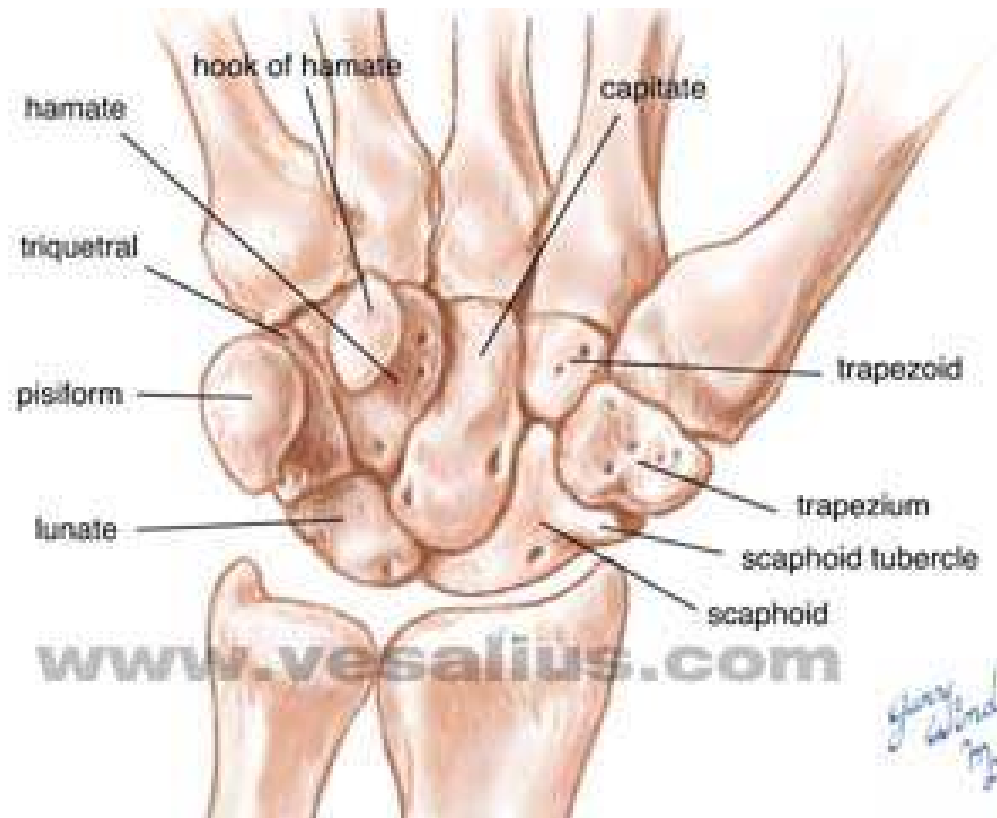
Wrist (dorsal)



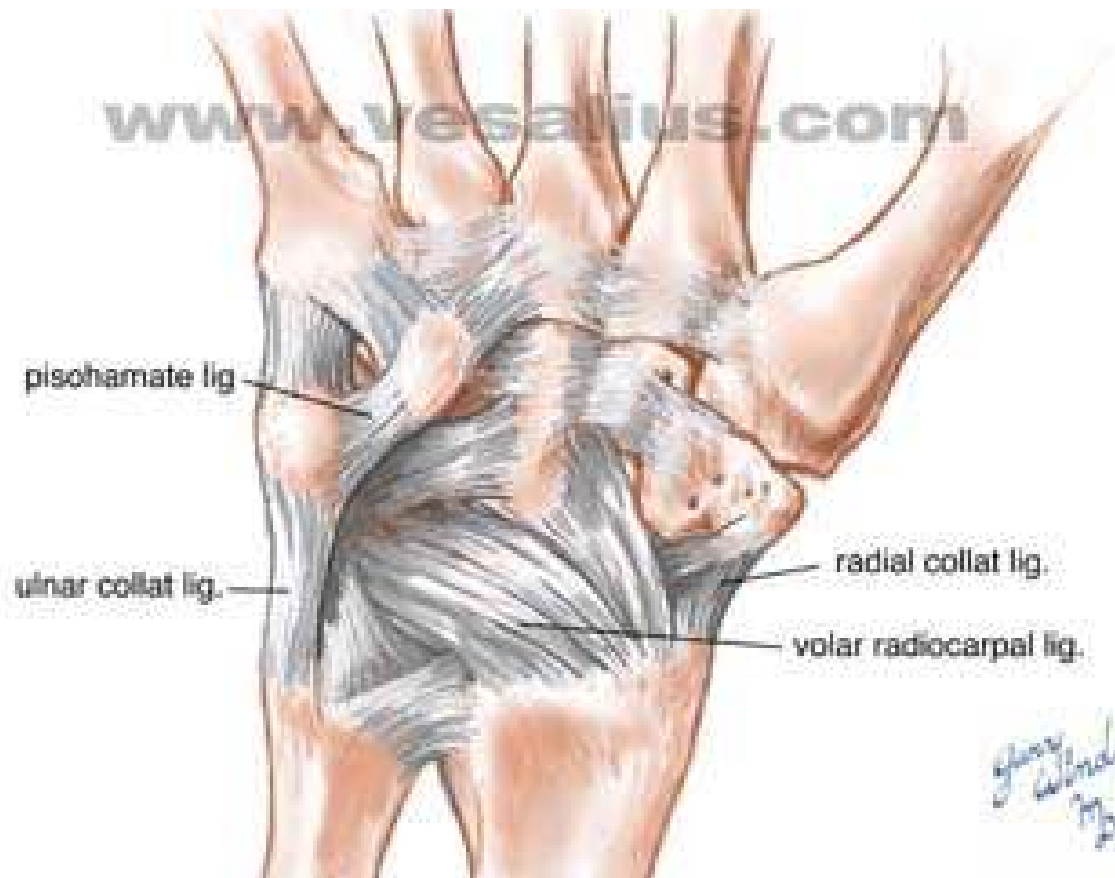
(dorsal)



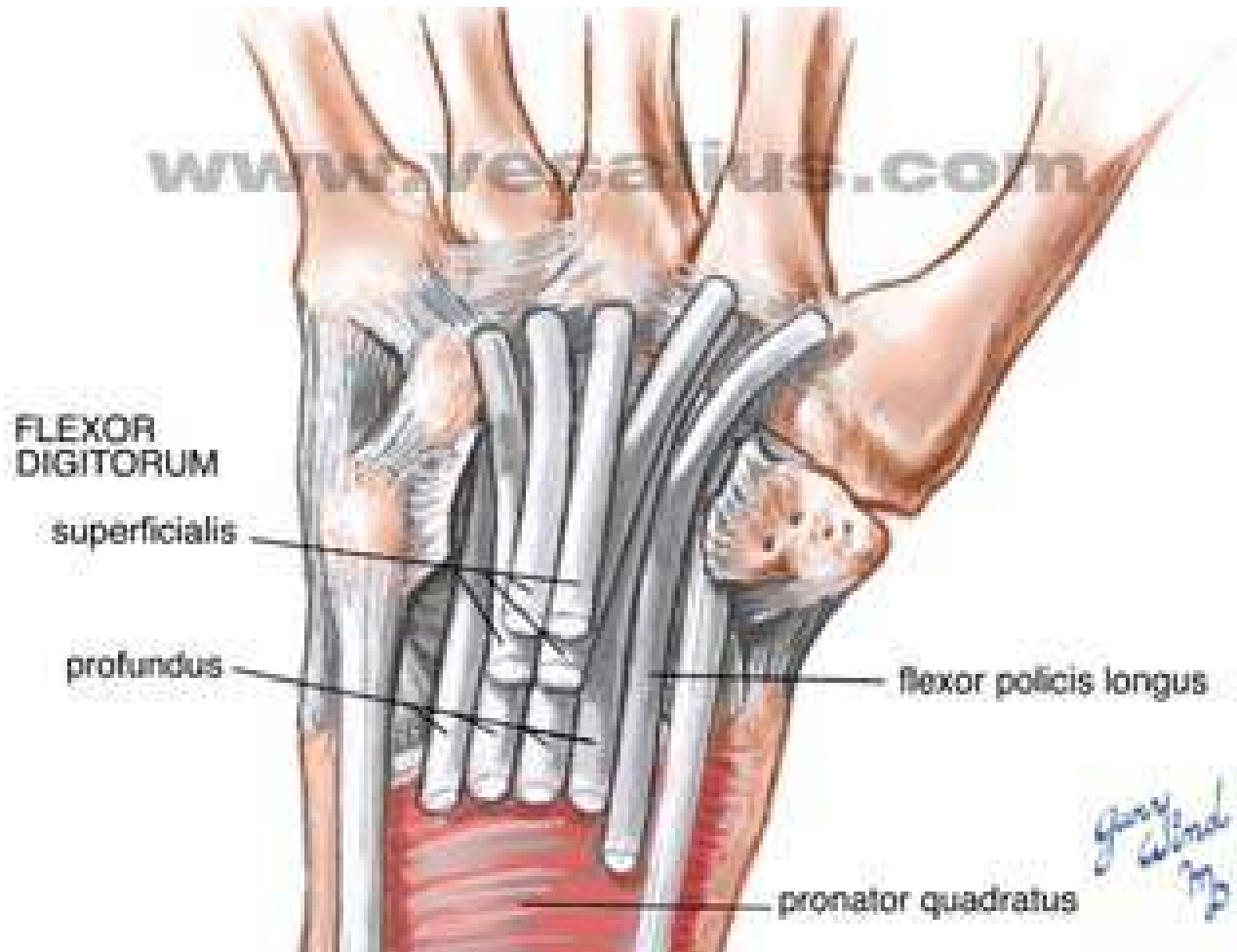
Bones of Wrist (palmar)



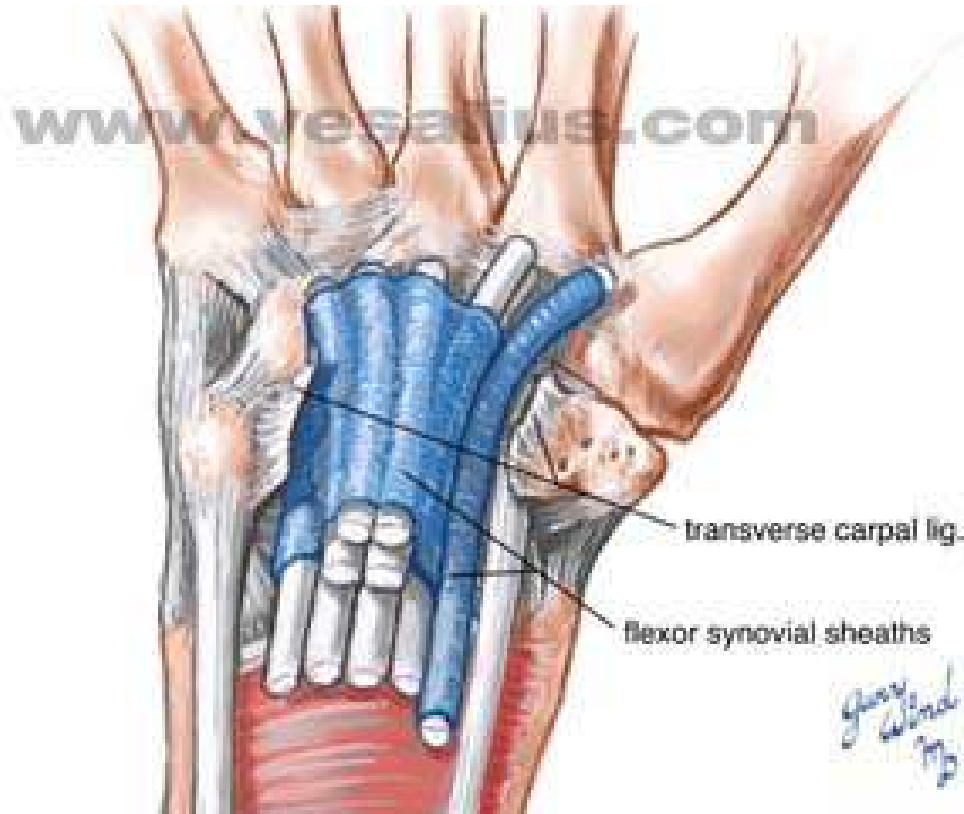
Ligaments of Wrist (palmar)



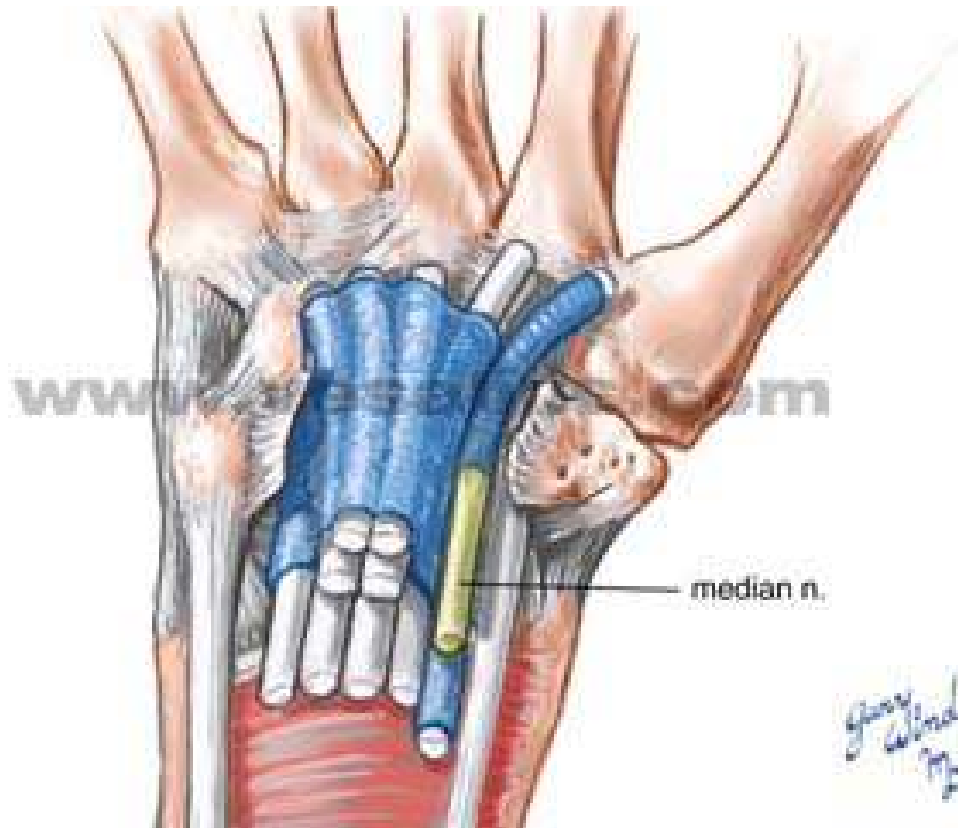
Tendons of Wrist (palmar)



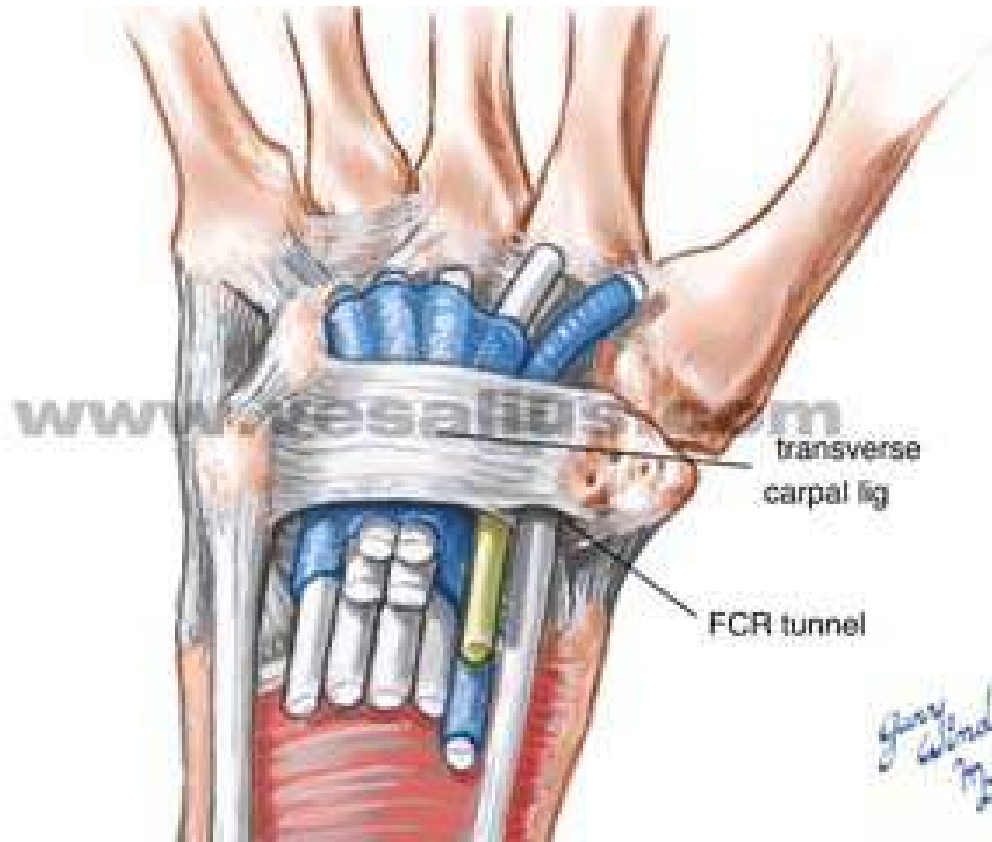
(palmar)



(palmar)



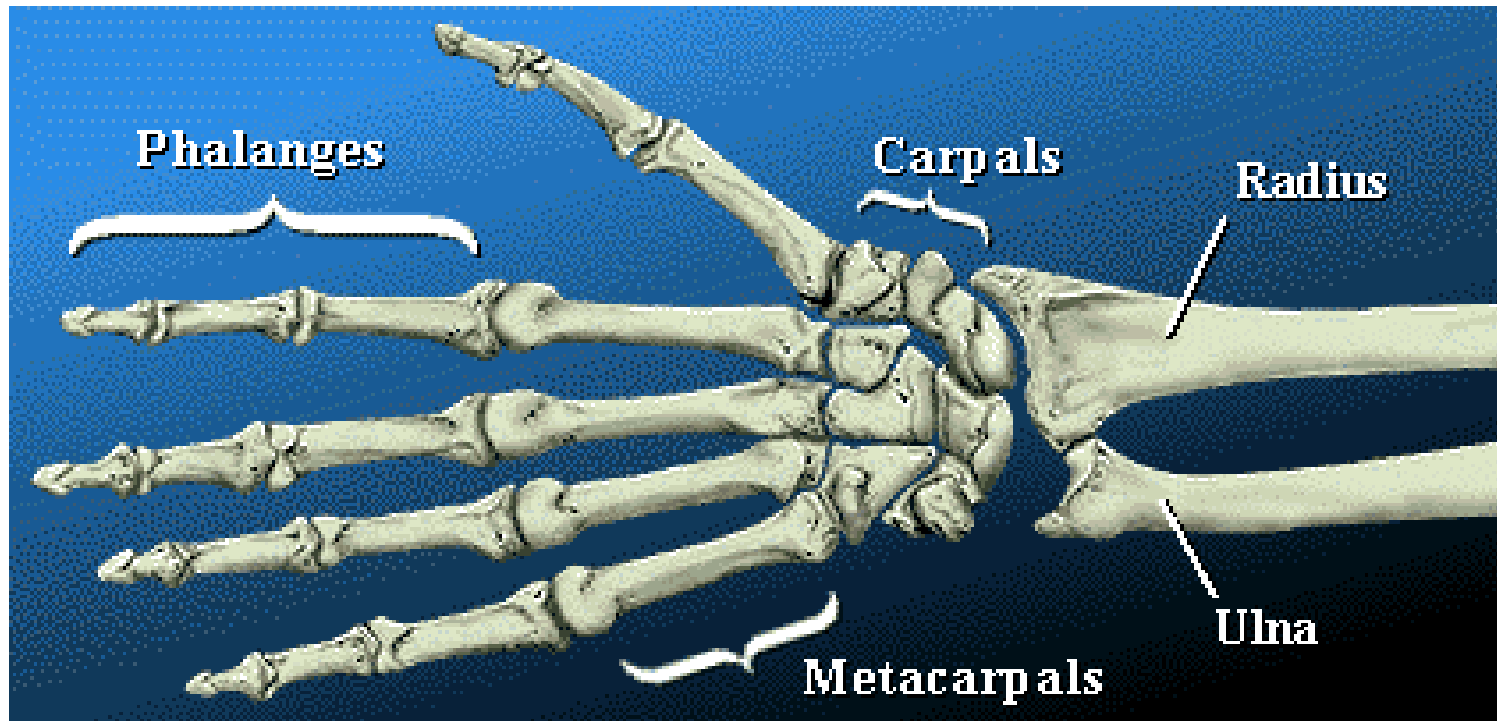
(palmar)



PHALANGES OF HAND

- 14 IN No.
- 2+3+3+3+3
- PARTS :
 1. BASE – lies proximally
 2. SHAFT – lies in the middle
 3. HEAD – lies distally

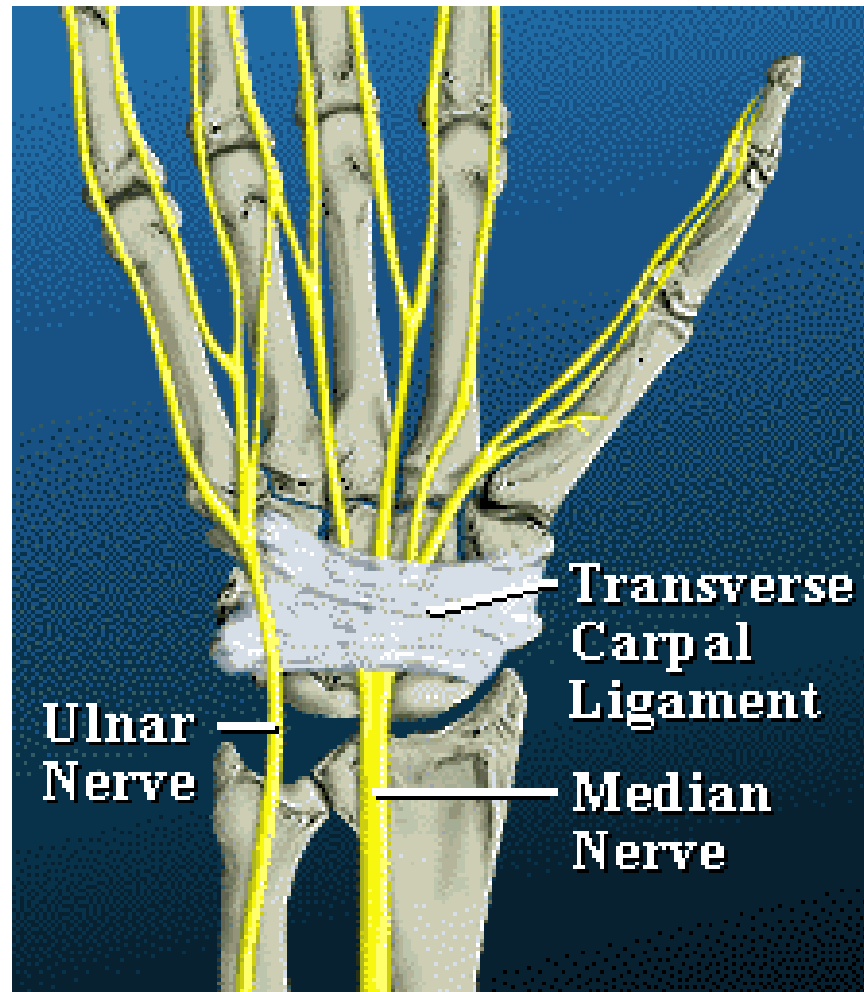
Bones of the Hand



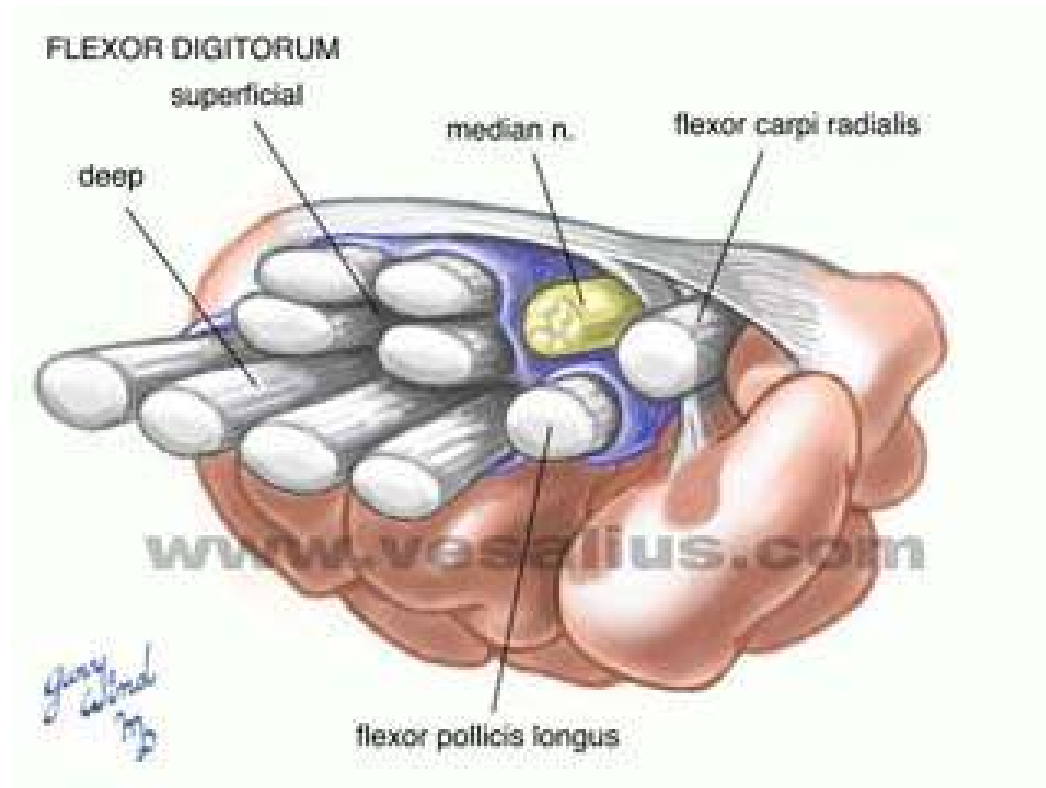
Bones of the Hand



Carpal Tunnel



Carpal Tunnel



Dermatome (dorsal)



Dermatome (palmar)



Thank you

- Please join the forum at www.oluwadiya.com to ask questions