



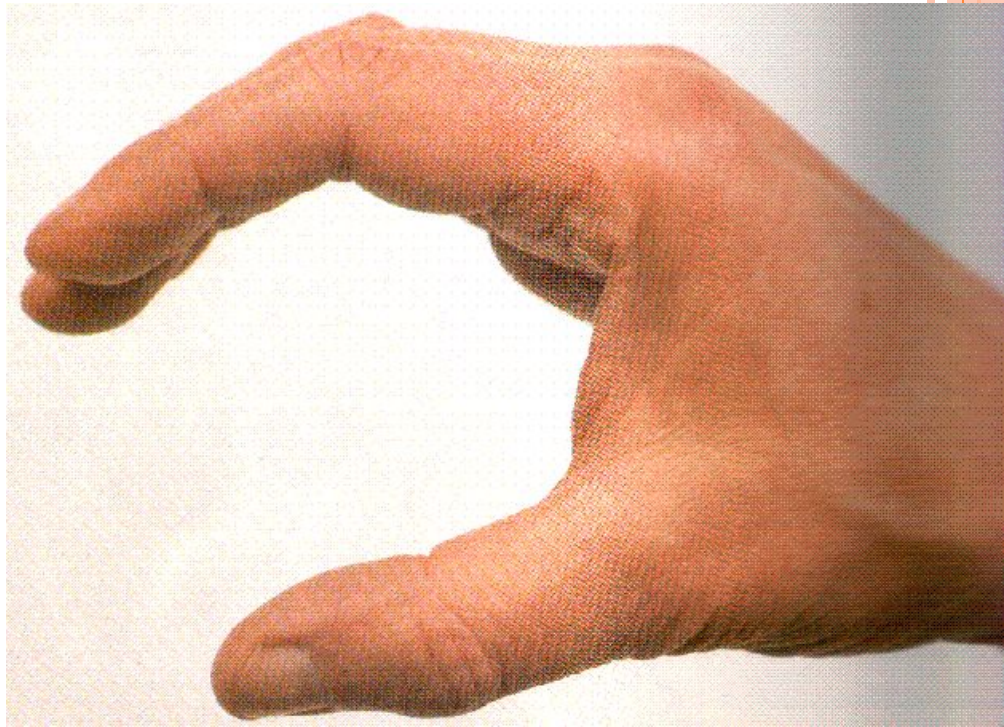
THE PECTORAL GIRDLE

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The upper limb is built for prehension. The hand for grasping, with the presence of the thumb which is of equal value to other four fingers.



- In order to be able to grasp in any position the forearm is provided with a range of 140° of pronation and supination.
- The elbow joint has a range of flexion and extension of about 140° .
- The freely mobile shoulder joint facilitate the movement of upper limb, in addition to the movement of pectoral girdle.



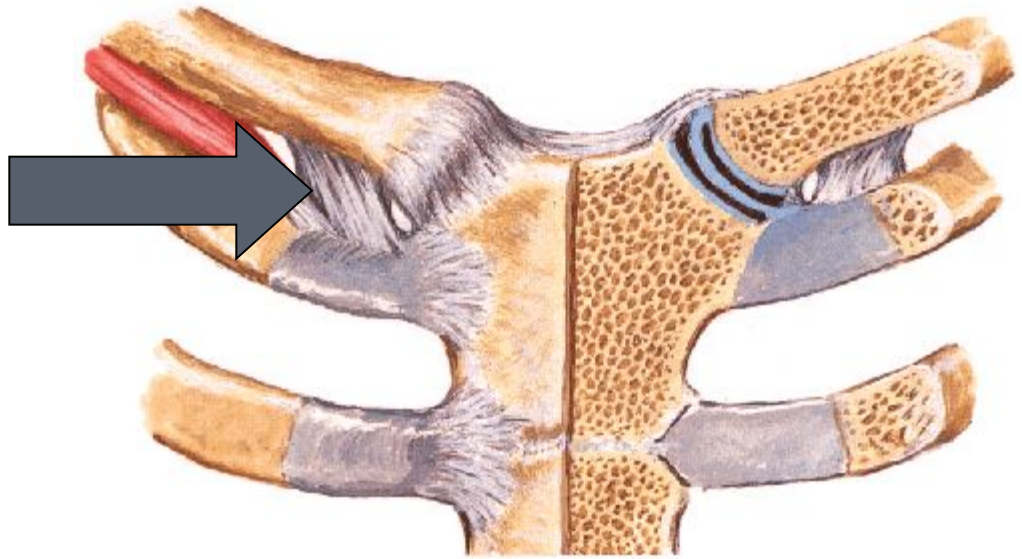
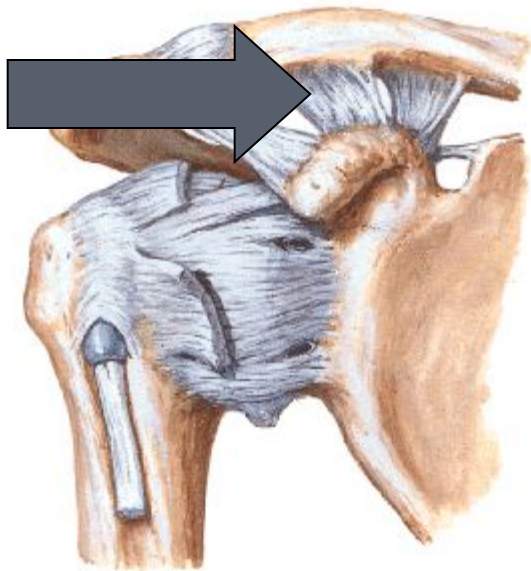
Pectoral girdle:

Defines as the bones that connect the upper limb to the axial skeleton.

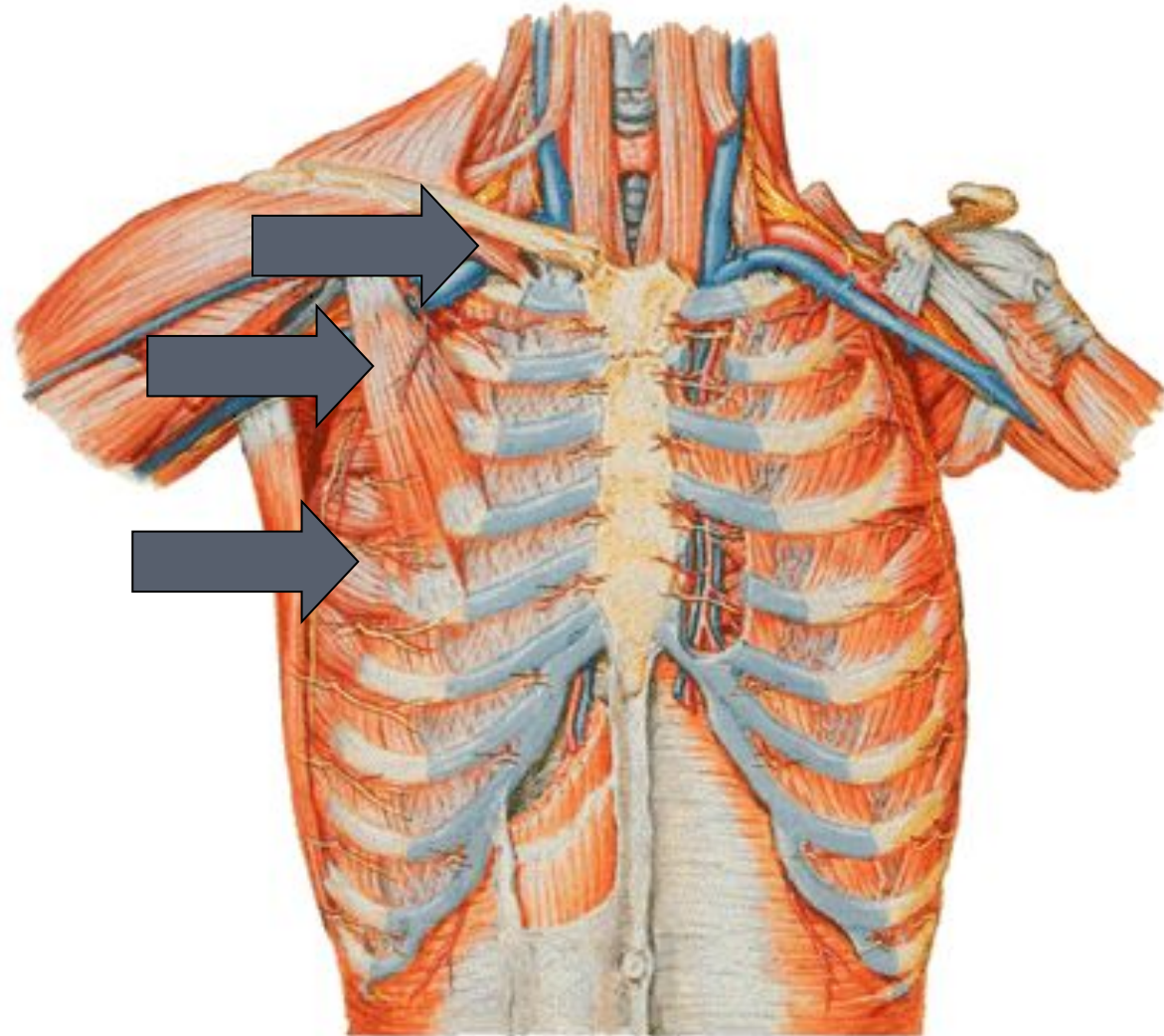
These bones are the clavicle and scapula.



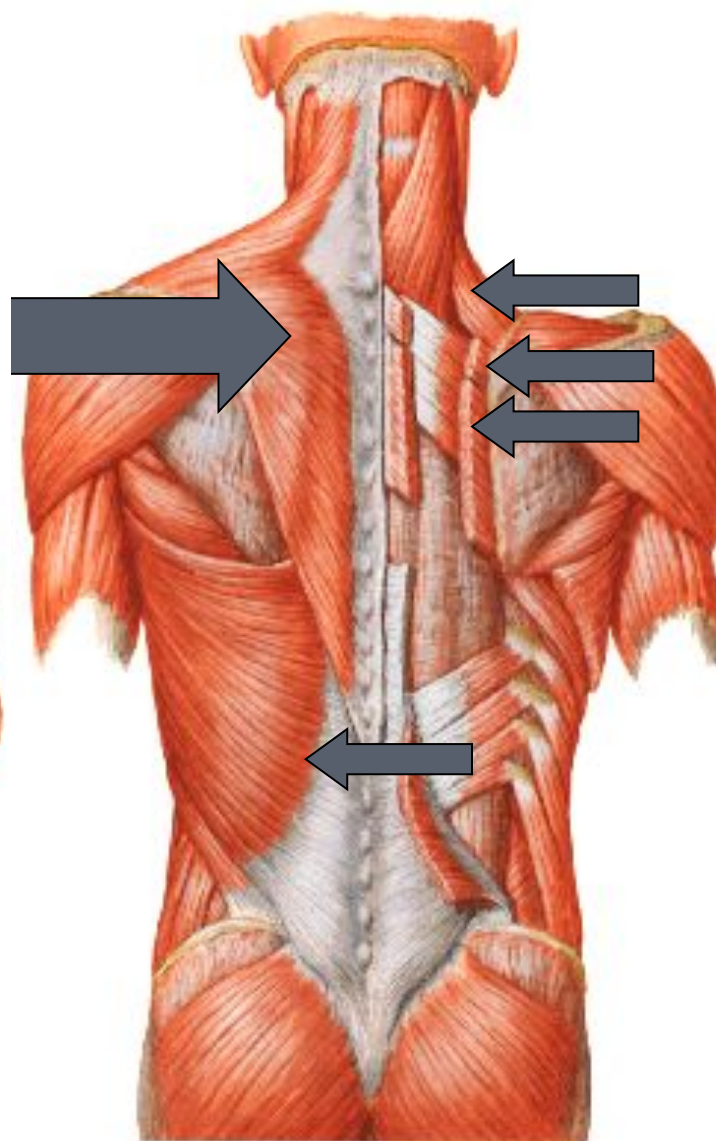
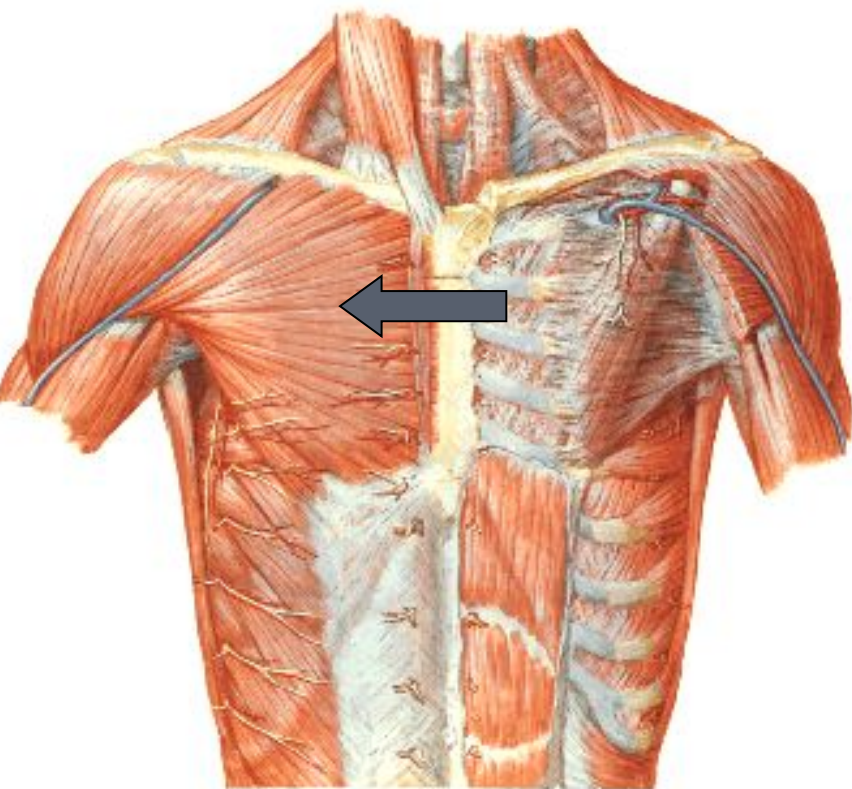
The Coracoclavicular and costoclavicular lig.



- Muscles of pectoral girdle:
- Direct and indirect attachment.
- The direct muscles are the muscles that attach the clavicle or scapula to axial skeleton.
e.g. Pectoralis Minor, subclavius, serratus anterior.



Indirect muscles: pectoralis major and latissimus dorsi.



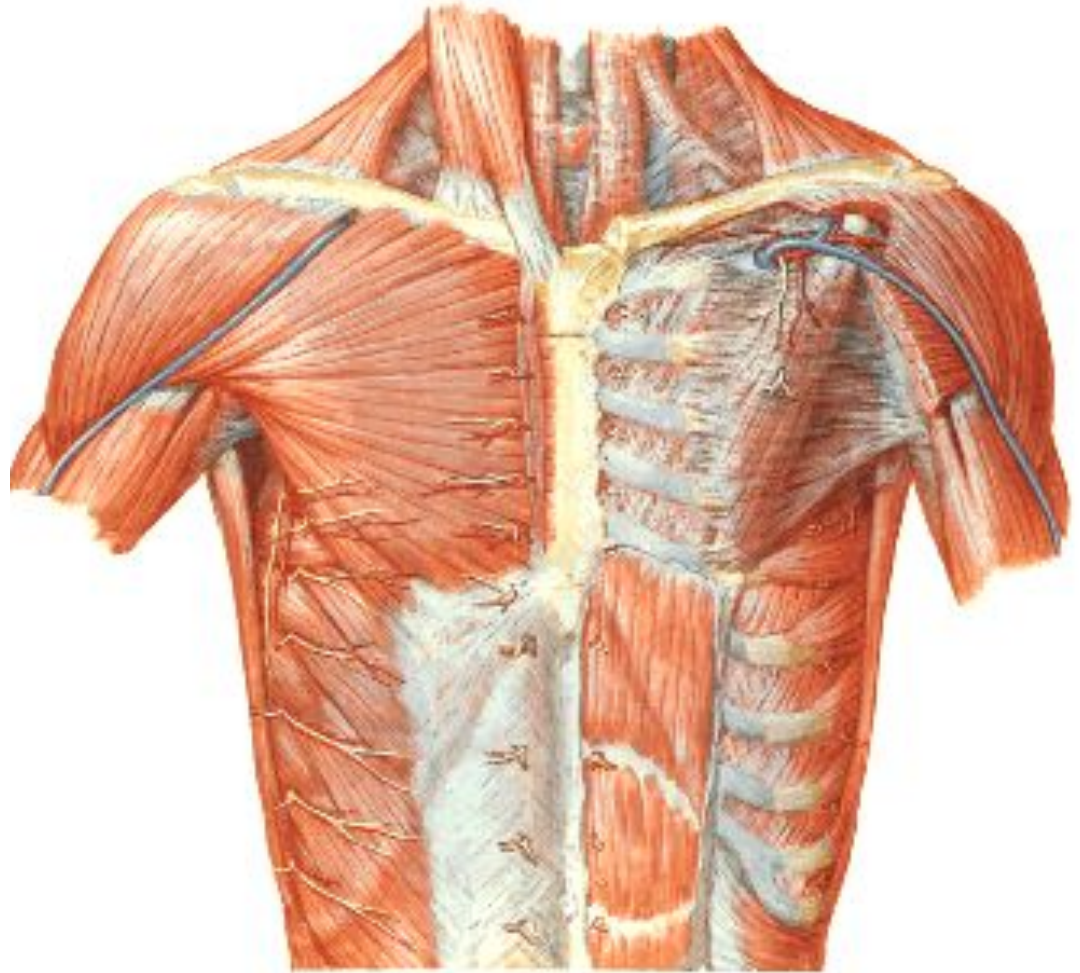
Pectoralis major .

Origin : clavicular and sternocostal.(costal cartilage)

Insertion: lat. lip of bicipital groove.

N supply: lat and med pectoral N

Action : med rotator and adductor of arm.



Pectoralis minor:

Origin : 3rd 4th 5th ribs (bone)

Insertion: med border of coracoid process

N . supply . both pectoral Ns (678)

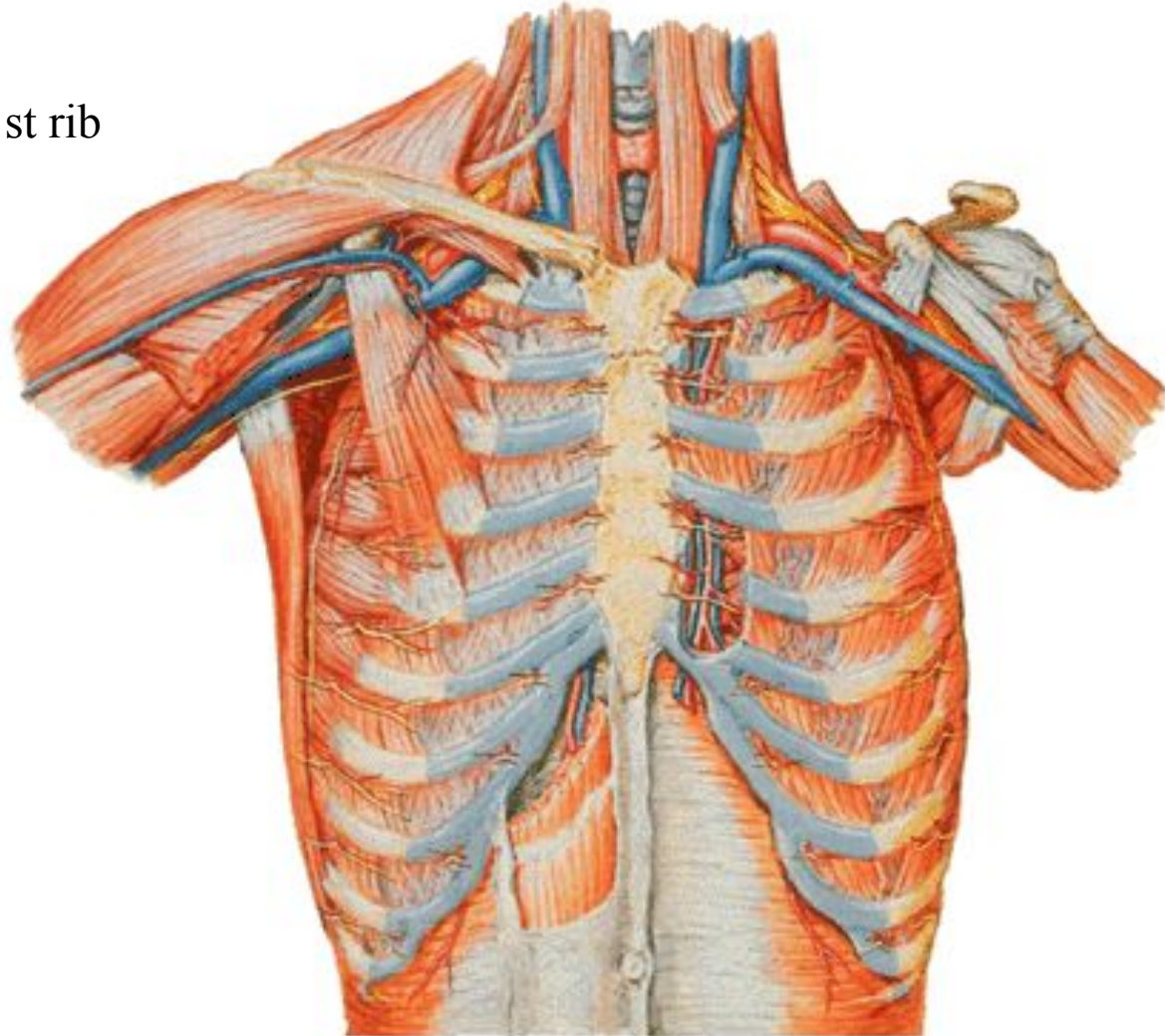
Action : help serratus ant. in keeping the glenoid against thoracic wall

Subclavius.

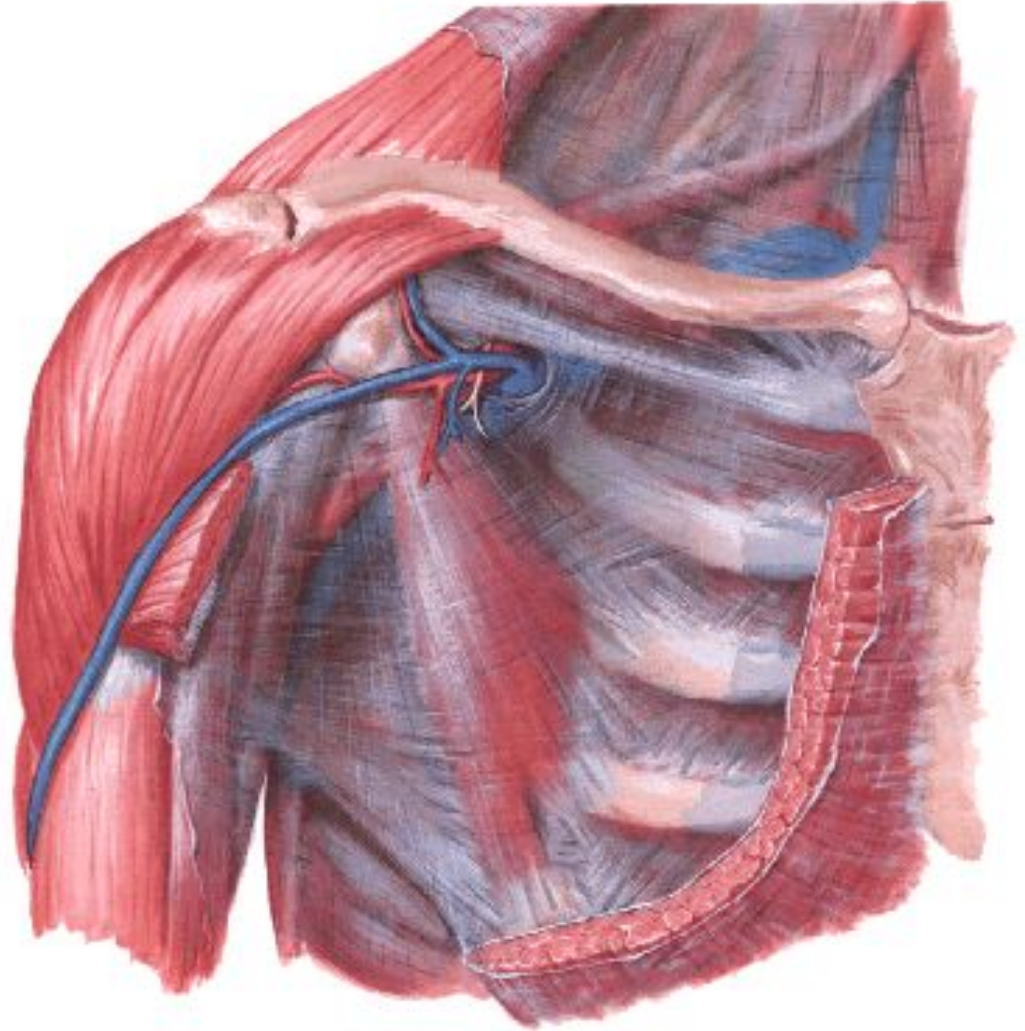
Origin: costochondral junction of 1st rib

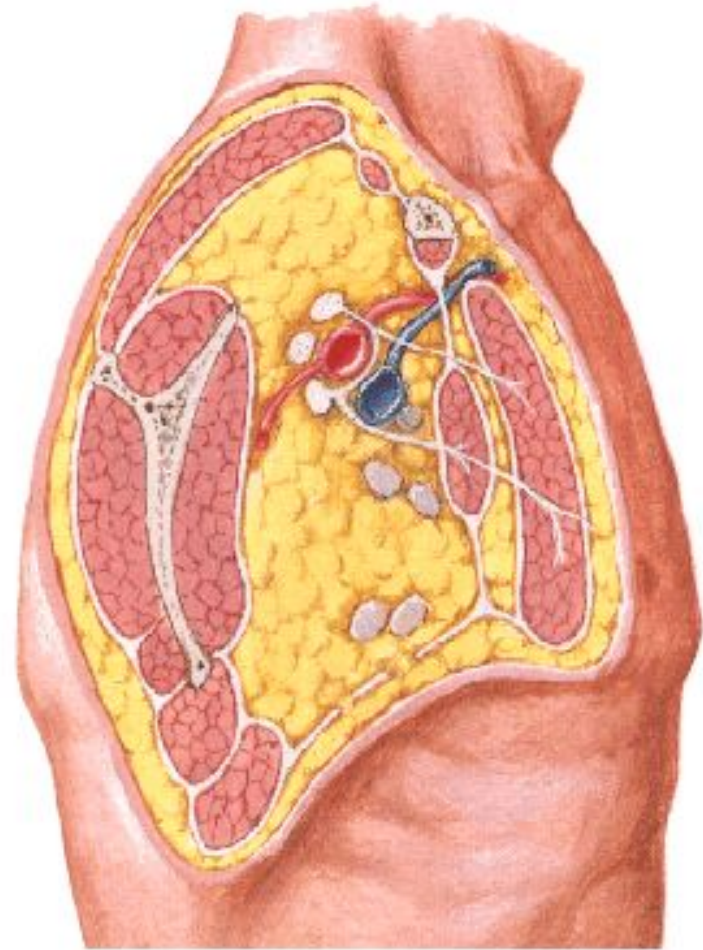
Insertion: clavicle

N supply nerve to subclavius 56



- Pectoral fascia
- Clavipectoral fascia
- Costocoracoid lig.
- Suspensory lig of axilla





Latissimus dorsi

Origin : spines of lower 6 thoracic vert., lumbar fascia, iliac crest inf. Angle of scapula and lowest 4 ribs.

Insertion : floor of bicipital groove

N : thoracodorsal n 678

Action : extend and med. rotator of shoulder with pect major it is powerful adductor .



Trapezius:

Large flat m, most superficial one.

Origin : superior nuchal line till T12 spinous process

Insertion : lateral 3rd of clavicle (post) , med acromion , upper lip of spine of scapula.

N supply: spinal part of accessory N C1-5

Action: elevate , rotate scapula



Levator scapulae

Origin : transverse process of C1 &2 and posterior tubercle of C 3 , 4

Insertion : med border of scapula above spine.

N : C34 (cervical plexus)and dorsal scapular n

Action elevate and laterally rotate the neck



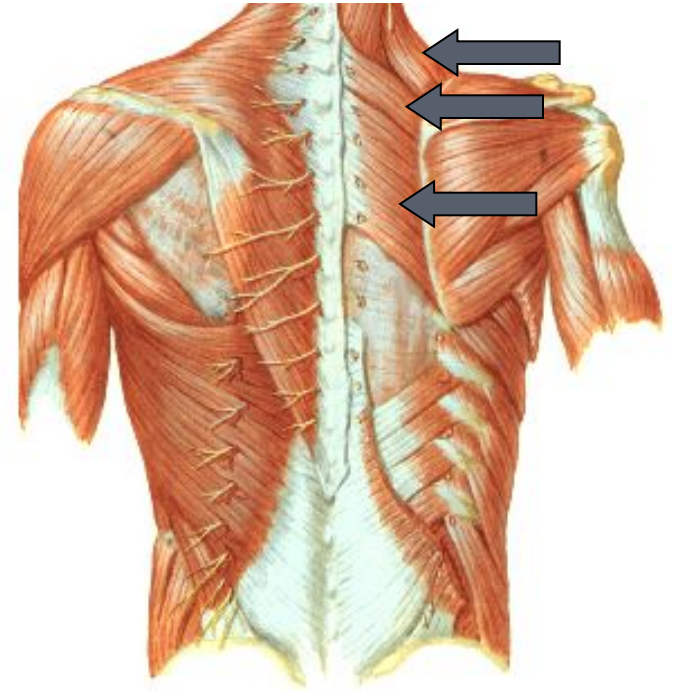
Rhomboids

Origin :Minor C7 T1 inserted to med border of scapula at root of spine

Major T2,3,4,5 inserted to med scapula from spine to inf. angle

N : nerve to rhomboids (dorsal scapular n) C,,5

Action : drew scapula med and upward



Serratus anterior

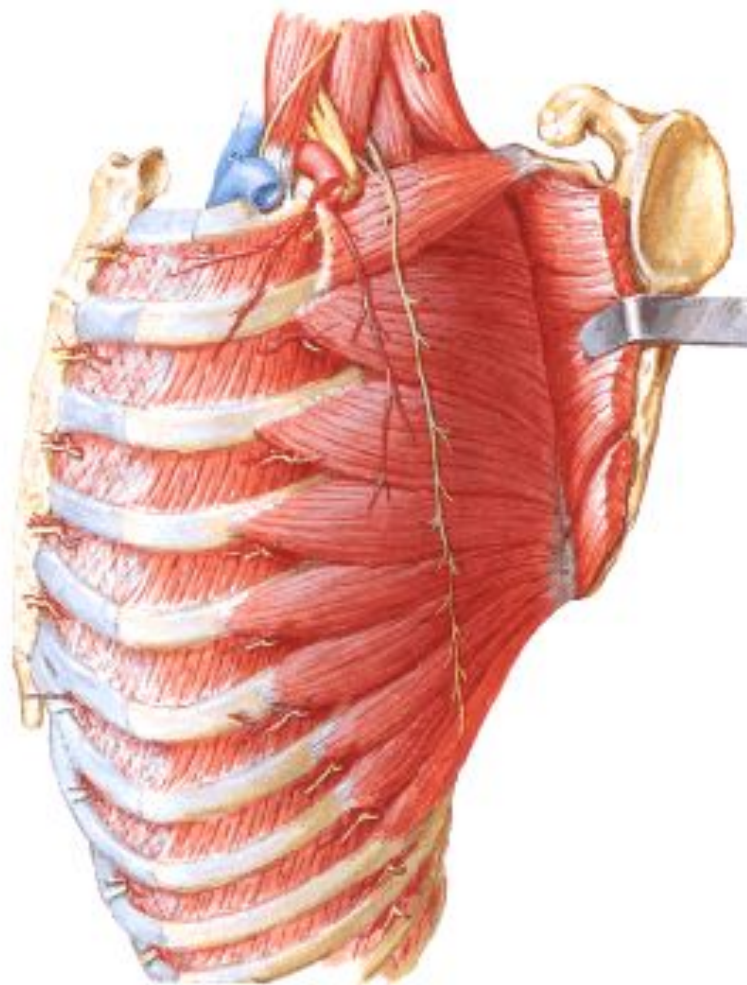
8 digitation from ribs (1st one from 1st and 2nd ribs)

Insertion : med. border on costal surface of scapula.

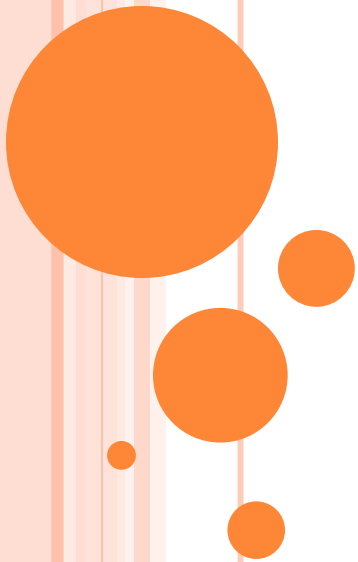
N : long thoracic N 567

Action : protraction of scapula

Lower four digitations help trapezius in rotating scapula

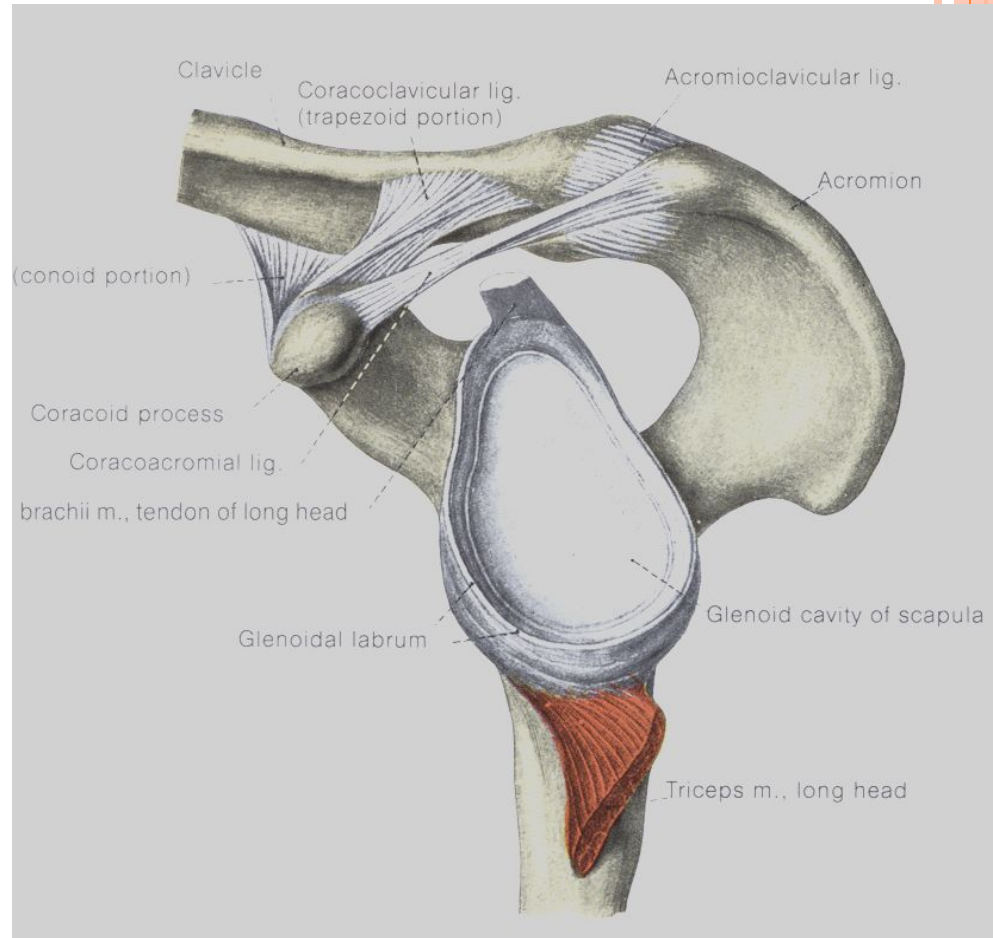


SHOULDER JOINT



SHOULDER (GLENOHUMERAL) JOINT

- Ball & socket type
- Articular surfaces covered with hyaline cartilage
- Wide range of movement
- Mobility makes joint relatively unstable
- Humeral head (large, round) articulates with glenoid cavity (relatively shallow)
- Glenoid labrum: Ringlike, fibrocartilaginous, deepens the glenoid cavity slightly, but effectively

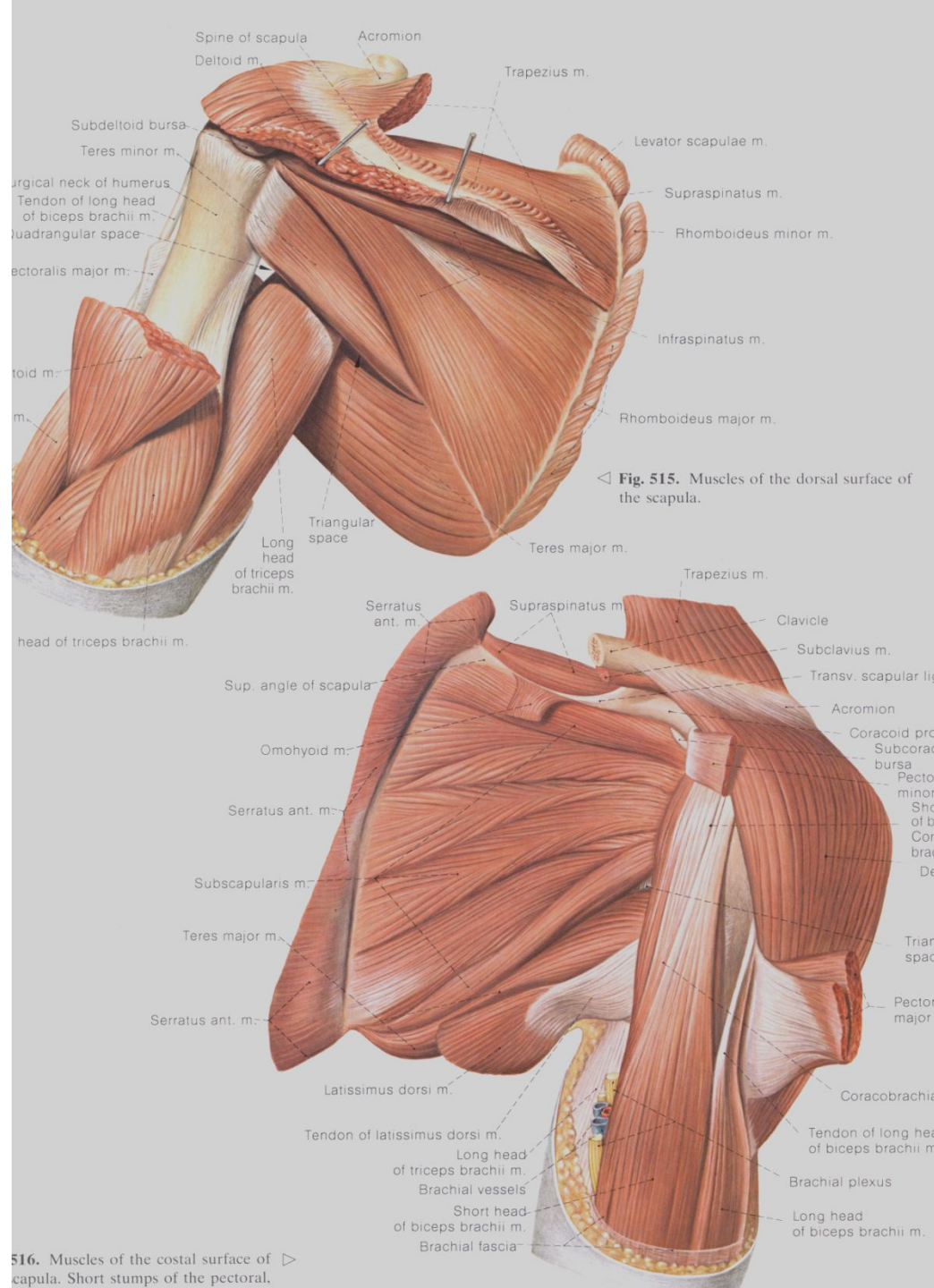


Glenoid cavity accepts little more than a third of humeral head

Humeral head; held in the cavity by tonus of rotator cuff mm

Rotator cuff mm

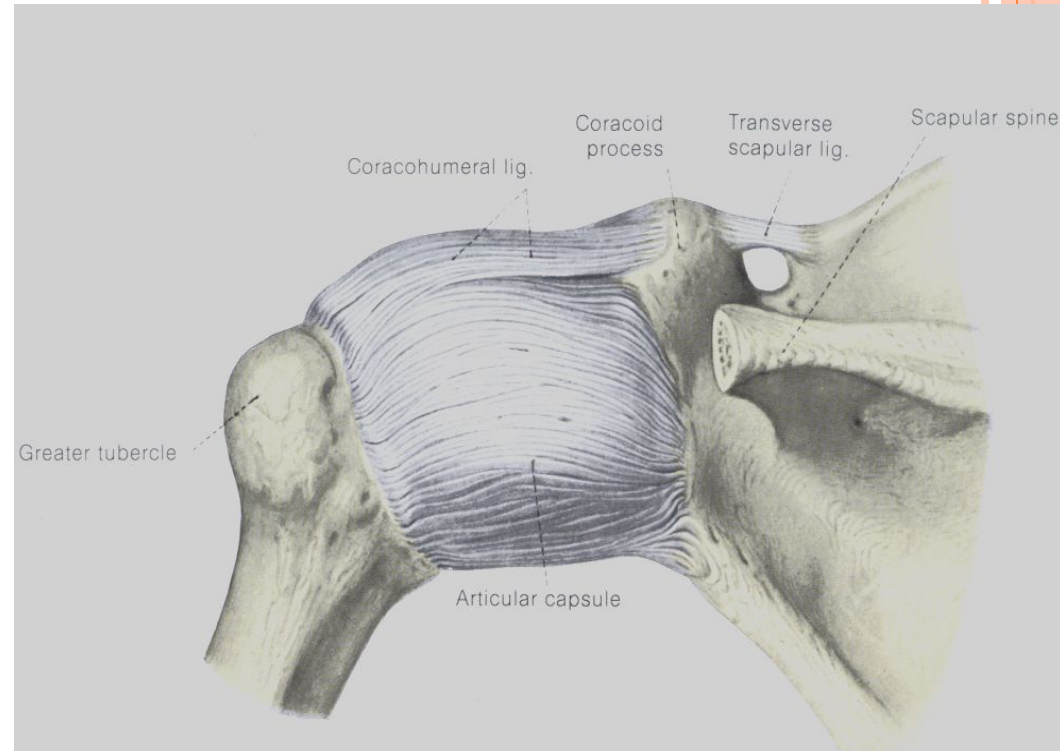
- Supraspinatus m
- Infraspinatus m
- Teres minor m
- Subscapularis m



516. Muscles of the costal surface of scapula. Short stumps of the pectoral.

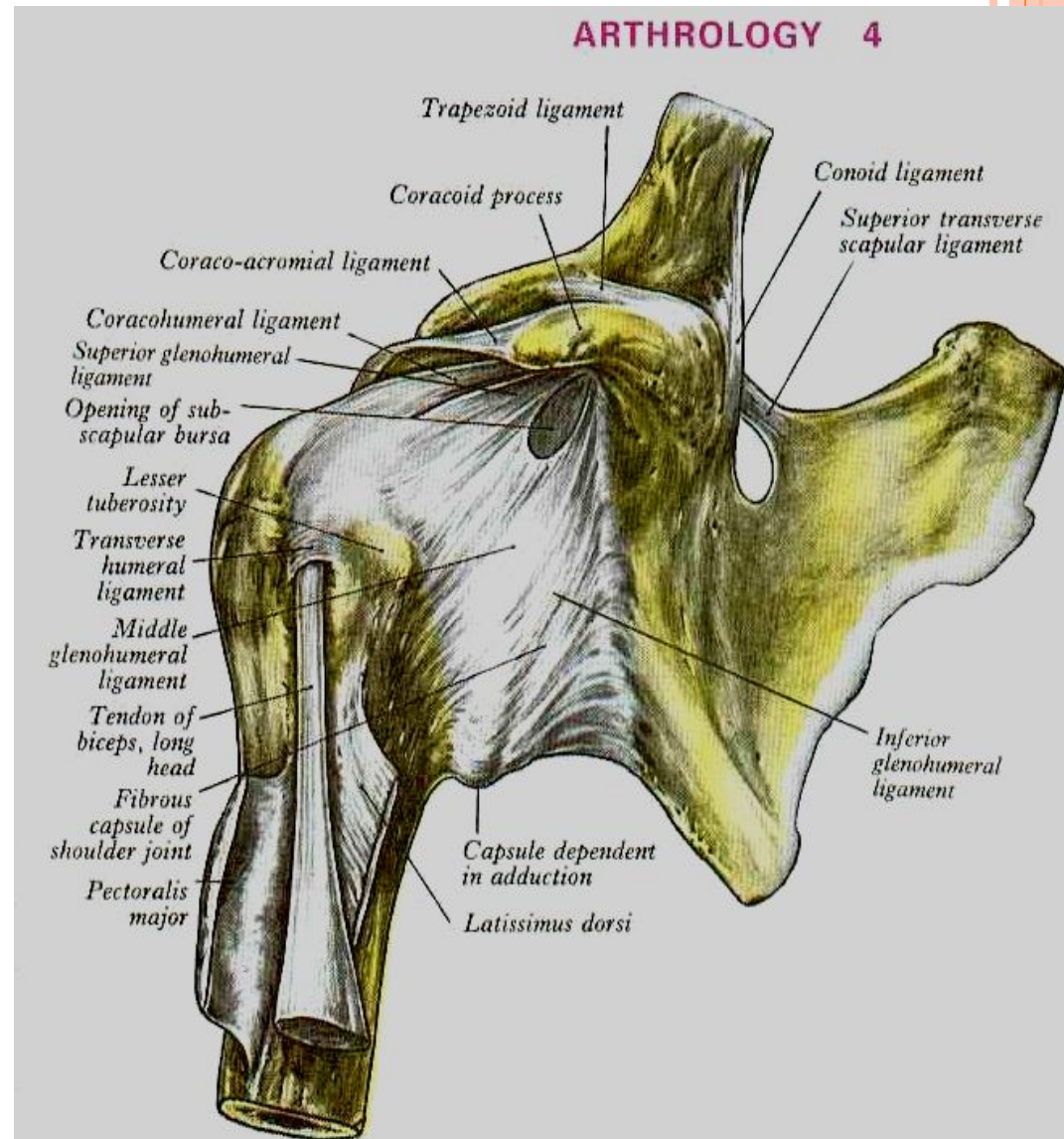
ARTICULAR CAPSULE OF GLENOHUMERAL JOINT

- ❑ Loose fibrous capsule surrounding glenohumeral joint
- ❑ Attached medially to margin of glenoid cavity
- ❑ Attached laterally to anatomical neck (humerus)
- ❑ Inf part: Weakest area (the only part not reinforced by rotator cuff mm)



APERTURES OF ARTICULAR CAPSULE

- 2 in number
- Opening between tubercles of humerus (for passage of the tendon of long head of biceps brachii m)
- Situated anteriorly, inf to coracoid process, allows communication between subscapular bursa & synovial cavity of joint



4.37 The right shoulder joint: anterior aspect.

LIGAMENTS

Anteriorly 3 glenohumeral ligaments, best visible from within joint, reinforce capsule

- Sup, middle, inf glenohumeral ligaments
- Inf; thicker & longer

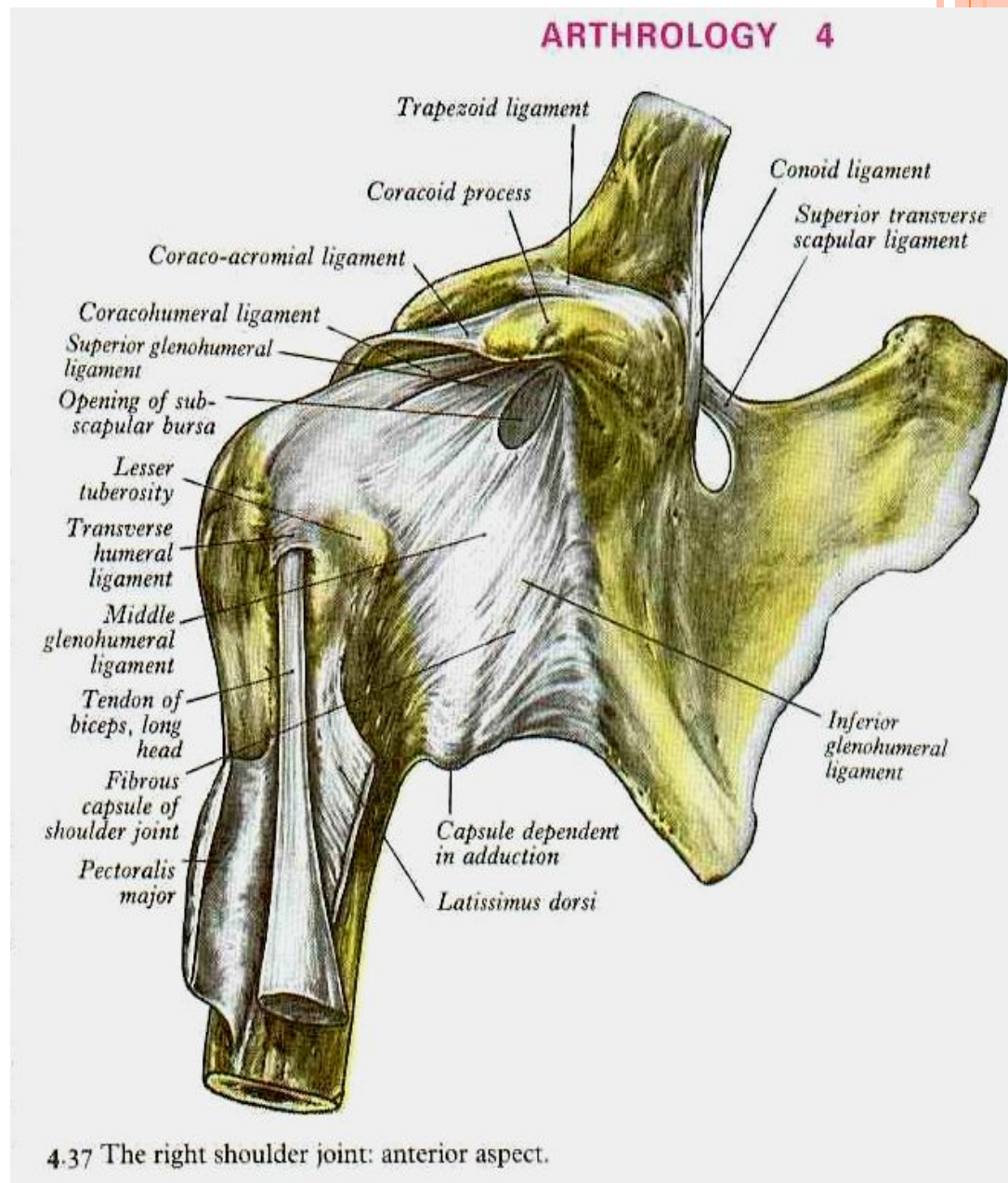
Articular capsule

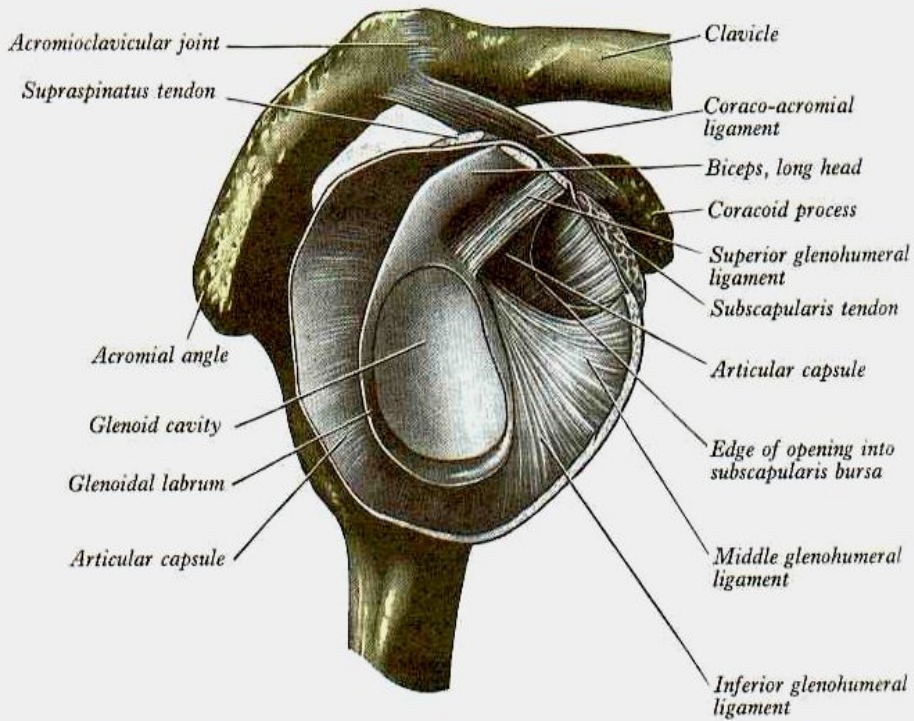
- tendon of long head of biceps brachii m

Coracohumeral lig

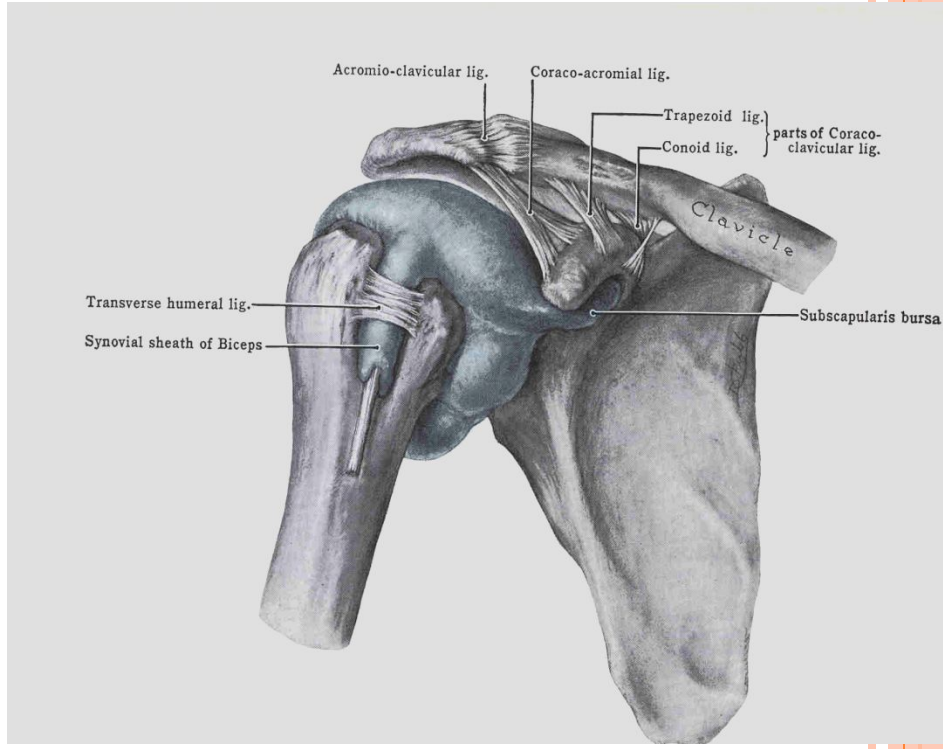
Transverse humeral lig

- Converts intertubercular sulcus into a canal
- Acts as a retinaculum for long tendon of biceps





4.40 Interior of the right shoulder joint: anterolateral aspect. 503



MOVEMENTS

□ Around 3 axis

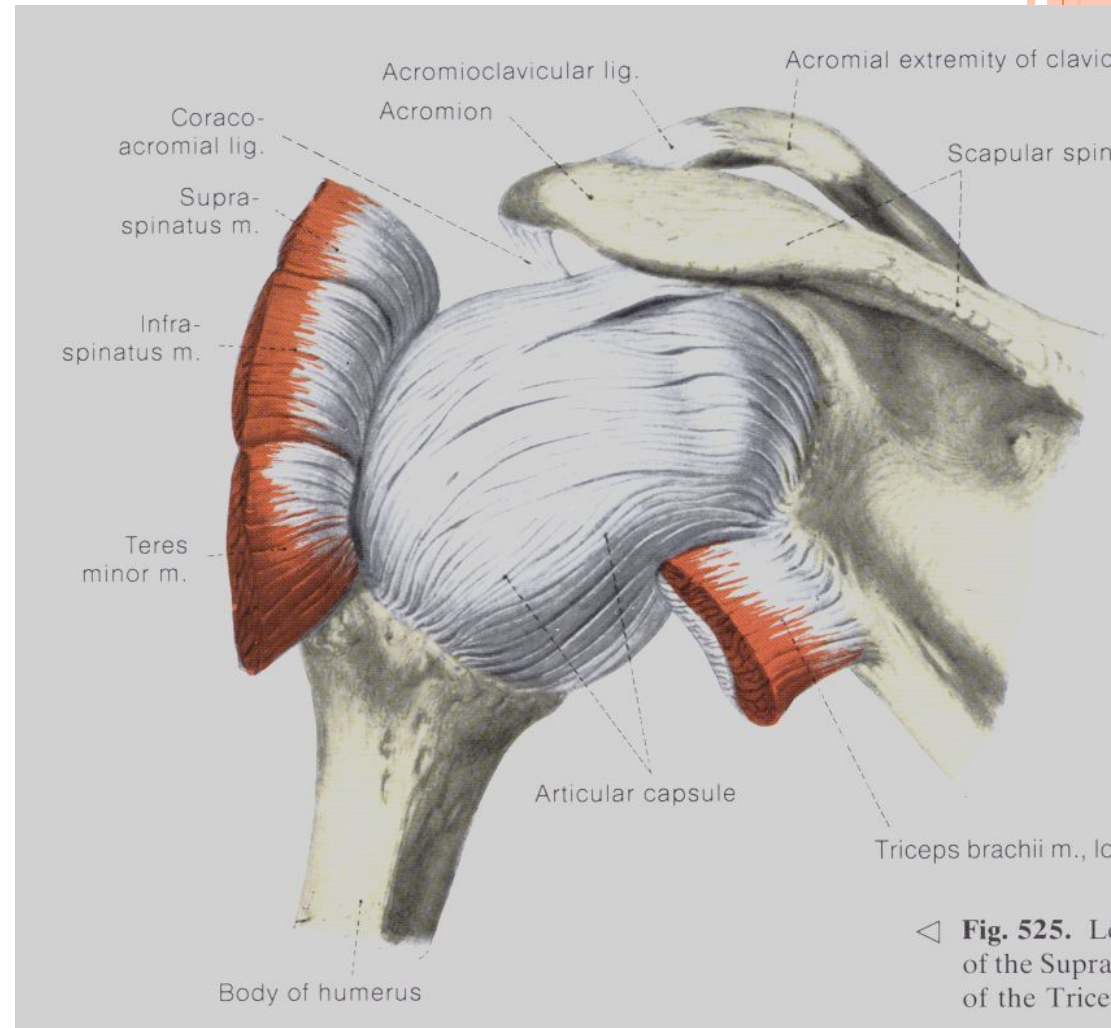
□ Flexion – extension

□ Abduction – adduction

□ Rotation

□ Circumduction

□ Circumduction: Orderly sequence of flex, abd, ext, add or reverse

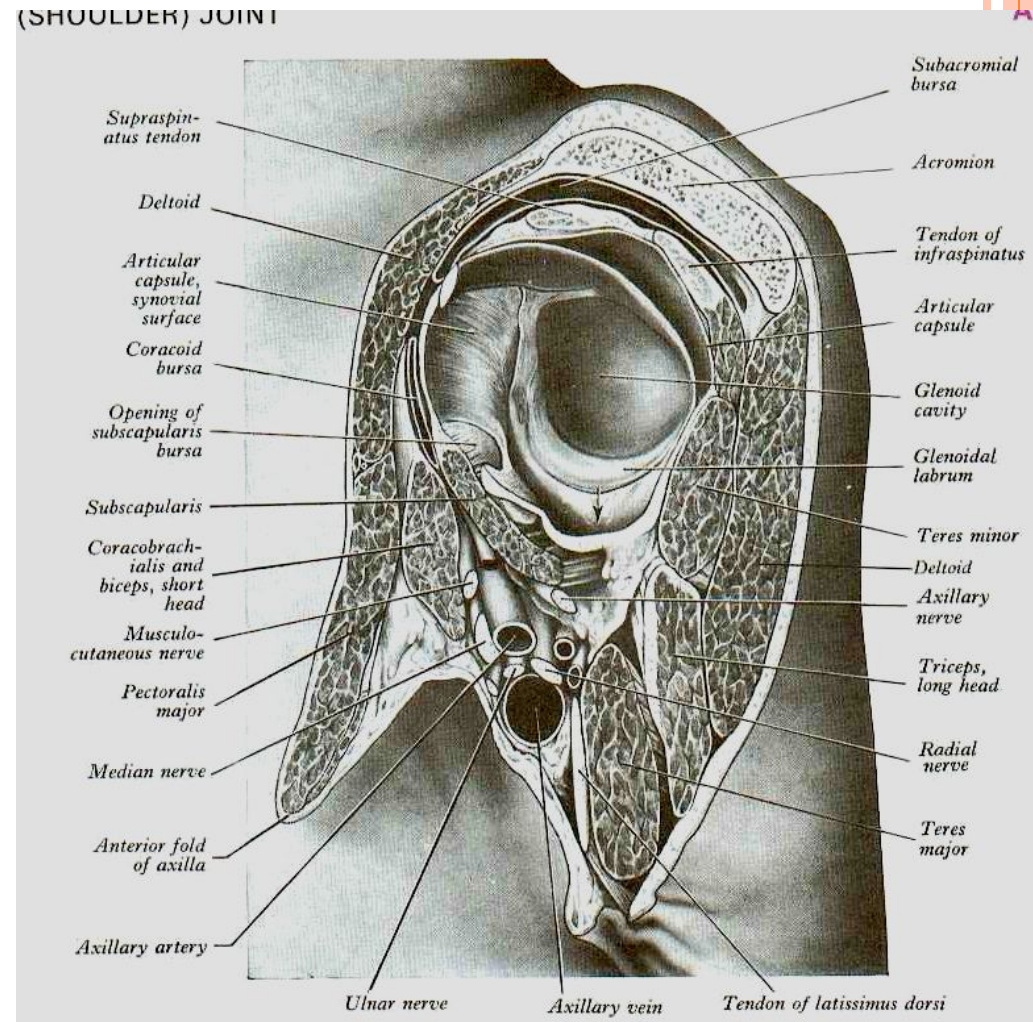


◁ Fig. 525. Lateral view of the shoulder joint showing the Supraspinatus muscle and the Triceps brachii muscle.

BURSAE

Subscapular bursa:
Between tendon of subscapularis & neck of scapula, usually communicates with cavity of shoulder joint

Subacromial (subdeltoid) bursa: Lies between deltoid, supraspinatus tendon & fibrous capsule of glenohumeral joint, no communication with cavity of shoulder joint



Acromio-clavicular lig.

Coraco-acromial lig.

Trapezoid lig.

Conoid lig.

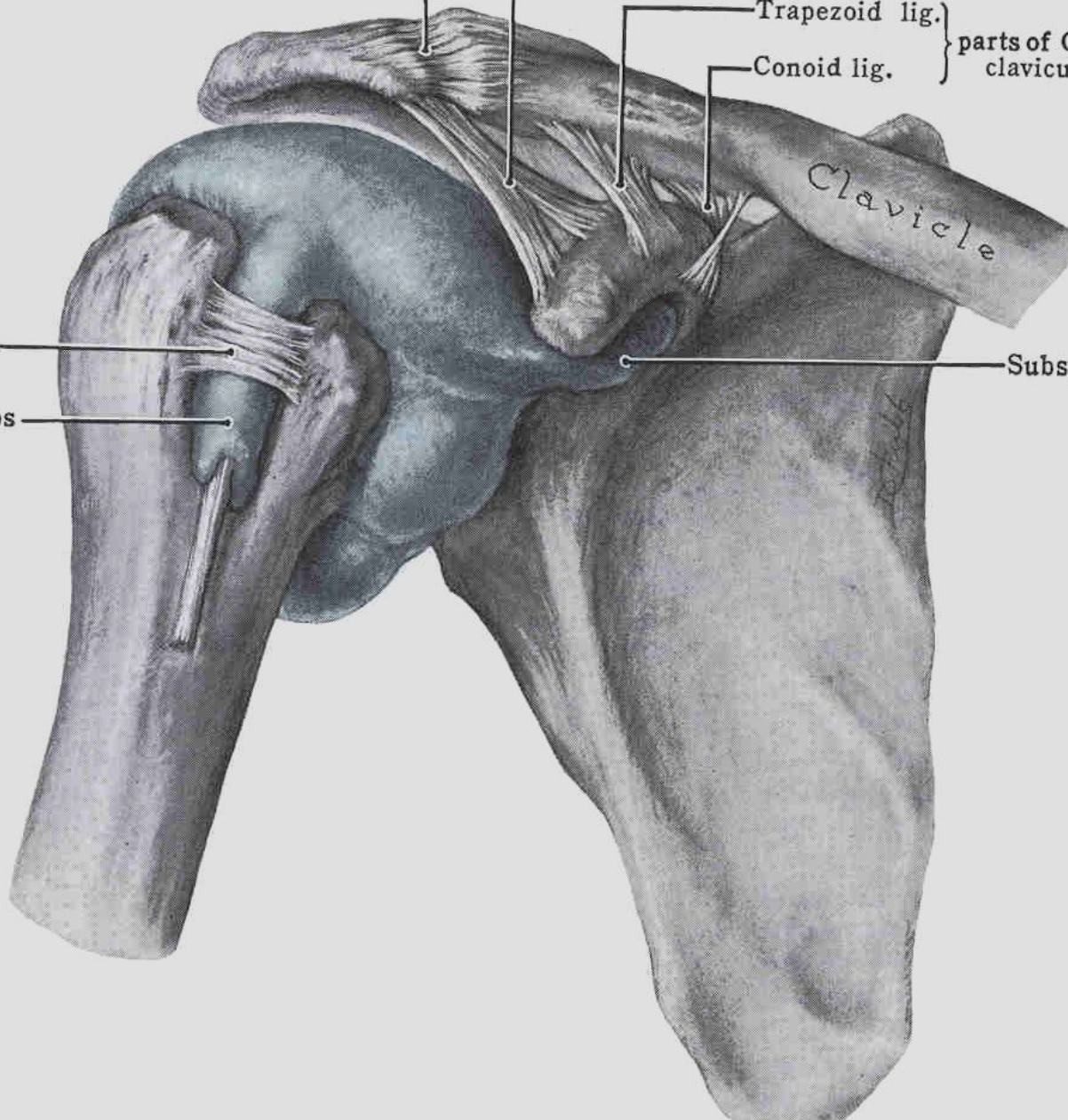
} parts of Coraco-clavicular lig.

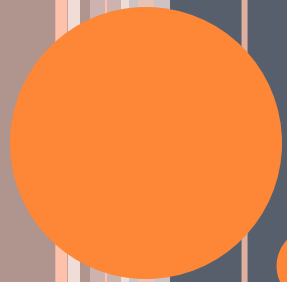
Clavicle

Transverse humeral lig.

Synovial sheath of Biceps

Subscapularis bursa





THE END