Shoulder or scapular region

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Professor

Learning objectives

- By the end of the session, learners will be able to:
- Identify and describe the bony landmarks of the scapular region.
- Understand the musculature and its functions in the scapular region.
- Explain the neurovascular structures associated with the scapular region.
- Apply anatomical knowledge to clinical scenarios involving the scapular region
- Vascular anastomosis around scapula

What we are going to study

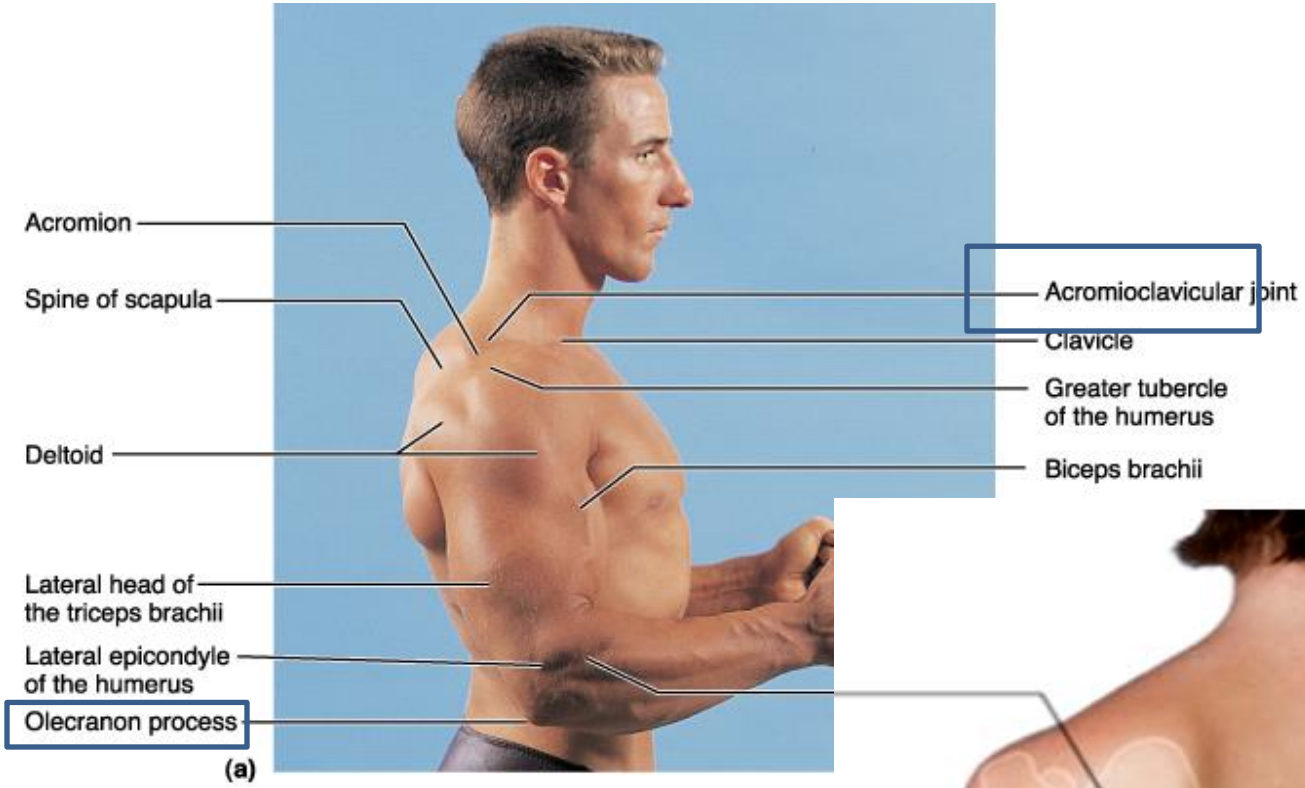
- Surface landmarks
- Muscles connecting the scapula to the humerus
- Three intermuscular spaces

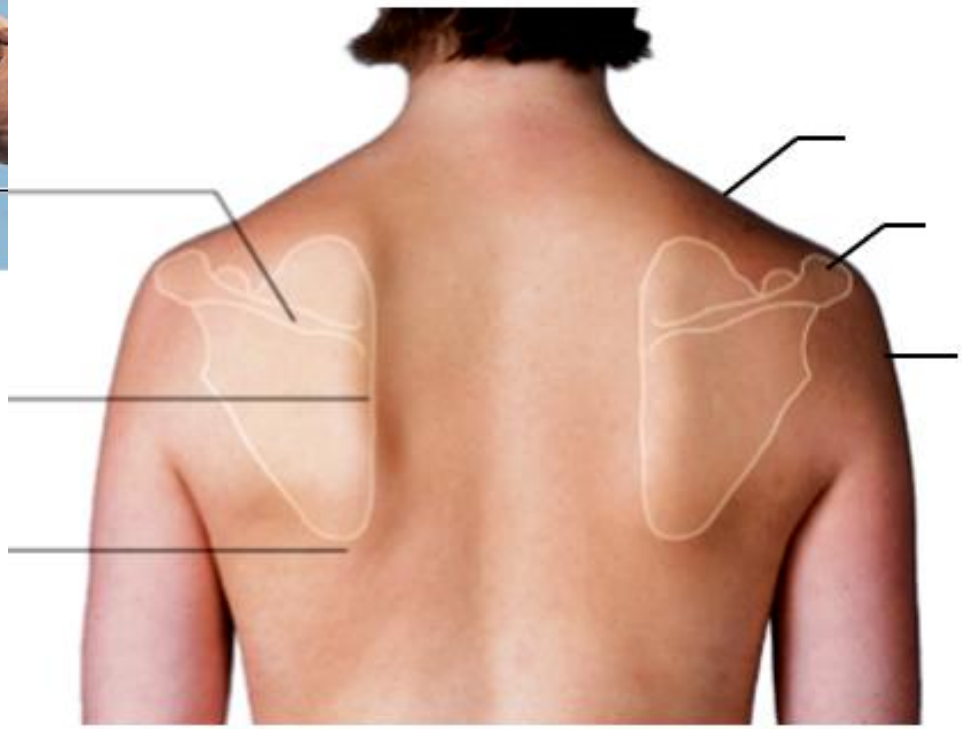
  -quadrangular

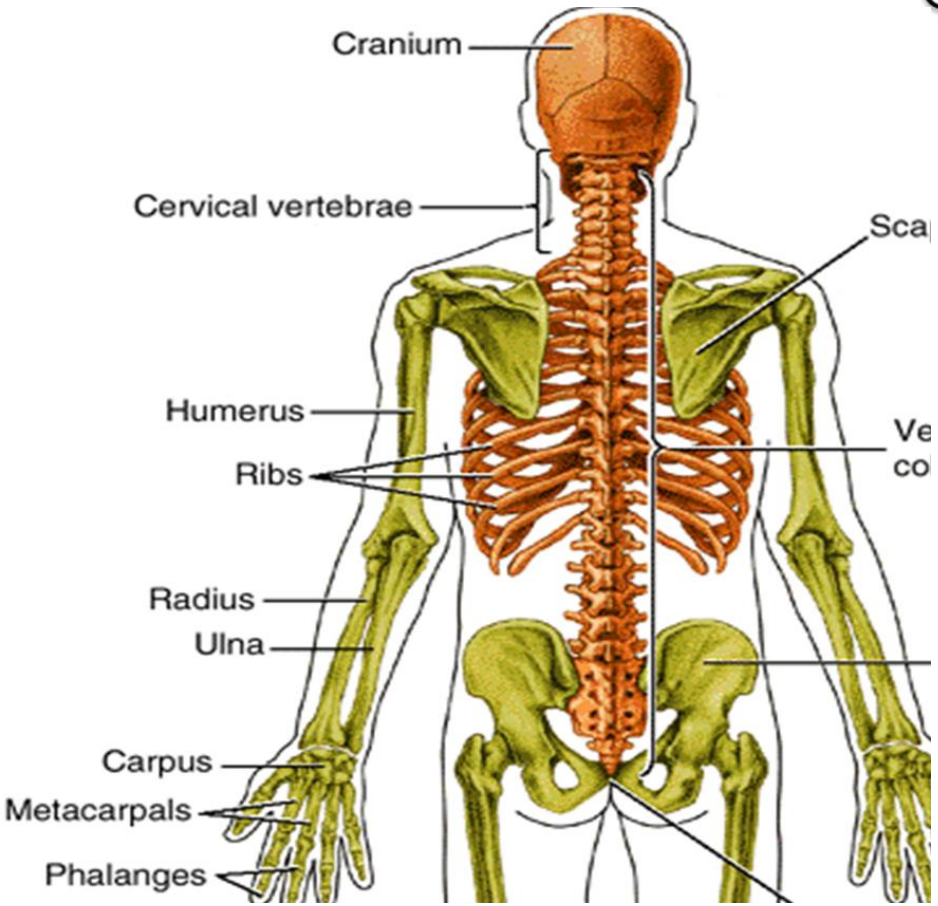
  -upper triangular

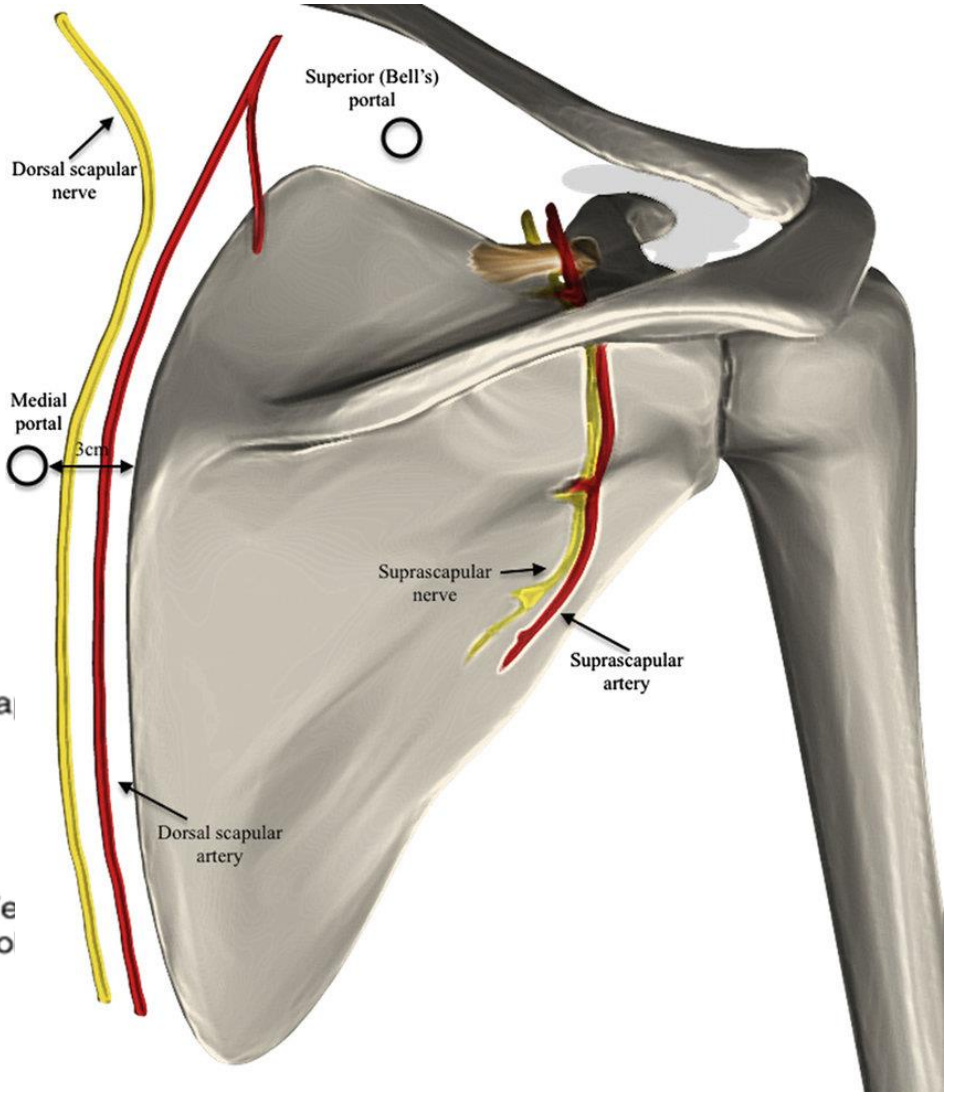
  -lower triangular
- Axillary nerve
- Anastomoses around the scapular regions

Surface landmark



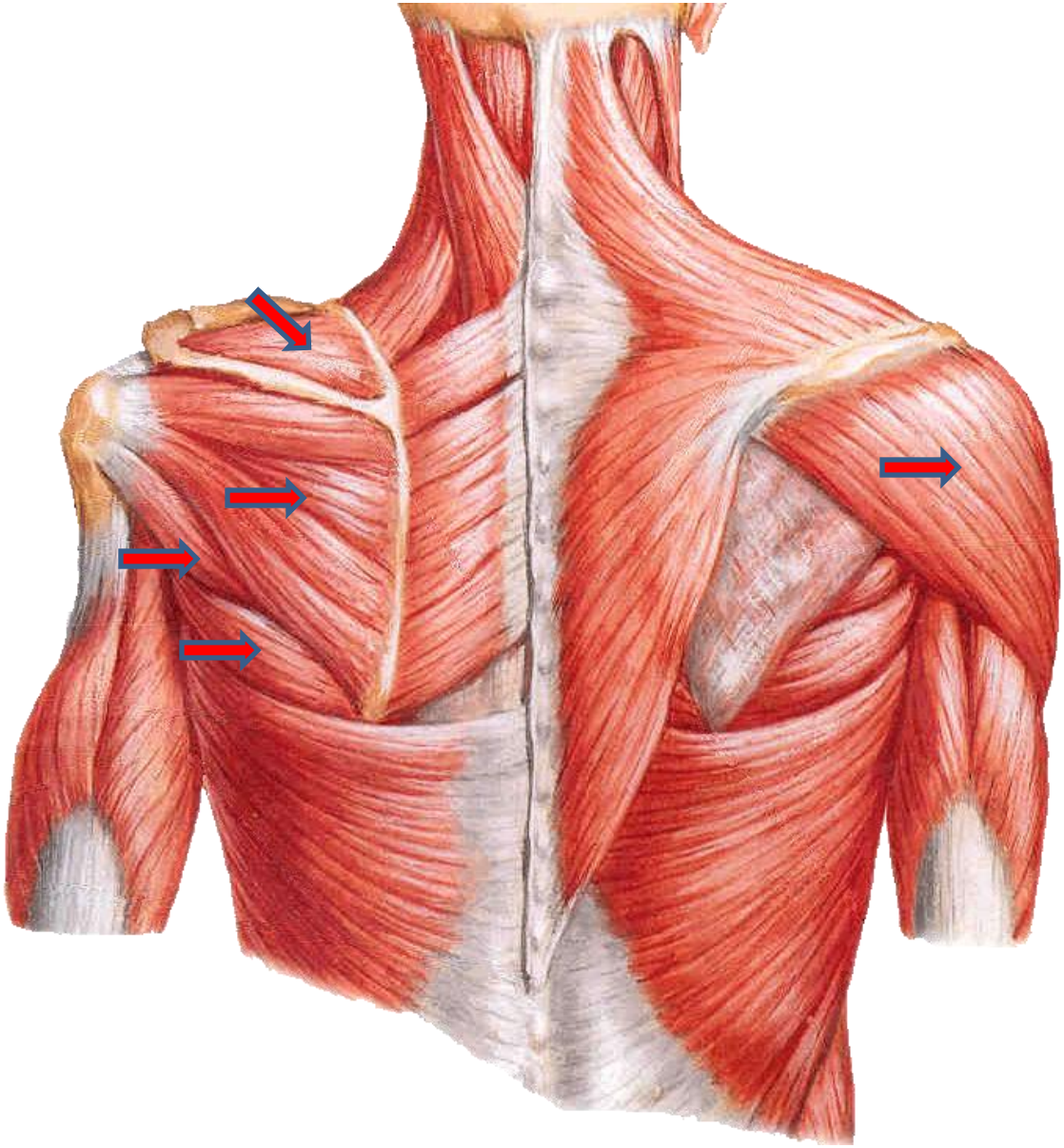


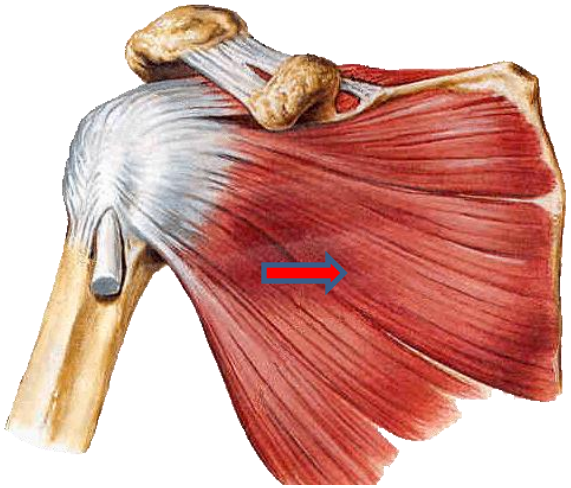

Cranium
Cervical vertebrae
Humerus
Ribs
Radius
Ulna
Carpus
Metacarpals
Phalanges


Superior (Bell's) portal
Dorsal scapular nerve
Medial portal
3cm
Suprascapular nerve
Suprascapular artery
Dorsal scapular artery

Muscles connecting the scapula to the humerus

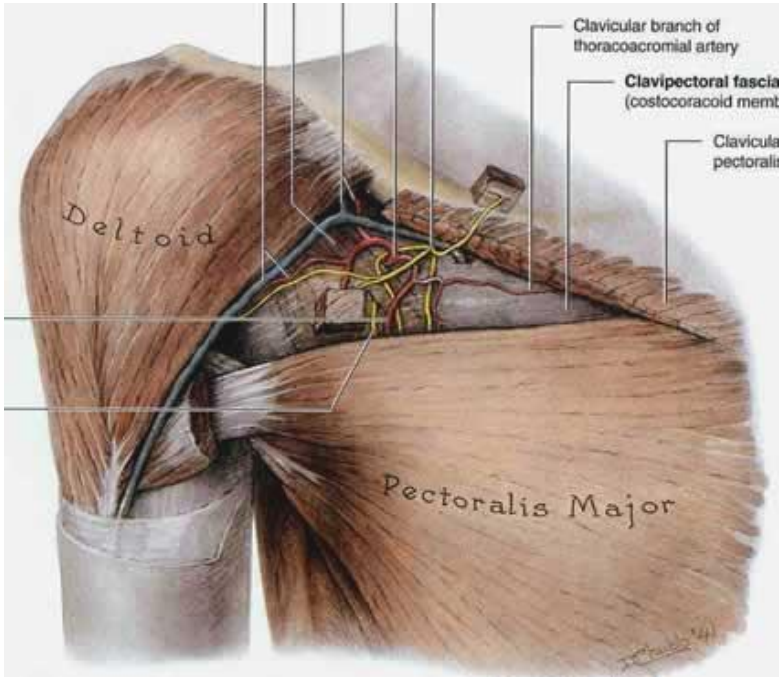
- Deltoid
- Supraspinatus
- Infraspinatus
- Teres minor
- Teres major
- Subscapularis

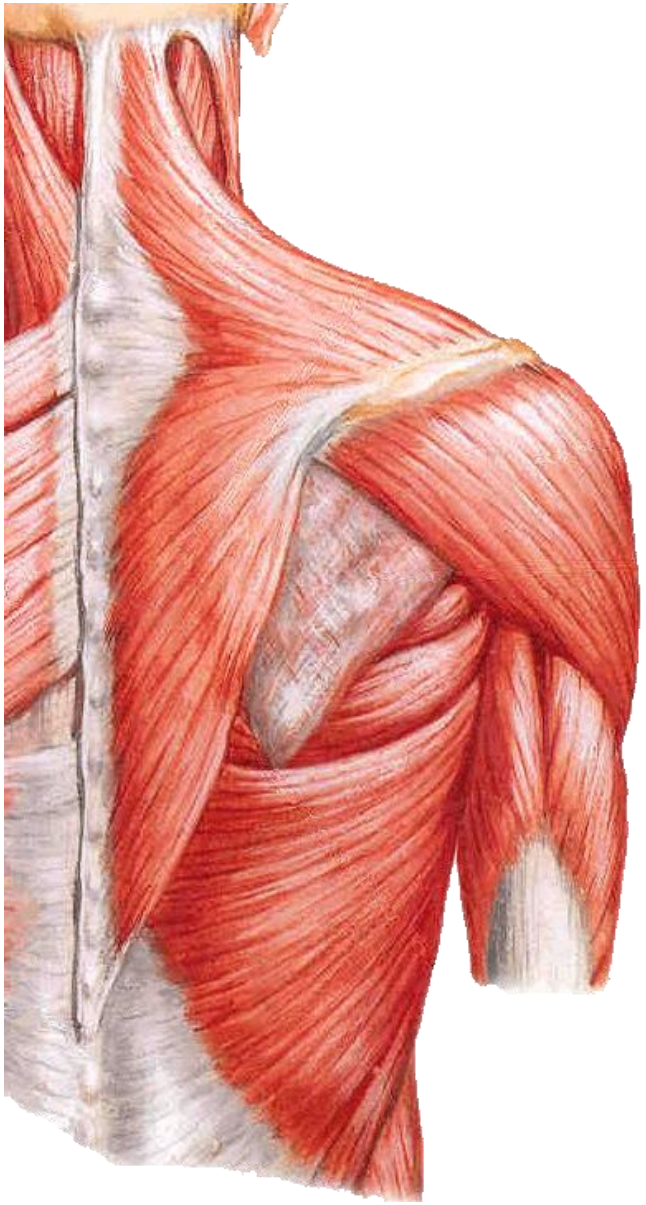




Deltoid muscle

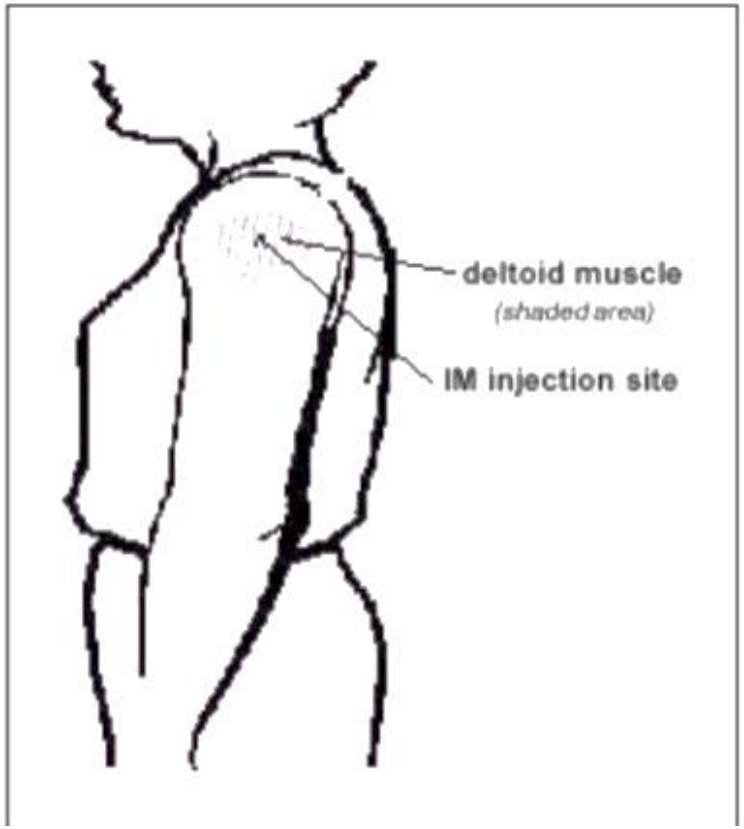
- Origin
- Insertion
- Innervation
- Actions
- Applied

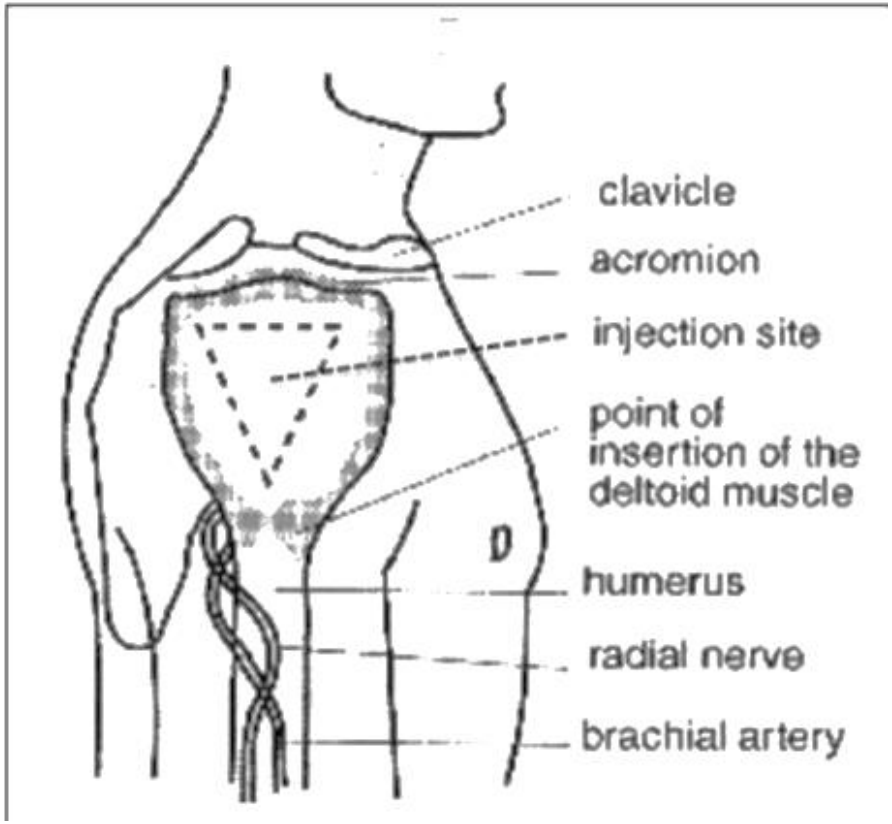




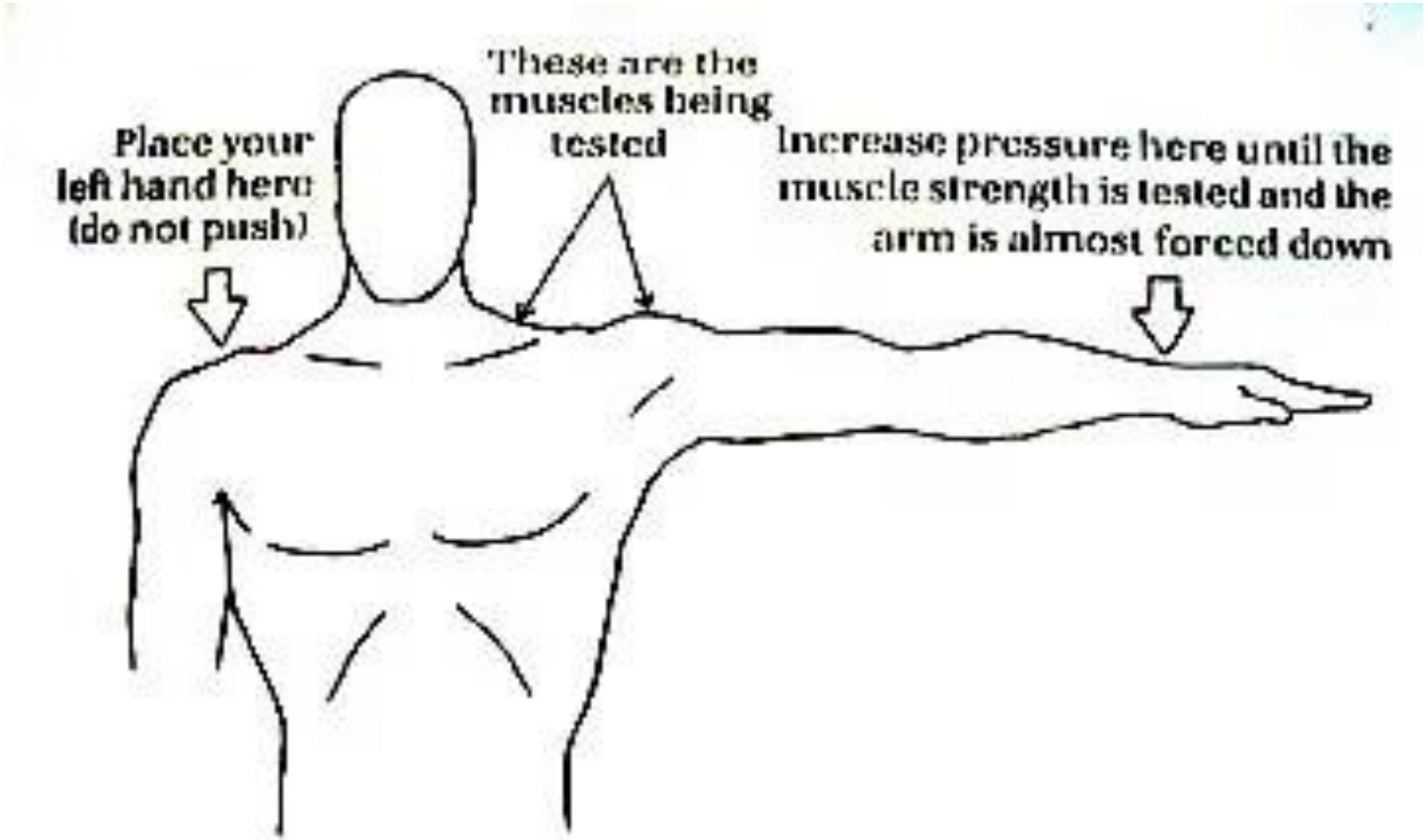
- Structures deep to deltoid

Site of injection in deltoid





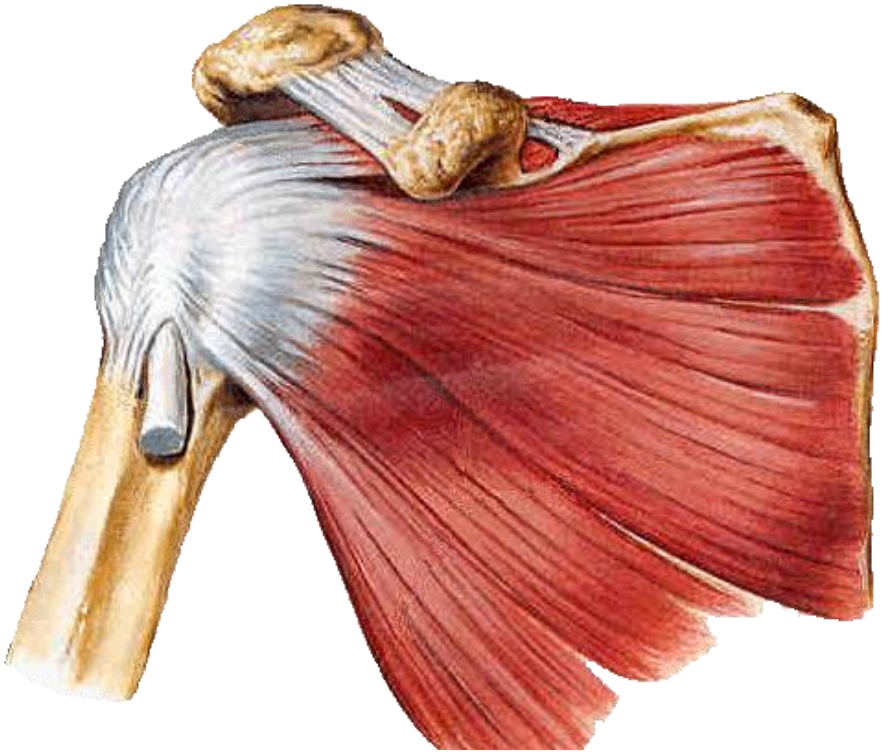
How to test Deltoid muscle



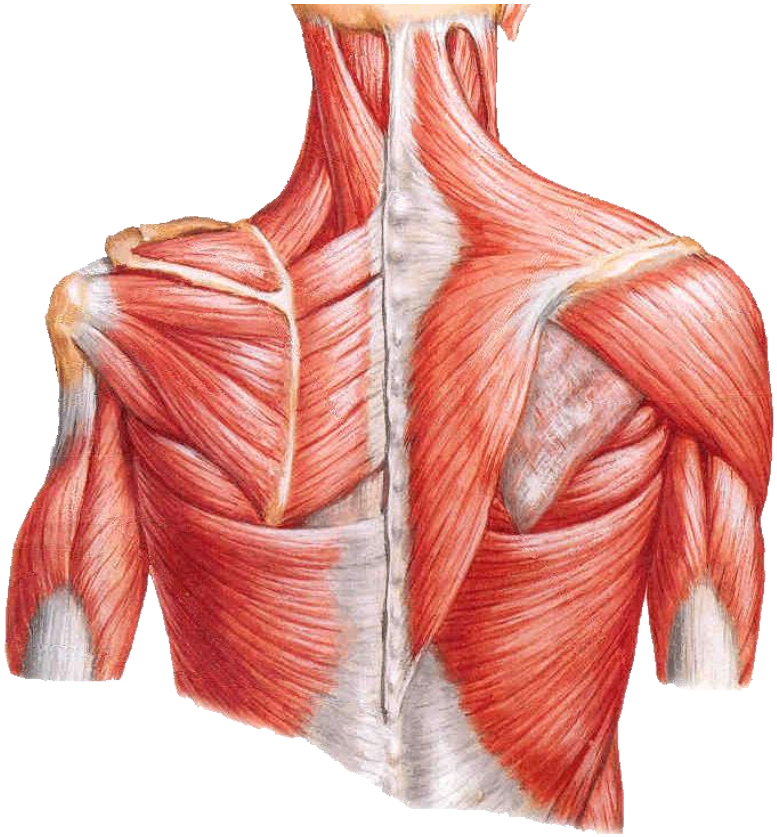
Basics of Muscle Testing

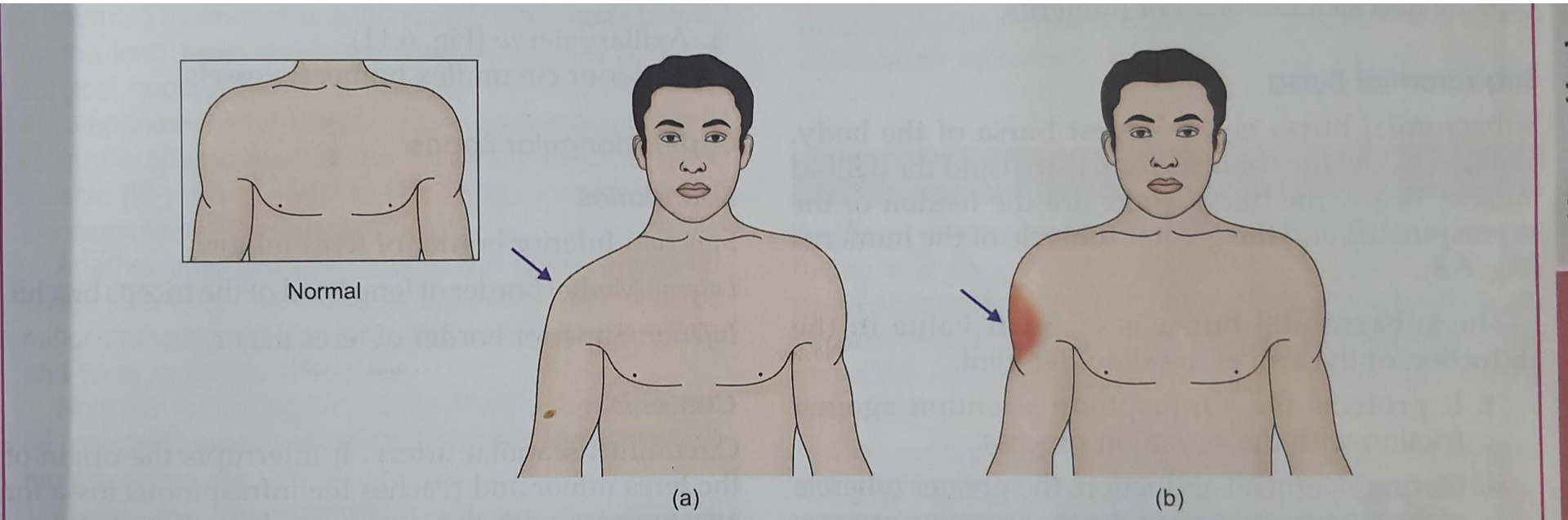
Muscles connecting the scapula to the humerus

Anterior



Posterior



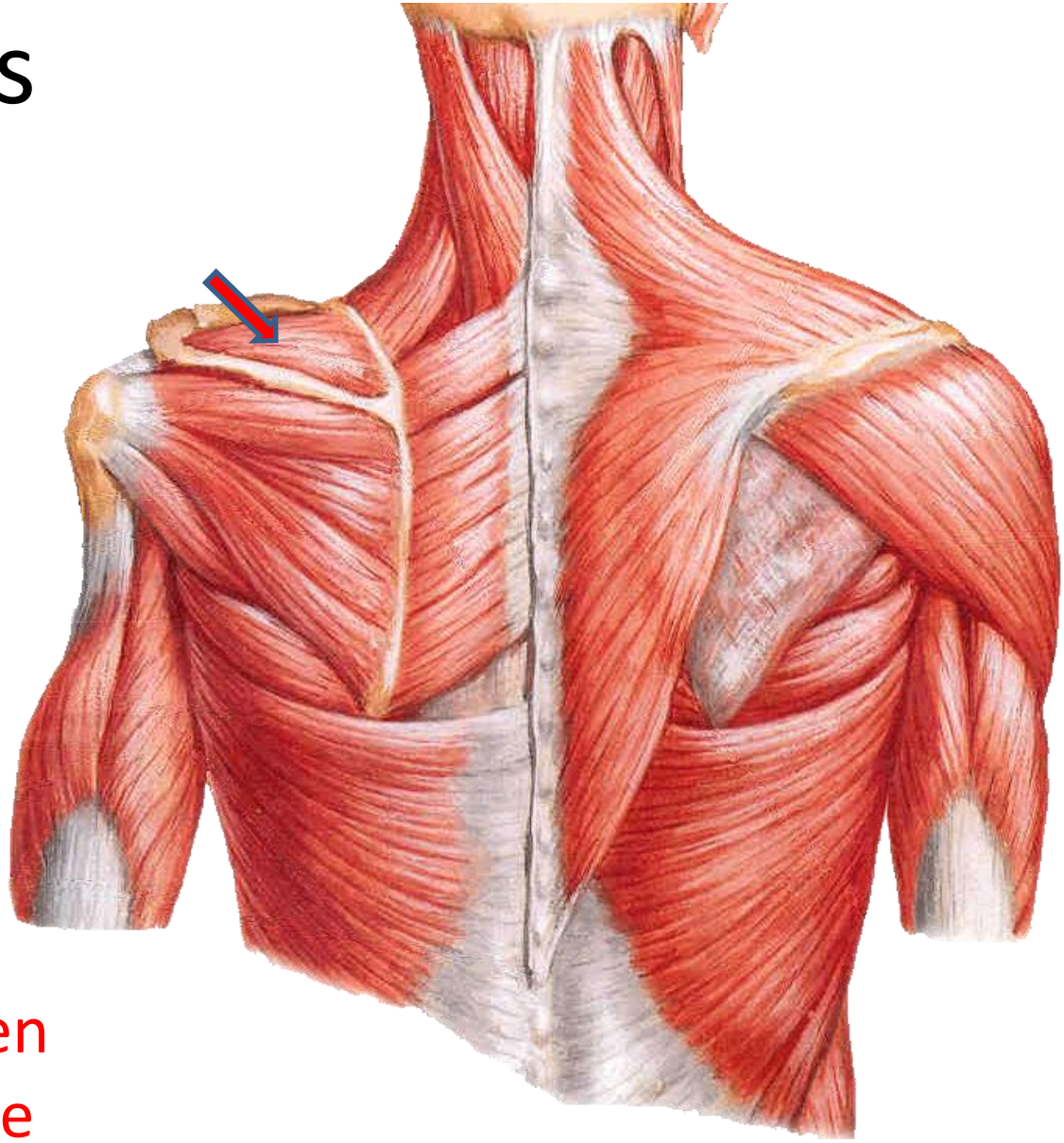


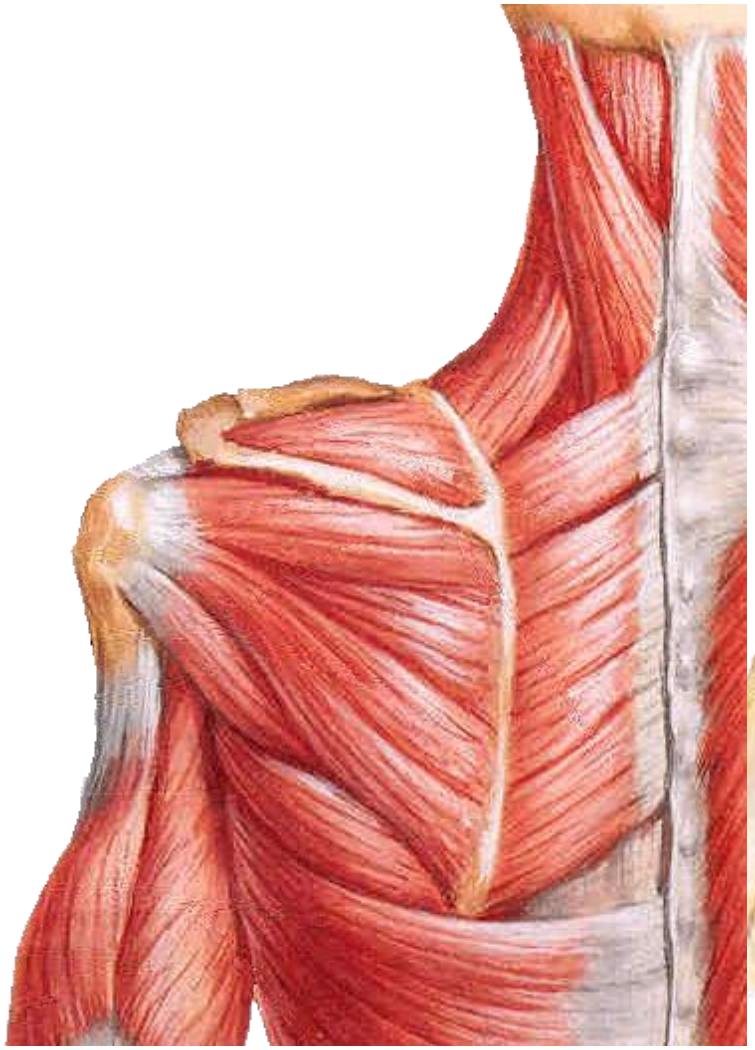
Figs 6.10a and b: (a) Normal rounded contour is lost on the right side. Inset shows normal contour, and (b) the sensory loss (regimental badge)

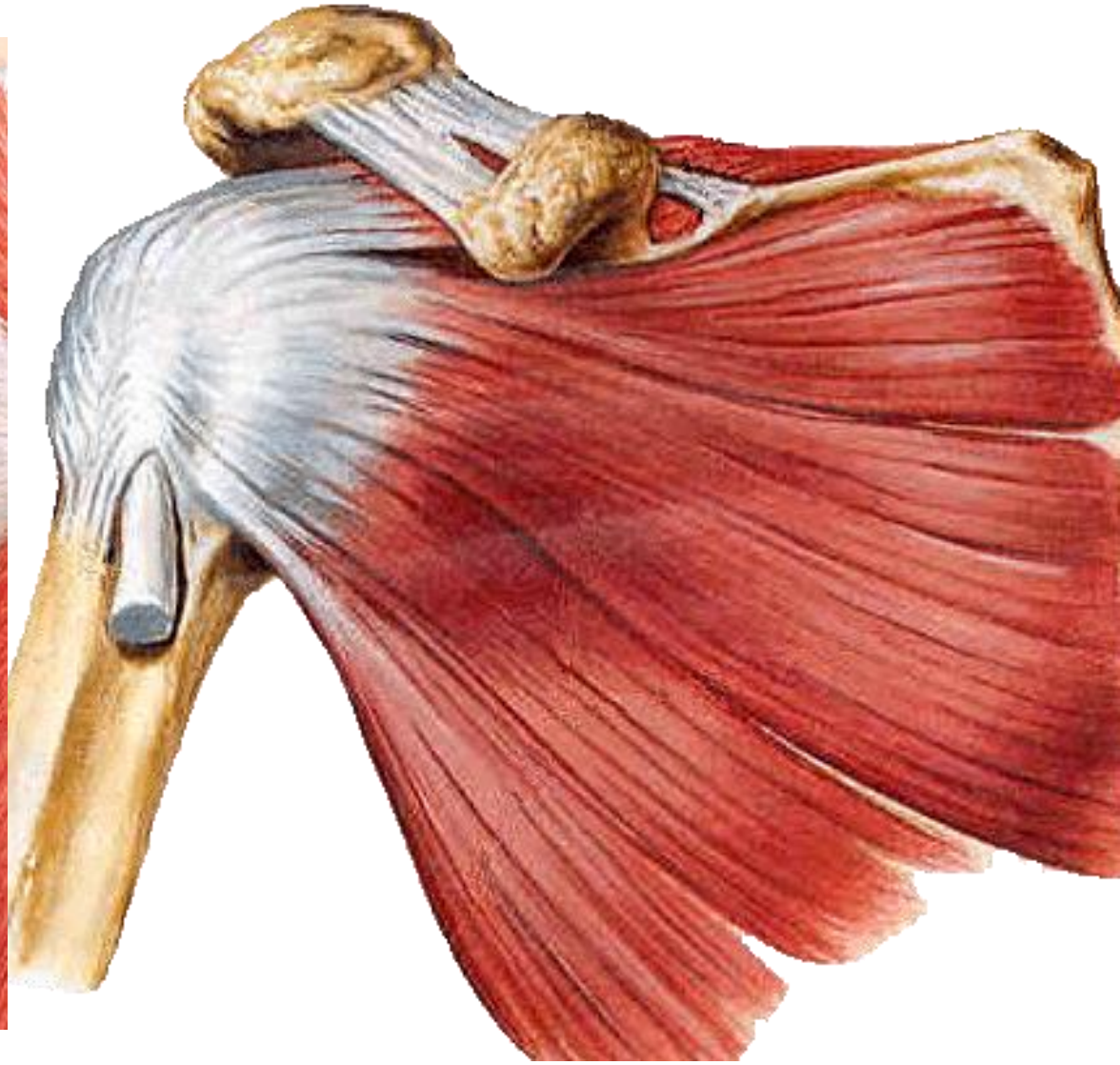
Supraspinatus

- Origin
- Insertion
- Innervation
- Actions

❖ The tendon may undergo degeneration. This may result in calcification and even spontaneous rupture of the tendon



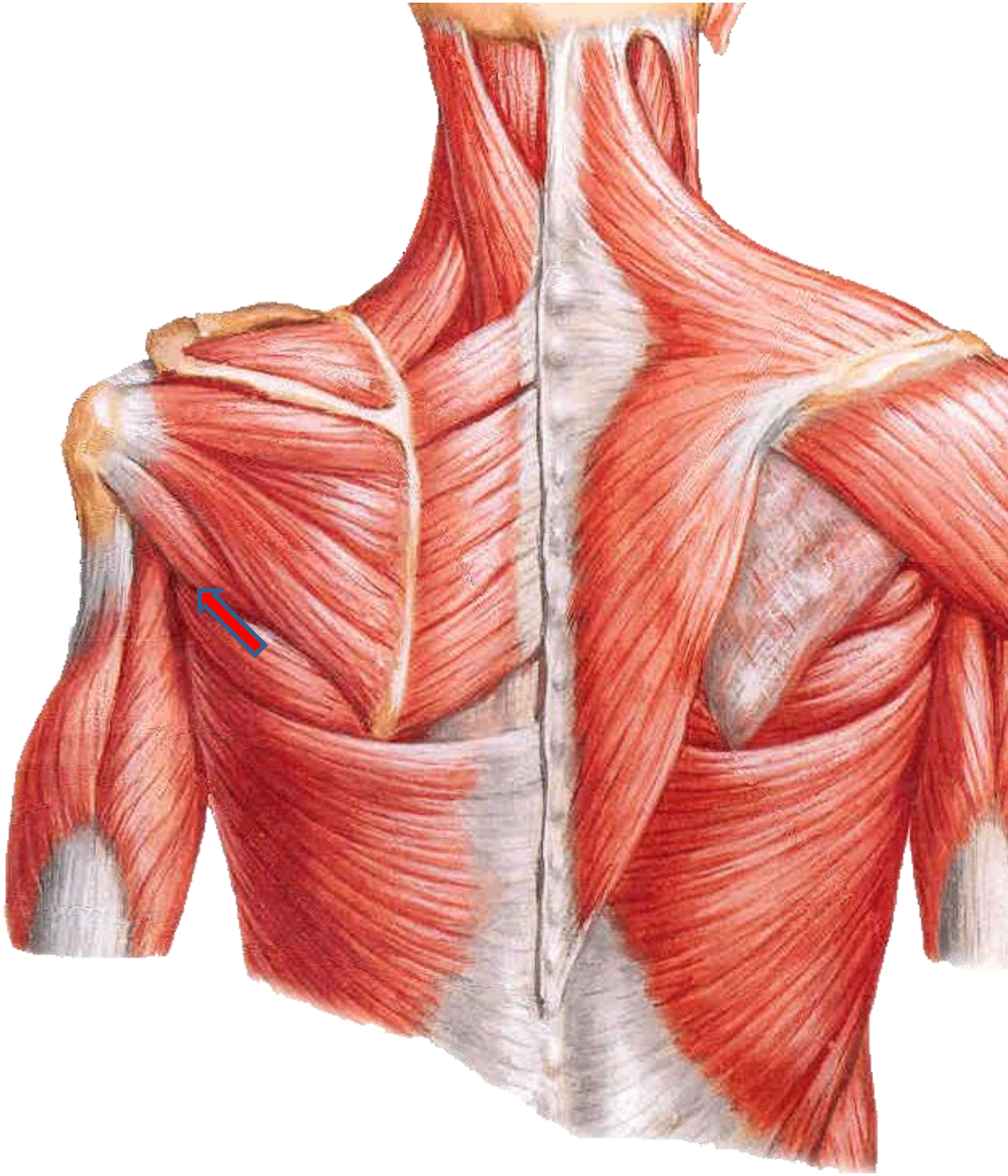




Infraspinatus

- Origin
- Insertion
- Innervation
- Actions –

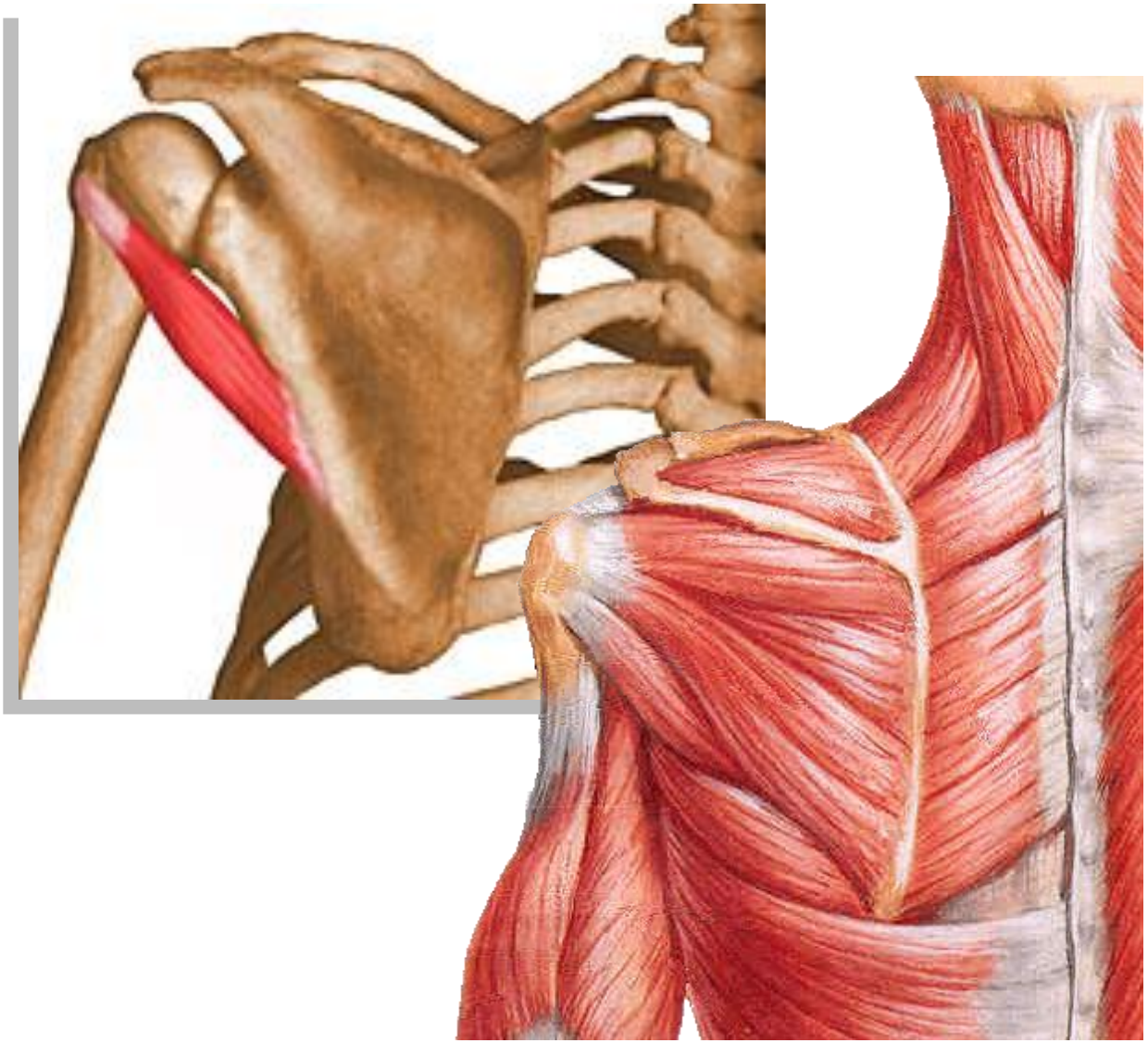
  -lateral rotator of arm



Teres minor

- Origin
- Insertion
- Innervations
- Actions –

lateral rotator of arm



Subscapularis

- Origin
- Insertion
- Innervation
- Actions –

Medial rotator an

Adductor

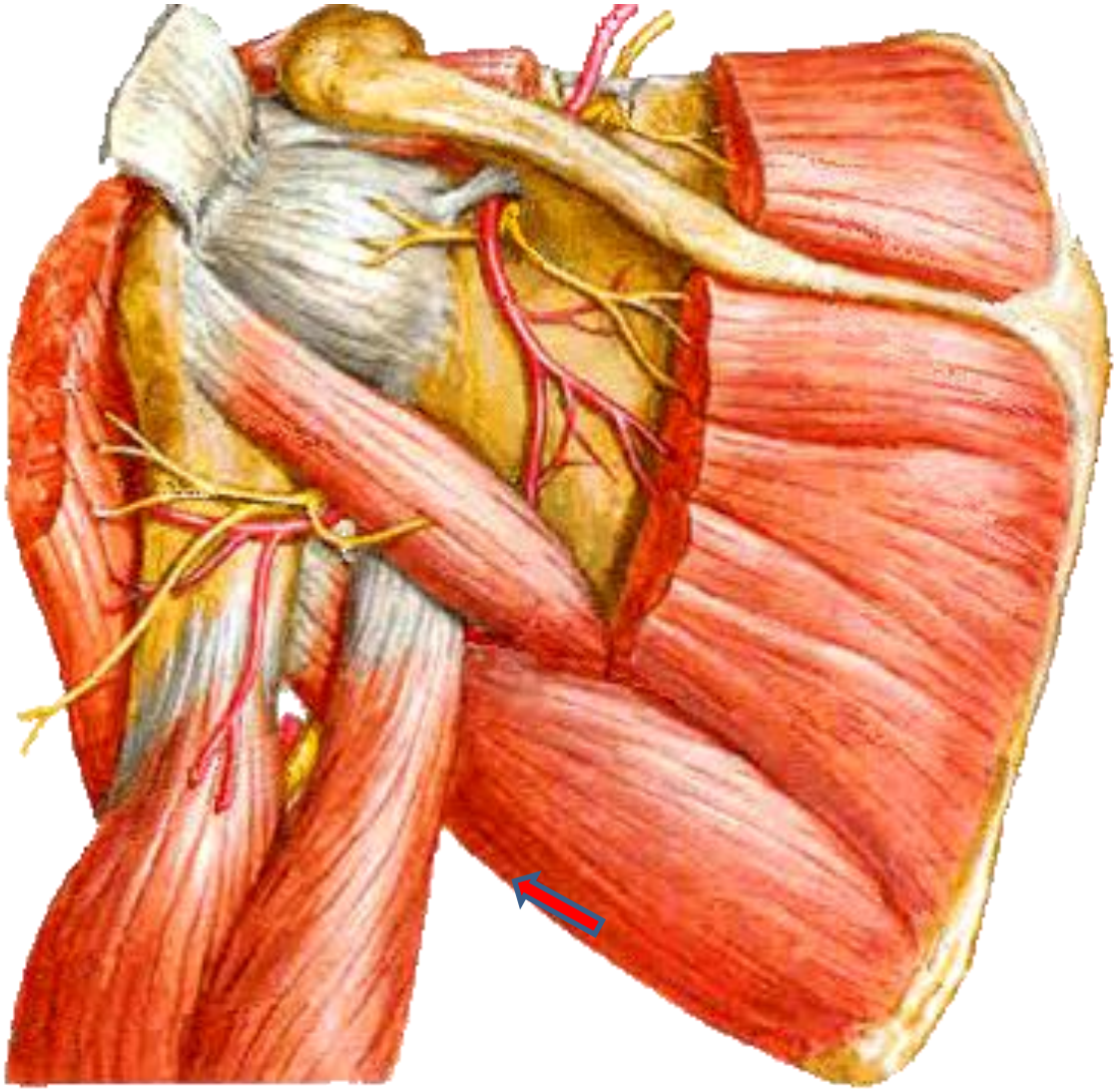
Teres major

- Origin
- Insertion
- Innervation
- Actions

-medial rotator

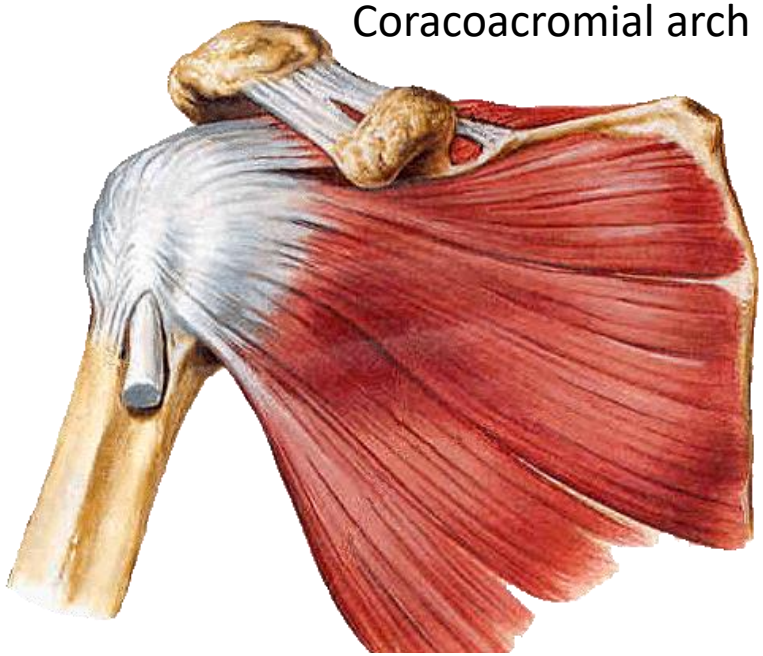
-adductor

-extensor

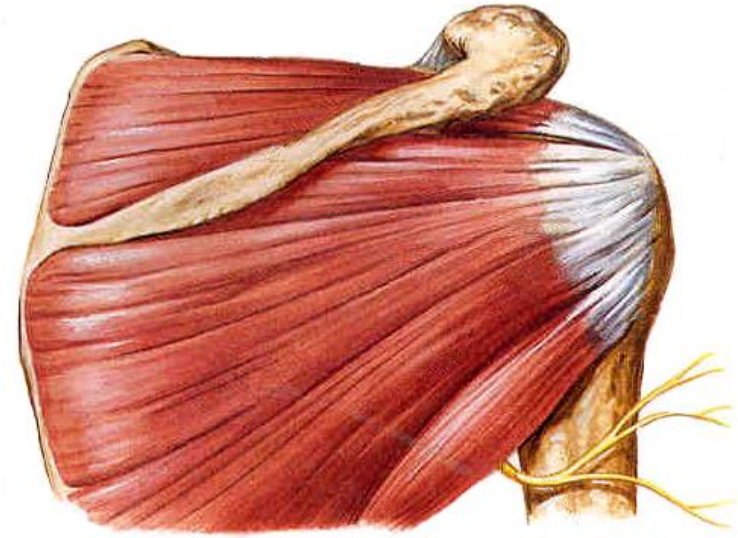


Myotendionous cuff (rotator cuff)

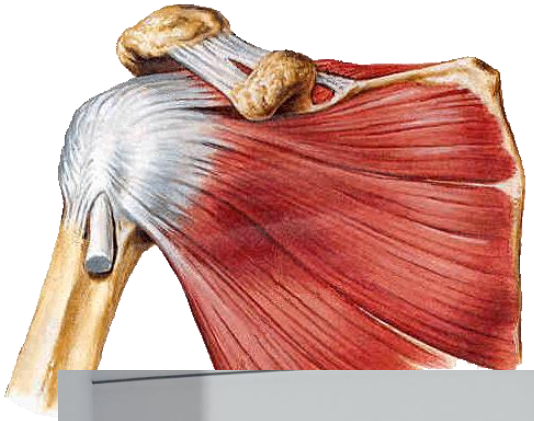
- The name given to the tendons of the subscapularis, the supraspinatus, the infraspinatus, and the teres minor muscles.
- Stability of the shoulder joint



- Subacromial bursa



Sub Acromial Bursa



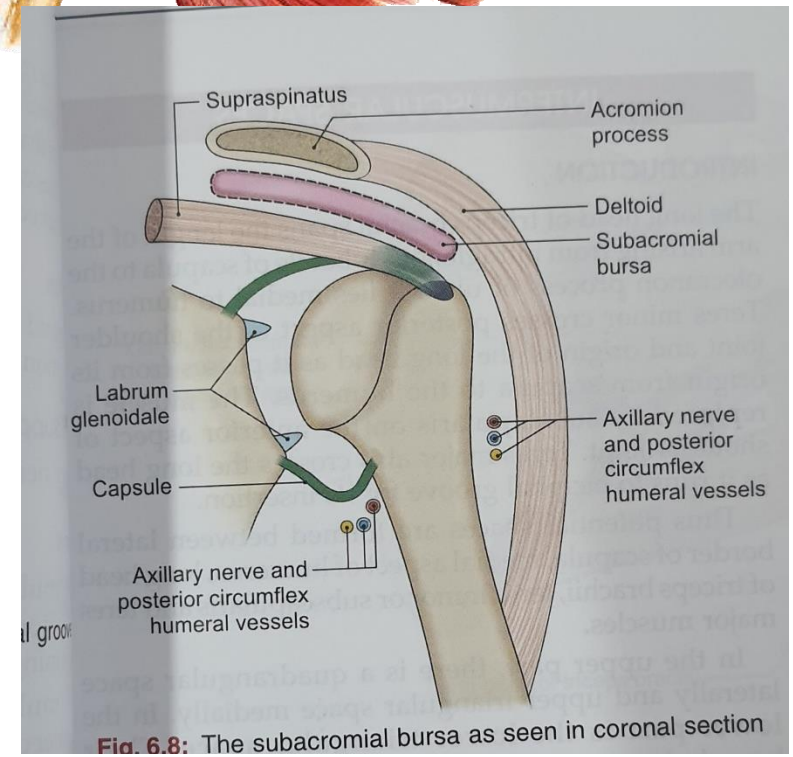


Fig. 6.8: The subacromial bursa as seen in coronal section

Functions-

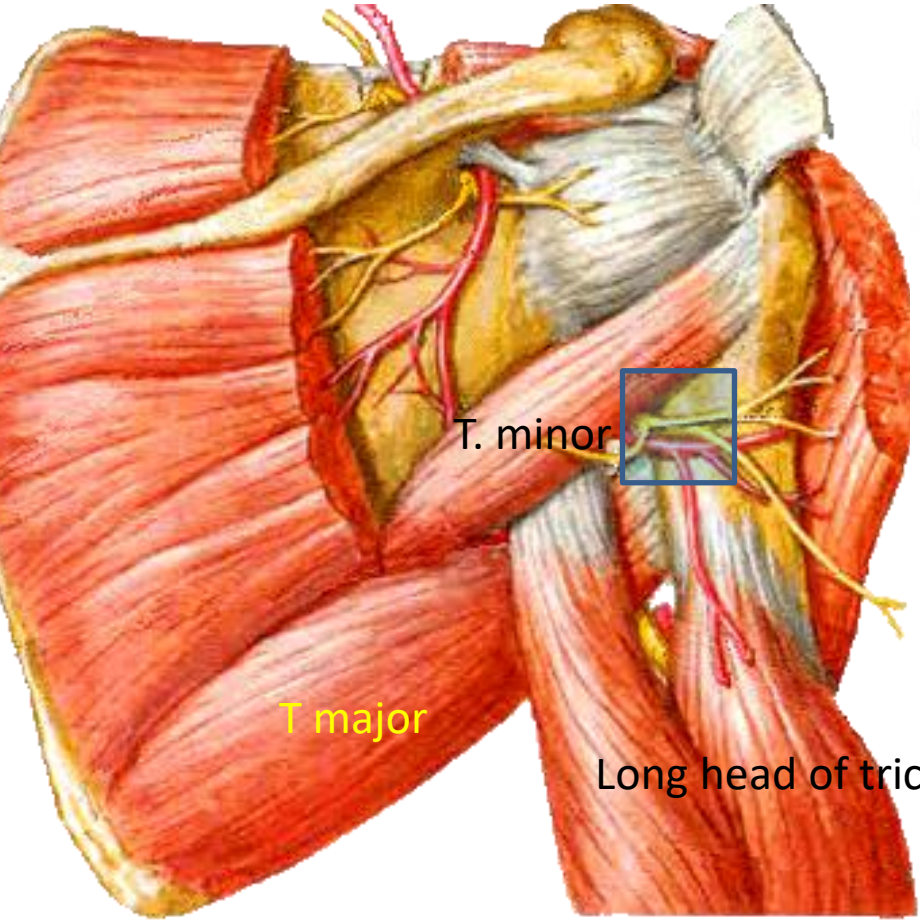
Protects supraspinatus tendon

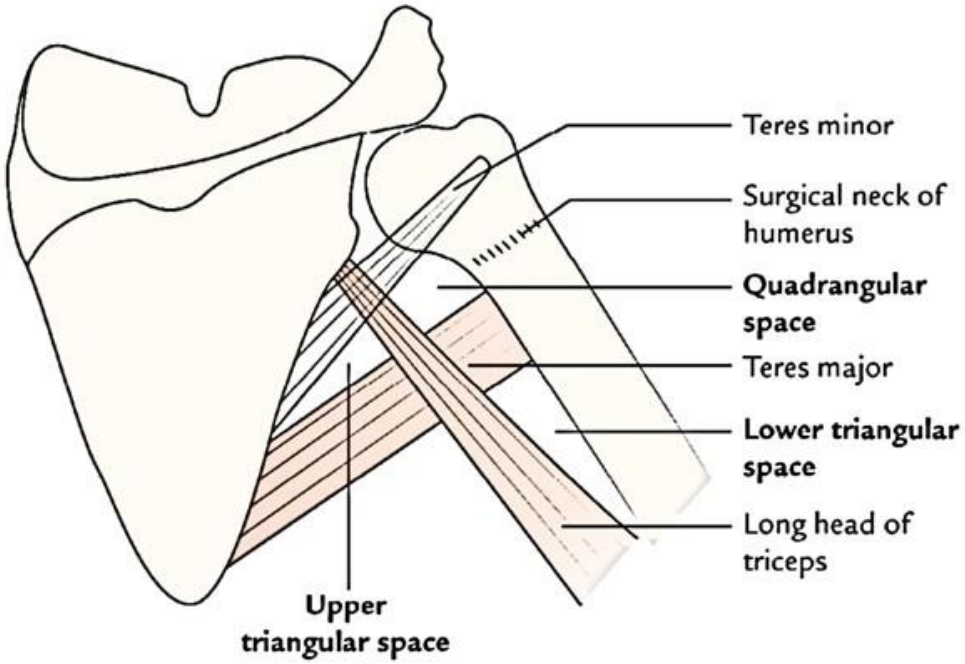
- Subacromial bursitis-
- Daw barn's sign-

Intermuscular spaces

Quadrangular space

Boundaries

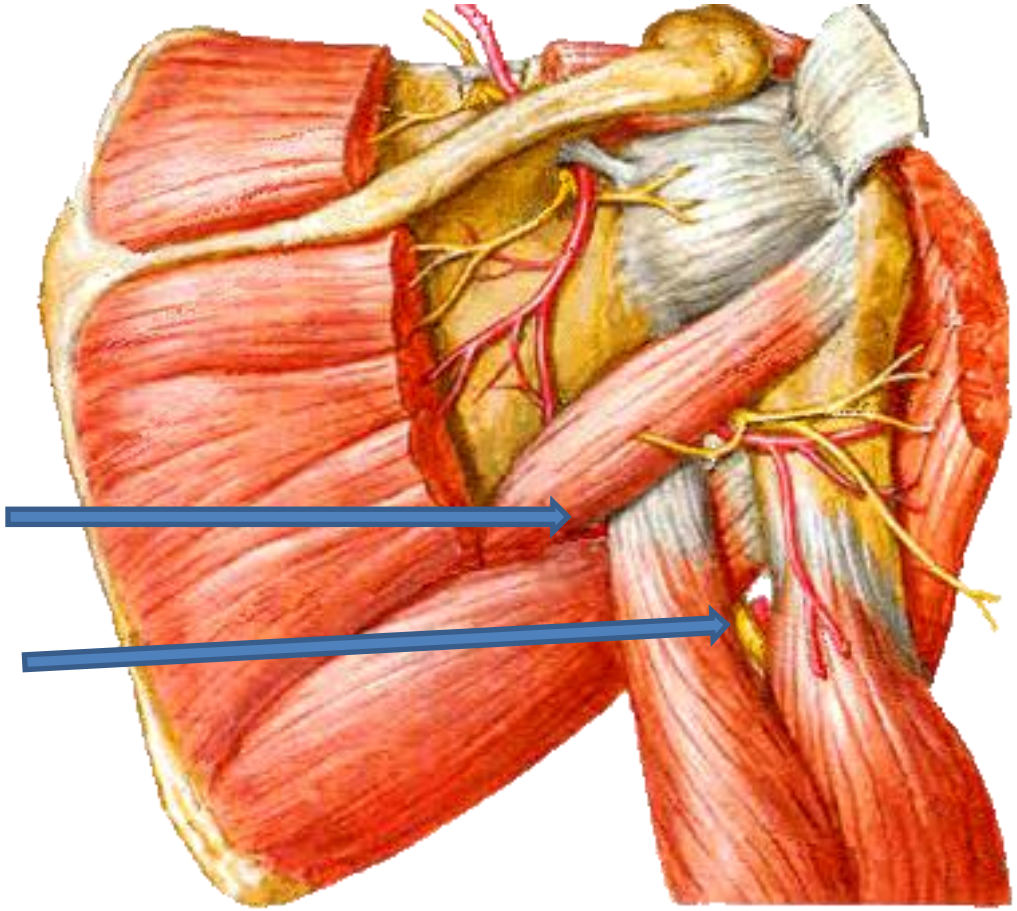




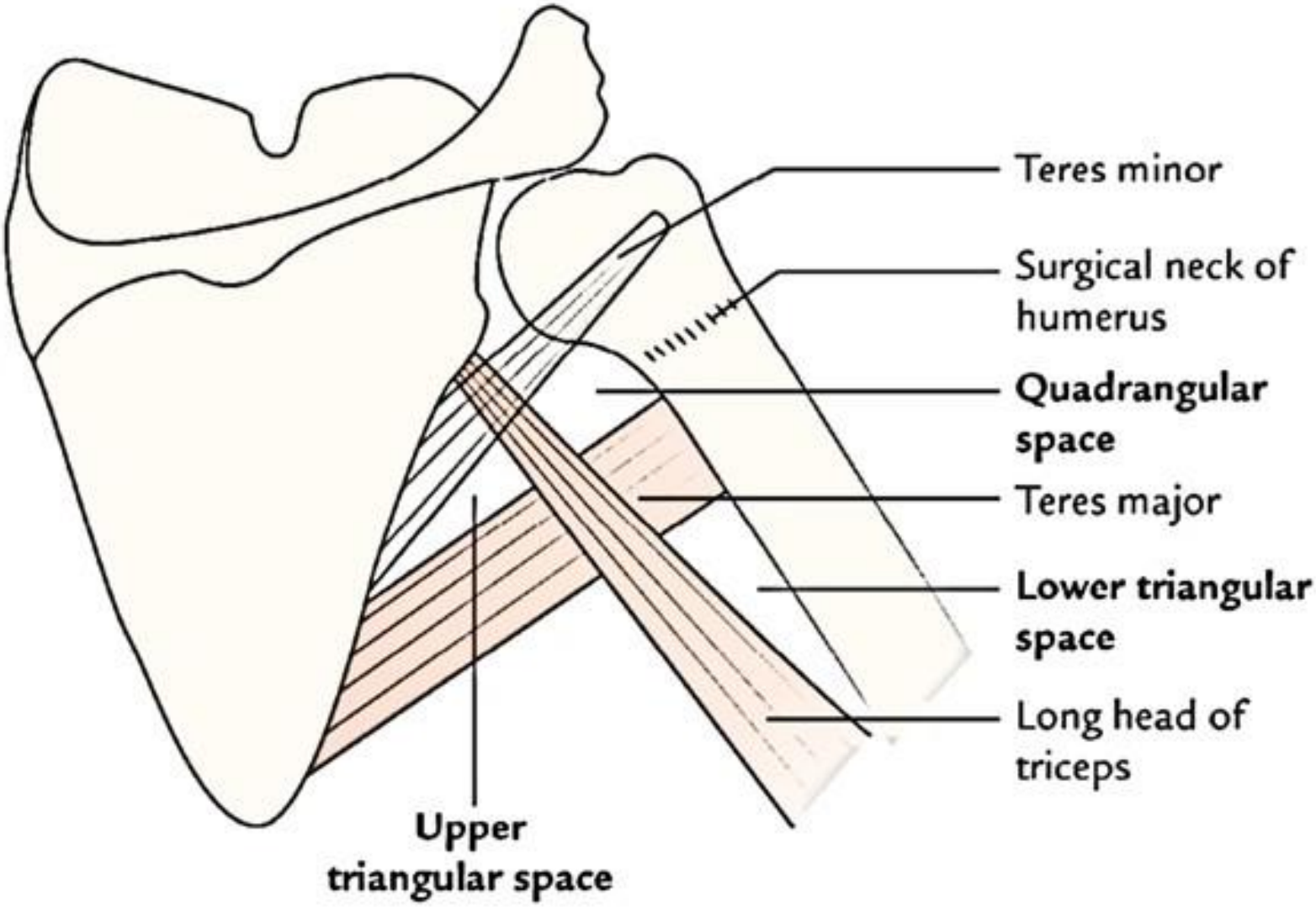
Upper and lower triangular space

Boundaries-

- Upper triangular space
- Lower triangular space



Quadrangular space



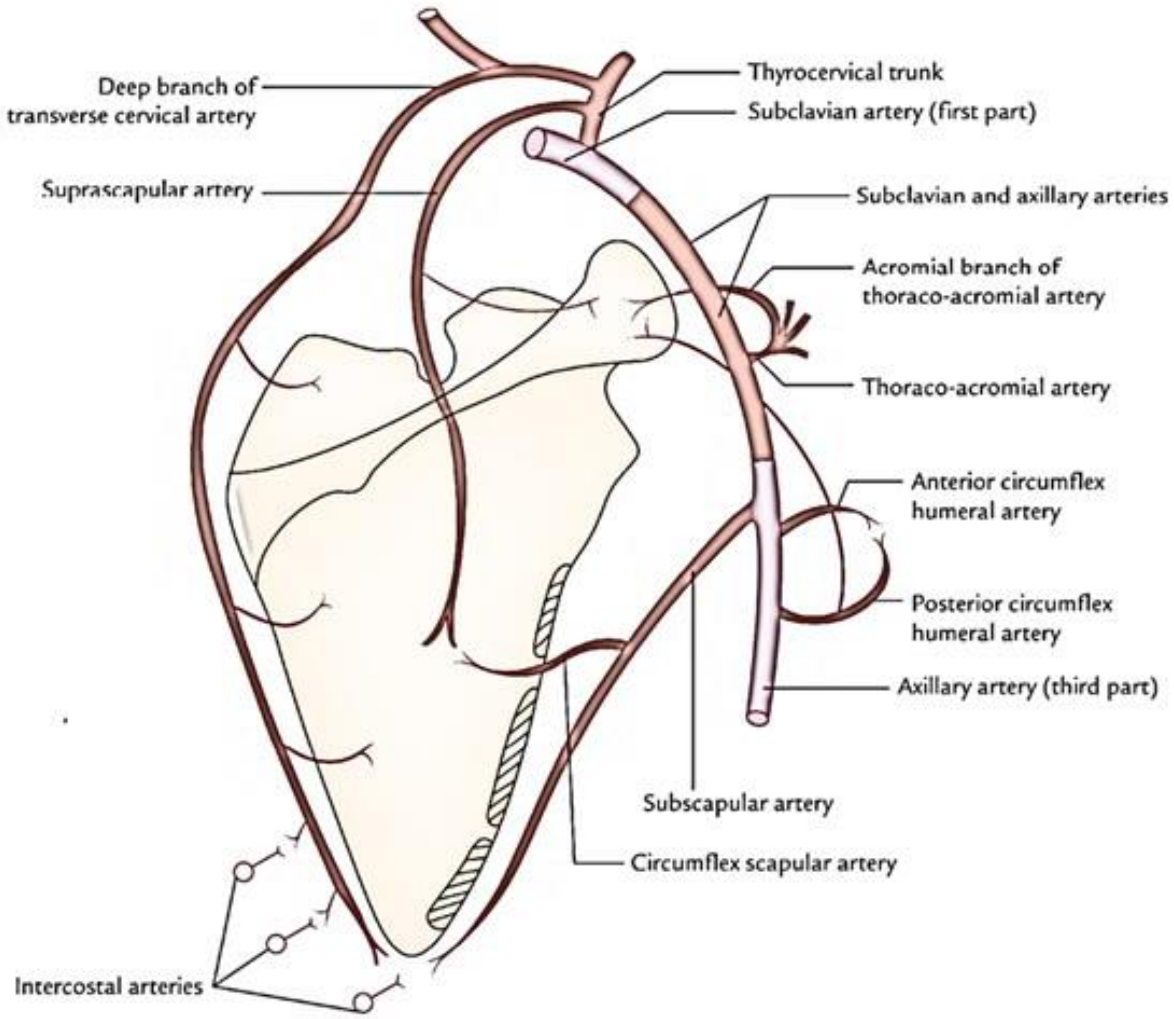
ANASTOMOSES AROUND THE SCAPULAR REGIONS

It happens at two places –

Around the body of scapula

over acromion process

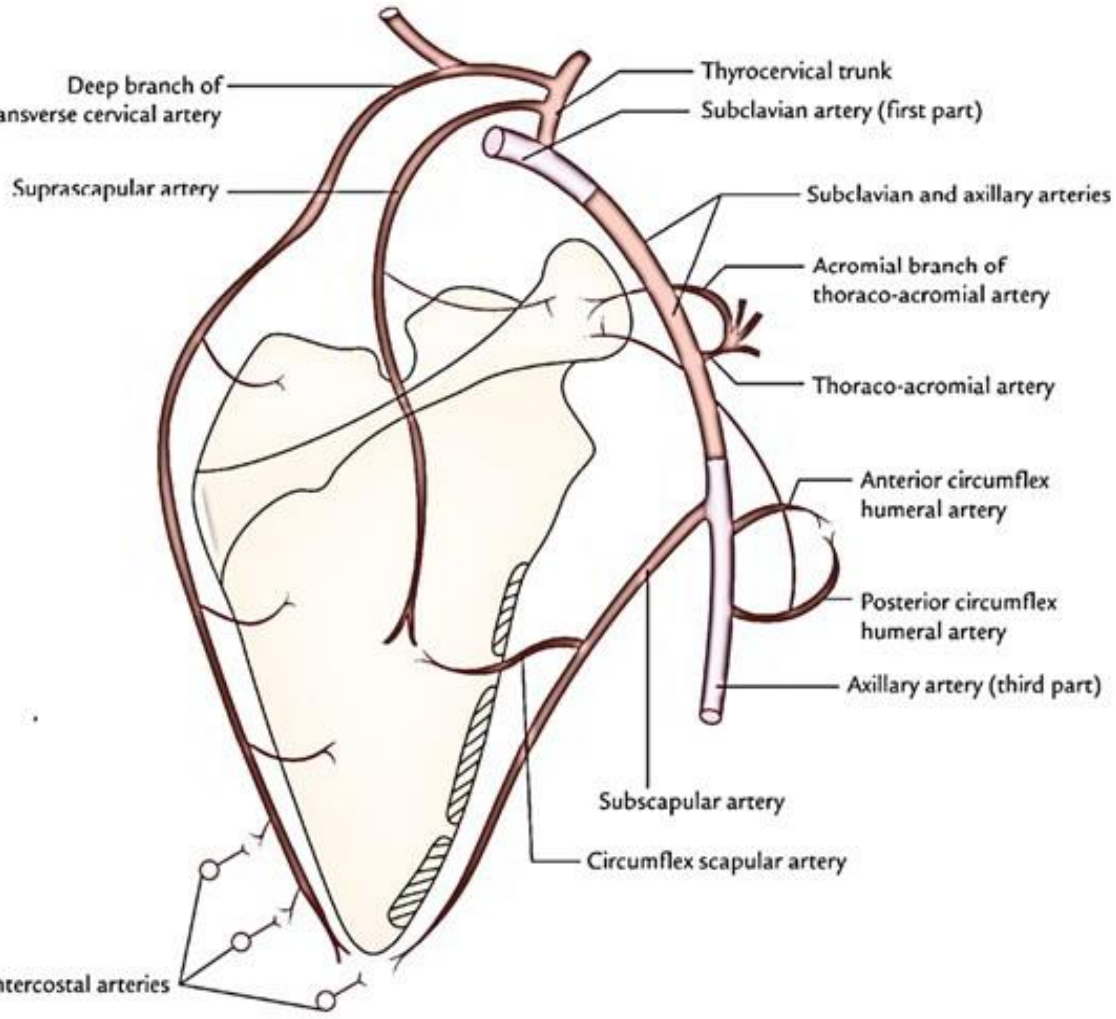
BRANCHES FROM THE SUBCLAVIAN ARTERY



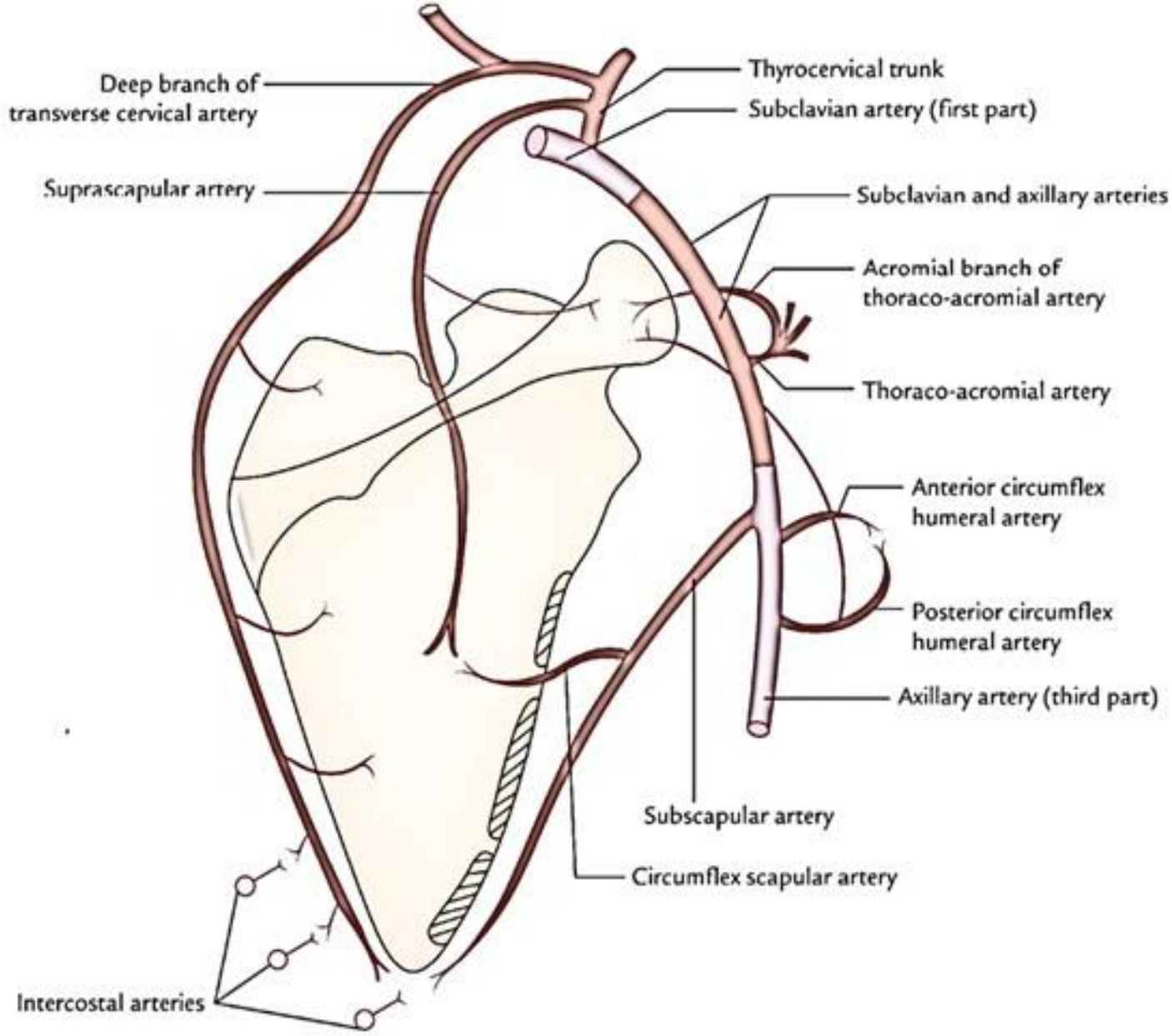
- **The suprascapular artery, (**branch from 1st part of subclavian artery) distributed to the supraspinous and infraspinous fossae of the scapula.

The deep br. of tranverse cervical artery, which runs down the medial border of the scapula.

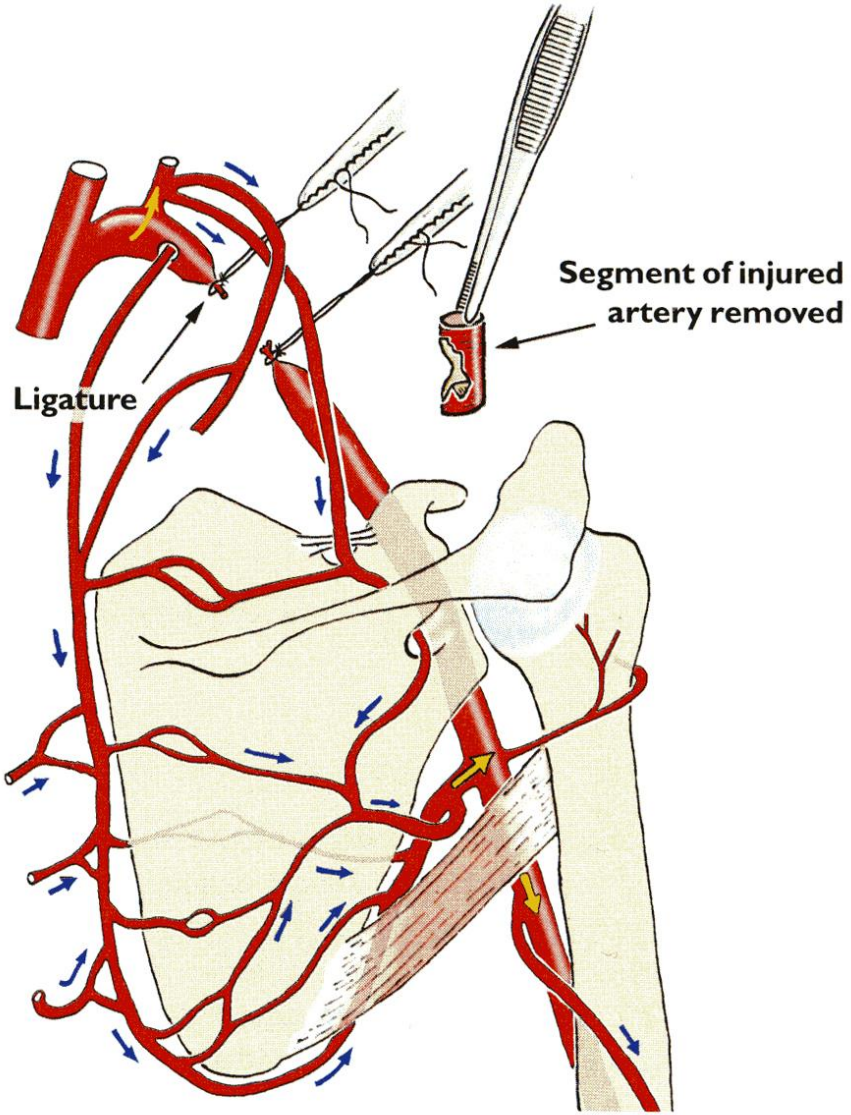
BRANCHES FROM THE AXILLARY ARTERY



- **The subscapular artery** and its ***circumflex scapular branch*** supply the subscapular and infraspinous fossae of the scapula.
- **The anterior & posterior circumflex humeral artery.**
- Both the circumflex arteries form an ***anastomosing circle*** around the surgical neck of the humerus.


Deep branch of
transverse cervical artery
Suprascapular artery
Thyrocervical trunk
Subclavian artery (first part)
Subclavian and axillary arteries
Acromial branch of
thoraco-acromial artery
Thoraco-acromial artery
Anterior circumflex
humeral artery
Posterior circumflex
humeral artery
Axillary artery (third part)
Subscapular artery
Circumflex scapular artery
Intercostal arteries

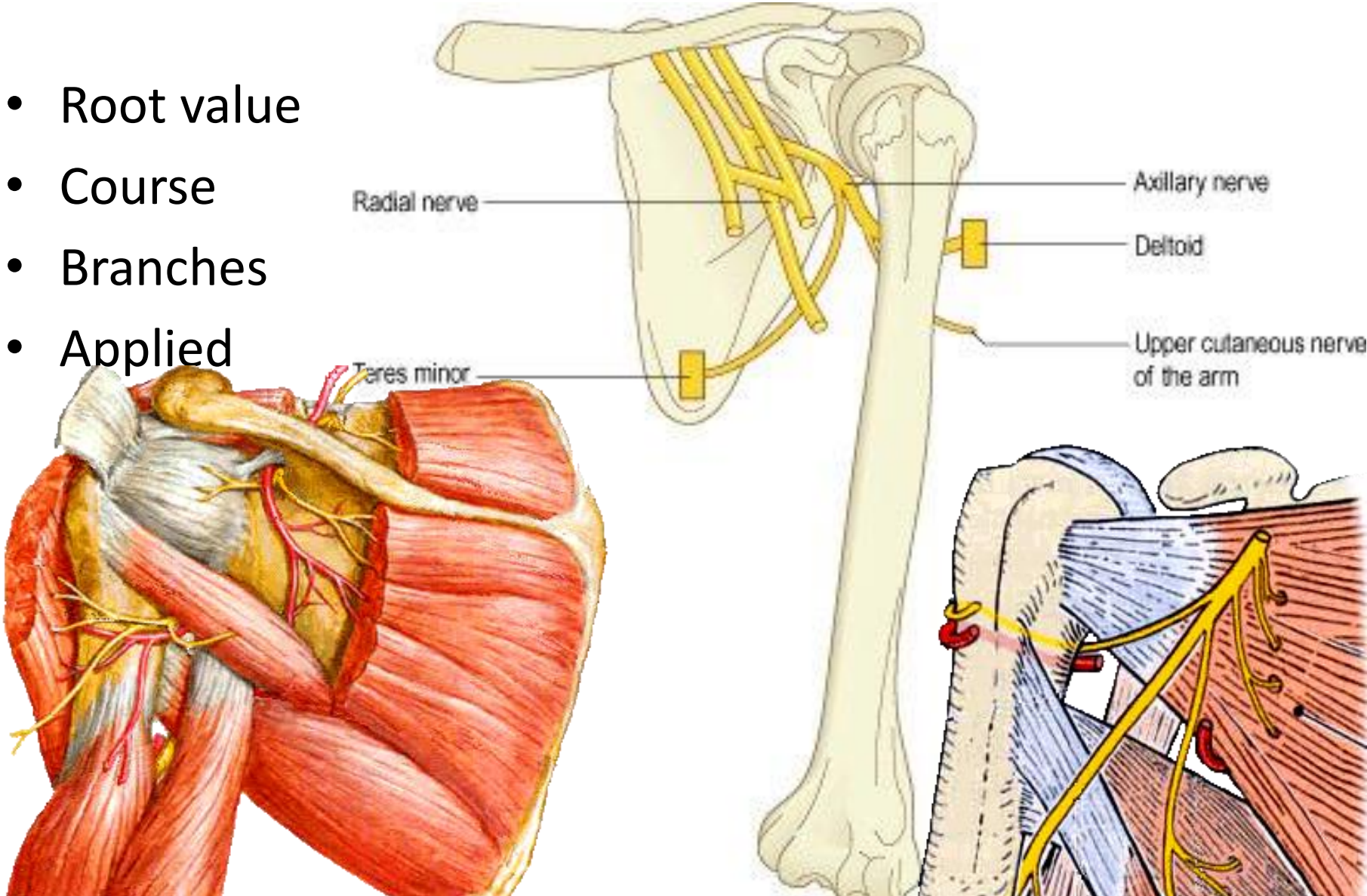
LIGATION OF THE AXILLARY ARTERY



The existence of the anastomosis around the shoulder joint is vital to preserving the upper limb if it should it be necessary to ligate the axillary artery.

Axillary (circumflex)nerve

- Root value
- Course
- Branches
- Applied



1. Rounded counter of shoulder is formed by----------muscle.

2. Axillary nerve is branch of ----------.

3. Medial boundary of quadrangular space is formed by ----------muscle.

4. Content of lower triangular space is ----------

5. Scapular anastomosis is between –first part of subclavian artery & --------part of axillary artery.

Thank you

- Lesson Plan: Scapular Region AnatomyTarget Audience:Medical students or healthcare professionals (basic knowledge of anatomy assumed).Lesson Duration:60 minutesLesson Objectives:By the end of the session, learners will be able to:Identify and describe the bony landmarks of the scapular region.Understand the musculature and its functions in the scapular region.Explain the neurovascular structures associated with the scapular region.Apply anatomical knowledge to clinical scenarios involving the scapular region.Lesson Outline1. Introduction (5 minutes)Objective: Set the stage for the topic.Content:Importance of scapular region anatomy in clinical practice (e.g., shoulder injuries, surgeries, nerve impingements).Overview of lesson objectives.Methods:Use visuals/models to show the scapular region.Briefly discuss clinical relevance.2. Bony Landmarks (10 minutes)Objective: Familiarize learners with the skeletal framework.Content:Scapula: Spine, acromion, coracoid process, glenoid cavity, medial/lateral borders, and inferior angle.Nearby bones: Clavicle and humerus.Palpation points in a clinical setting.Methods:Use anatomical models or skeletons for demonstration.Highlight landmarks on a diagram or cadaveric images.3. Musculature of the Scapular Region (15 minutes)Objective: Understand the major muscles and their functions.Content:Intrinsic muscles: Supraspinatus, infraspinatus, teres minor, and subscapularis (rotator cuff muscles).Extrinsic muscles: Trapezius, latissimus dorsi, rhomboids, and serratus anterior.Muscle attachments, nerve supply, and primary functions.Methods:Show muscle layers using diagrams or 3D anatomy tools.Encourage learners to actively label or sketch key muscles.4. Neurovascular Structures (15 minutes)Objective: Highlight the critical nerves and vessels in the region.Content:Nerves: Suprascapular nerve, axillary nerve, and dorsal scapular nerve.Blood supply: Suprascapular artery, circumflex scapular artery.Clinical correlations: Winged scapula, nerve impingements.Methods:Explain pathways using flow diagrams.Discuss common injuries (e.g