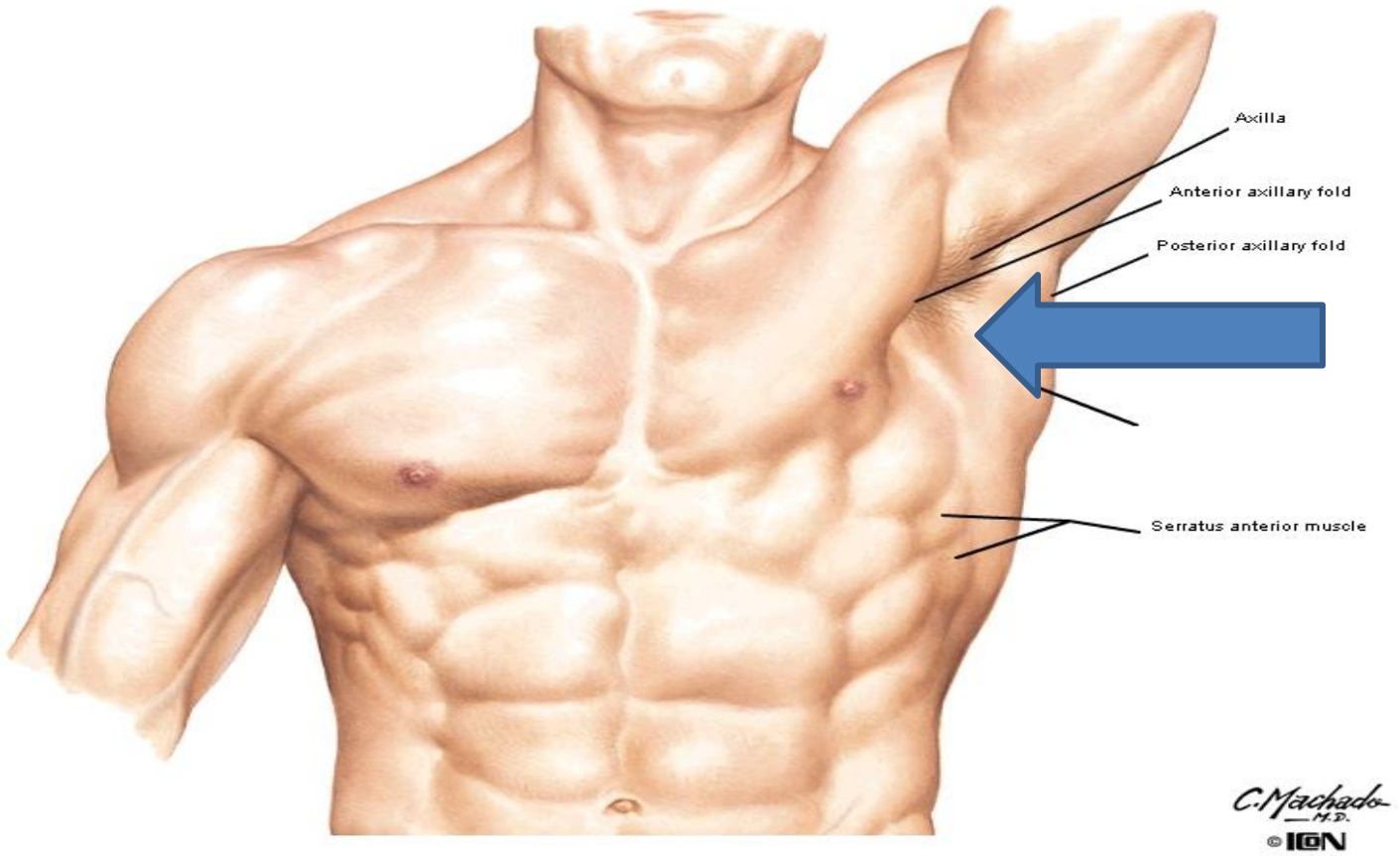
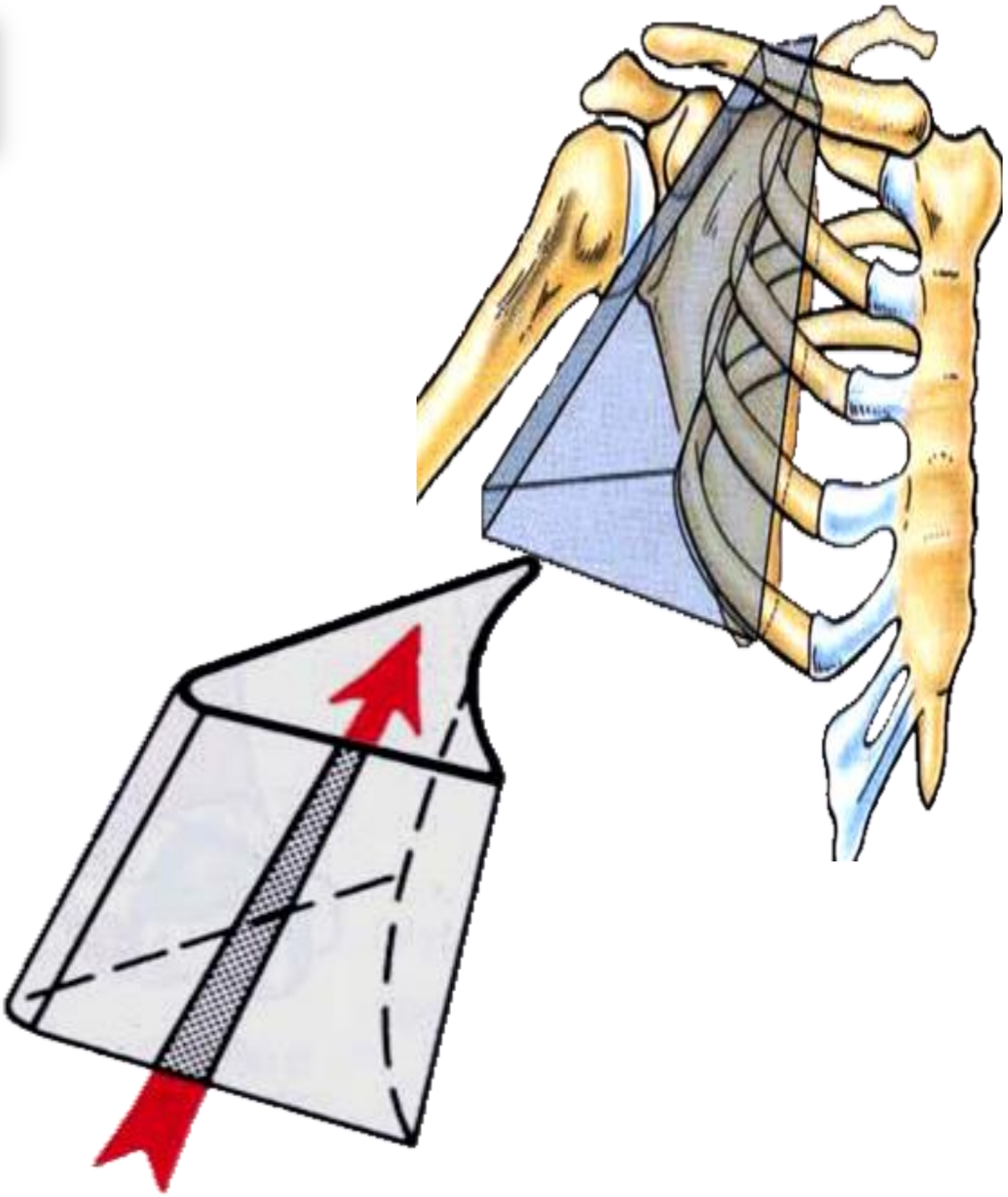
Anatomy of the Axilla

Axilla(Arm pit)



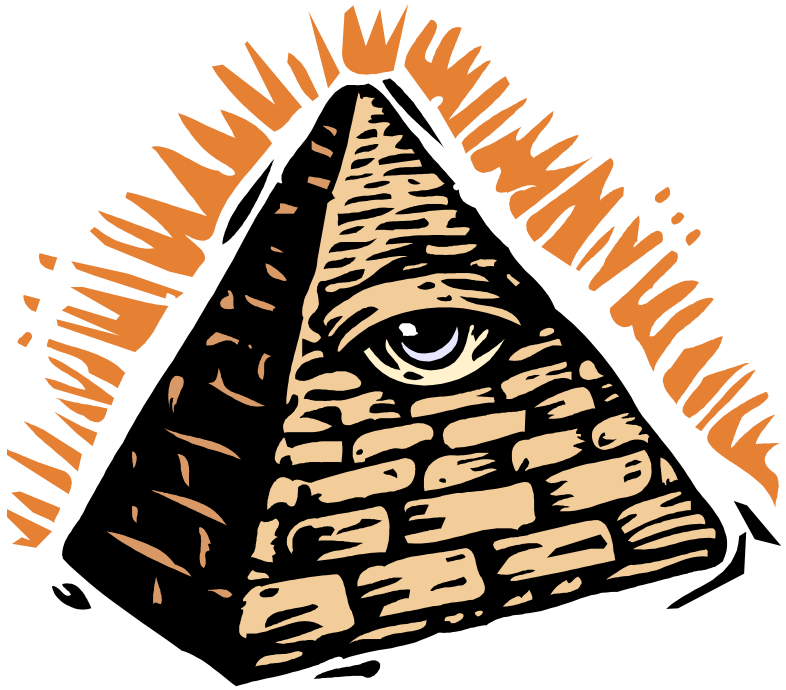
AXILLA

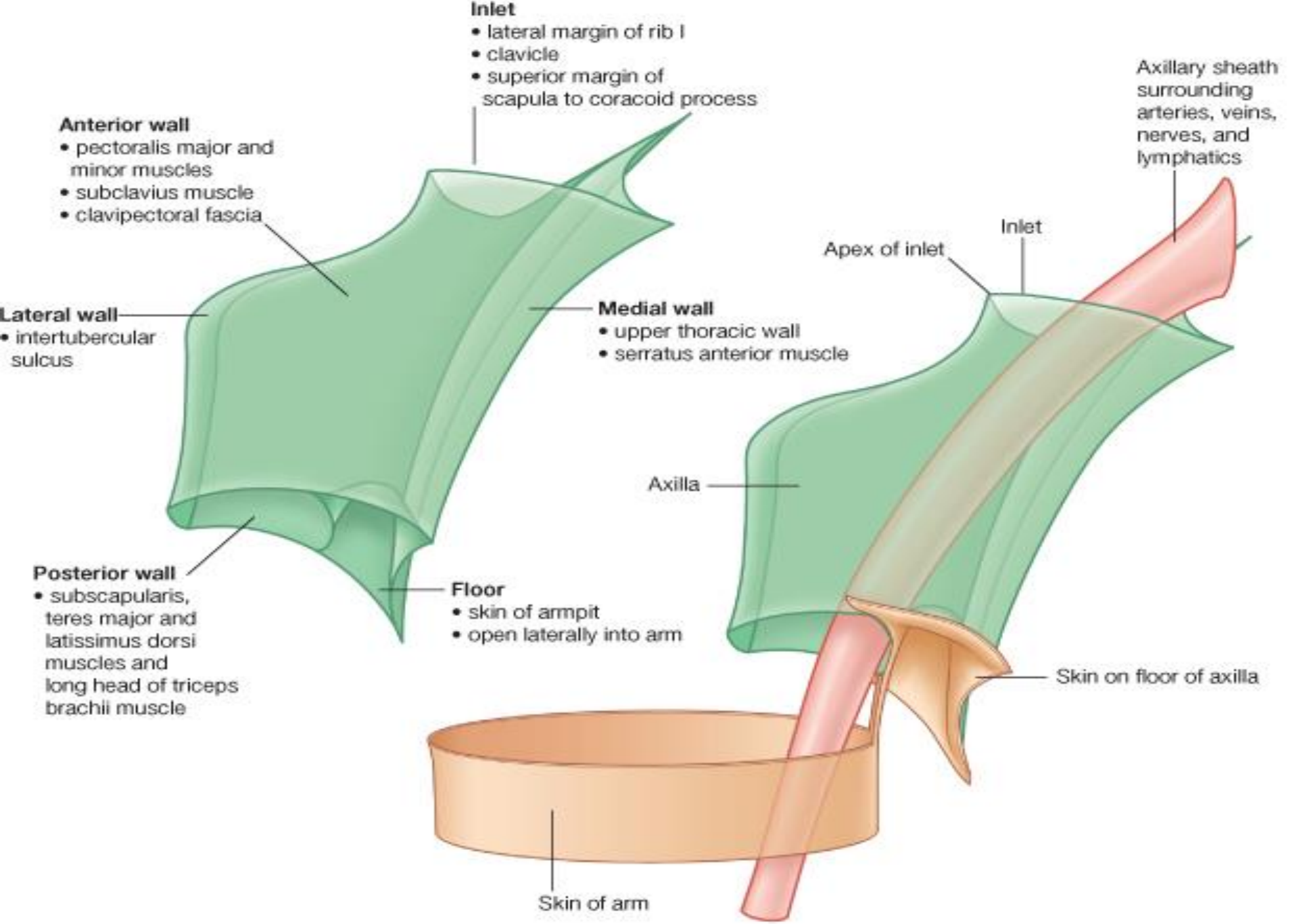
- A pyramid-shaped space between the upper part of the arm and the side of the chest through which major **neurovascular** structures pass between neck & thorax and upper limbs.
- Axilla has an **apex**, a **base** and **four walls.**



Axilla is a space

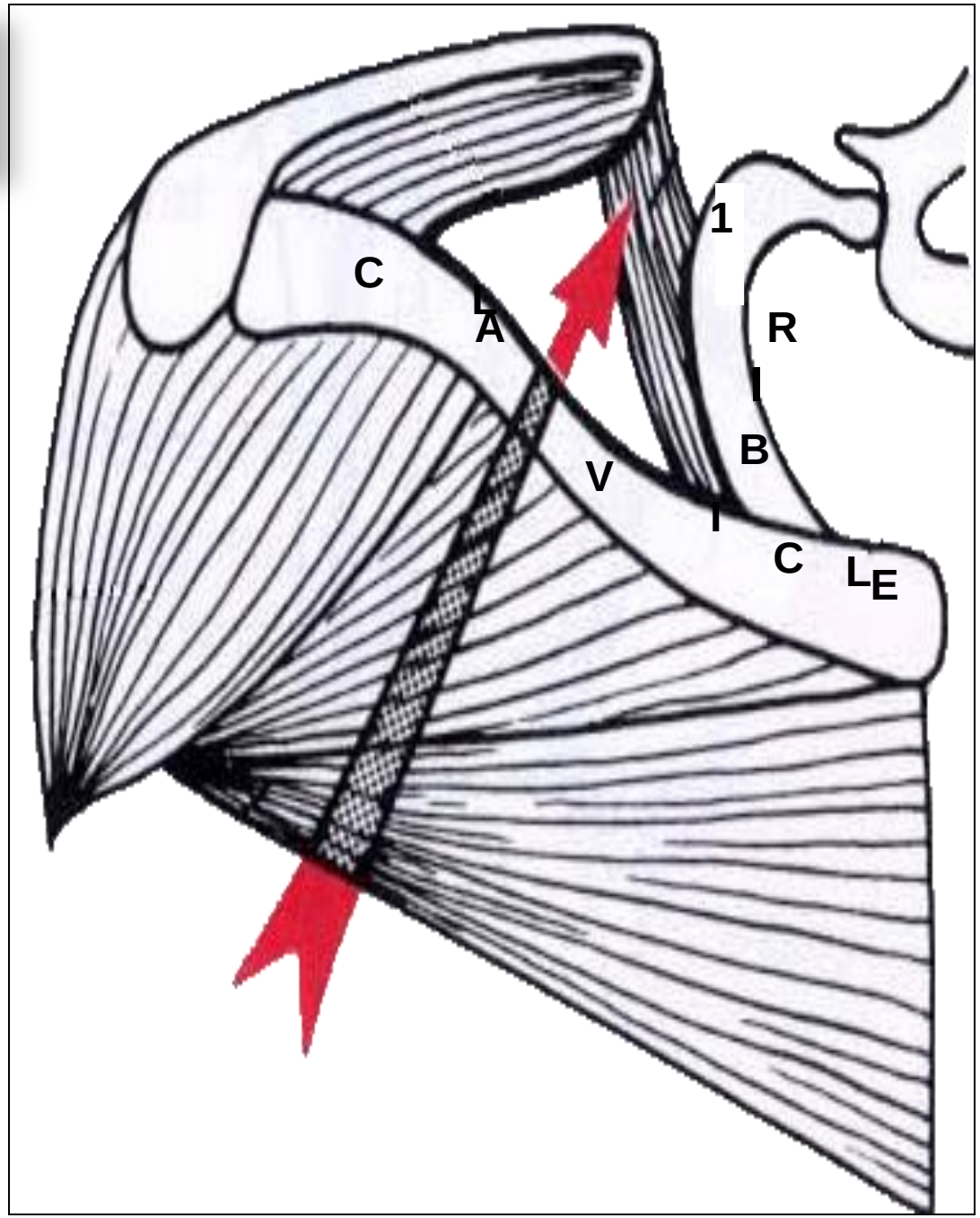
- 4 Sided pyramid
- **Apex** connected to the neck=Inlet
- **Base** Arm pit= Outlet
- Anterior wall
- Posterior wall
- Medial wall
- Lateral wall




Inlet
• lateral margin of rib I
• clavicle
• superior margin of scapula to coracoid process
Anterior wall
• pectoralis major and minor muscles
• subclavius muscle
• clavipectoral fascia
Lateral wall
• intertubercular sulcus
Medial wall
• upper thoracic wall
• serratus anterior muscle
Posterior wall
• subscapularis, teres major and latissimus dorsi muscles and long head of triceps brachii muscle
Floor
• skin of armpit
• open laterally into arm
Axillary sheath surrounding arteries, veins, nerves, and lymphatics
Inlet
Apex of inlet
Axilla
Skin on floor of axilla
Skin of arm

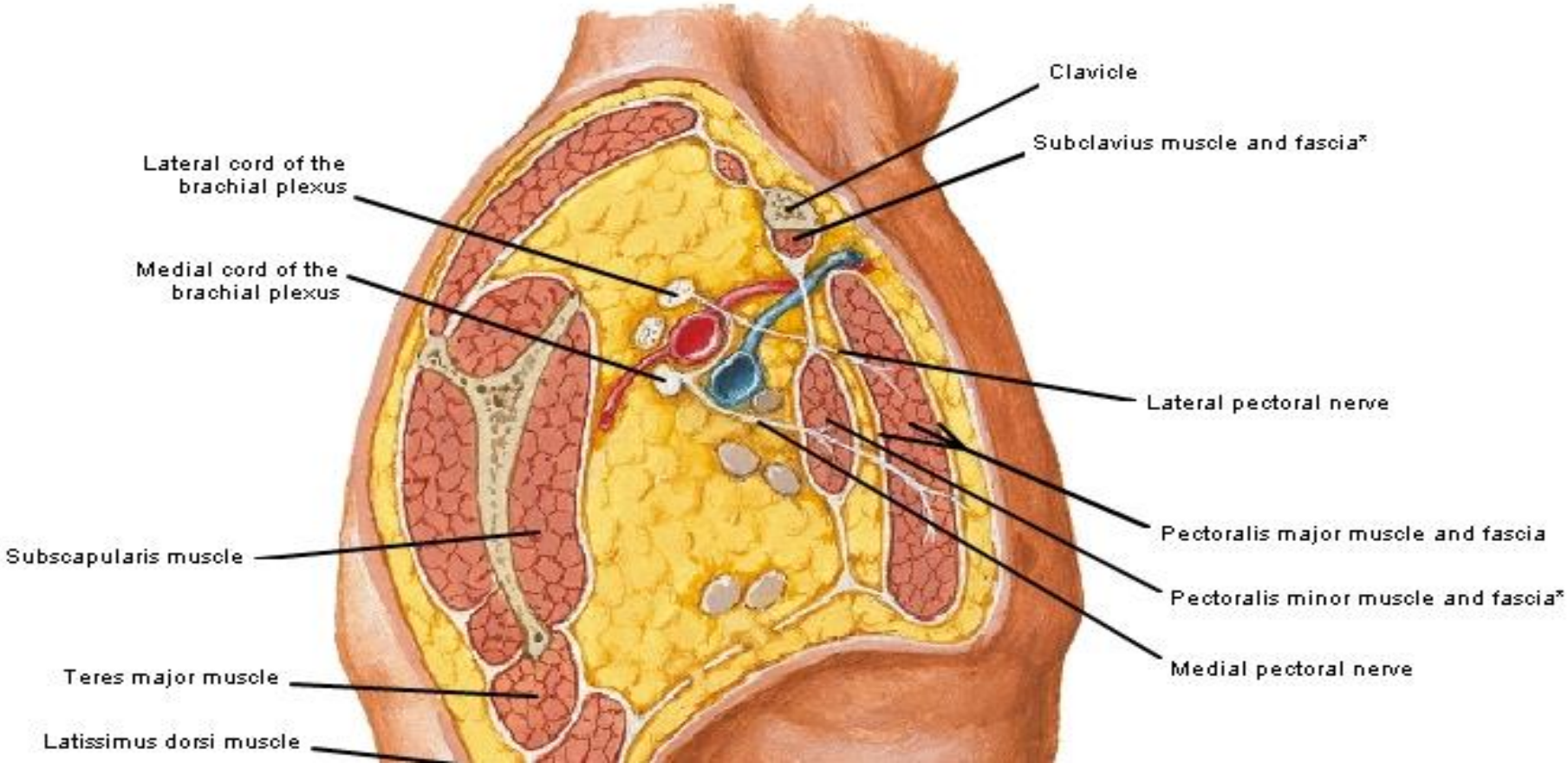
Boundaries of the Axilla

- **Apex:**
- Is directed upwards & medially to the root of the neck.
- It is called
  - **Cervicoaxillary canal.**
- **It is bounded, by 3 bones:**
  - Clavicle **anteriorly**.
  - Upper border of the scapula **posteriorly.**
  - Outer border of the first rib **medially**.



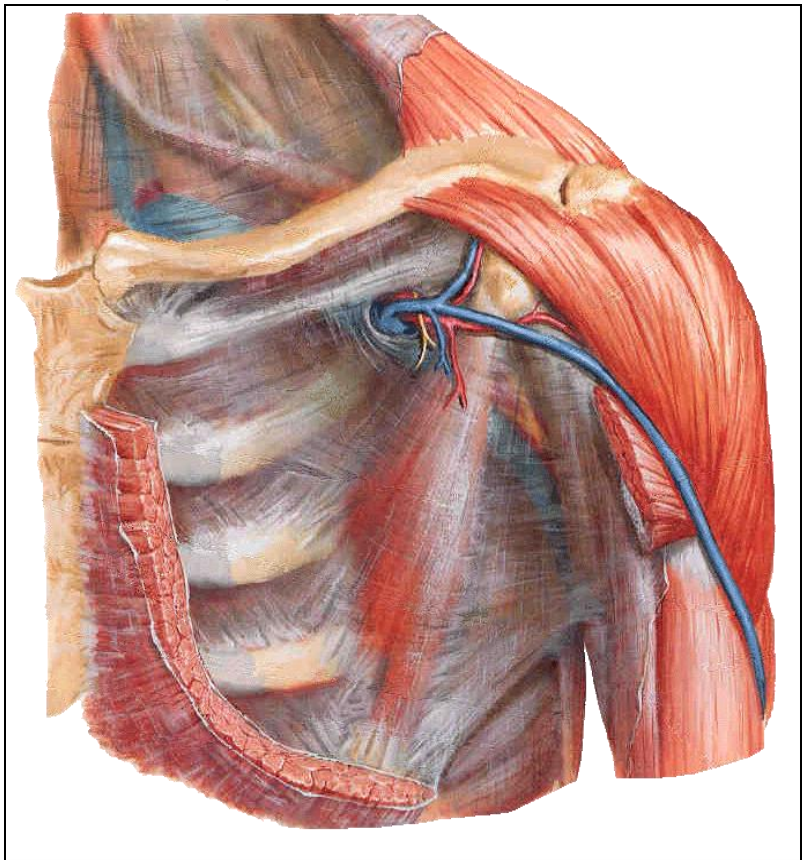
Base

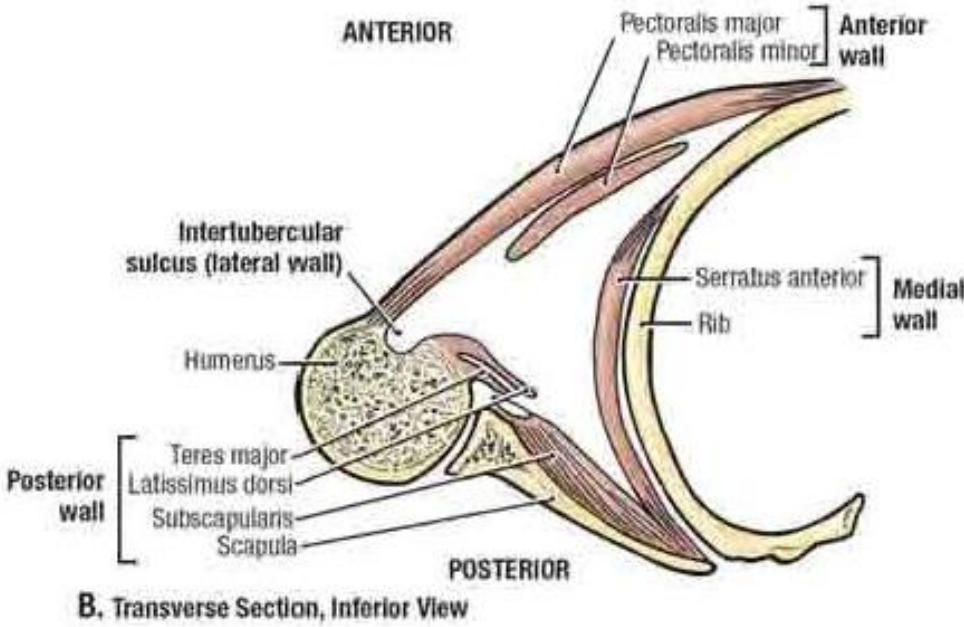
- Axillary fascia and Skin of the arm pit

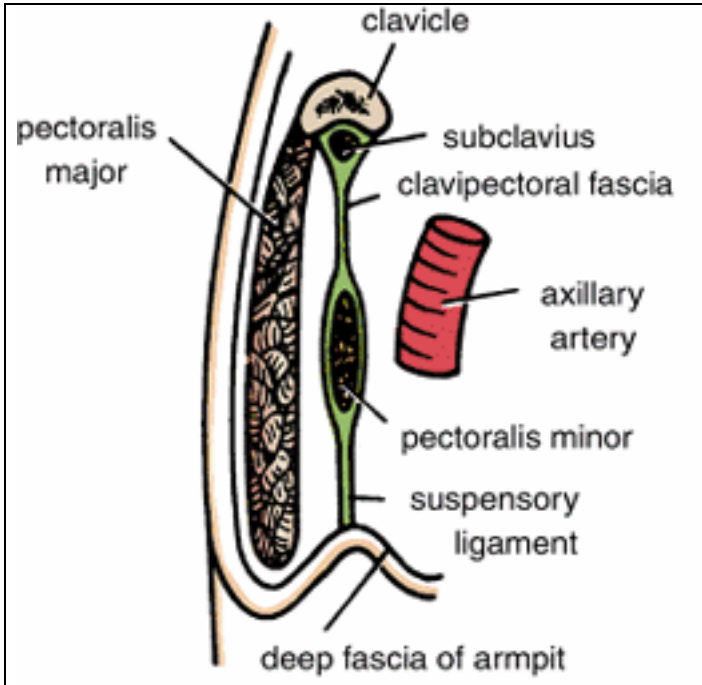


Anterior wall

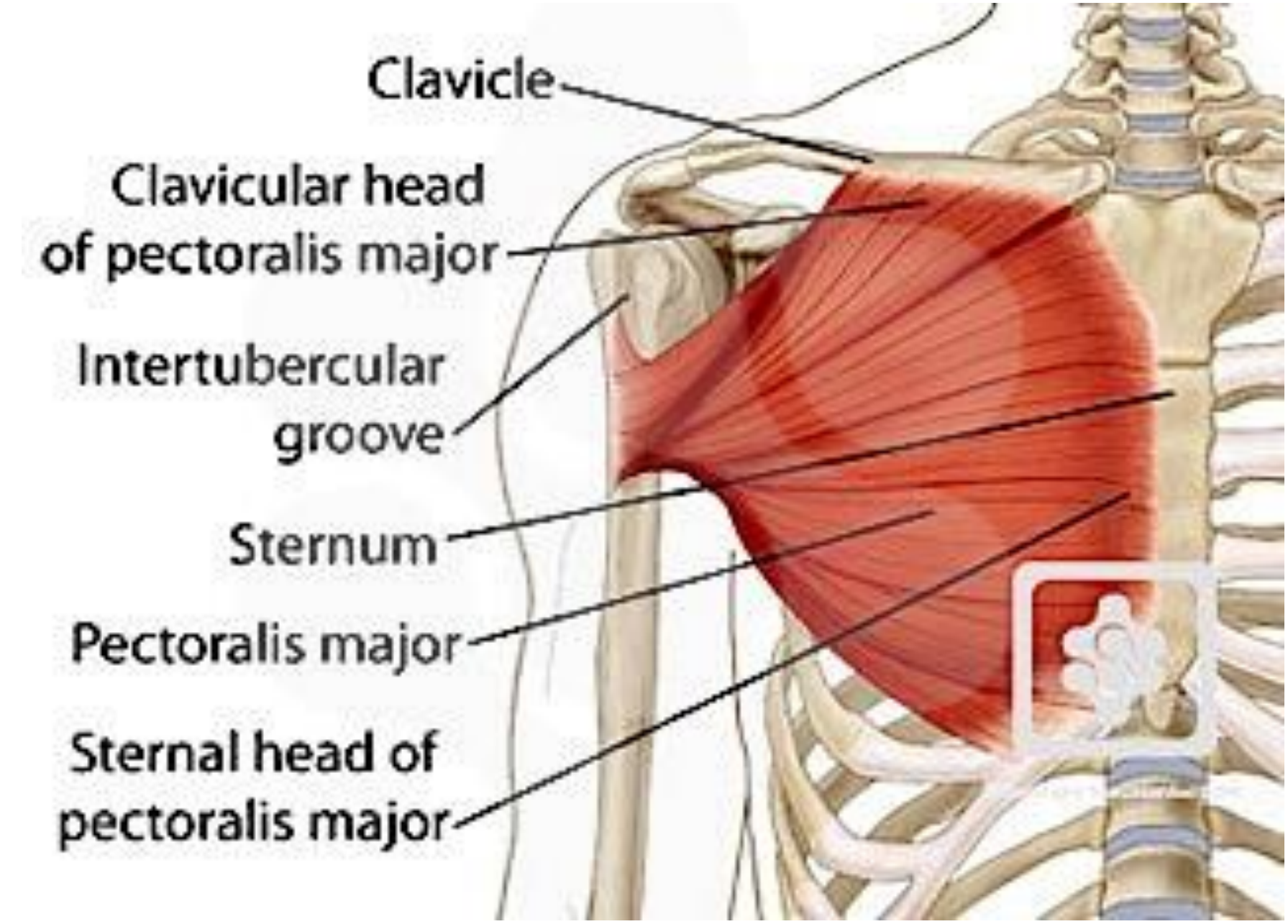
1. Pectoralis major
2. Pectoralis minor
3. Subclavius muscles
4. Clavipectoral fascia





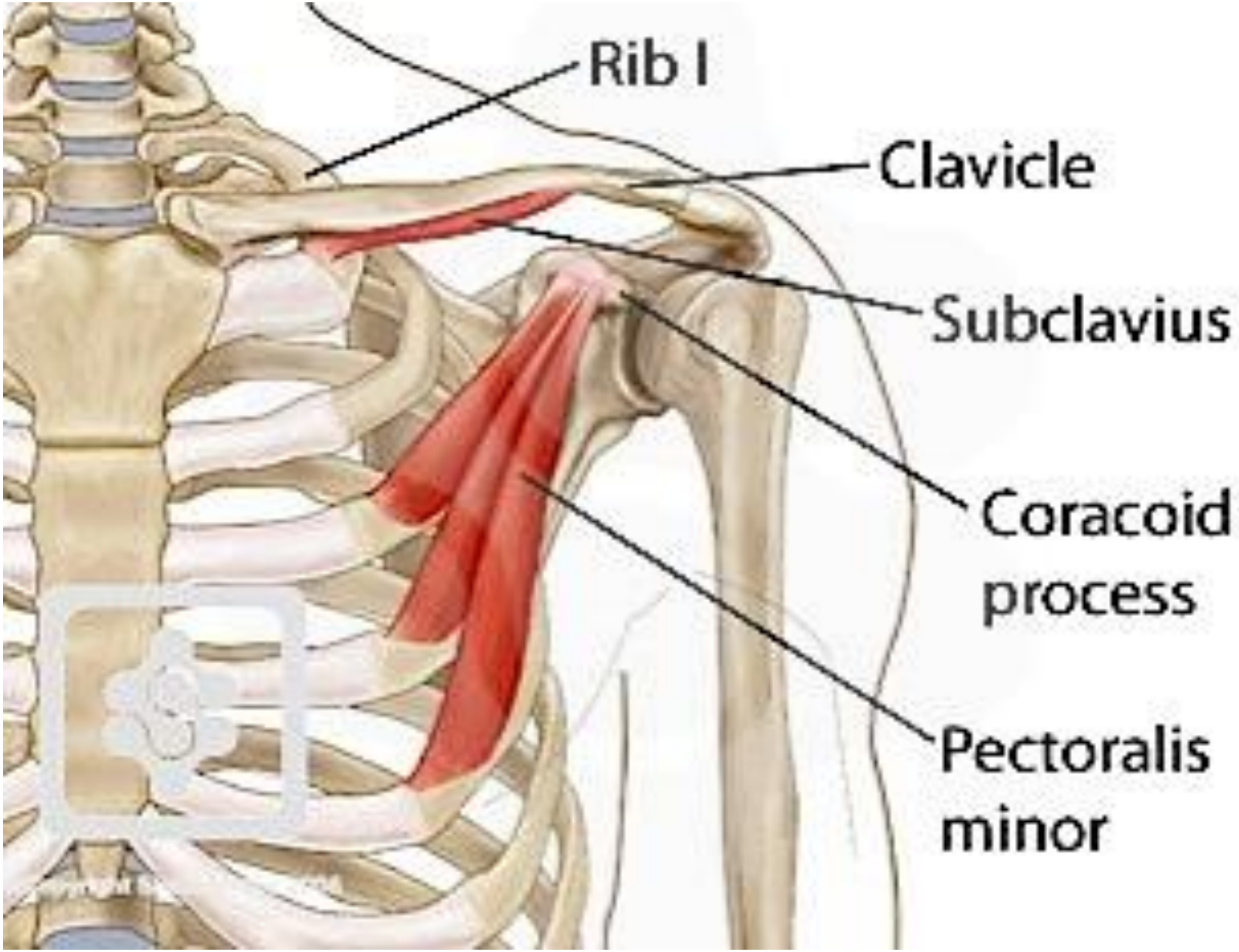


Pectoralis Major provides movement and support in the front of the shoulder. The muscle has two heads; the clavicular head originates from the more midline half of the clavicle, and the sternocostal head originates from the ***manubrium and sternum*** (chest bone). This muscle inserts into the lateral lip of the intertubercular sulcus on the humerus. When the two heads of the pectoralis major act together, they flex, adduct and medially rotate the arm at the glenohumeral joint.

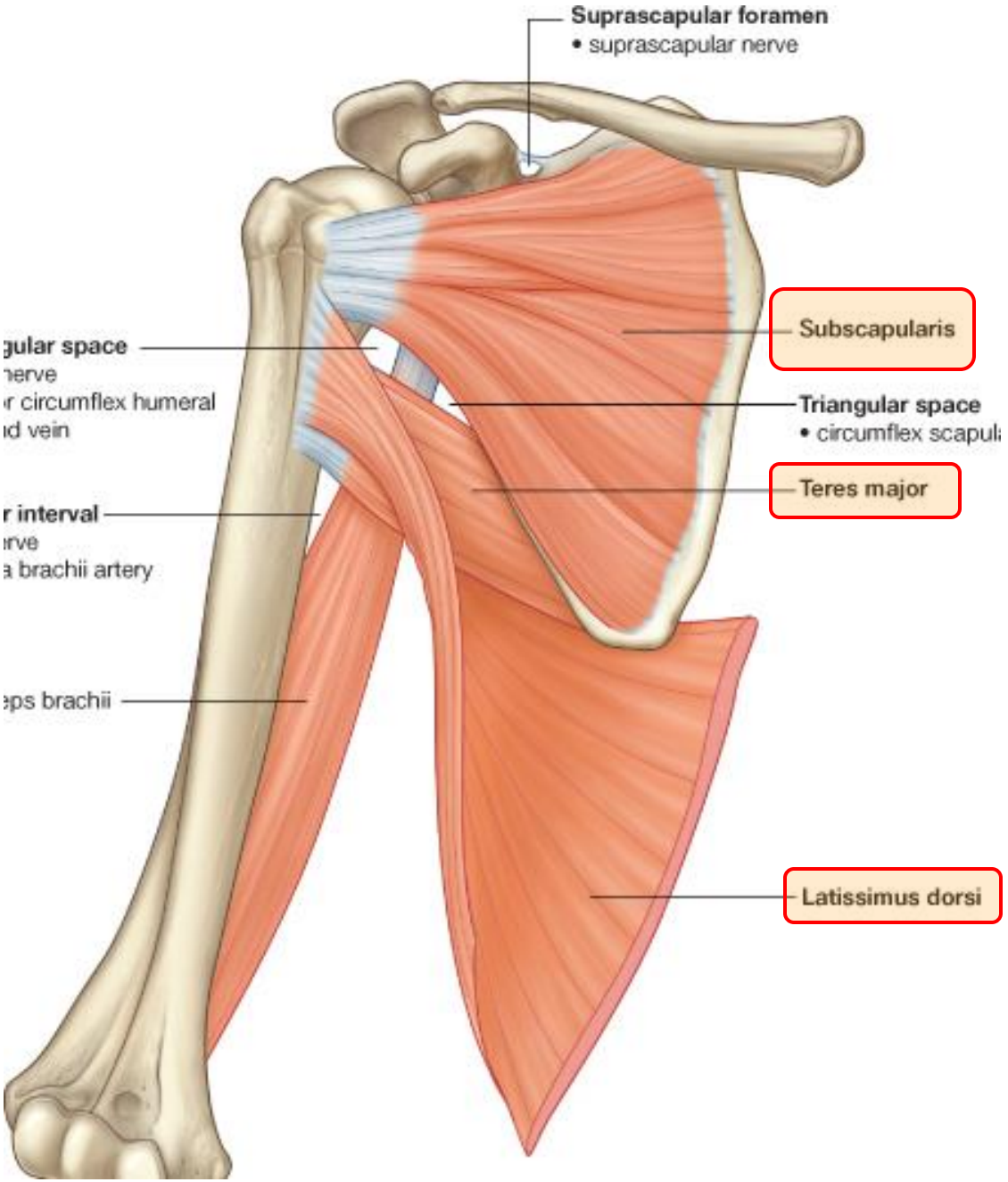

Clavicle
Clavicular head of pectoralis major
Intertubercular groove
Sternum
Pectoralis major
Sternal head of pectoralis major

– The ***pectoralis minor*** muscle is a small triangular shaped muscle that lies deep to pectoralis major muscle and passes as three muscular slips from the thoracic wall (ribs III to V) to the coracoid process of the scapula. Pectoralis minor draws the scapula forward and downward, and raises the ribs in forced inspiration.

- The ***subclavius*** muscle is a small muscle that lies deep to pectoralis major muscle. It passes from rib I at the junction between the rib and its costal cartilage to a groove on the inferior (lower) surface of the clavicle. It depresses the clavicle, draws the shoulder forward and downward, and steadies the clavicle during movements of the shoulder

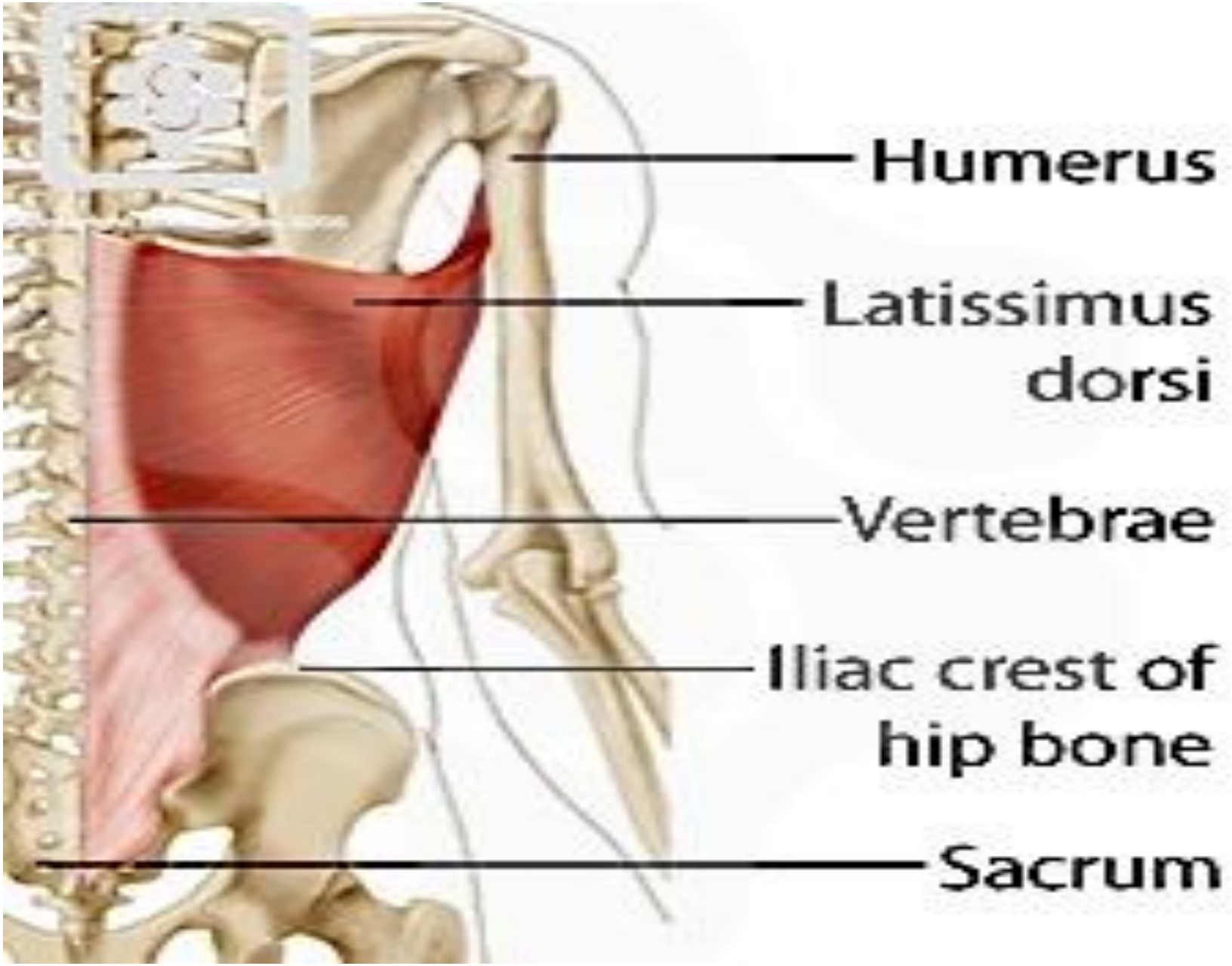

Rib I
Clavicle
Subclavius
Coracoid process
Pectoralis minor

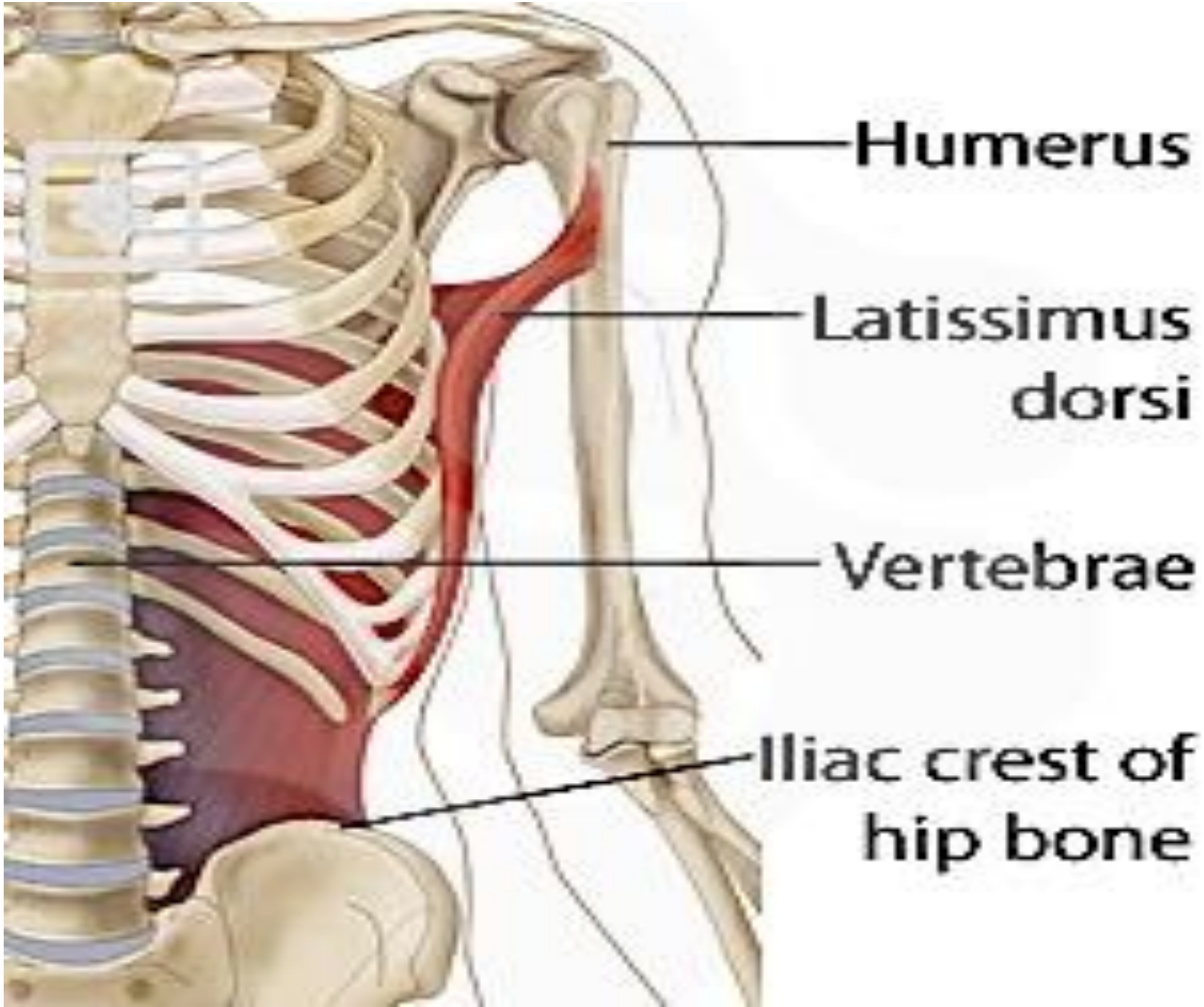
- **Posterior wall:**
- Is formed by:
  - **Subscapularis.**
  - **Latissimus dorsi.**
  - **Teres major muscles.**



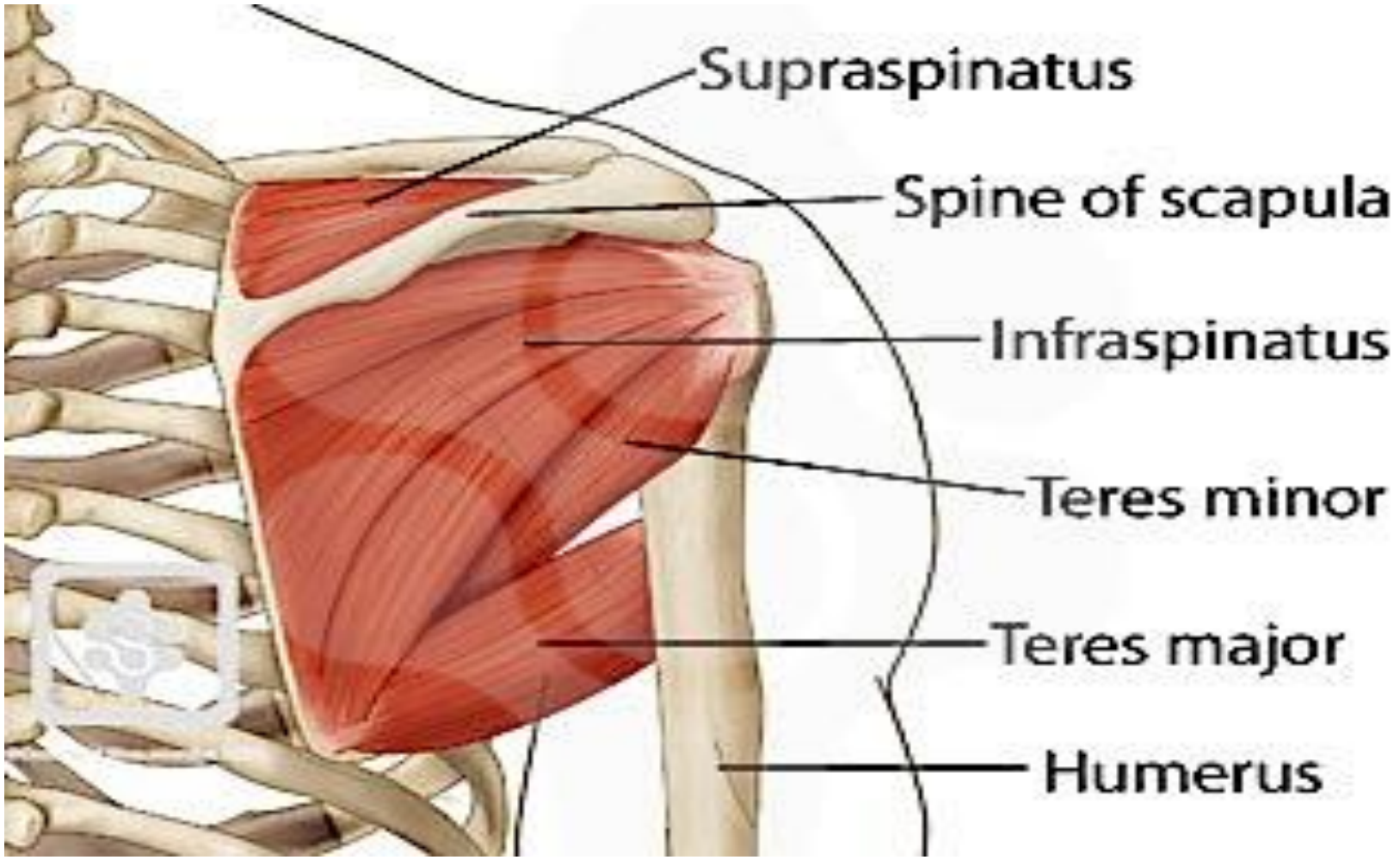
- ***Subscapularis*** forms the largest component of the posterior wall of the axilla (area on the body directly under the joint where the arm connects to the shoulder). It originates from and fills the subcapular fossa on the anterior surface of the scapula and inserts on the lesser tuberosity of the humerus, and part of the capsule of the shoulder joint. This muscle medially rotates the arm, and stabilizes the glenohumeral joint.

- ***Latissimus dorsi*** muscle originates from the spinous process of the lower six thoracic vertebrae, lumbar vertebrae, sacral vertebrae, the iliac crest of the hip bone and the lower three or four ribs. It finally inserts on to the bottom of the intertubercular groove. Latissimus dorsi extends, adducts and medially rotates the arm. It also draws the shoulder downward and backward and keeps the inferior angle of the scapula against the chest wall.

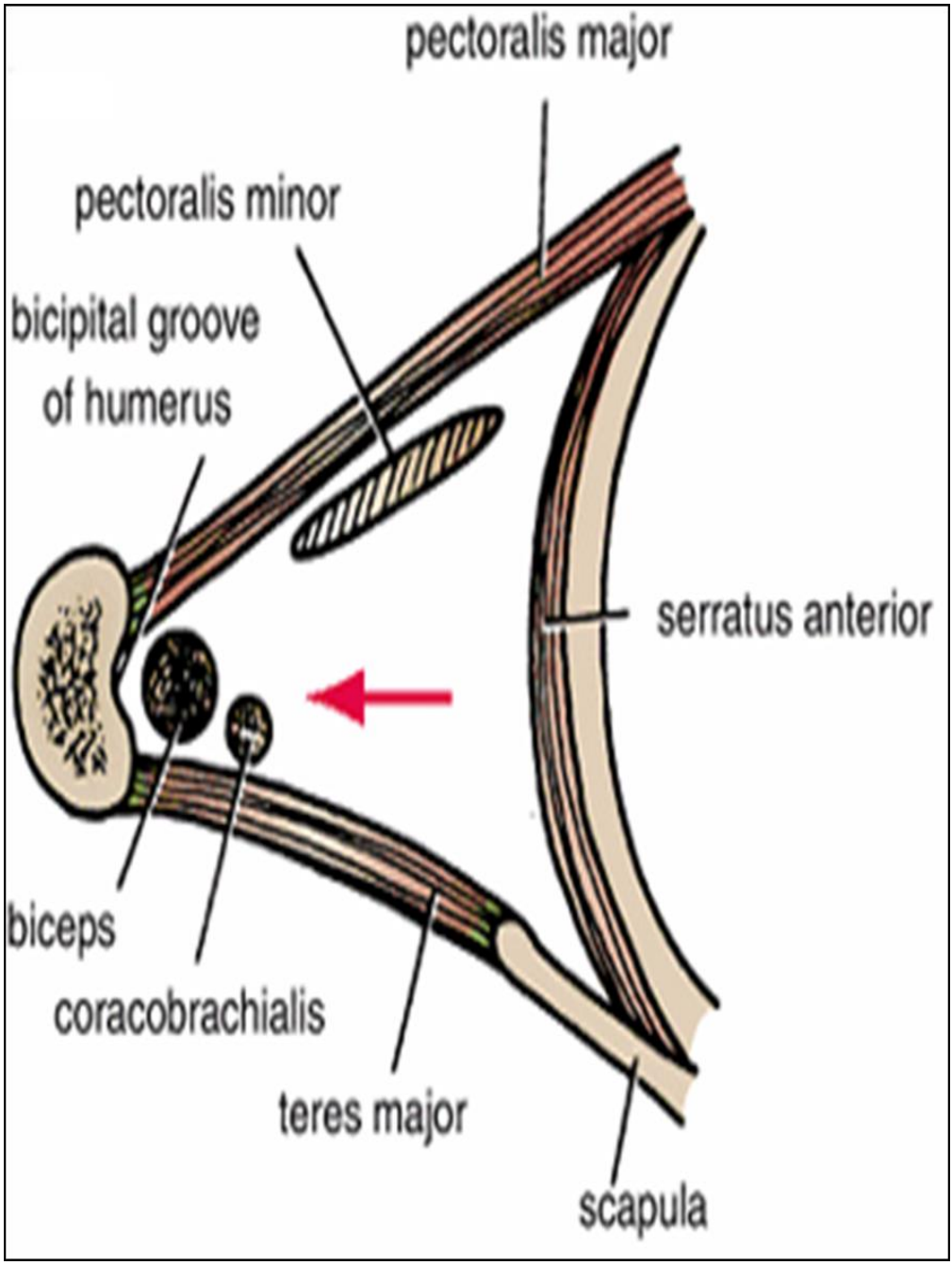

Humerus
Latissimus dorsi
Vertebrae
Iliac crest of hip bone
Sacrum


Humerus
Latissimus dorsi
Vertebrae
Iliac crest of hip bone

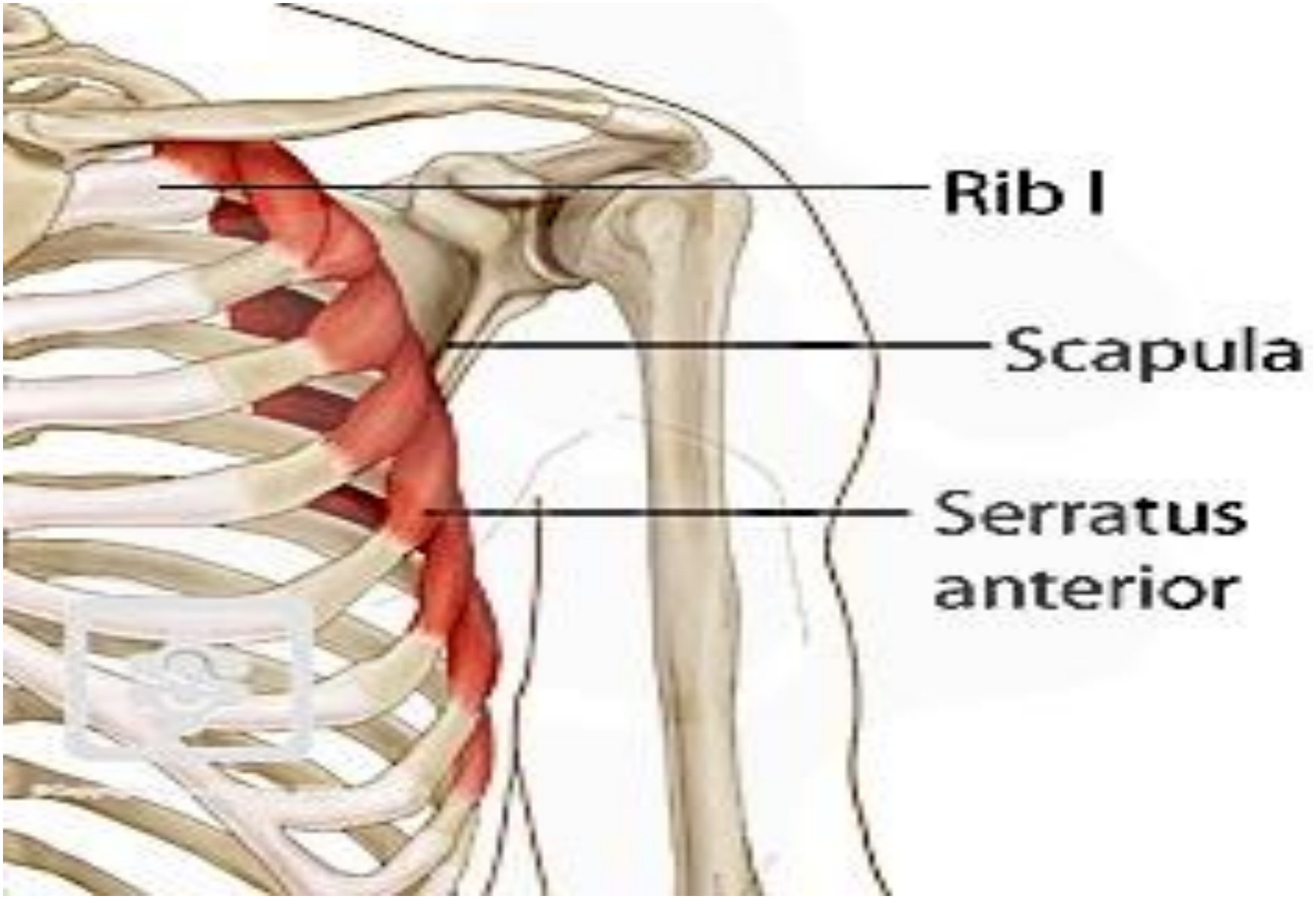
- ***Teres major*** muscle originates from posterior surface of the inferior angle of the scapula and attaches the medial lip of the intertubercular sulcus which lies on the anterior surface of the humerus. This muscle extends and medially rotates the humerus.

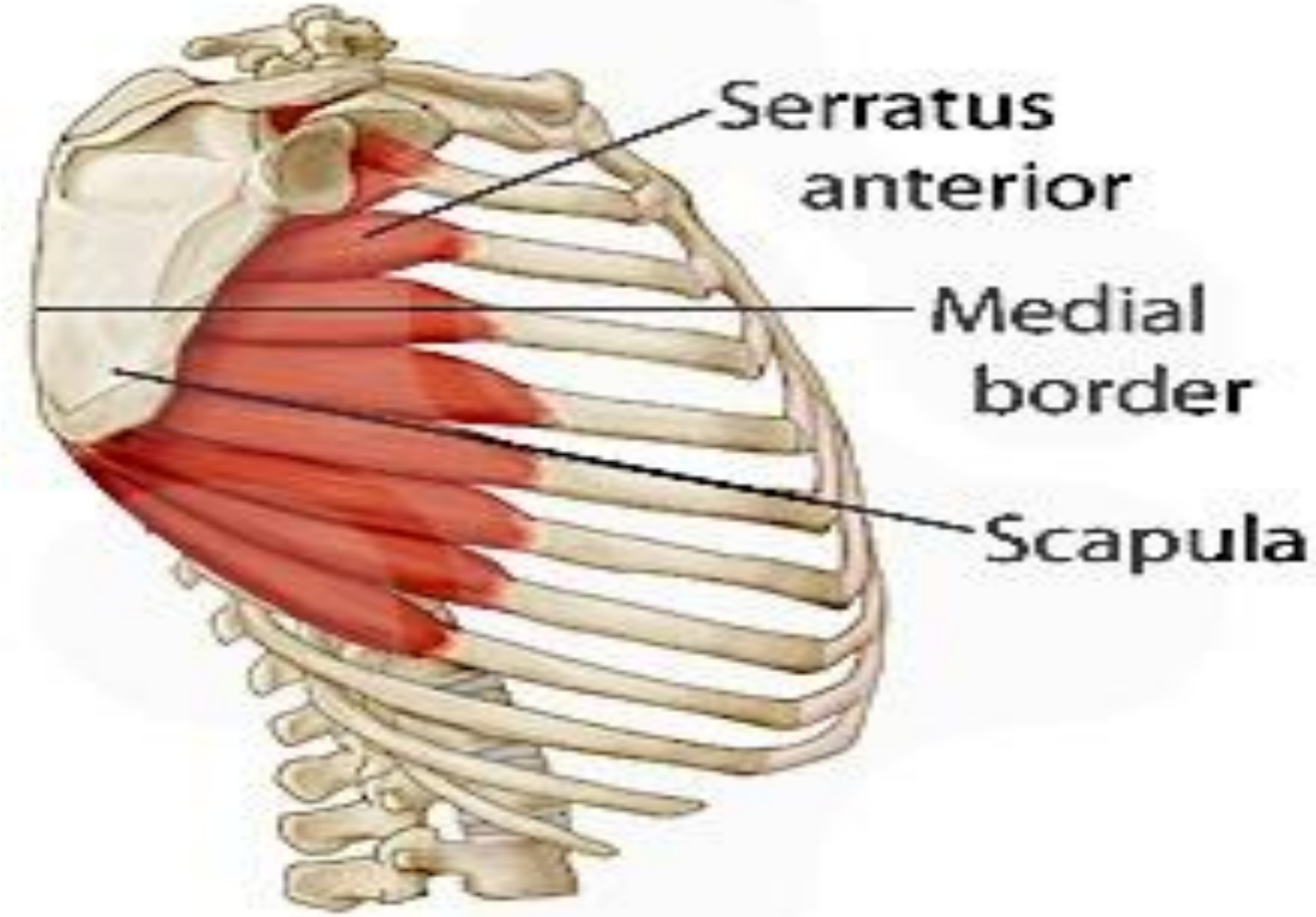

Supraspinatus
Spine of scapula
Infraspinatus
Teres minor
Teres major
Humerus

- **The medial wall:**
- It is wide and formed by:
  - **Serratus anterior.**
  - **Upper 4-5 ribs & Intercostal muscles .**

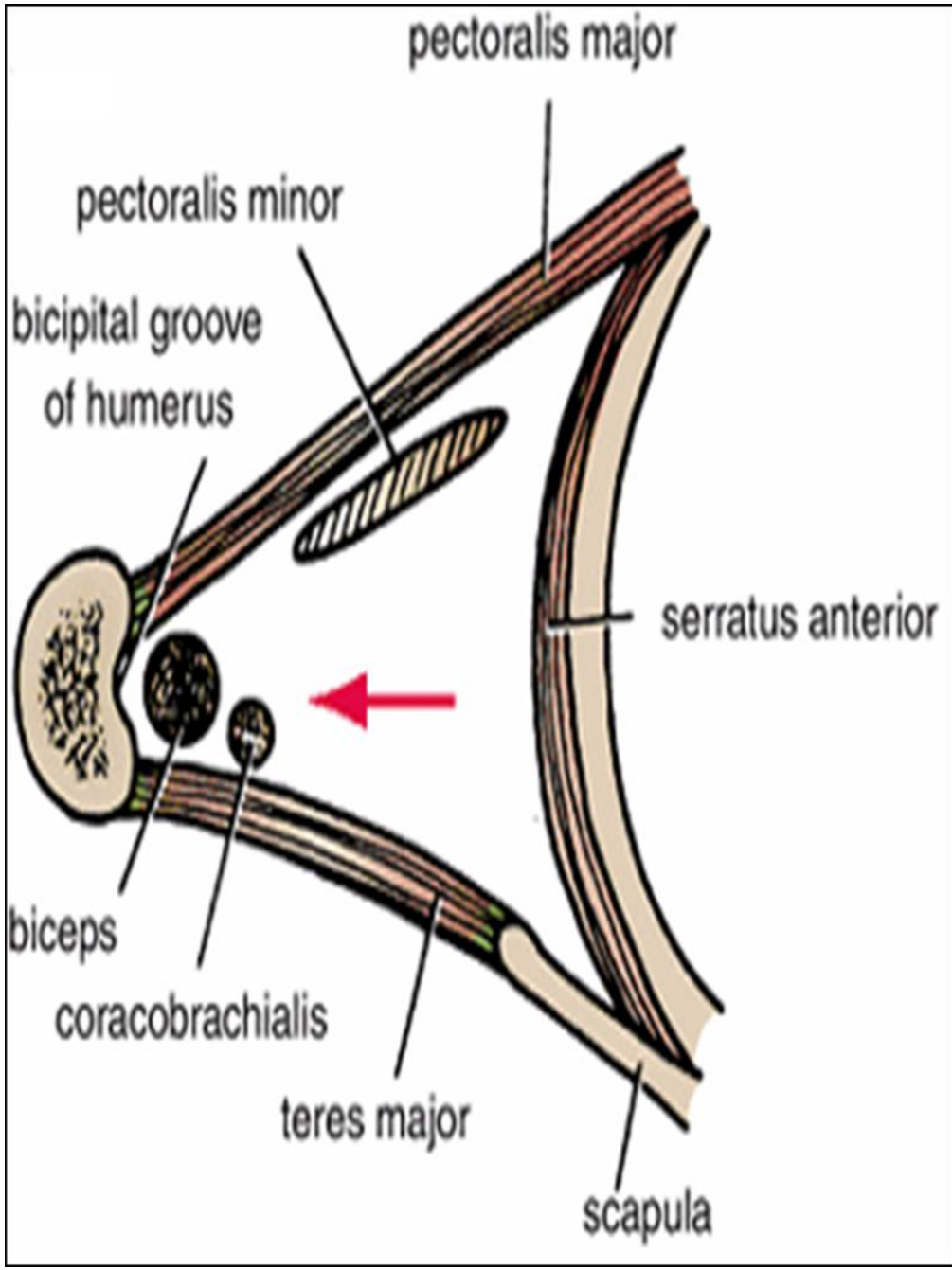


Serratus anterior muscle originates as a number of muscular slips from the outer surfaces and superior borders of the first eight or nine ribs, and fascia covering the first intercostal spaces (spaces between each rib). They then form a flattened sheet which passes around the thoracic wall and attaches to the anterior (costal surface, that glides over the ribs) of the medial border of the scapula. The serratusanterior pulls the scapula forward of the the thoracic wall and rotates the scapula for abduction and flexion of the arm.


Rib I
Scapula
Serratus anterior

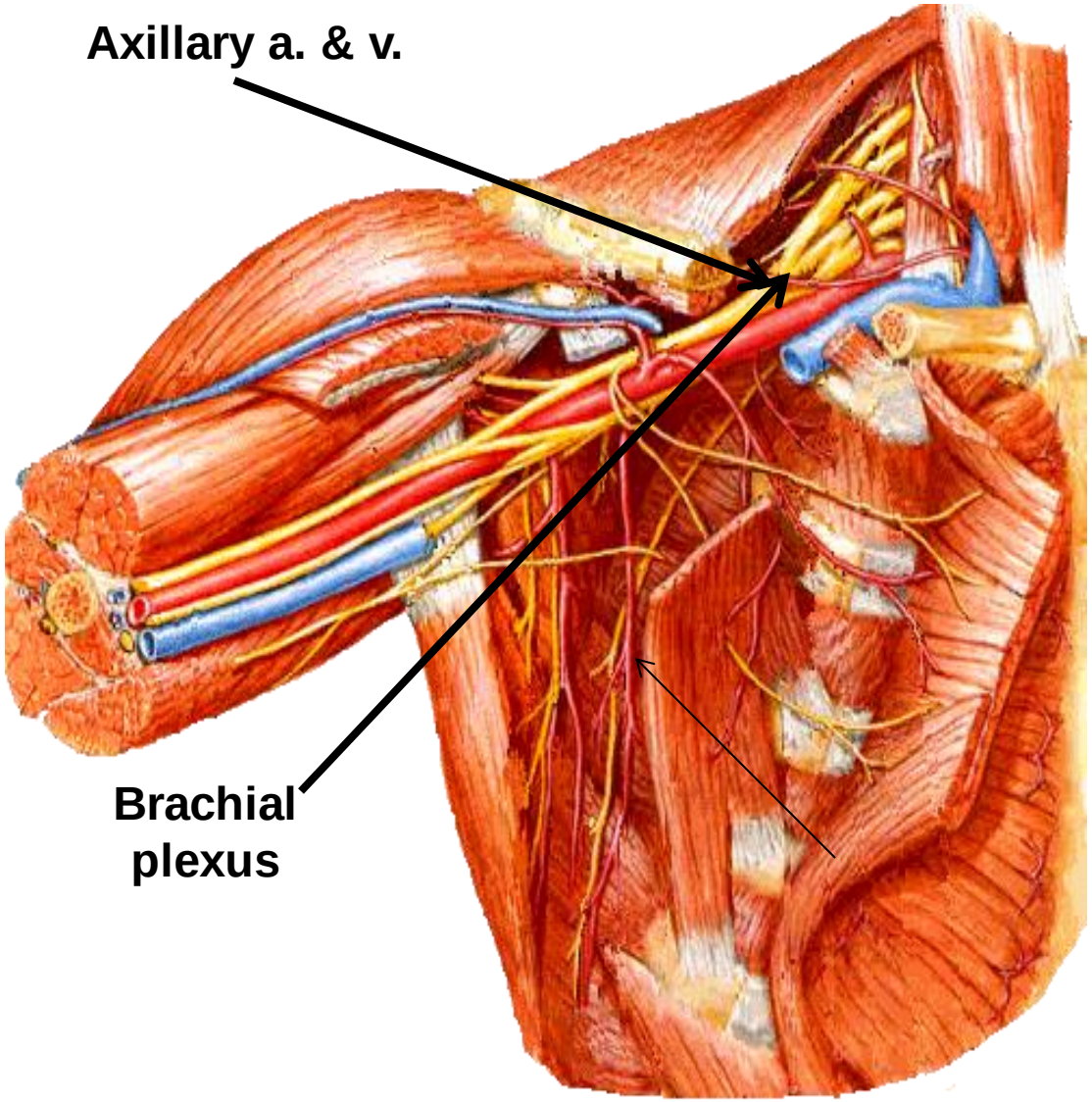

Serratus anterior
Medial border
Scapula

- **The lateral wall:**
- It is narrow and formed by:
  - **Coracobrachialis.**
  - **Biceps brachii.**
  - **Bicepital groove of the humerus.**

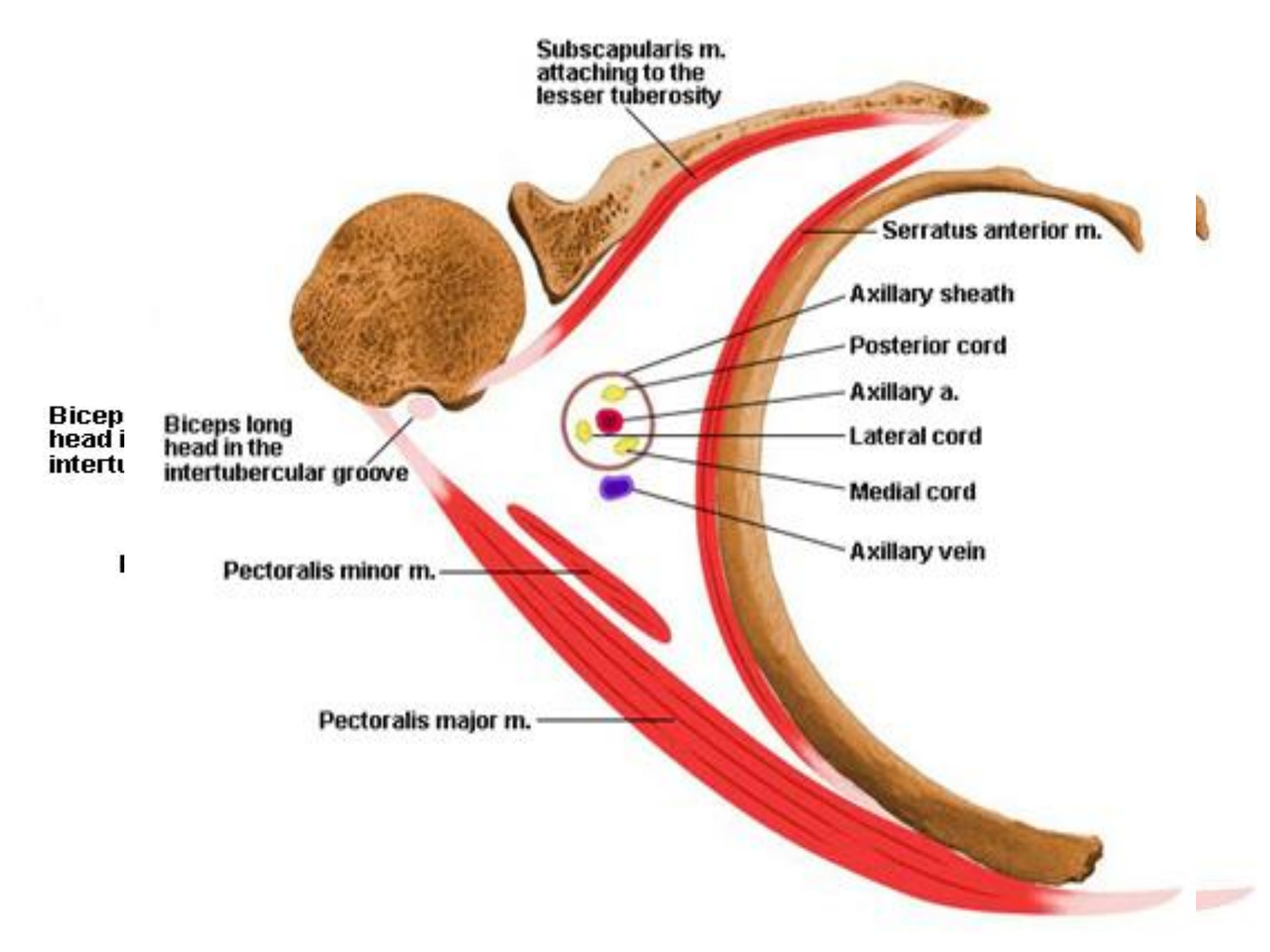


Contents of The Axilla

- Cords and branches of the brachial plexus
- Axillary artery and its branches.
- Axillary vein and its tributaries.
- Axillary lymph nodes.
- Axillary lymphatic vessels
- Axillary fat.
- Loose connective tissue.



The neurovascular bundle is enclosed in connective tissue sheath, called '**axillary sheath**'


Subscapularis m. attaching to the lesser tuberosity
Serratus anterior m.
Axillary sheath
Posterior cord
Axillary a.
Lateral cord
Medial cord
Axillary vein
Biceps long head in the intertubercular groove
Pectoralis minor m.
Pectoralis major m.