The pectoral region

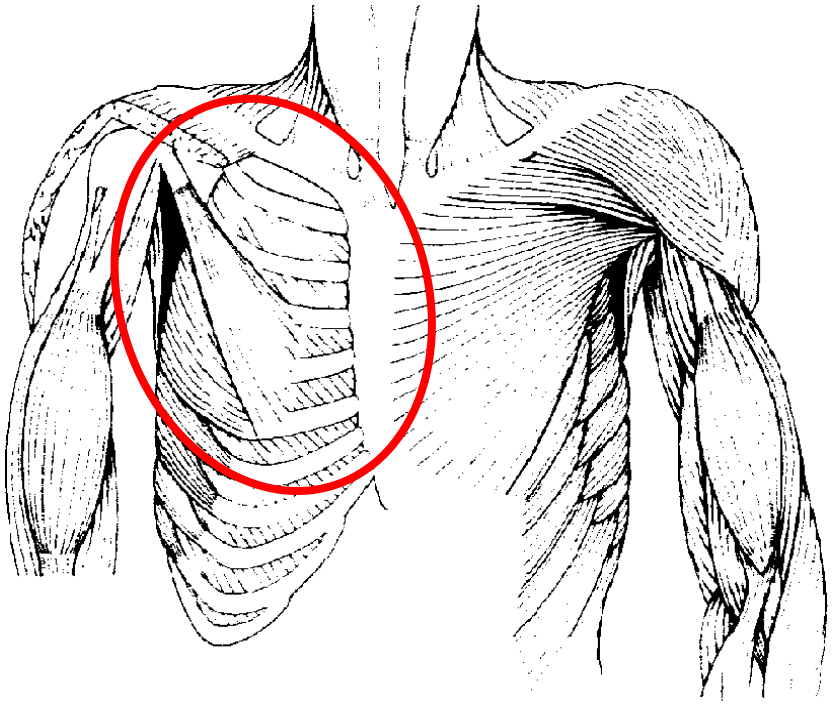
Objective

- Study the Bones and Joints
  A. Clavicle (collarbone)
  B. Scapula (shoulder blade)
  C. Humerus
  D. Radius
  E. Ulna
  F. Carpal bones
  G. Metacarpals
  H. Phalanges

The pectoral region

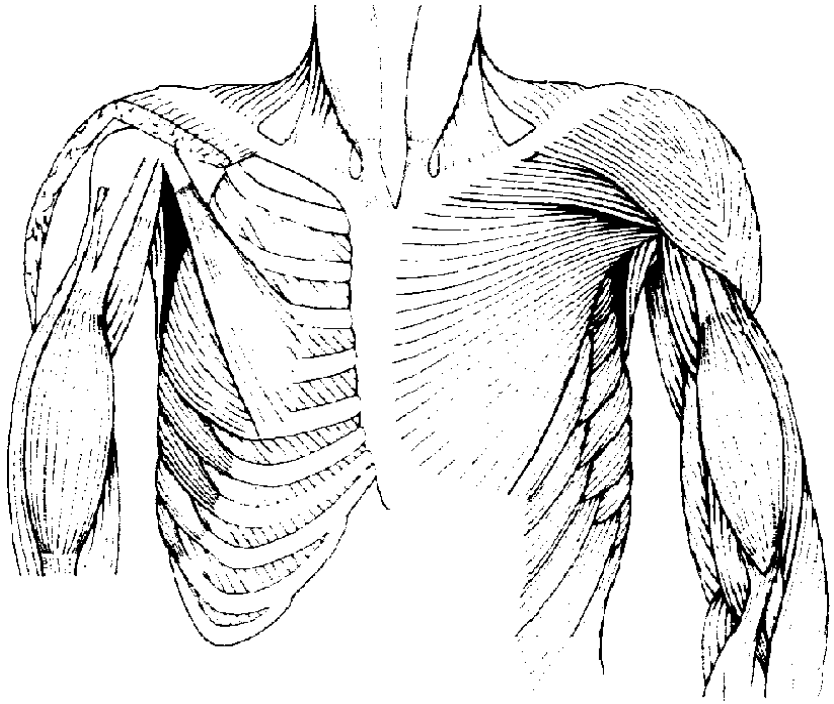
- Pectoralis major
- Rectus sternalis
- Morphology of body wall muscles
- Deltopectoral triangle
- Pectoralis minor
- Subclavius
- Clavipectoral fascia
- Serratus anterior

The pectoral region



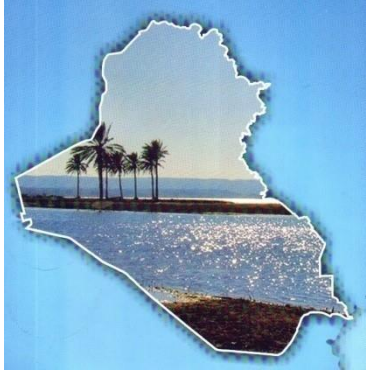
- The pectoral region is located on the anterior aspect of the thorax
- It contains muscles that belong to the upper limb.

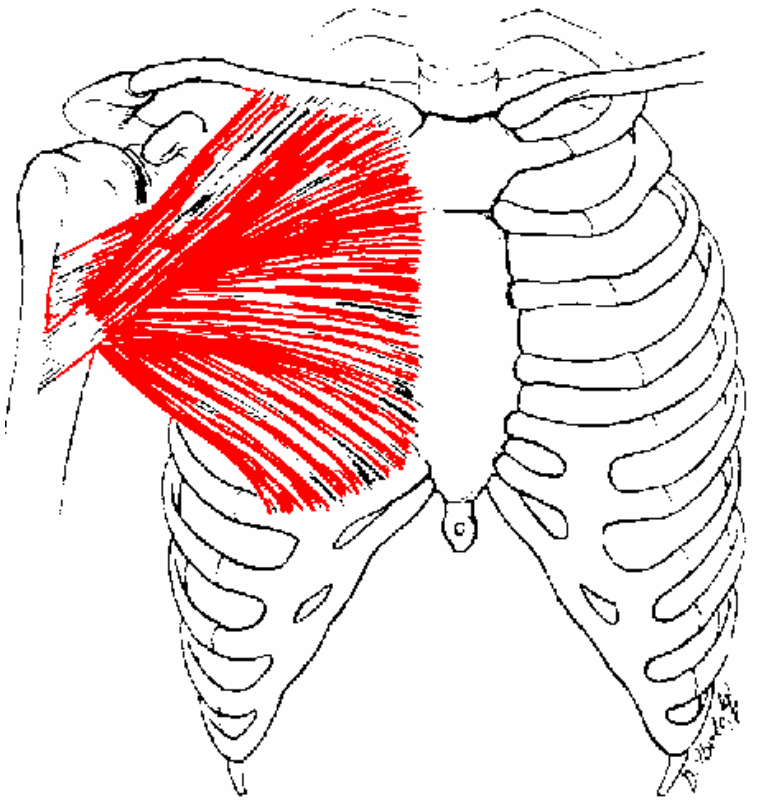
The pectoral muscles



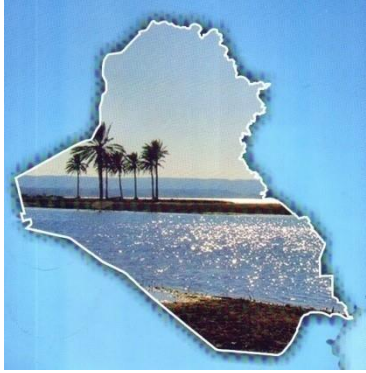
- The pectoral muscles are 4 muscles; these are
- **pectoralis major,**
- **pectoralis minor,**
- **subclavius, and**
- **serratus anterior.**

Pectoralis major

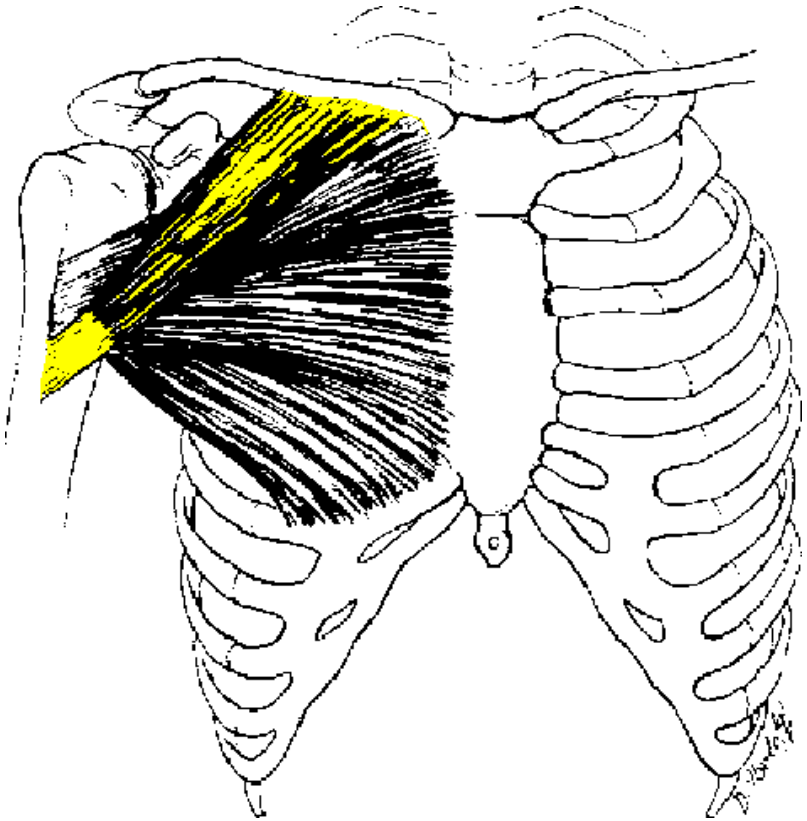




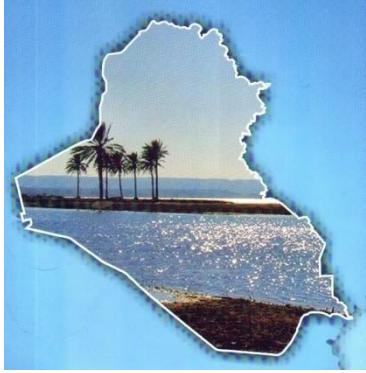
- This is a large, powerful, fan-shaped (triangular) muscle.
- It is attached by means of two heads to the front of the chest



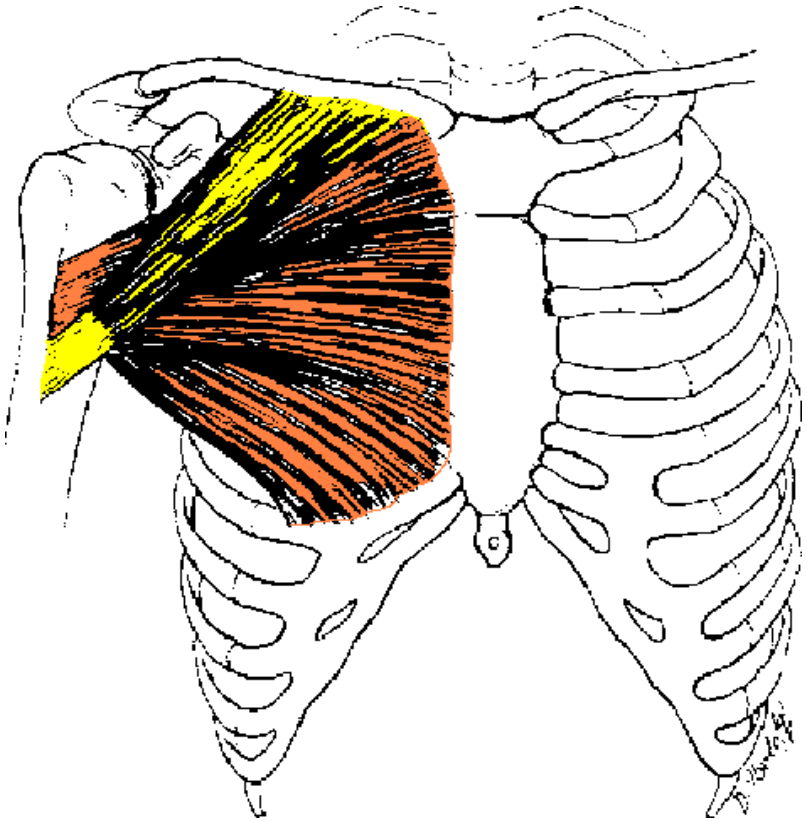
Clavicular head



- arises from the medial half of the clavicle

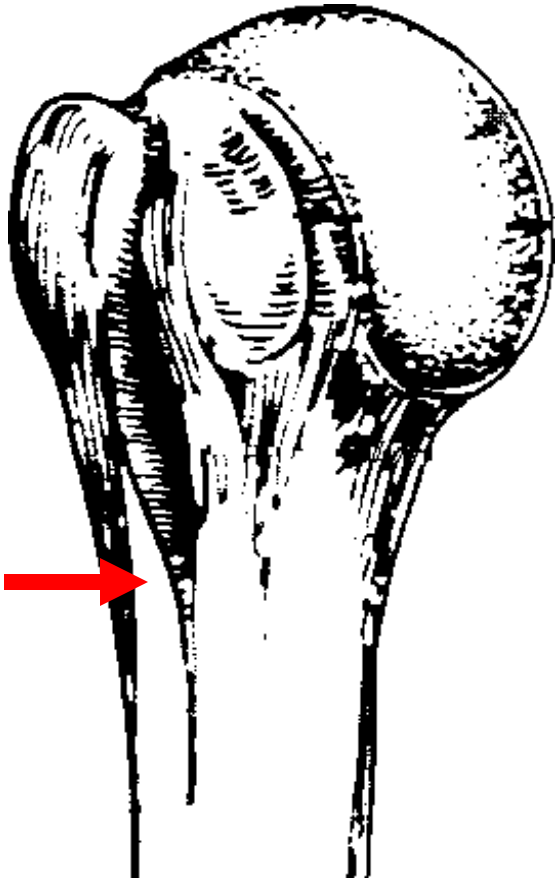


Sterno-costal head



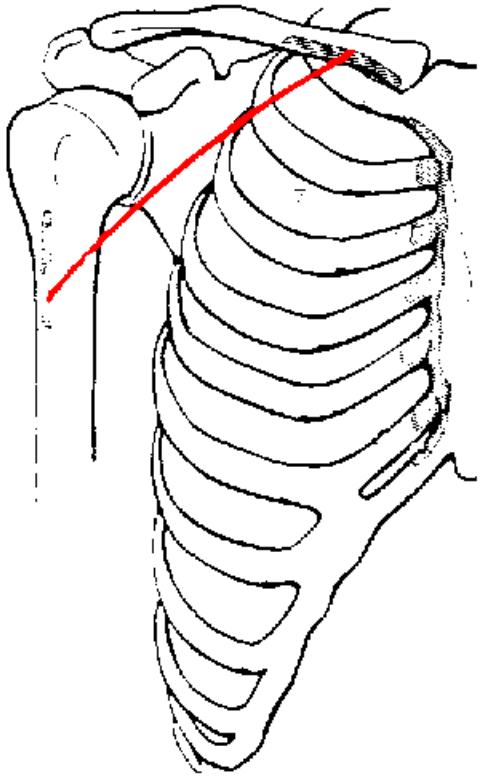
- is attached to the anterior surface of the sternum and to the upper six costal cartilages

Insertion



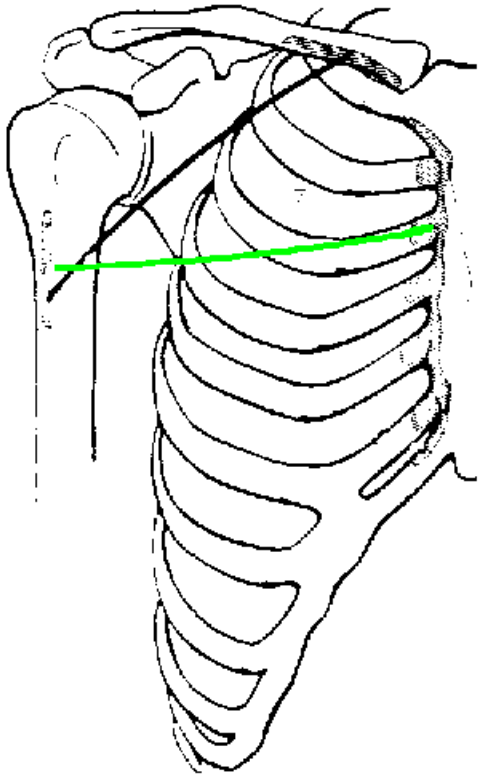
- The muscle fibers converge to be *inserted into the lateral lip of the intertubercular* groove of the humerus

Trilaminar insertion



- The clavicular head is inserted by the anterior lamina of the tendon

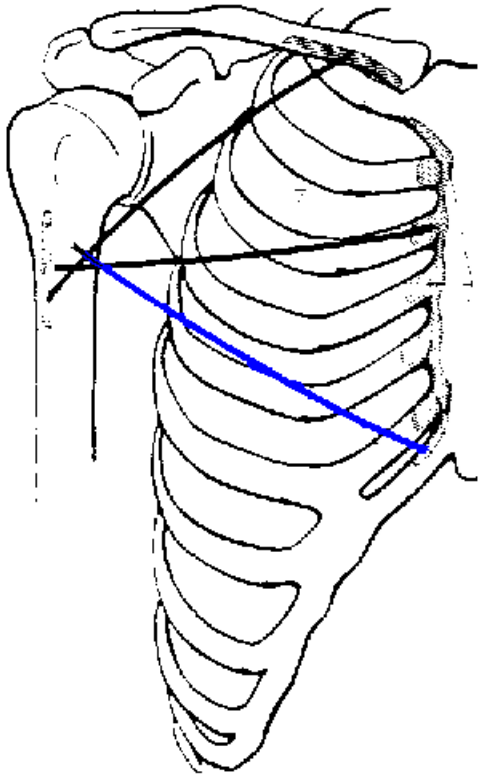
Trilaminar insertion



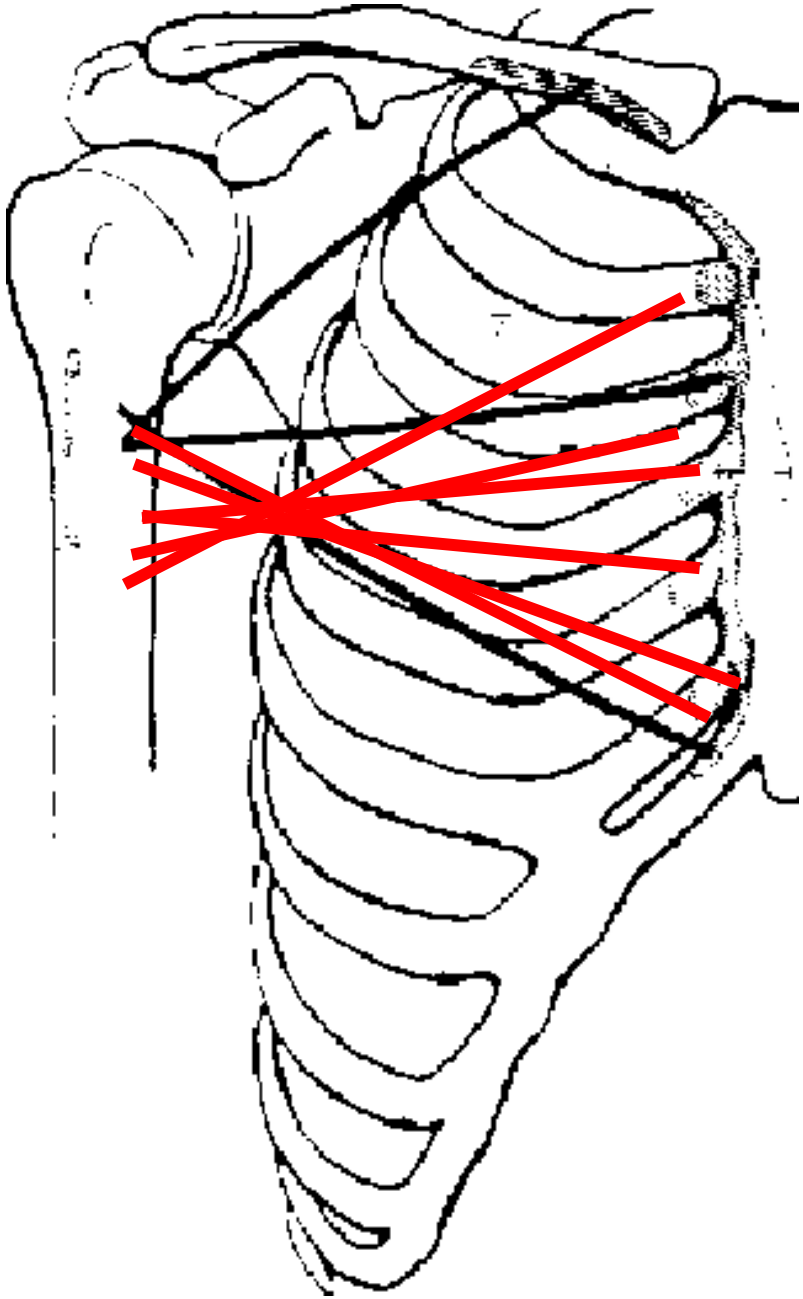
- the manubrial fibres are inserted into the intermediate lamina of insertion

Pectoralis major

Trilaminar insertion

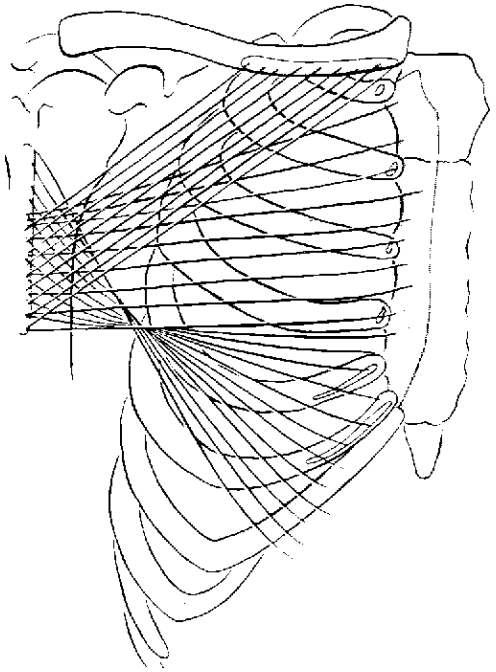


- the sterno-costal fibers arising below the sternal angle are inserted into the posterior lamina of the tendon



Pectoralis major insertion

- The fibers which arise lowest of all are inserted highest of all

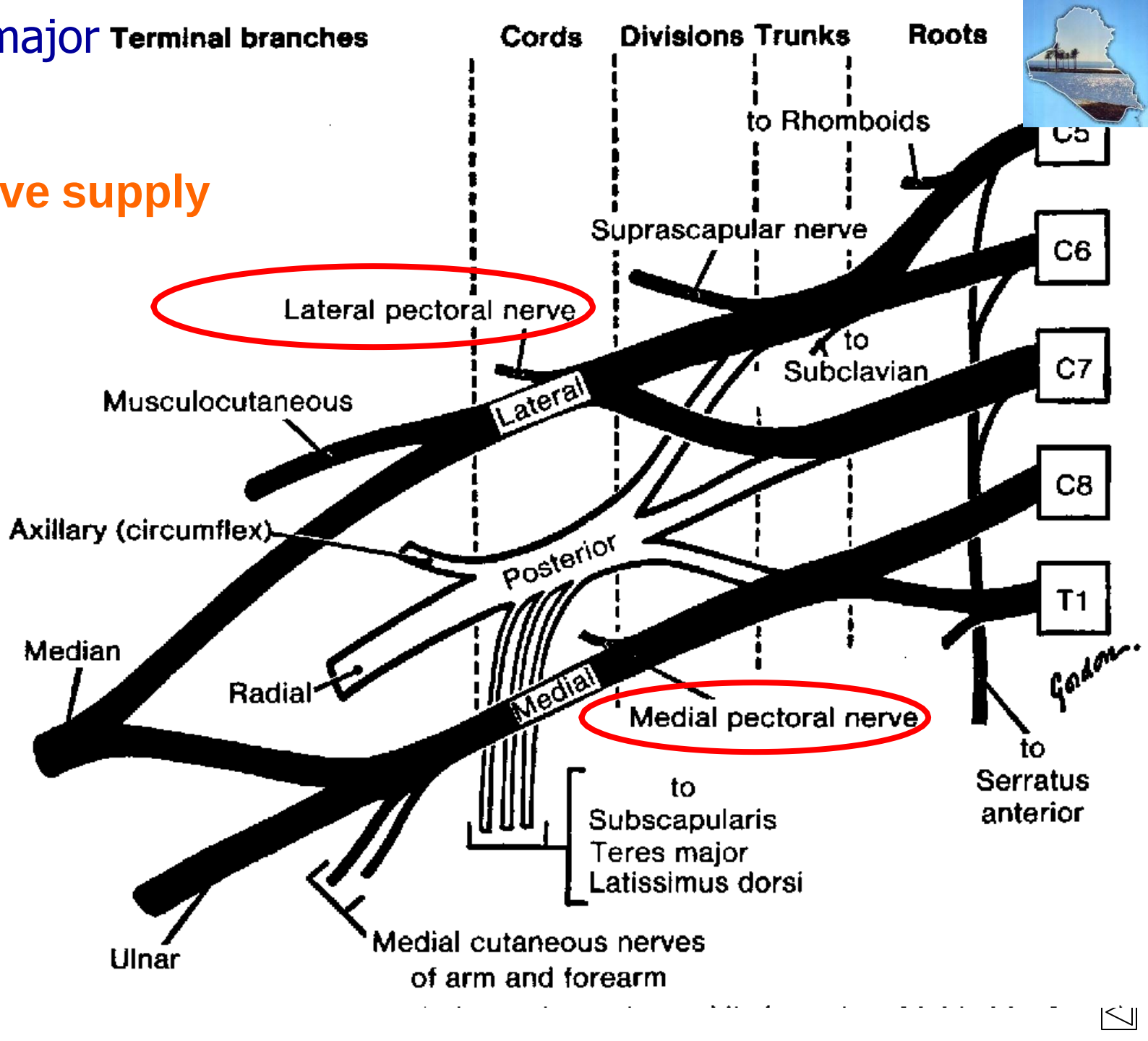


Pectoralis major insertion

- this produces the rounded appearance of the anterior axillary fold

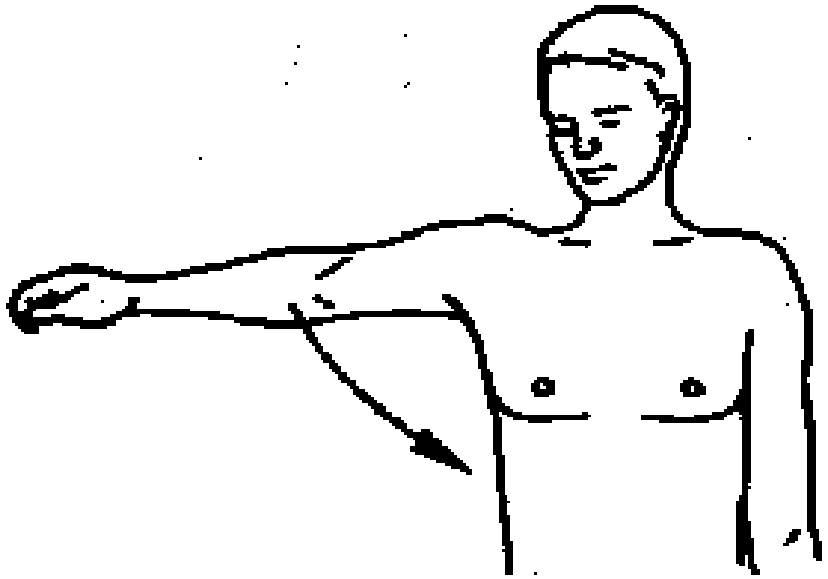
Pectoralis major

Nerve supply



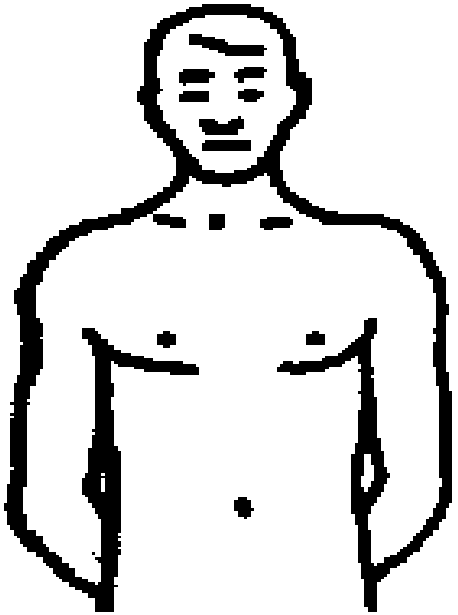
Pectoralis major

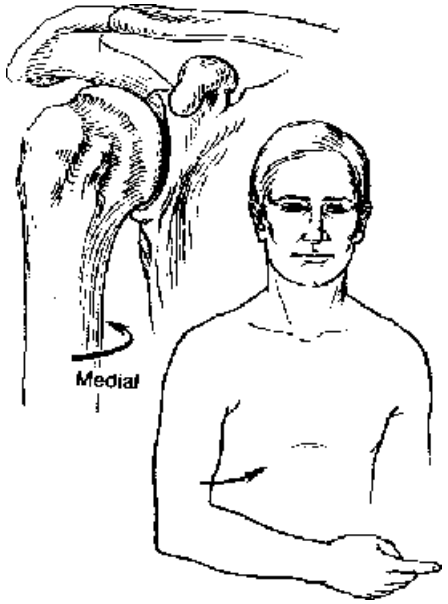
Action



- The muscle is an adductor of the arm at the shoulder joint

Pectoralis major

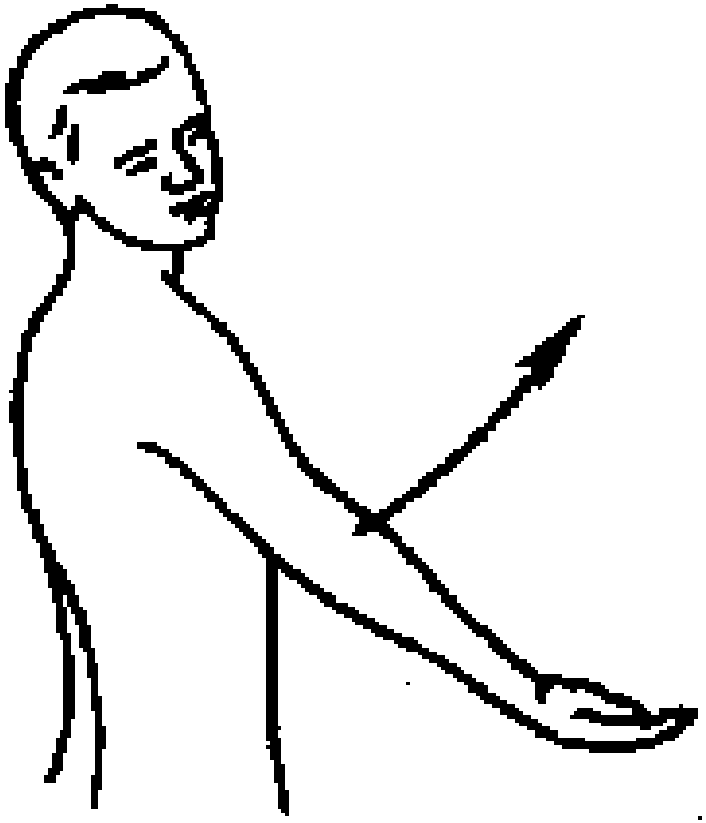




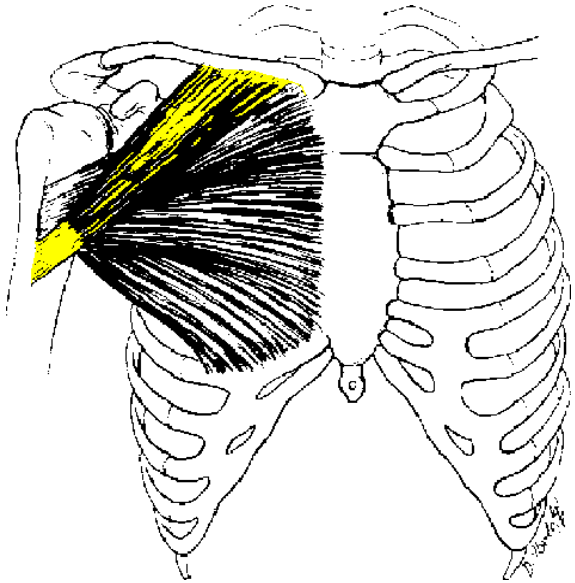
Action

- The muscle is a medial rotator of the arm at the shoulder joint

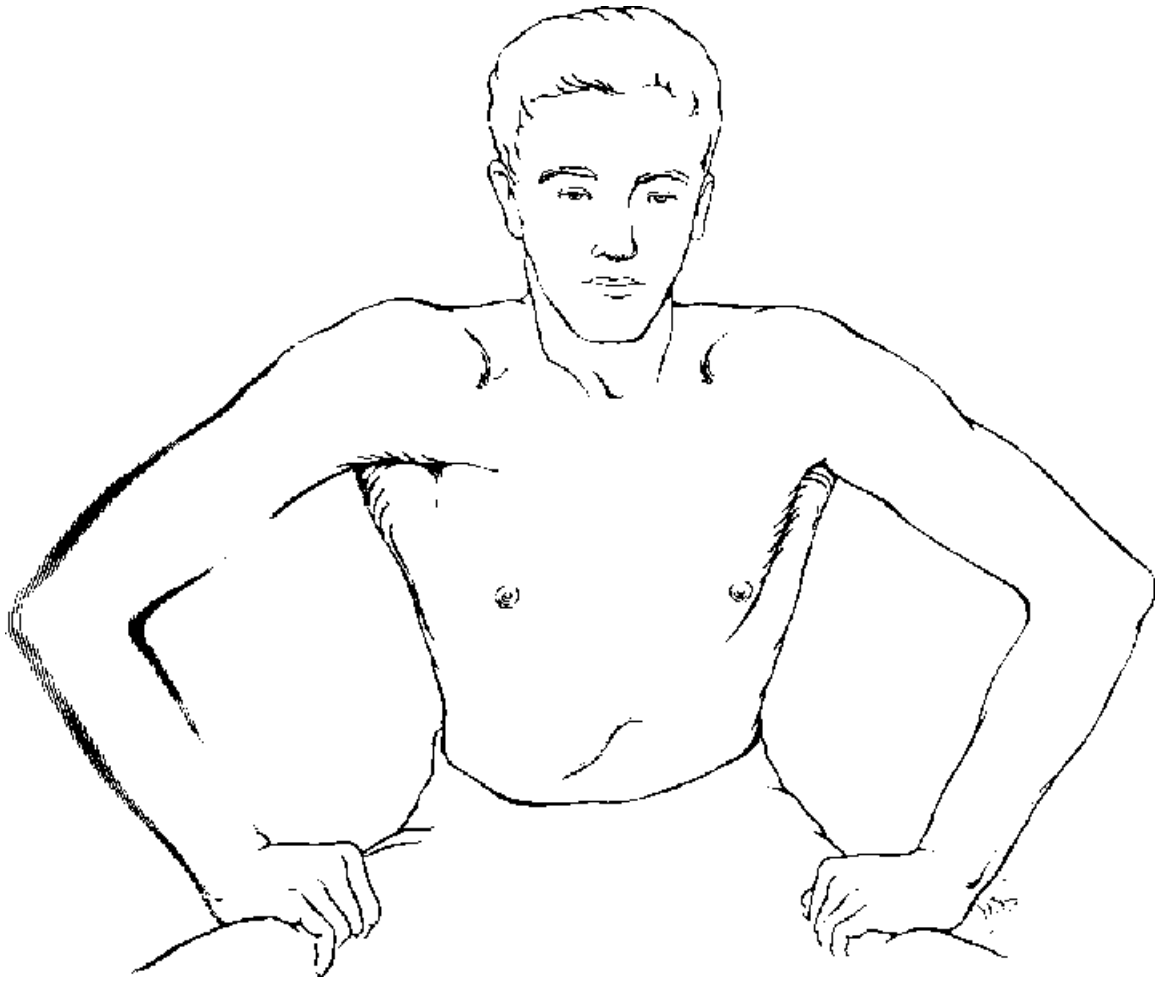
Action



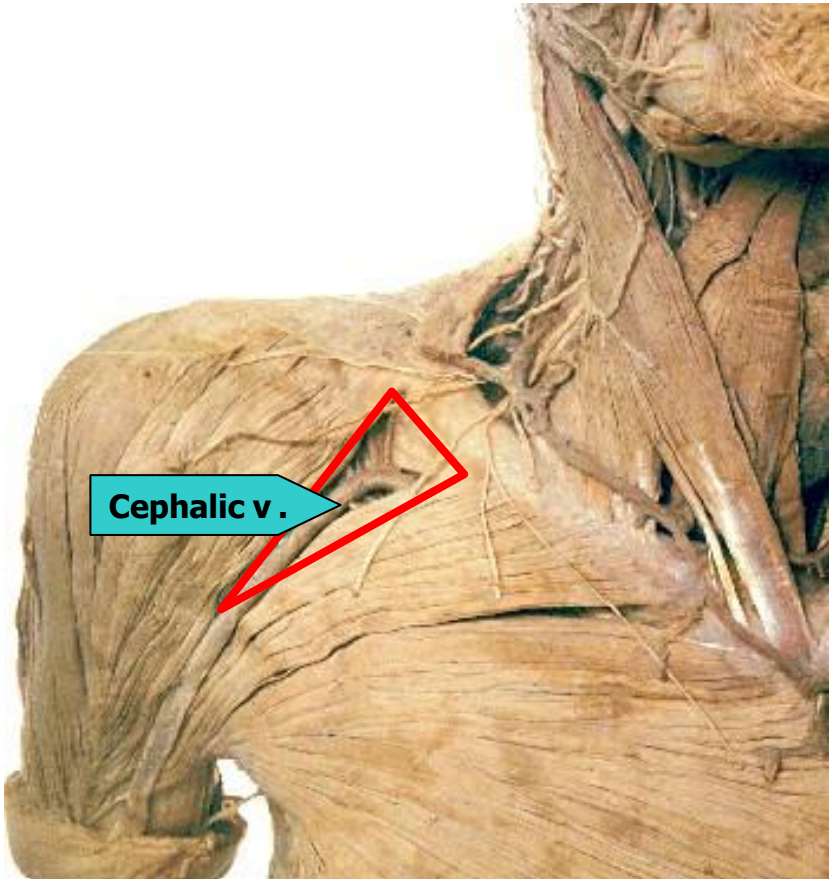
- The clavicular head alone flexes the humerus



Absence of pectoralis major

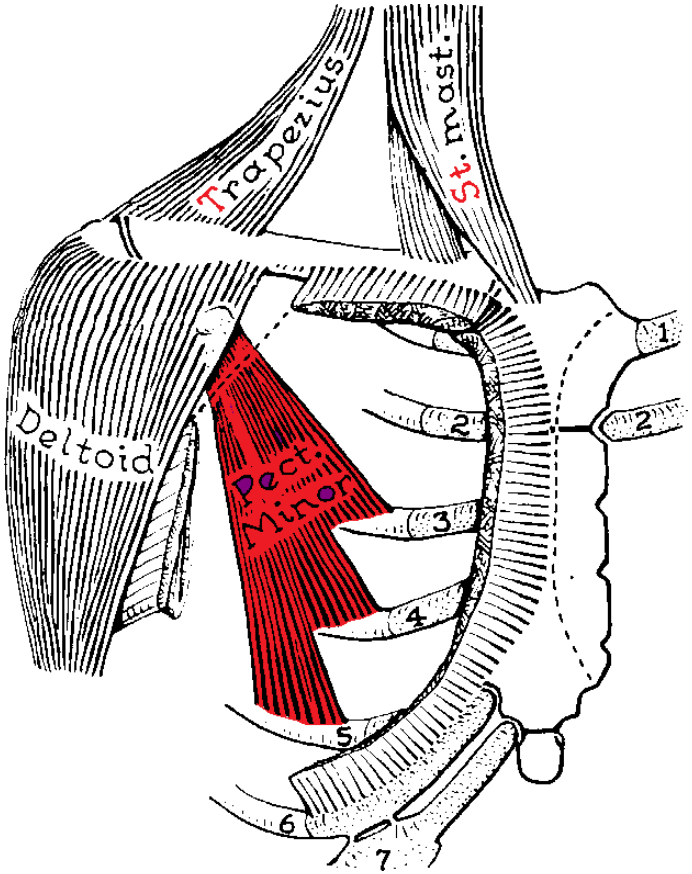


Delto-pectoral triangle



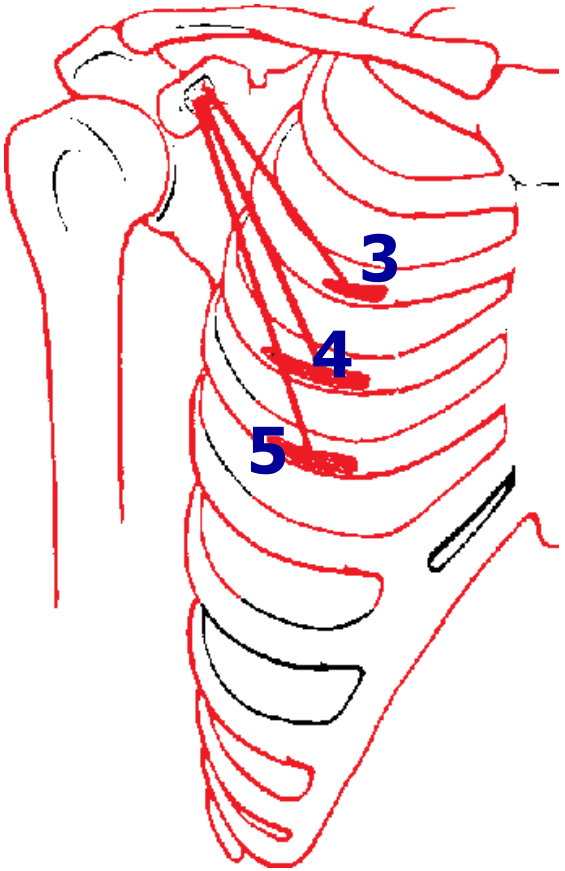
- It contains
- lymph nodes called infraclavicular lymph nodes;
- it also contains the termination of the cephalic vein

Pectoralis minor



- This is a small triangular muscle that is largely covered by pectoralis major

Pectoralis minor



- It arises from
- **4th, 3rd and 2nd**
- **5th ribs** (not costal cartilages); and is **inserted into the coracoid process of the scapula**

Pectoralis minor

Lateral pectoral nerve →

Medial pectoral nerve →

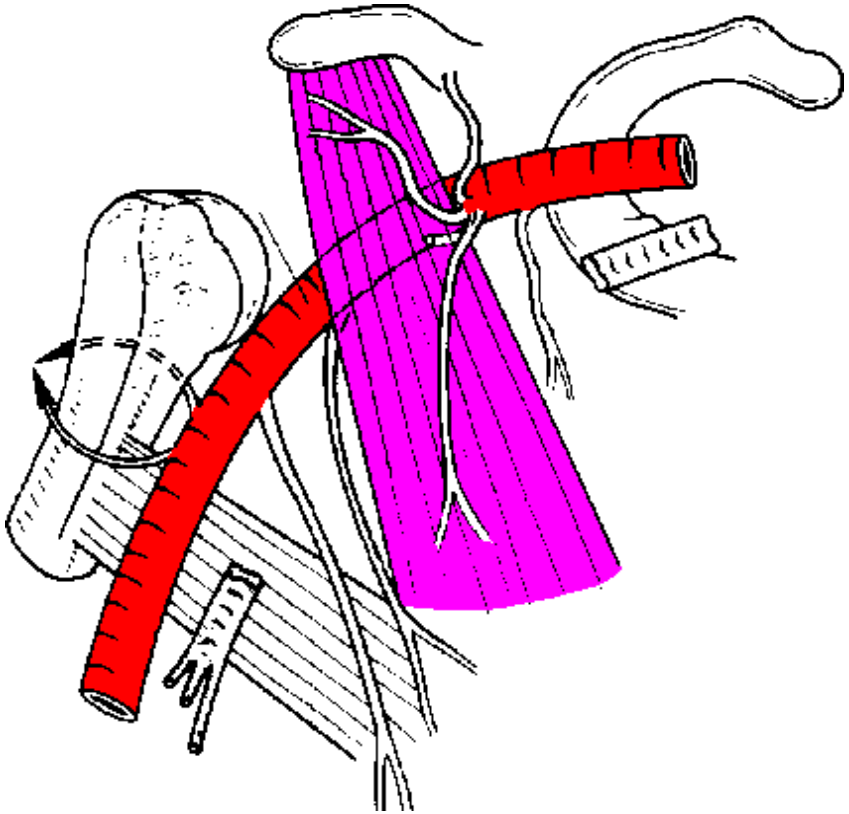
- Its nerve supply is the same as that of pectoralis major namely medial and lateral pectoral nerves.
- The medial pectoral nerve passes through pectoralis minor to reach the overlying

Nerve

Action of pectoralis minor

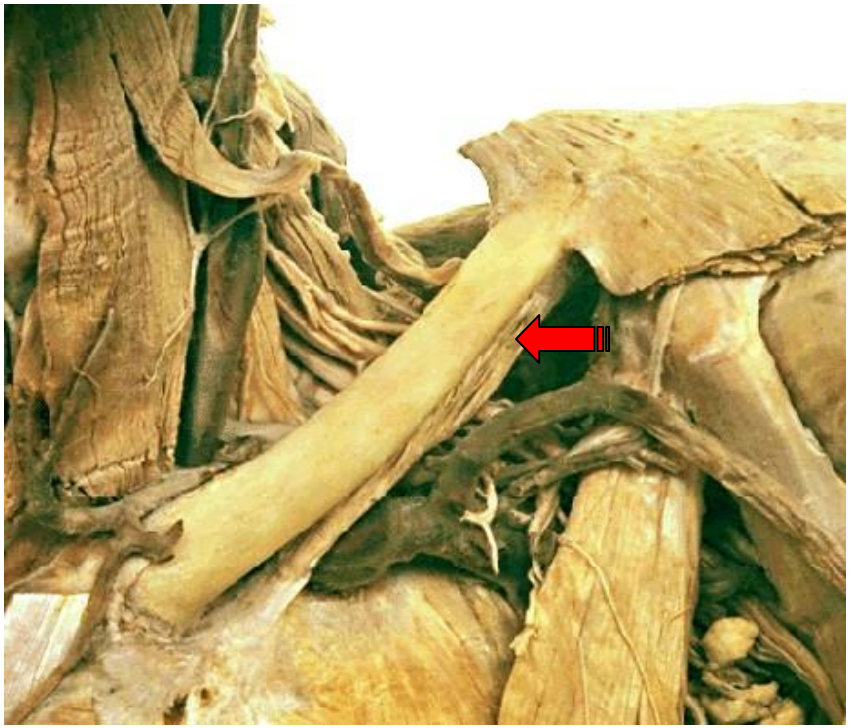
- The muscle stabilizes the scapula and can pull it forwards against the thoracic wall (protraction).
- The muscle is elongated in full abduction of the arm; its subsequent contraction assists gravity in restoring the scapula to the rest position

Action of pectoralis minor



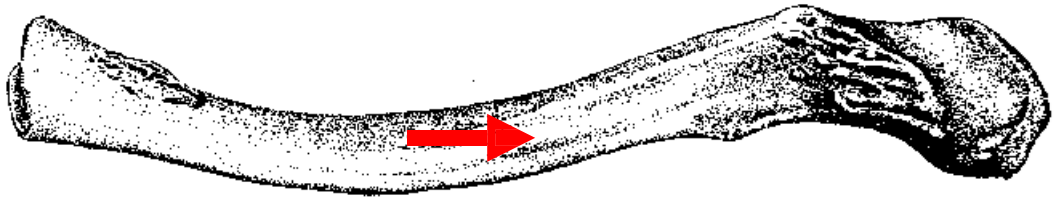
- The muscle is of no great functional importance; however, it is an important anatomical and surgical landmark being a landmark to the underlying axillary artery

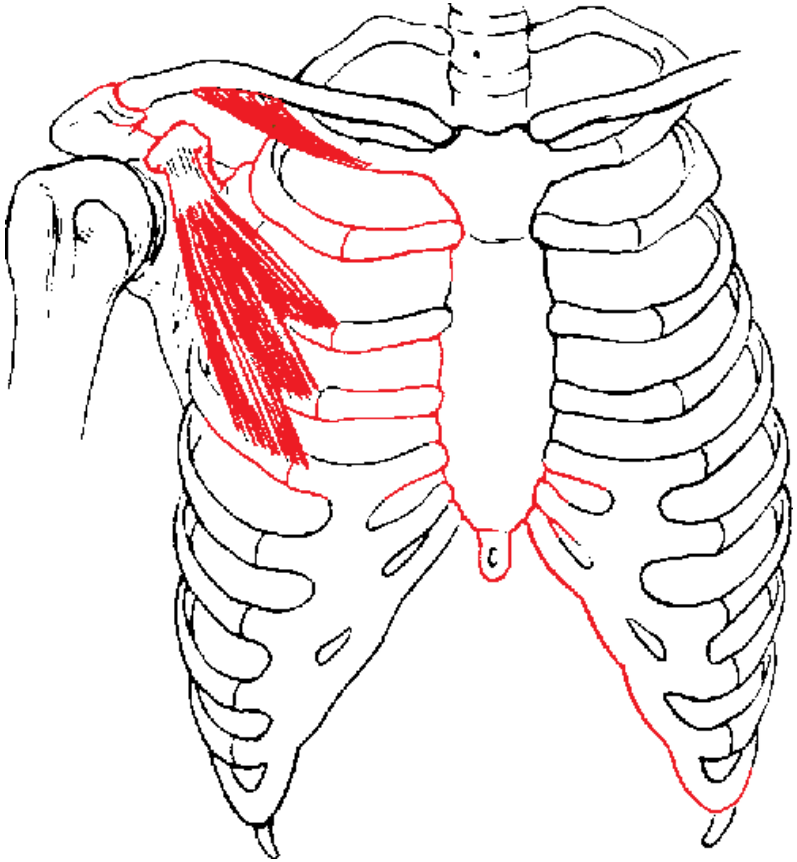
Subclavius



- This is a small unimportant muscle that as its name indicates lies inferior to the clavicle

Subclavius

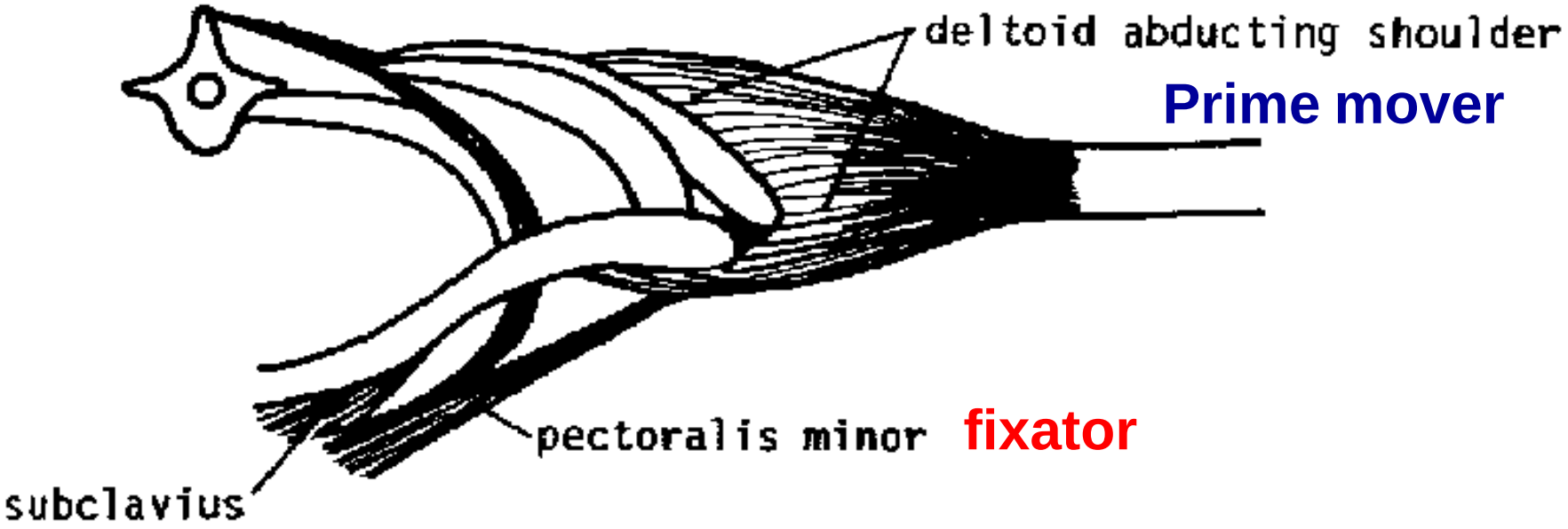




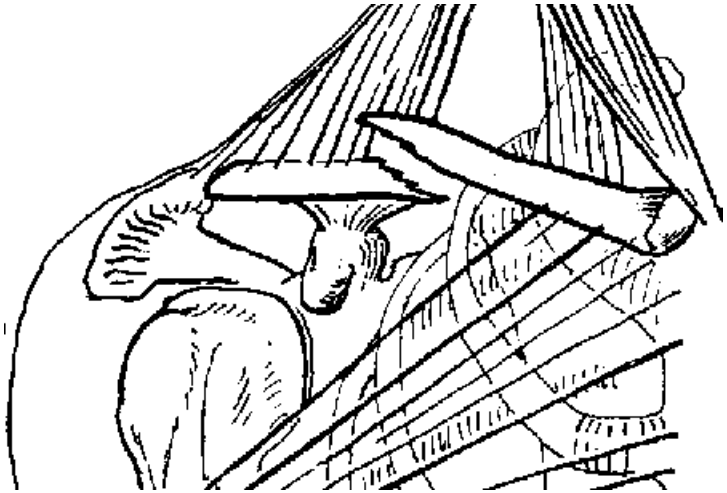
- It arises from the first costo-chondral junction and is inserted into the ***subclavian groove*** on the inferior surface of the clavicle
- the muscle thus lies almost horizontally

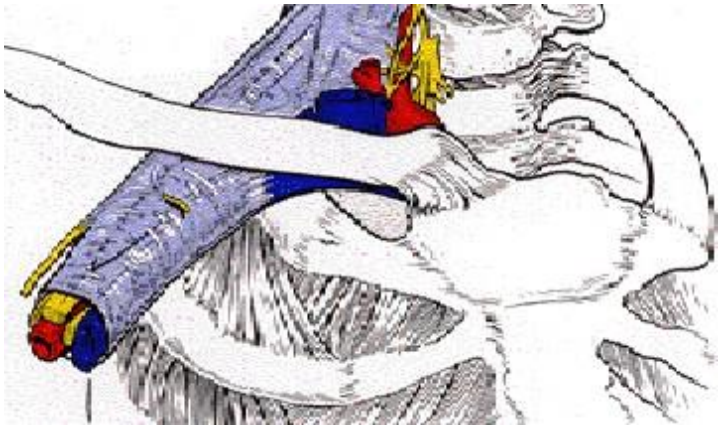
Action of subclavius

- The muscle acts to stabilize the clavicle during shoulder movement.



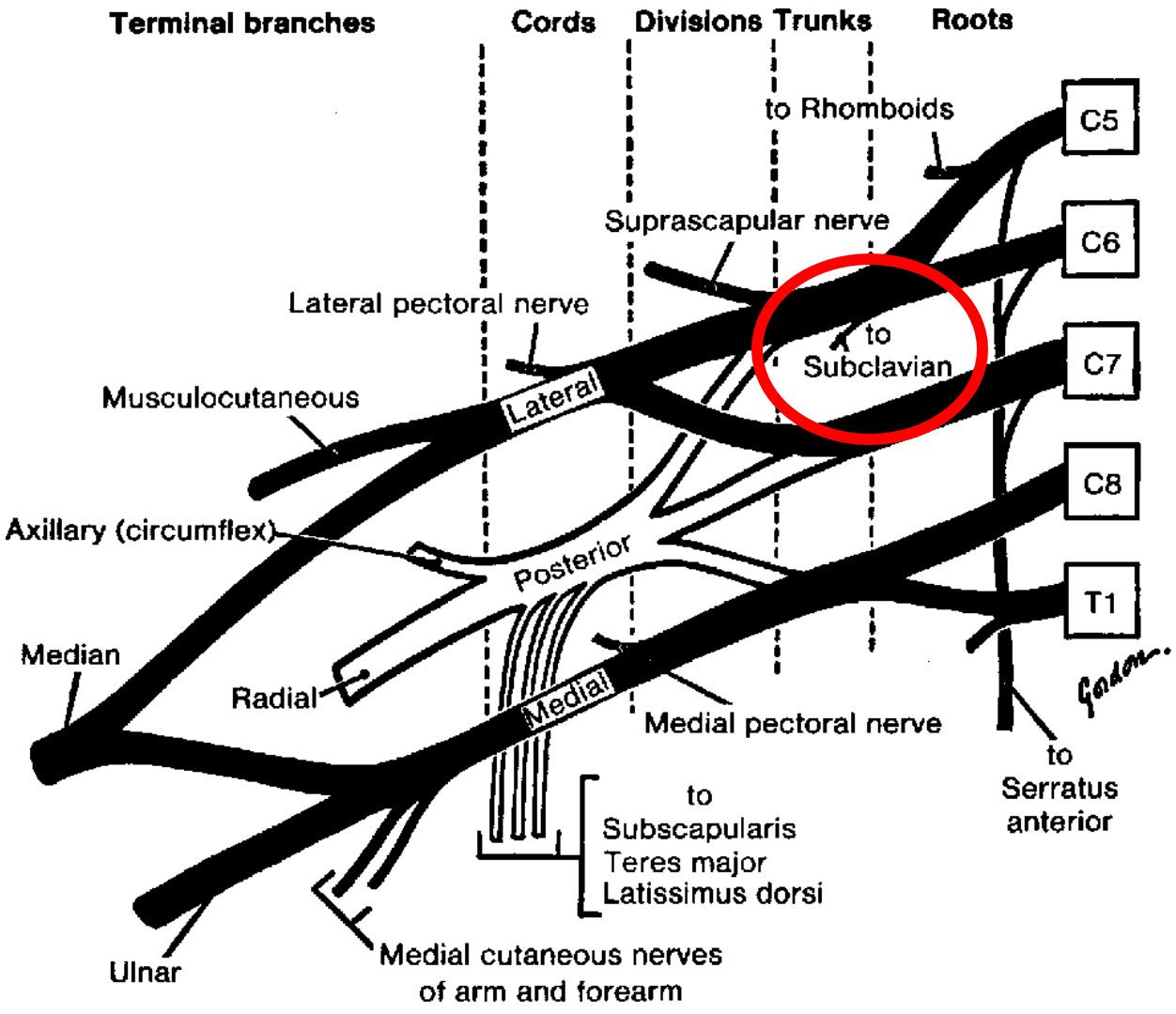
Action of subclavius





- It may prevent the jagged ends of a fractured clavicle from damaging the adjacent subclavian vein.

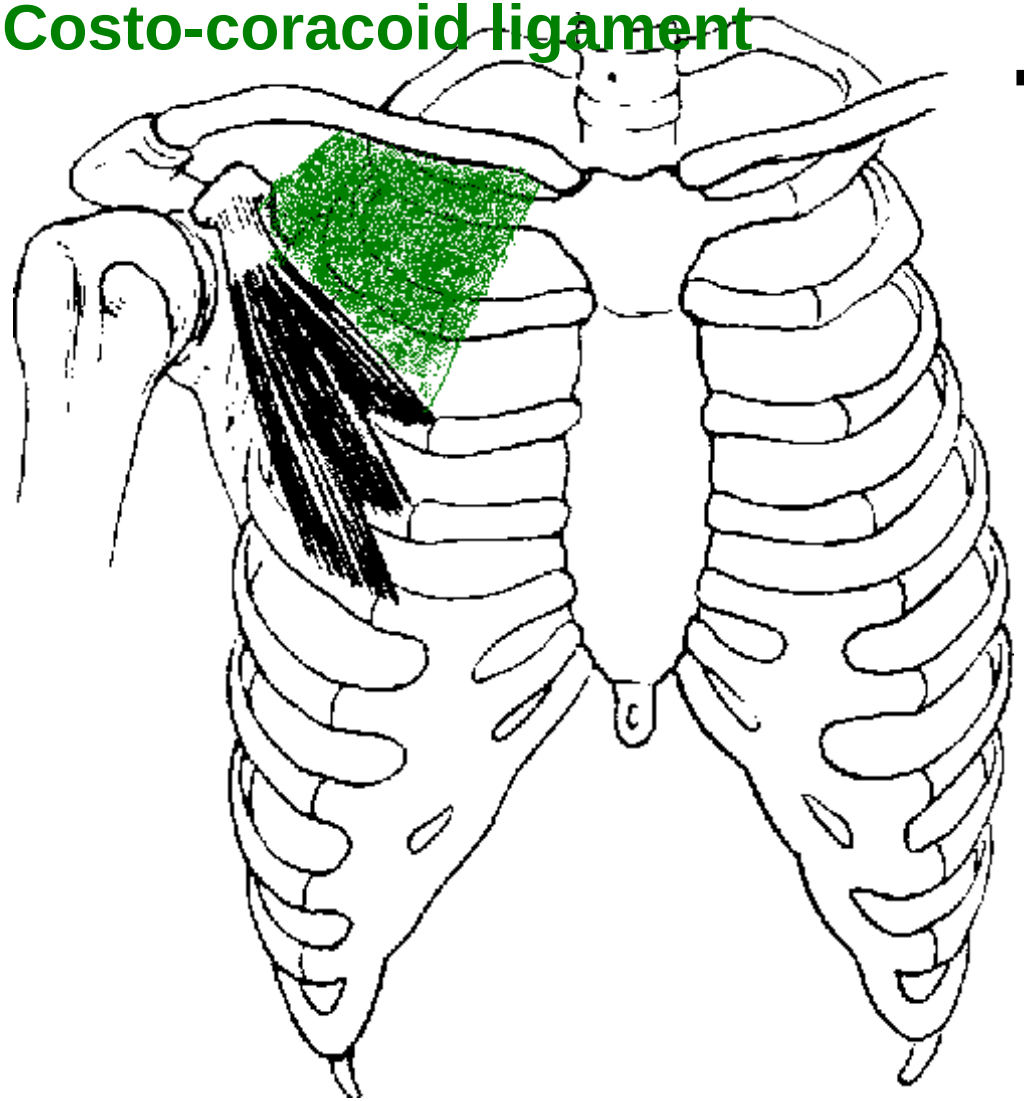
Nerve supply of subclavius



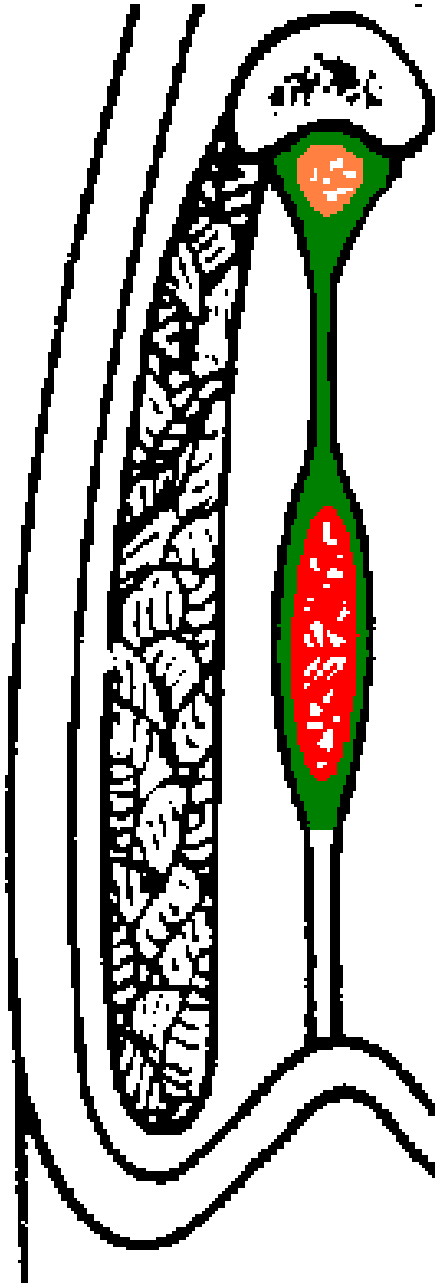
nerve to subclavius

⌘ A branch of the brachial plexus (roots of C5 &6)

Clavipector fascia

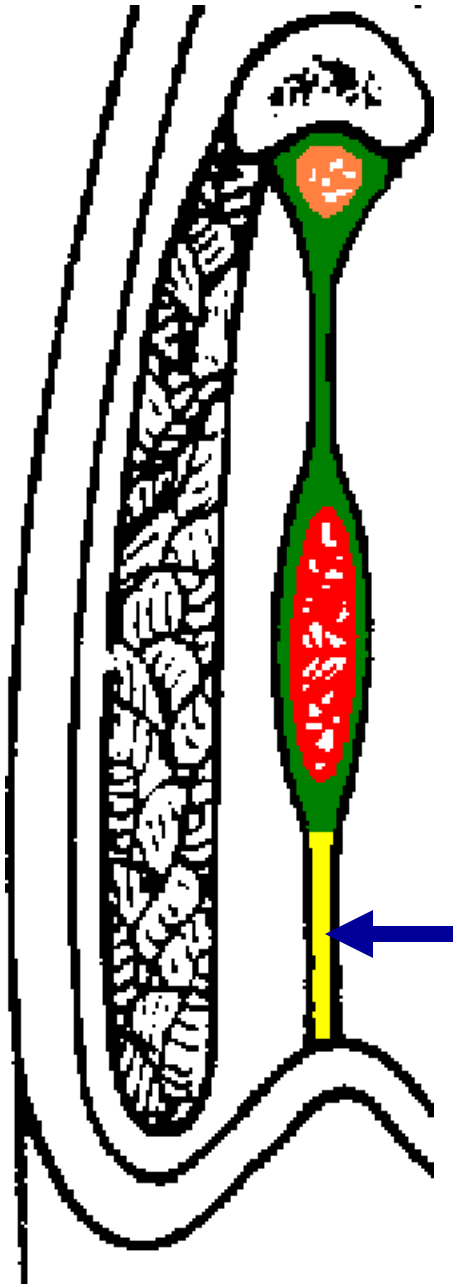


- This is a sheet of deep fascia filling in the space between the clavicle and pectoralis minor (hence the name)



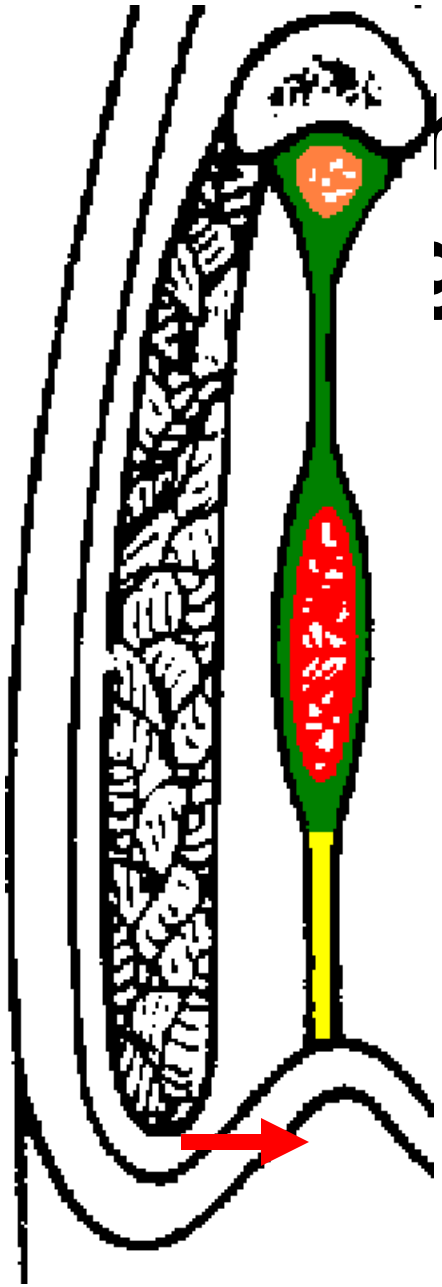
Clavipectoral fascia

- The fascia splits twice to enclose two muscles
- above to enclose ***subclavius***
- below to enclose ***pectoralis minor***



Clavipectoral fascia

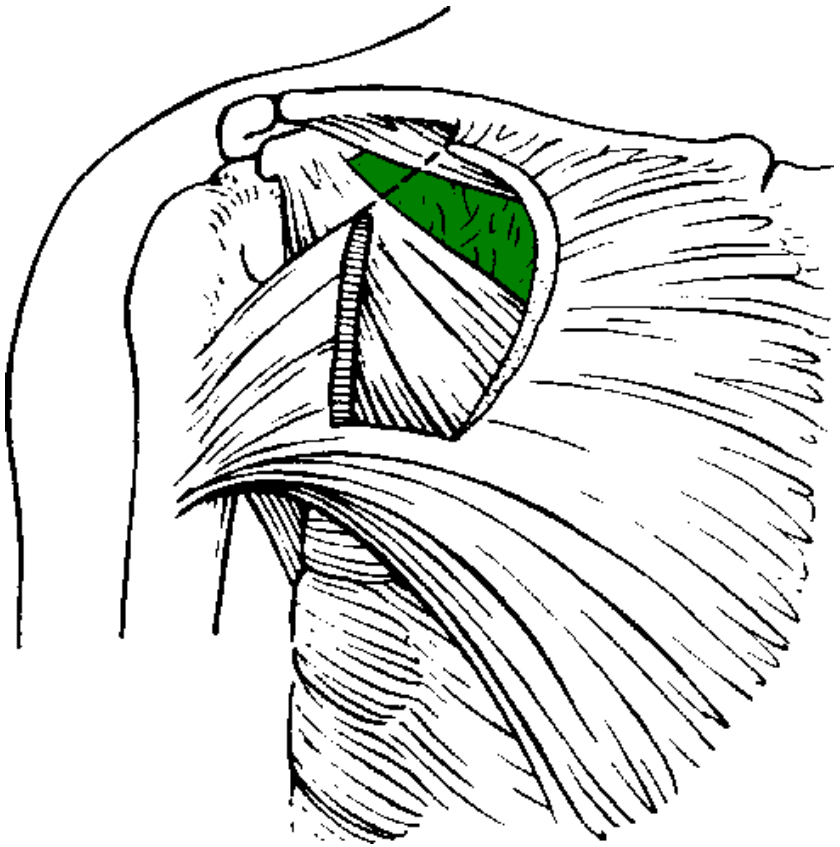
- At the inferior border of pectoralis minor, the two layers of fascia rejoin and extend downwards as the suspensory ligament of the axilla



he suspensory gament of the axilla

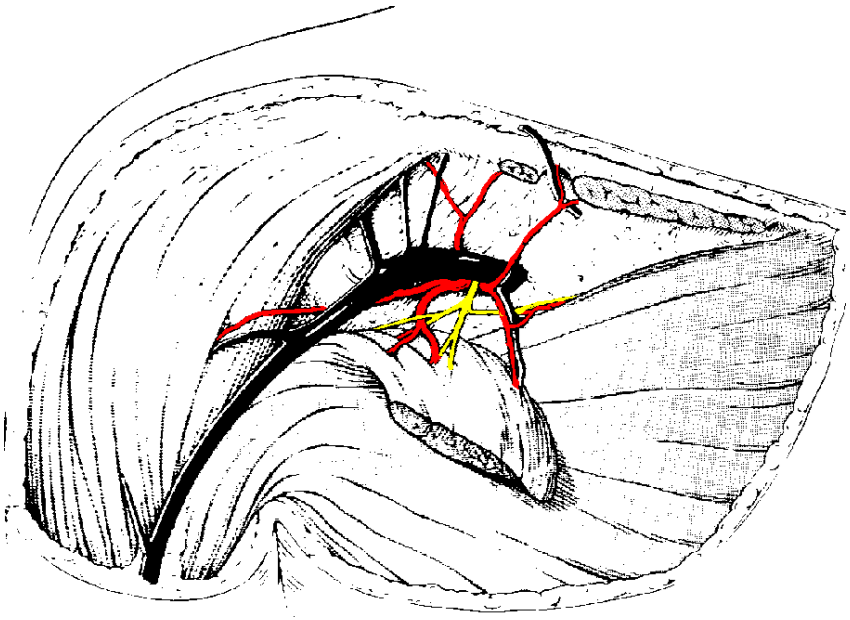
- Is attached to the deep fascia of the floor of the axilla.
- By its tension, it maintains the axillary hollow

Clavipectoral fascia

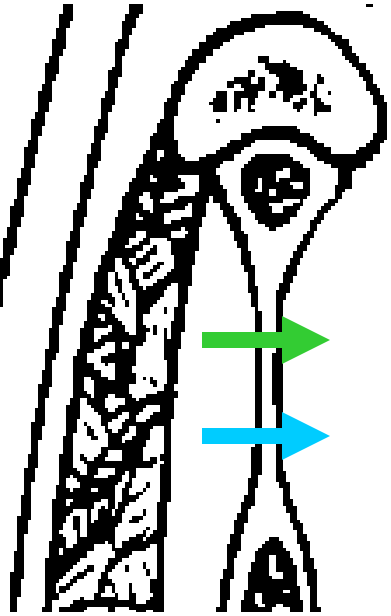


- The clavi-pectoral fascia is almost completely covered by pectoralis major and deltoid muscles; a small portion of it appears at the floor of the delto-pectoral triangle

Clavipectoral fascia

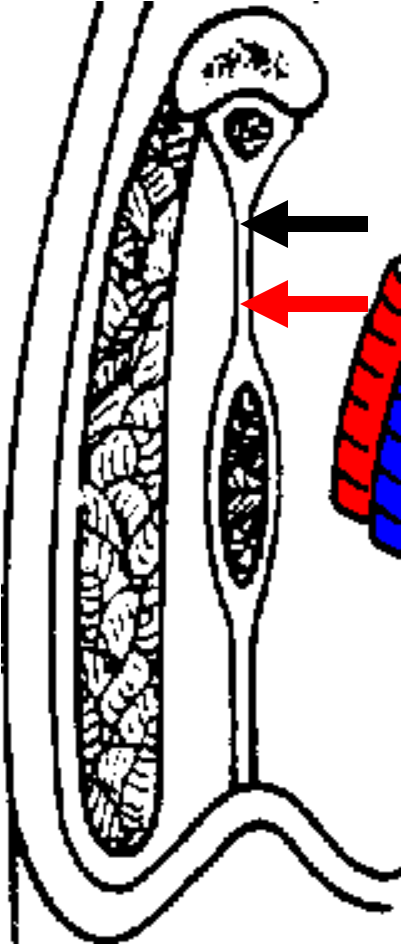


- Four structures two passing inwards and two passing outwards pierce the clavi-pectoral fascia



Clavipectoral fascia

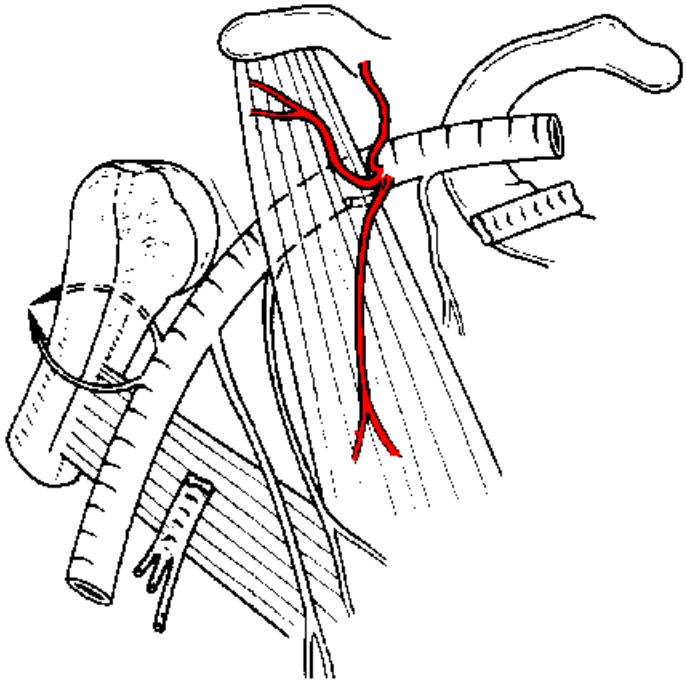
Passing inwards are ***lymphatic vessels*** from the infraclavicular ymph nodes to the apical group of axillary lymph nodes and the cephalic vein draining into the axillary vein



Clavipectoral fascia

Passing outwards are the ***acromio- thoracic axis*** (artery) which is a branch of the axillary artery and the ***lateral pectoral***

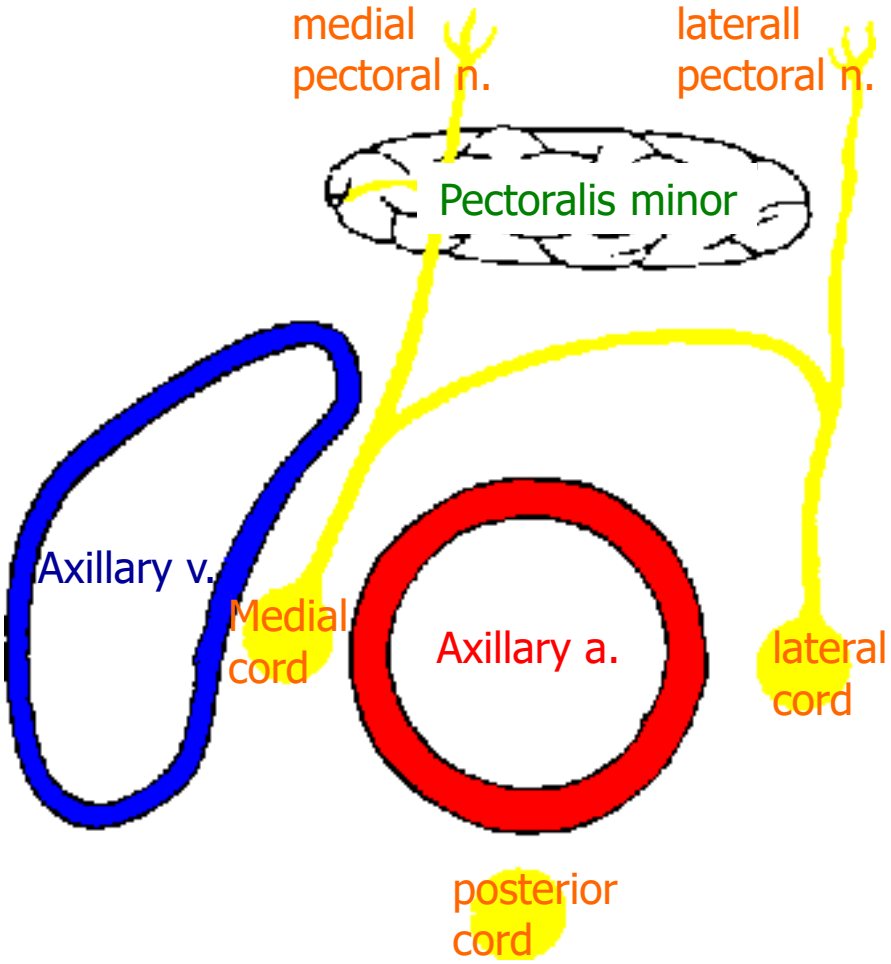
Lateral pectoral nerve →



Lateral pectoral nerve →

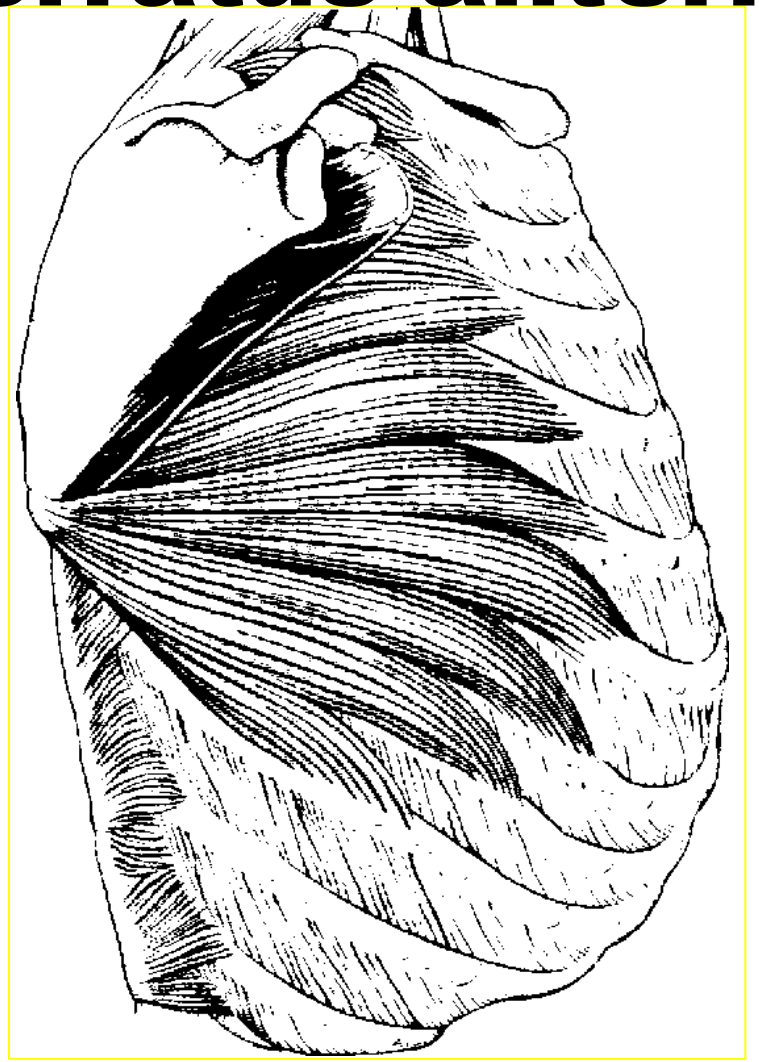
Medial pectoral nerve →

- On the cadaver note that the medial pectoral nerve pierces pectoralis minor while the lateral pectoral nerve pierces the clavi-pectoral fascia at a position more medial to the lateral pectoral nerve.
- In other words, the relation of the



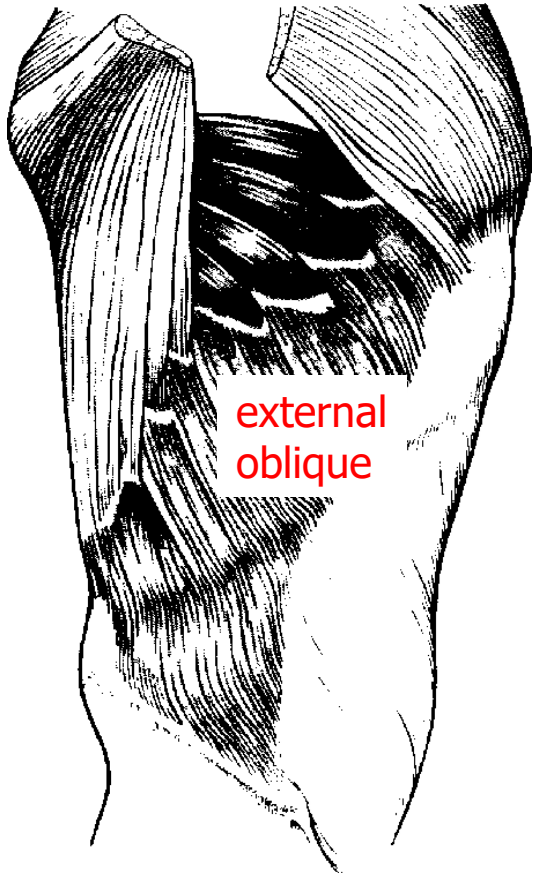
- The names of these nerves (medial and lateral) are derived from their origin from the cords of the brachial plexus (medial and lateral cords respectively) rather than their relation in the pectoral region

Serratus anterior



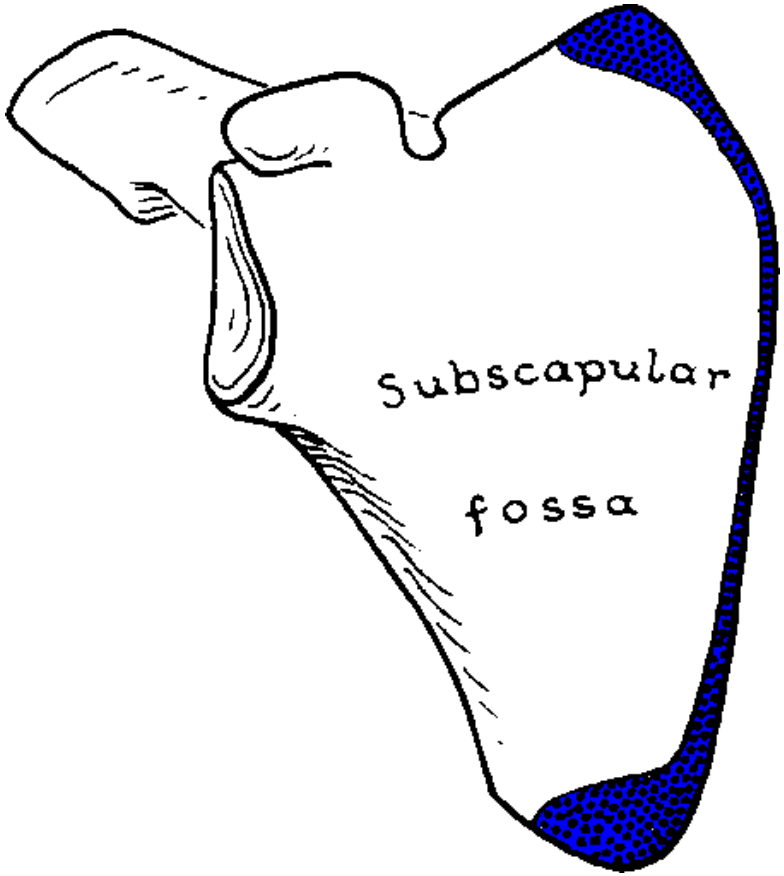
- This muscle was given its name because of the sow-toothed appearance (L. Serratus = a sow) of its origin where the muscle arises by 8 digitations from the upper eight ribs lateral to their angles

Serratus anterior



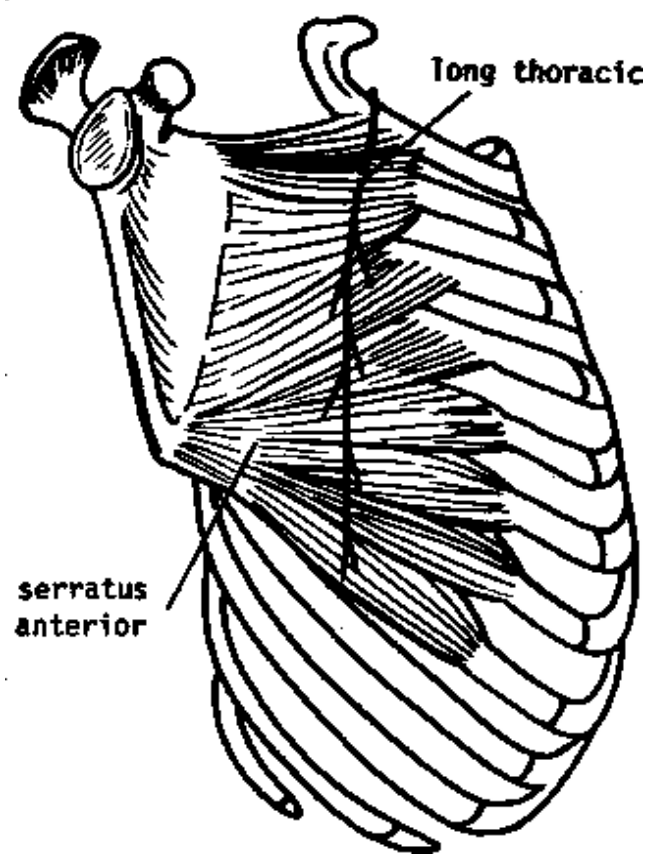
- Since external oblique muscle arises from the lower eight ribs, then the lower 4 digitations of serratus anterior inter-digitate with the upper 4 digitations of external oblique

Serratus anterior



- The muscle forms a flat sheet that is attached to the anterior aspect of the medial border of the scapula

Serratus anterior



- The muscle is supplied by the long thoracic nerve, a branch of the brachial plexus

THE END