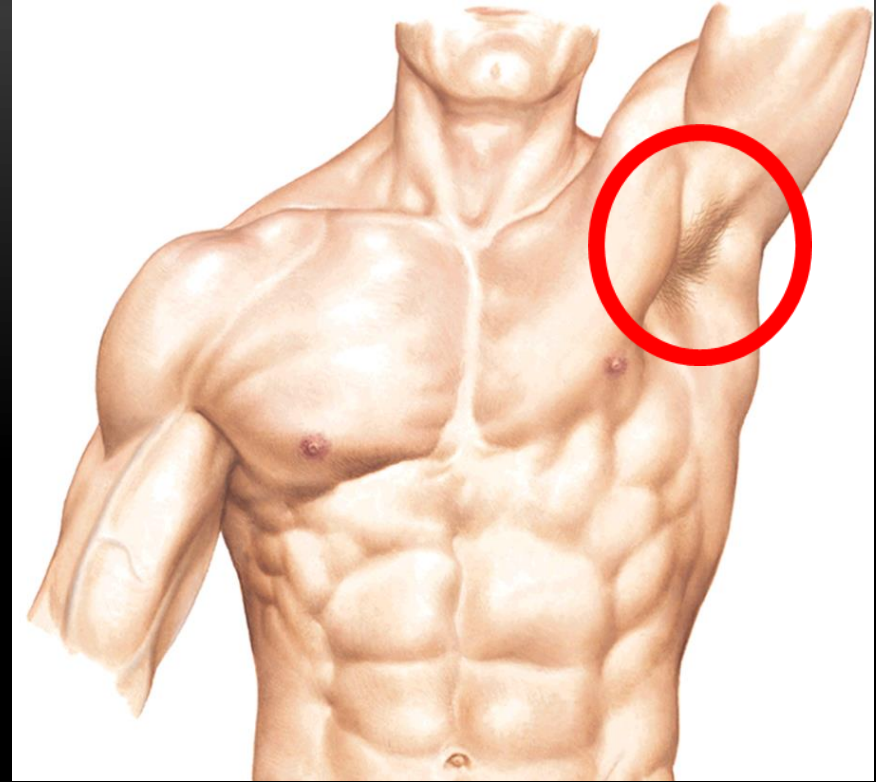


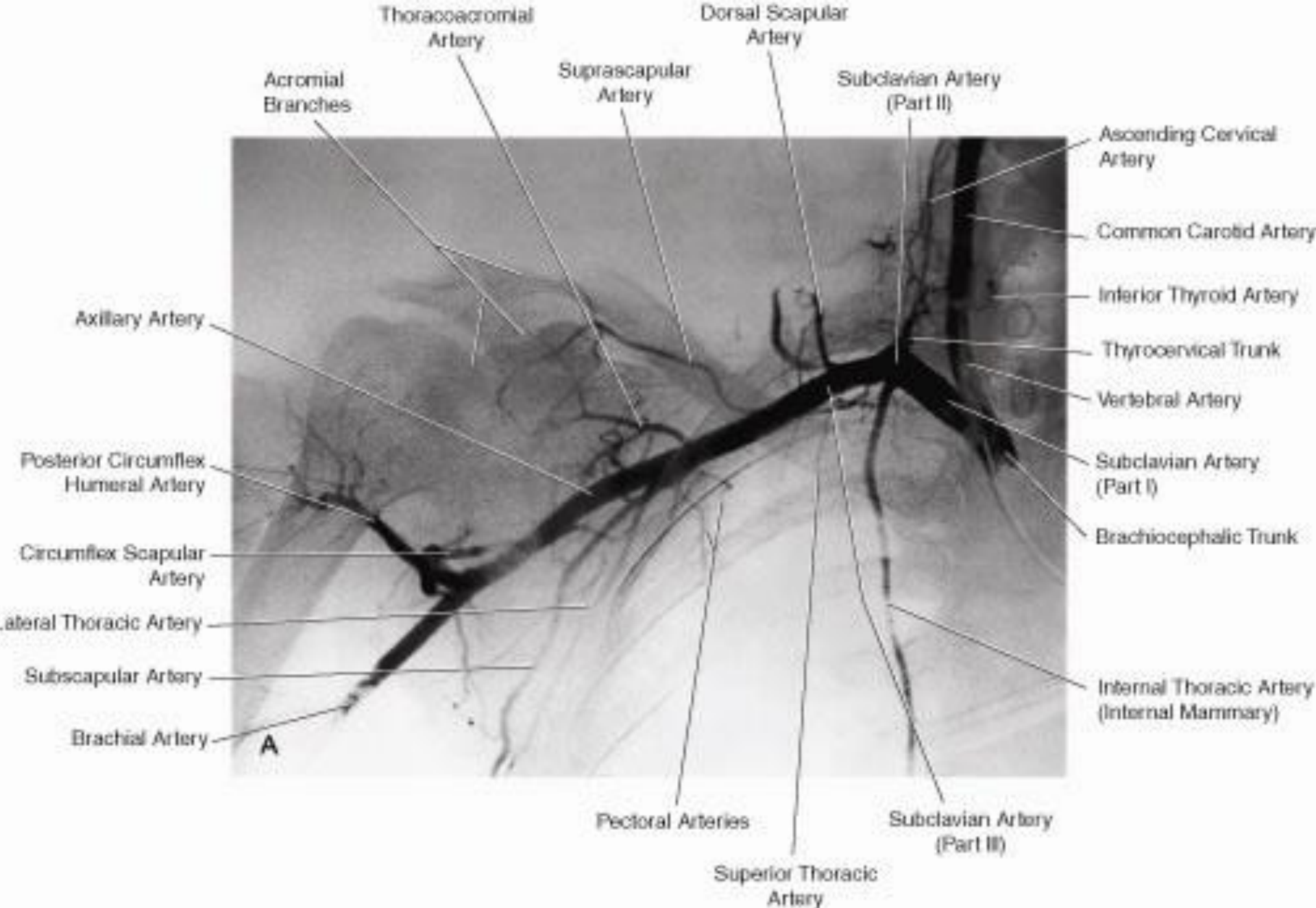
Axilla

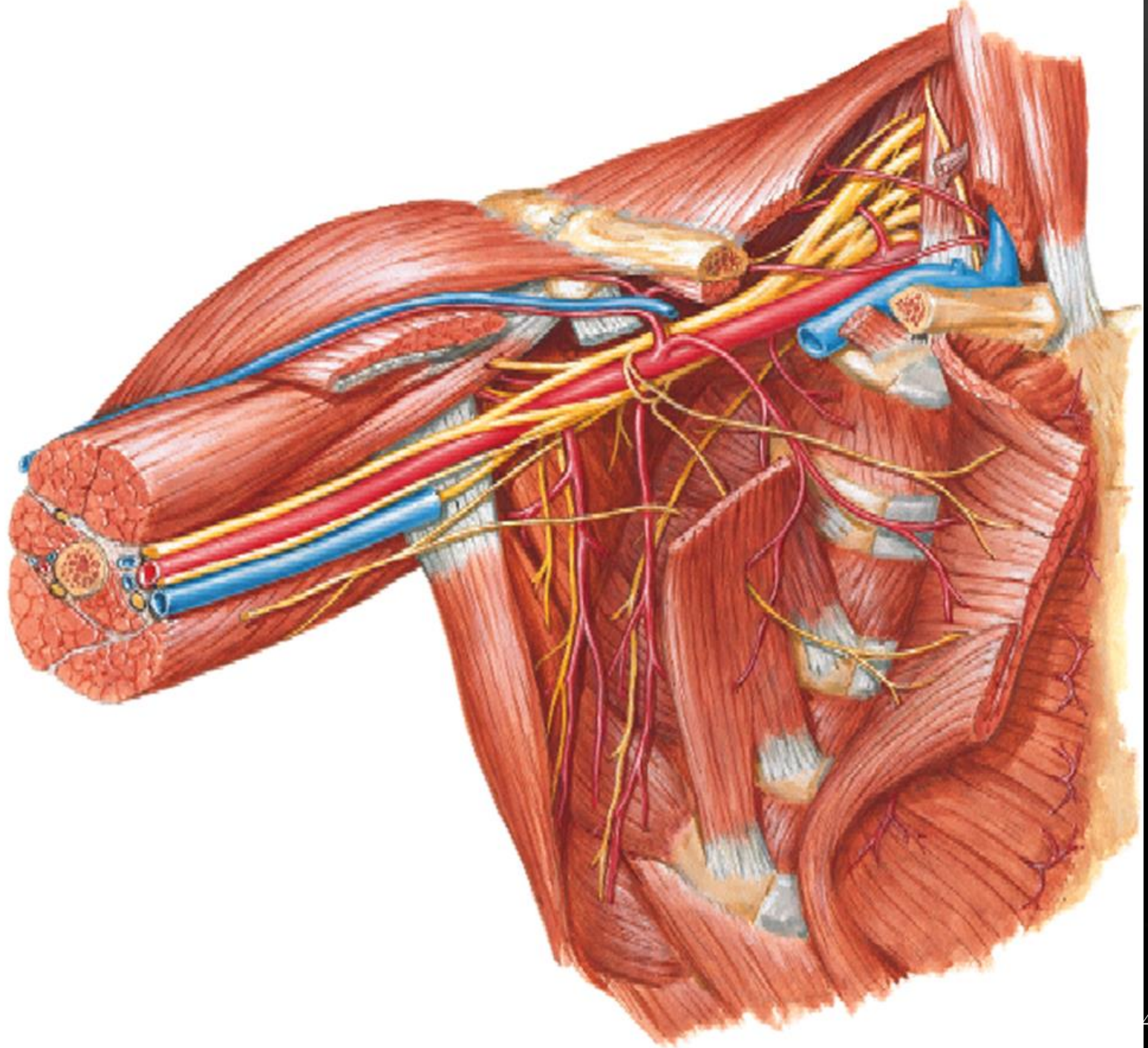
It is a pyramid-shaped space between the upper part of the arm and the side of the chest.

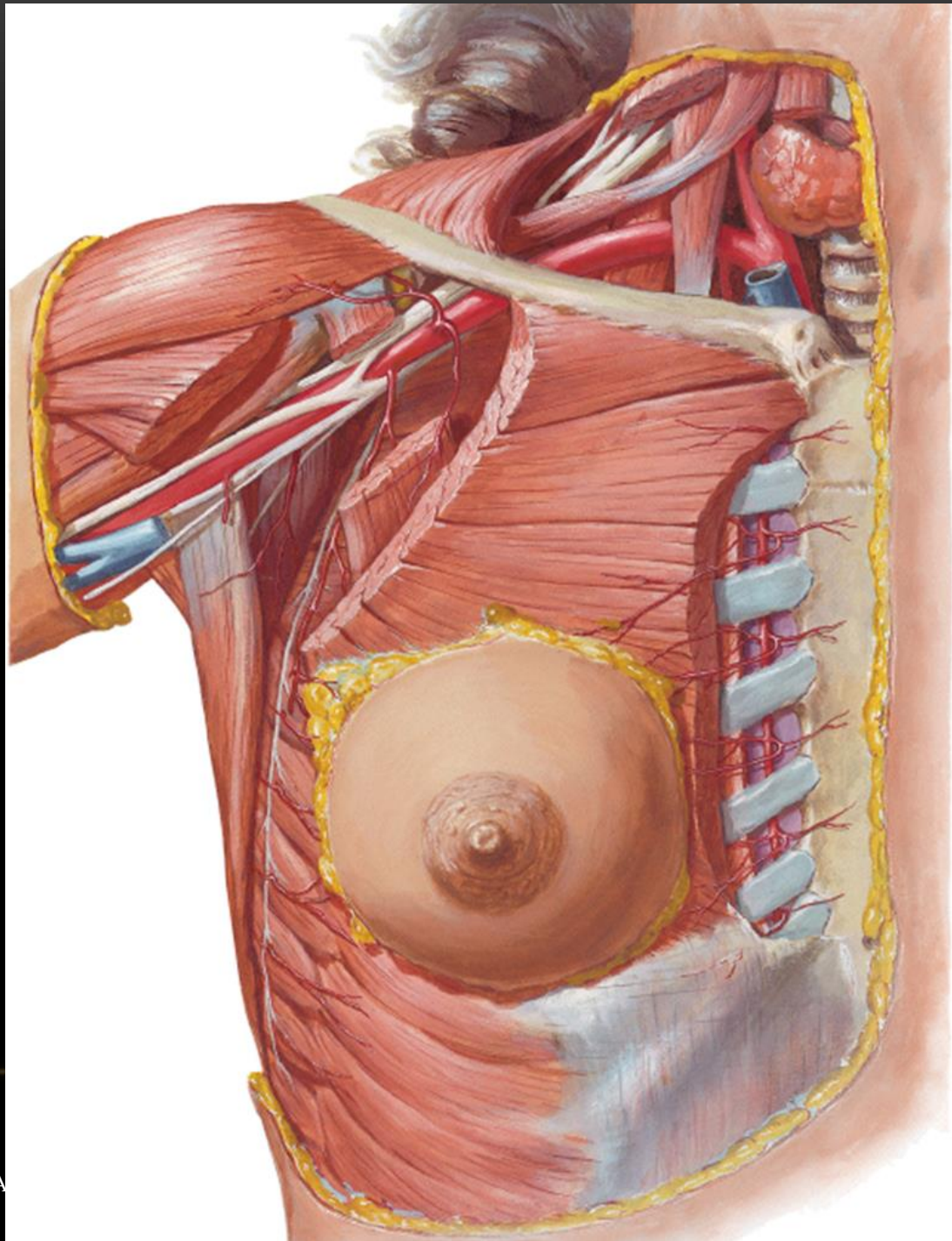
It is a communication between the upper limb and the root of the neck.

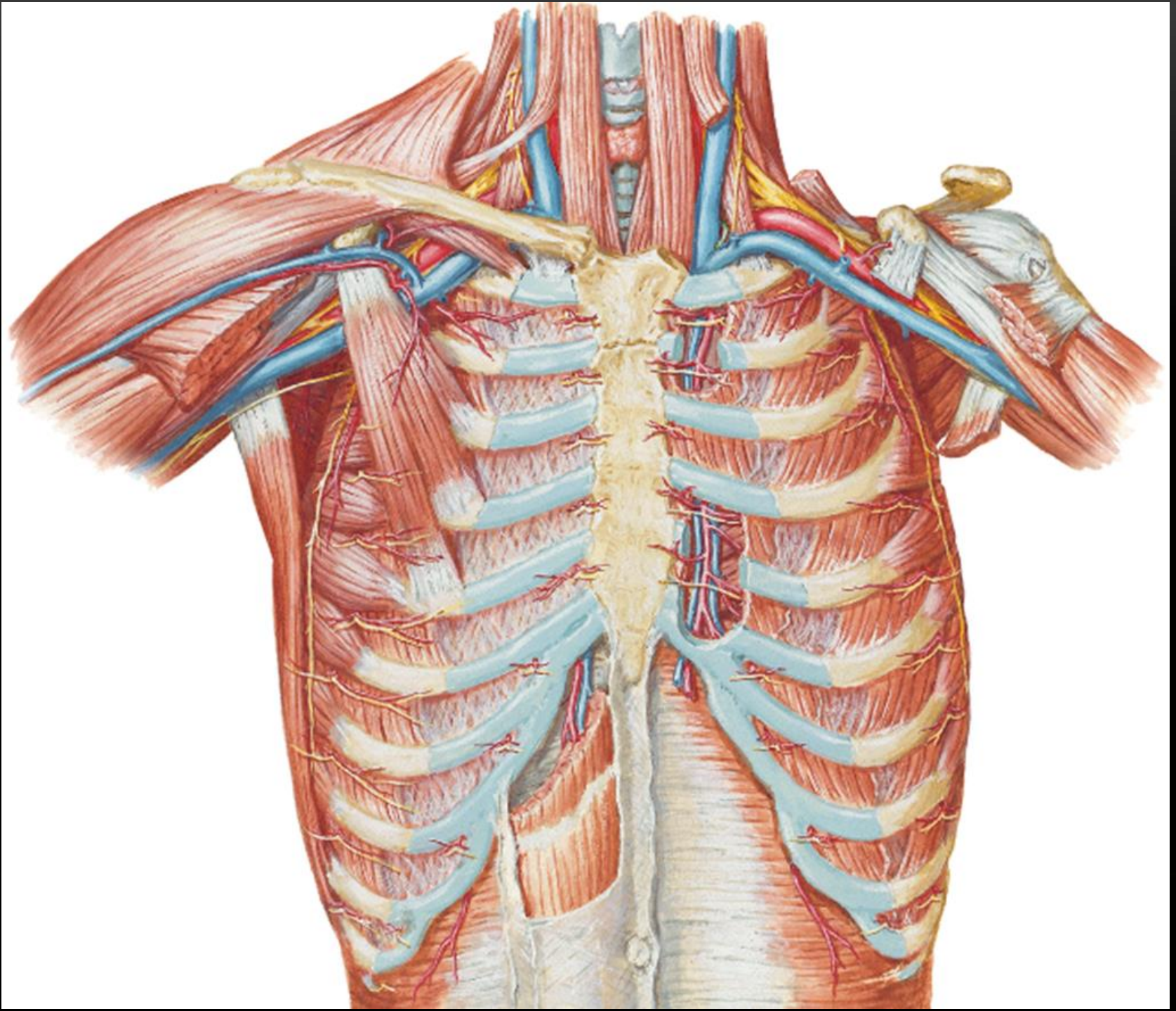
It has an apex (inlet), base, and 4 walls: anterior, posterior, medial and lateral.











The anterior fold of the axilla is formed by the folded fibres of the pectoralis major muscle.

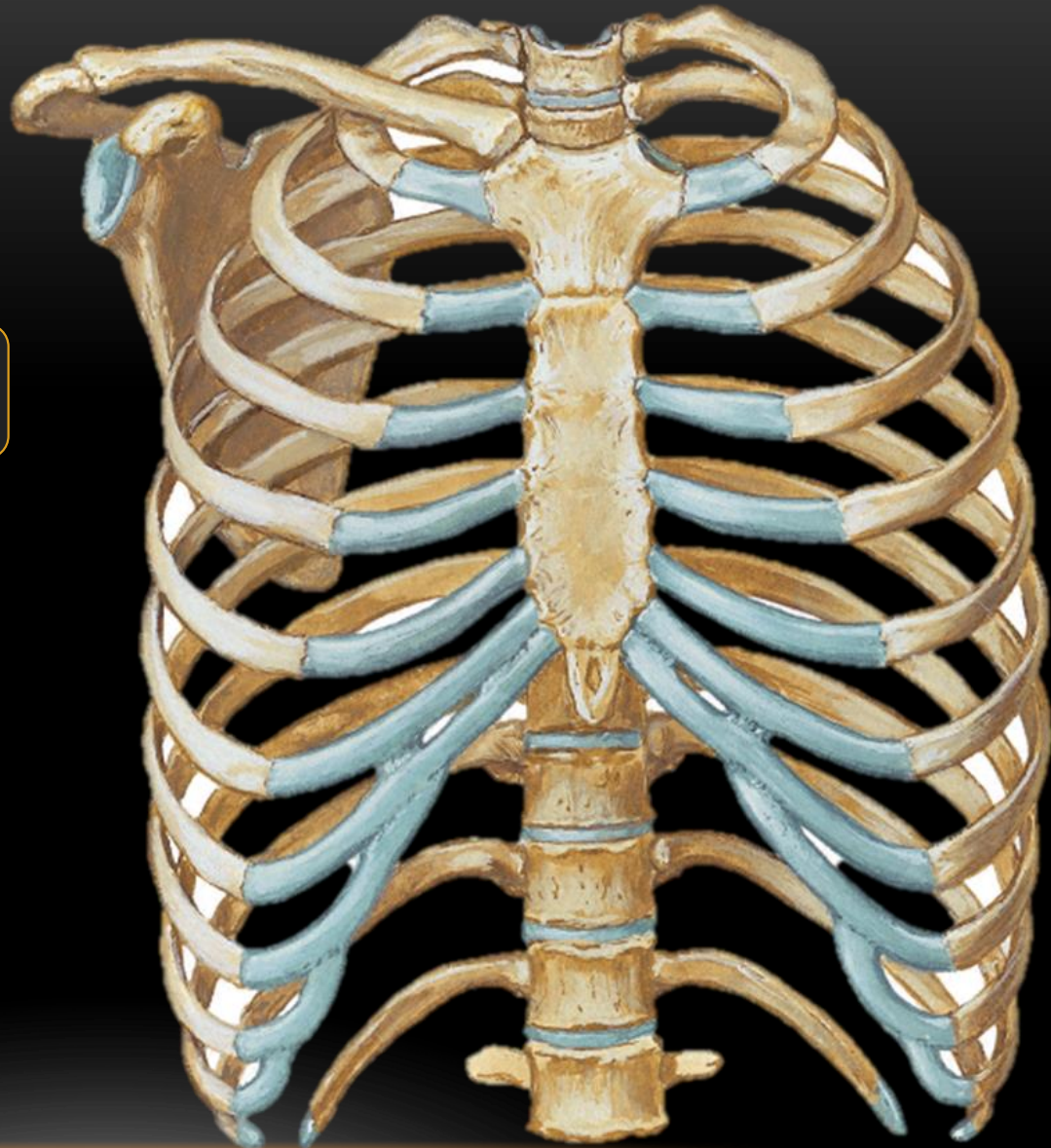
The posterior fold of the axilla is formed by the folding of latissimus dorsi over teres major.

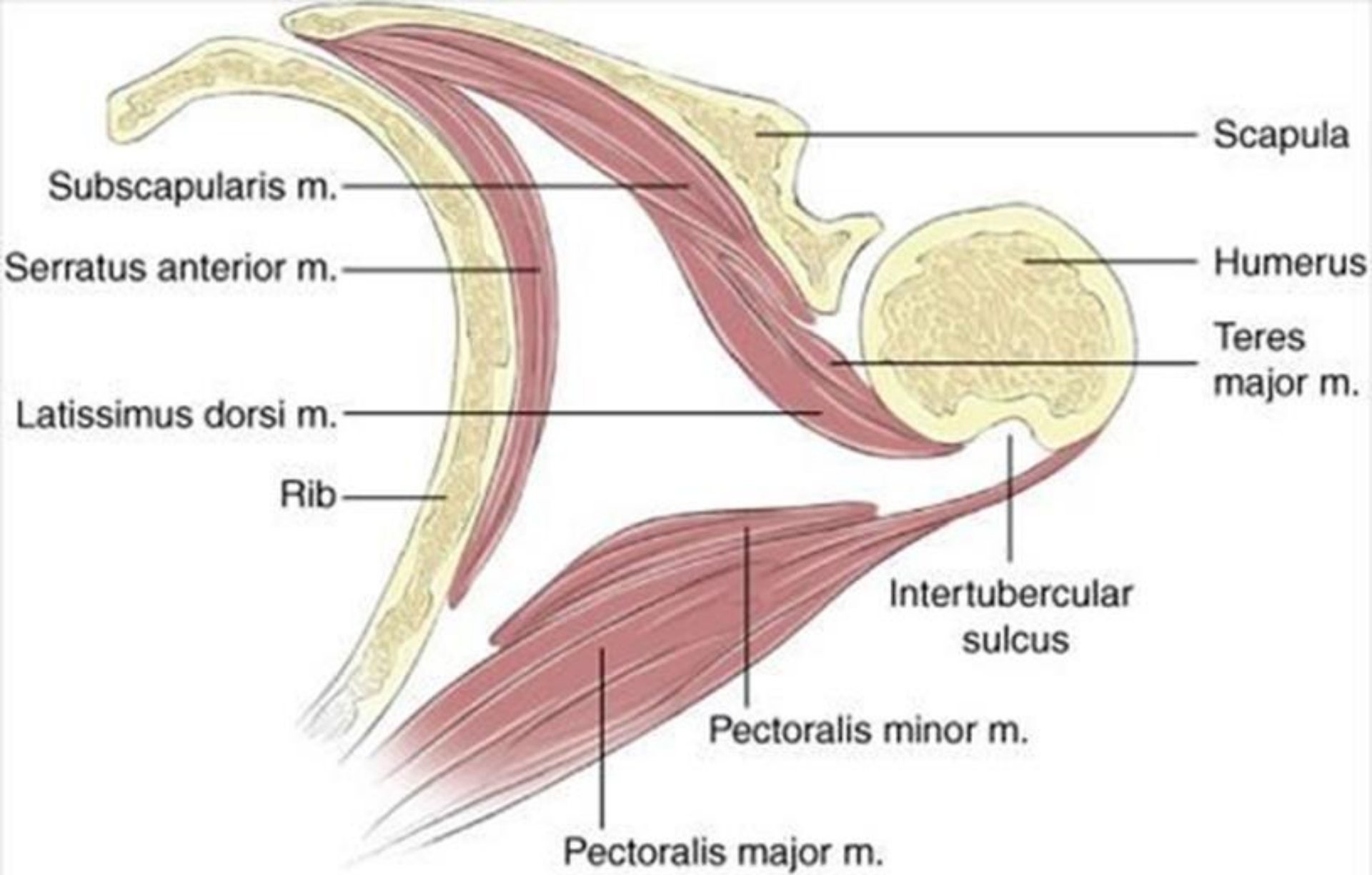
The anterior fold is higher than the posterior fold.

Axillary inlet

Formed by the:

- **Medially**: outer border of the 1st rib.
- **Anteriorly**: posterior surface of the middle 1/3 of the clavicle.
- **Posteriorly**: superior border of the scapula.
- **The apex** of the inlet is formed by the coracoid process.

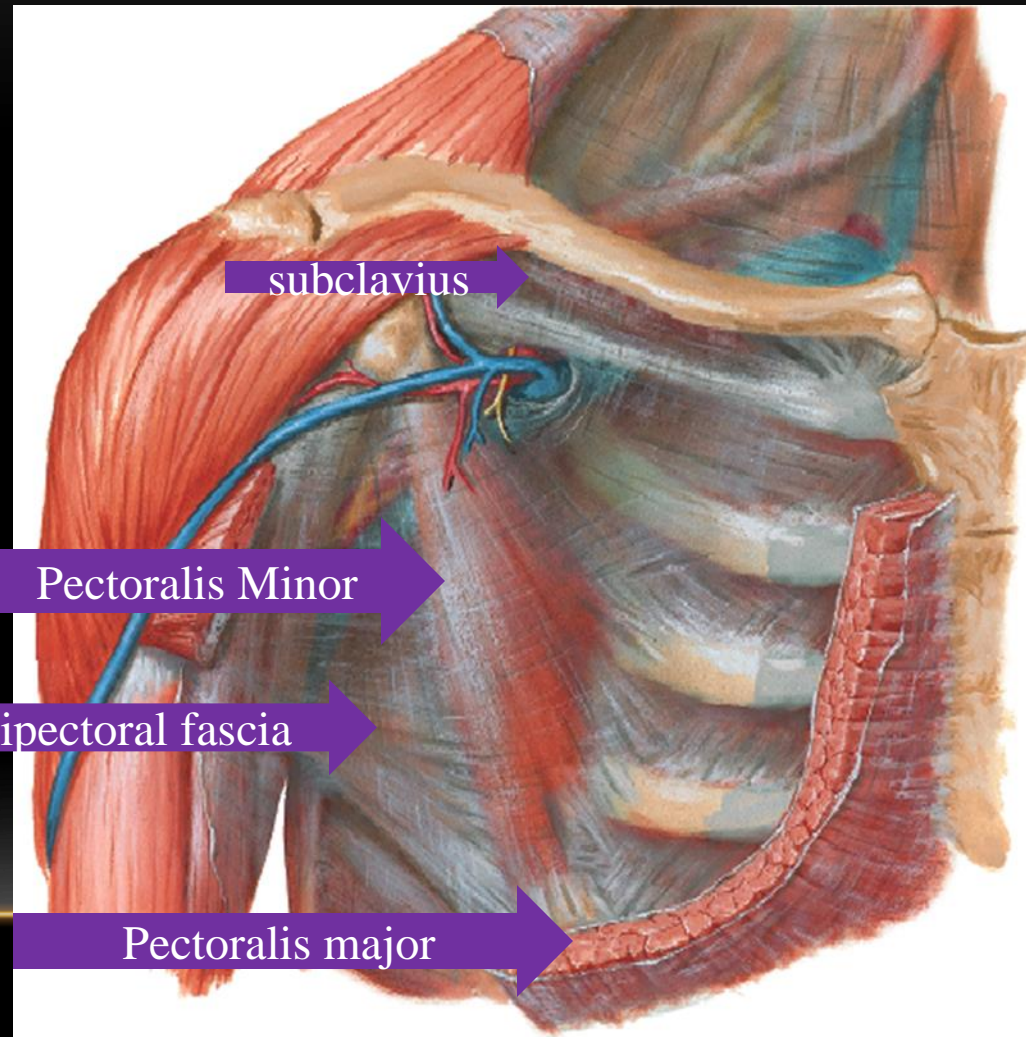




Anterior wall

Formed by the:

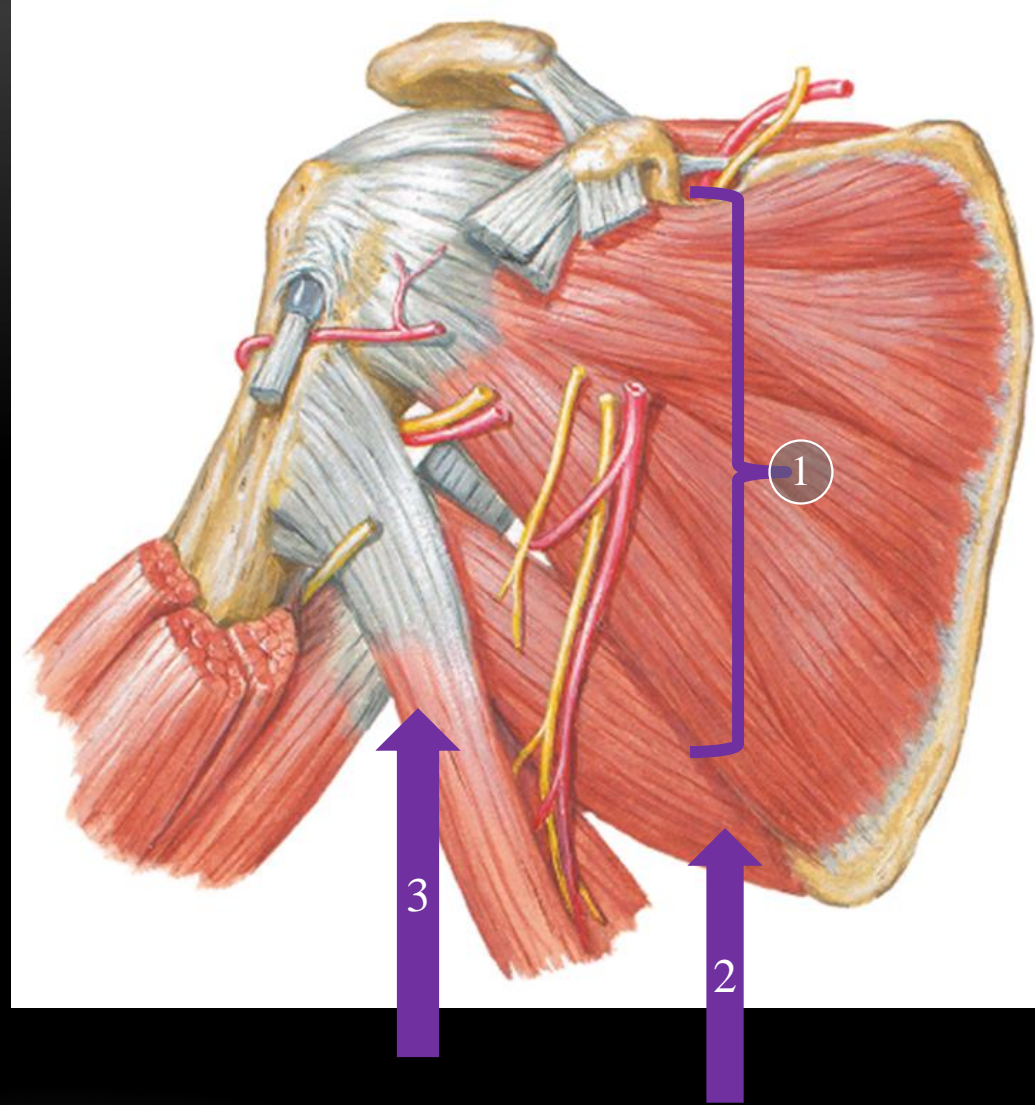
- Pectoralis major
- Pectoralis minor
- Subclavius
- Clavipectoral fascia



Posterior wall

Formed by the:

- Subscapularis (medially) (1)
- Teres major (2)
- Latissimus dorsi (3)
- The proximal part of the long head of triceps.



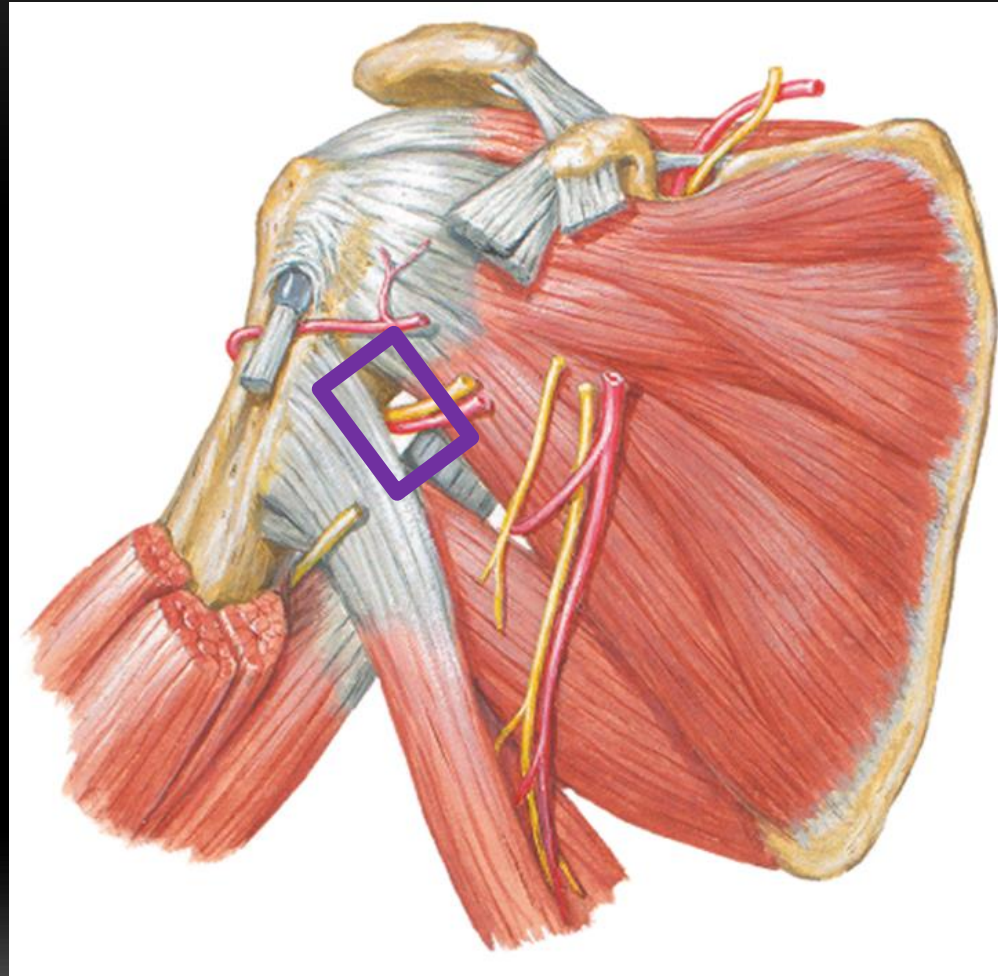
Openings in the
posterior wall ..1/2

Quadrangular space:
bounded by:

- Subscapularis
- Surgical neck of the humerus
- Teres major
- Long head of triceps

Transmits:

- Axillary nerve
- Posterior circumflex humeral artery



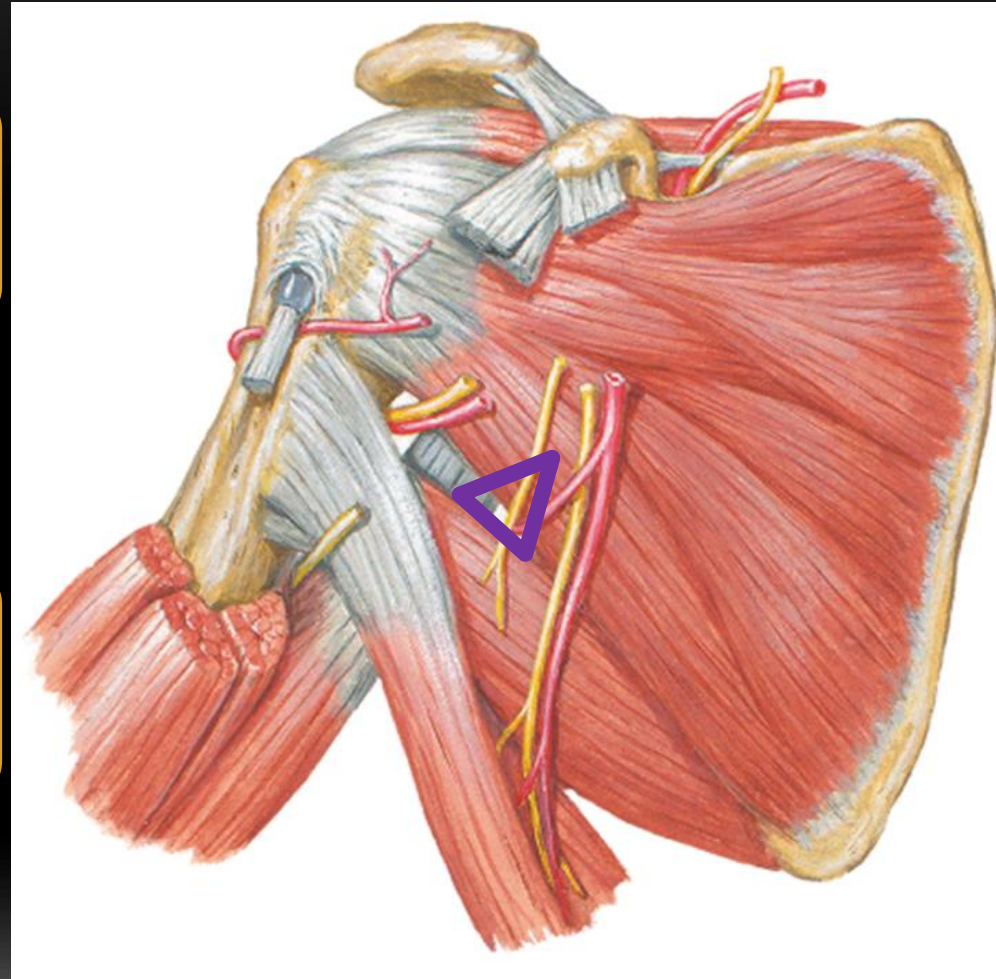
Openings in the posterior wall ..2/2

Triangular space:
bounded by:

- Long head of triceps
- Subscapularis
- Teres major

Transmits:

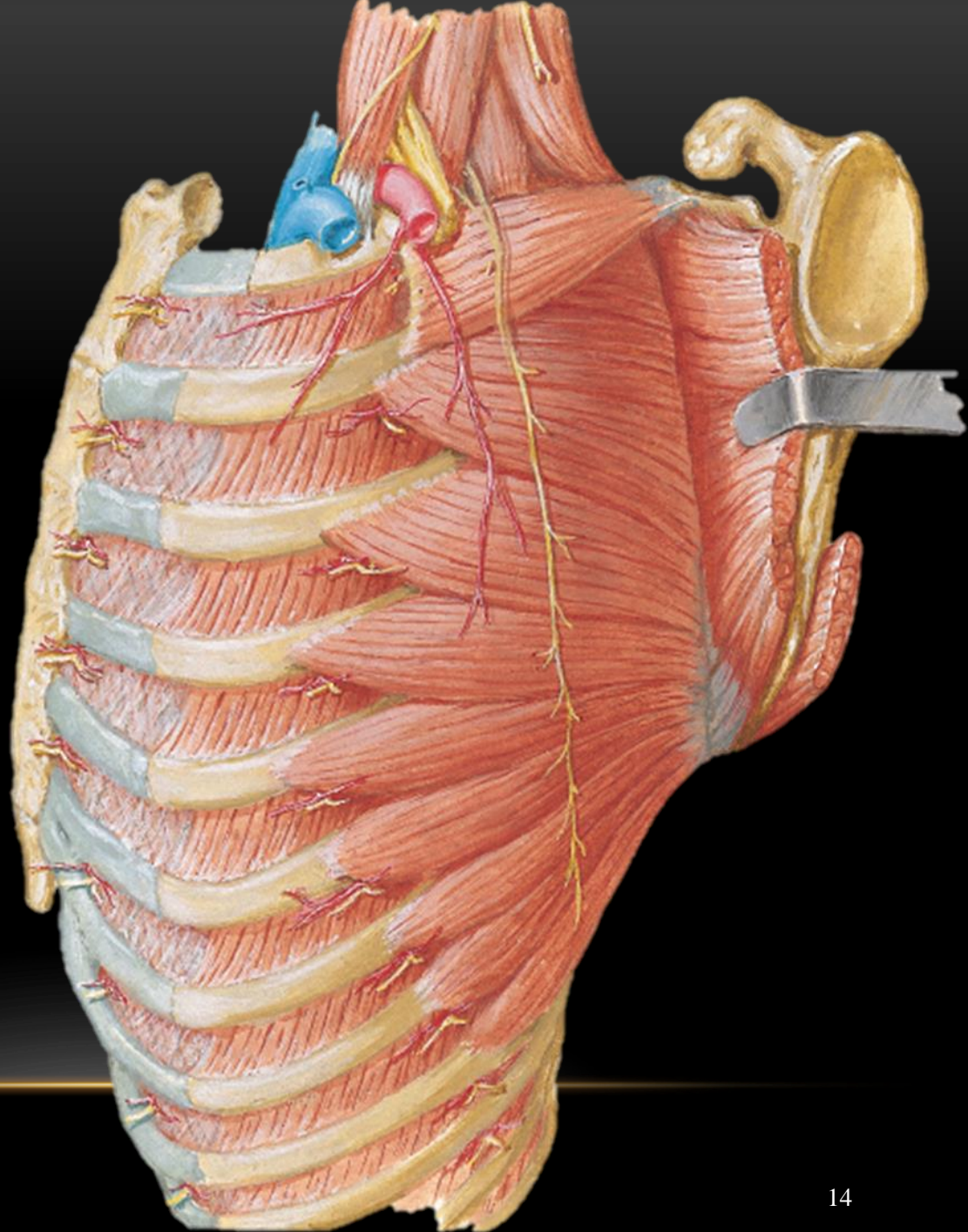
- Circumflex scapular artery and vein.



Medial Wall

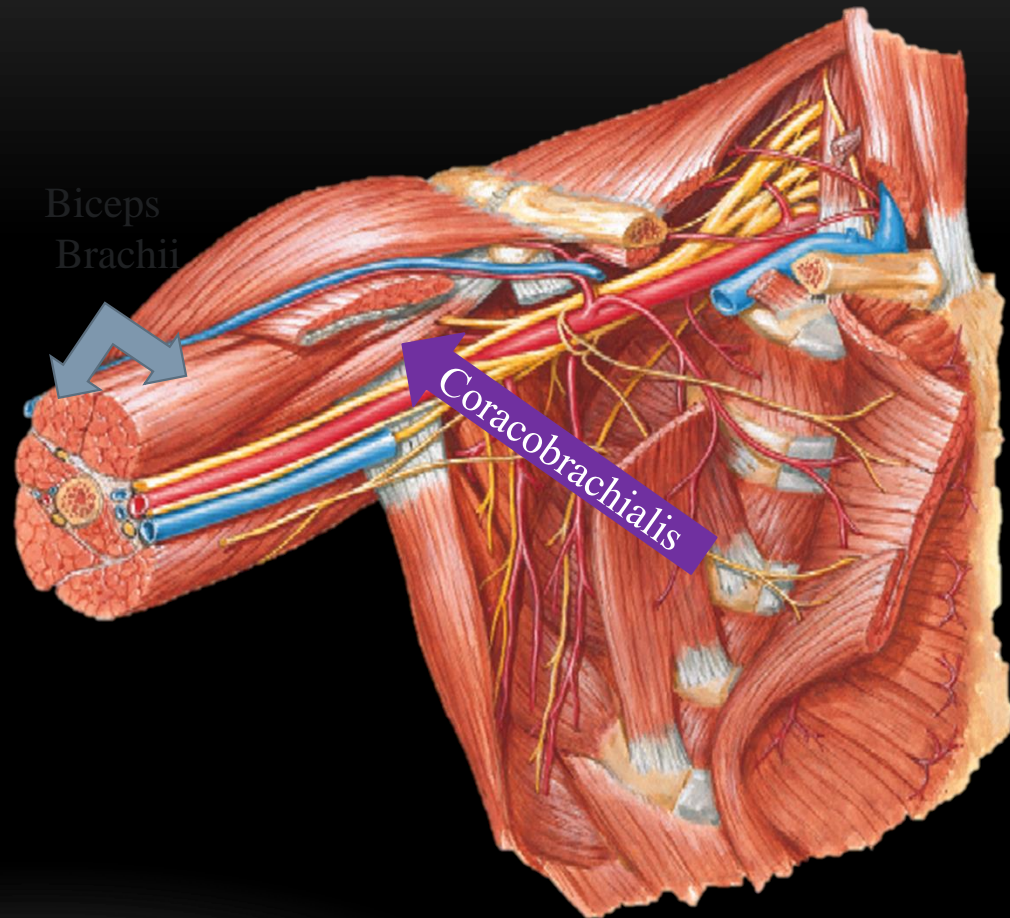
Formed by
the:

- upper four or five ribs
- Upper 4-5 intercostal spaces covered by the upper digitations of the serratus anterior muscle.

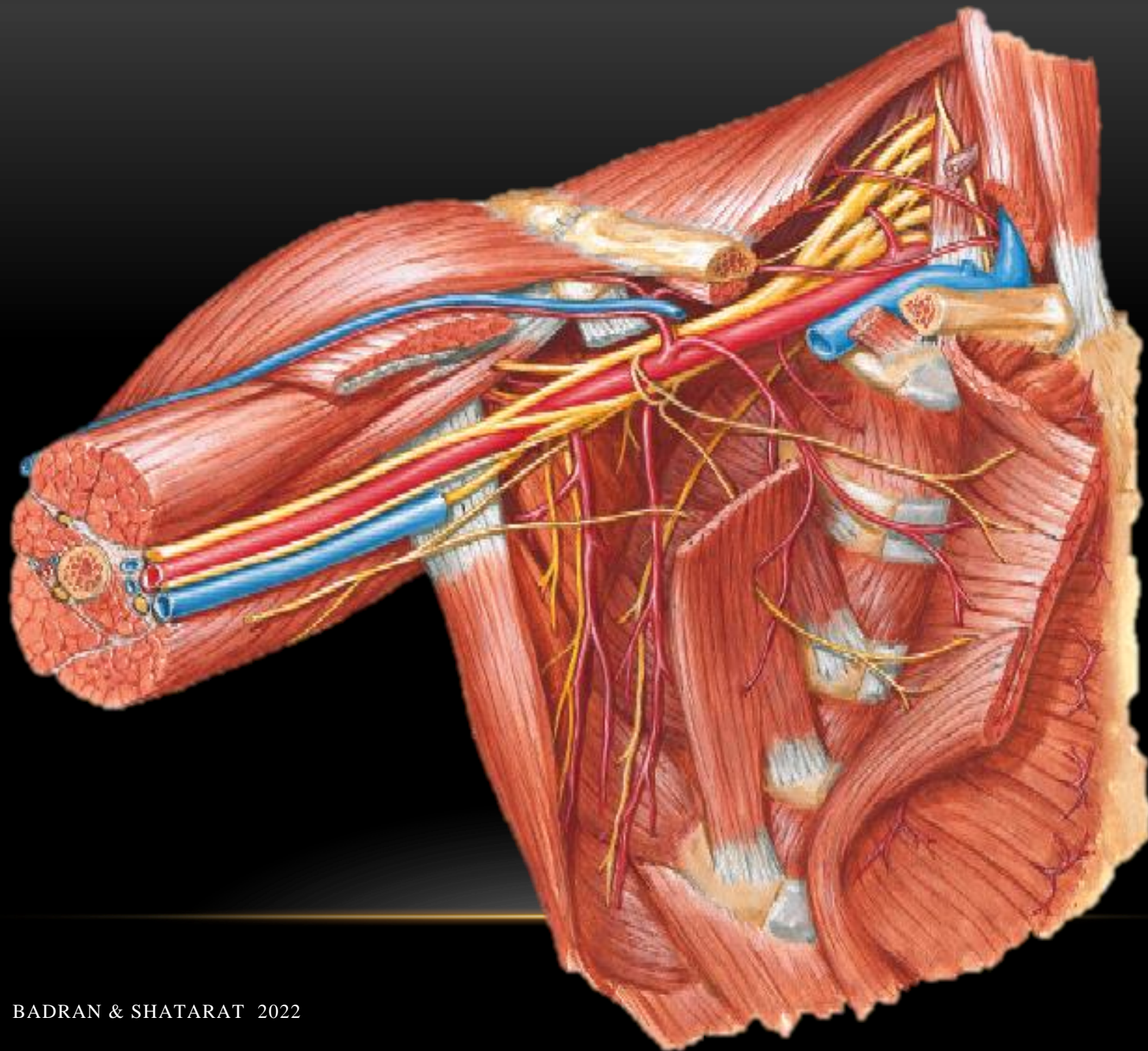


Lateral wall

Narrowest wall and formed by the bicipital groove, coracobrachialis and biceps brachii.



The axillary artery and cords of the brachial plexus related to it descend along the lateral wall.



An axillary abscess
may point to the floor
or ascends to the root
of the neck.

CONTENTS OF THE AXILLA

The axillary artery and its branches,

The axillary vein and its tributaries,

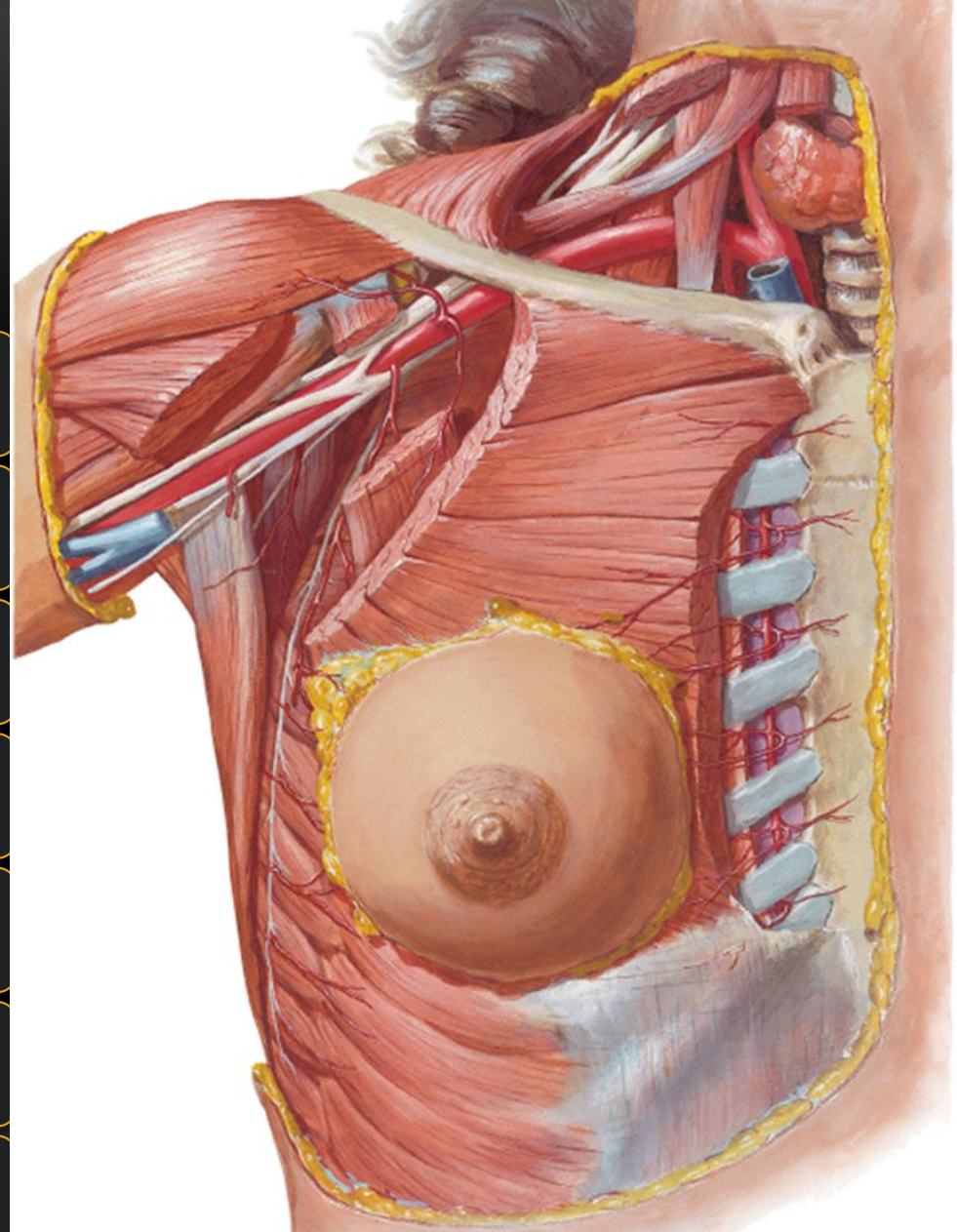
Axillary tail of the breast

Cords and terminal branches of the brachial plexus

Axillary lymph vessels and lymph nodes

Axillary fat

Lateral cutaneous branches of the upper 3 intercostal nerves.



Axillary Artery

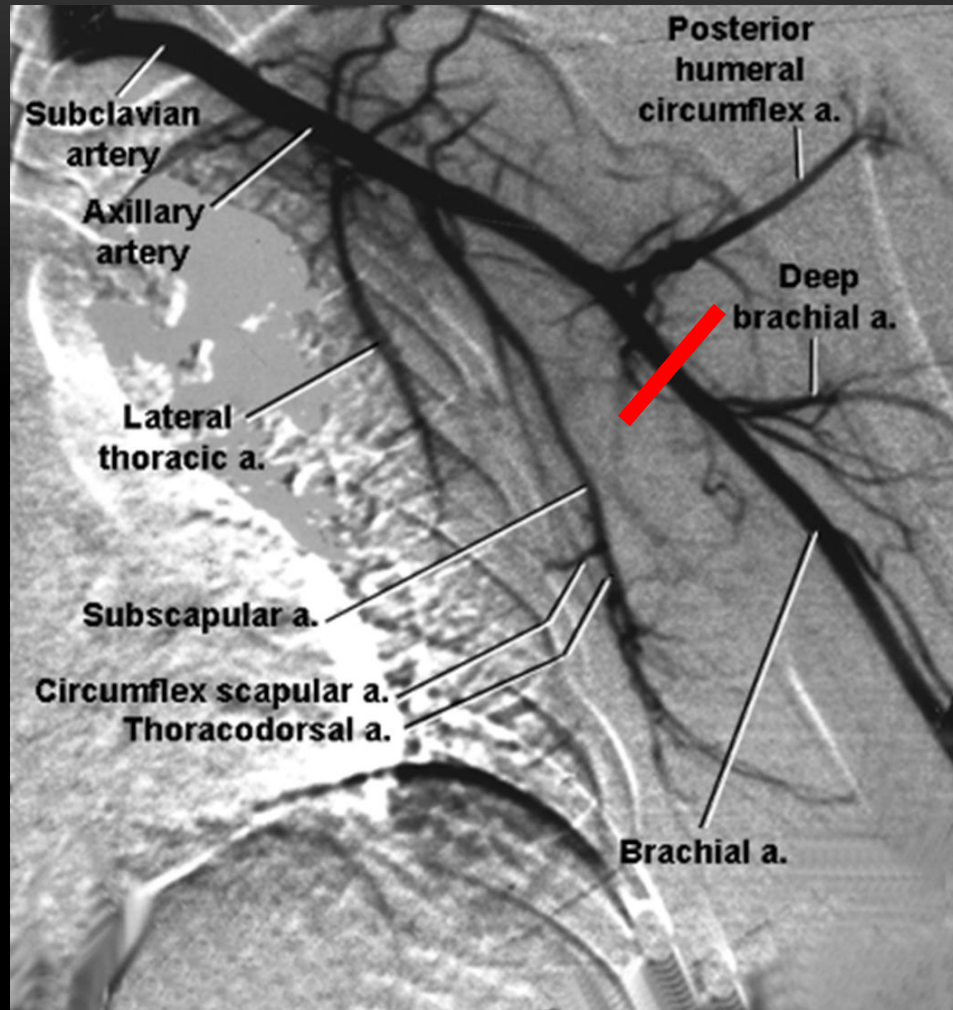
Beginning: at the outer border of the first rib as a continuation of the **subclavian artery**

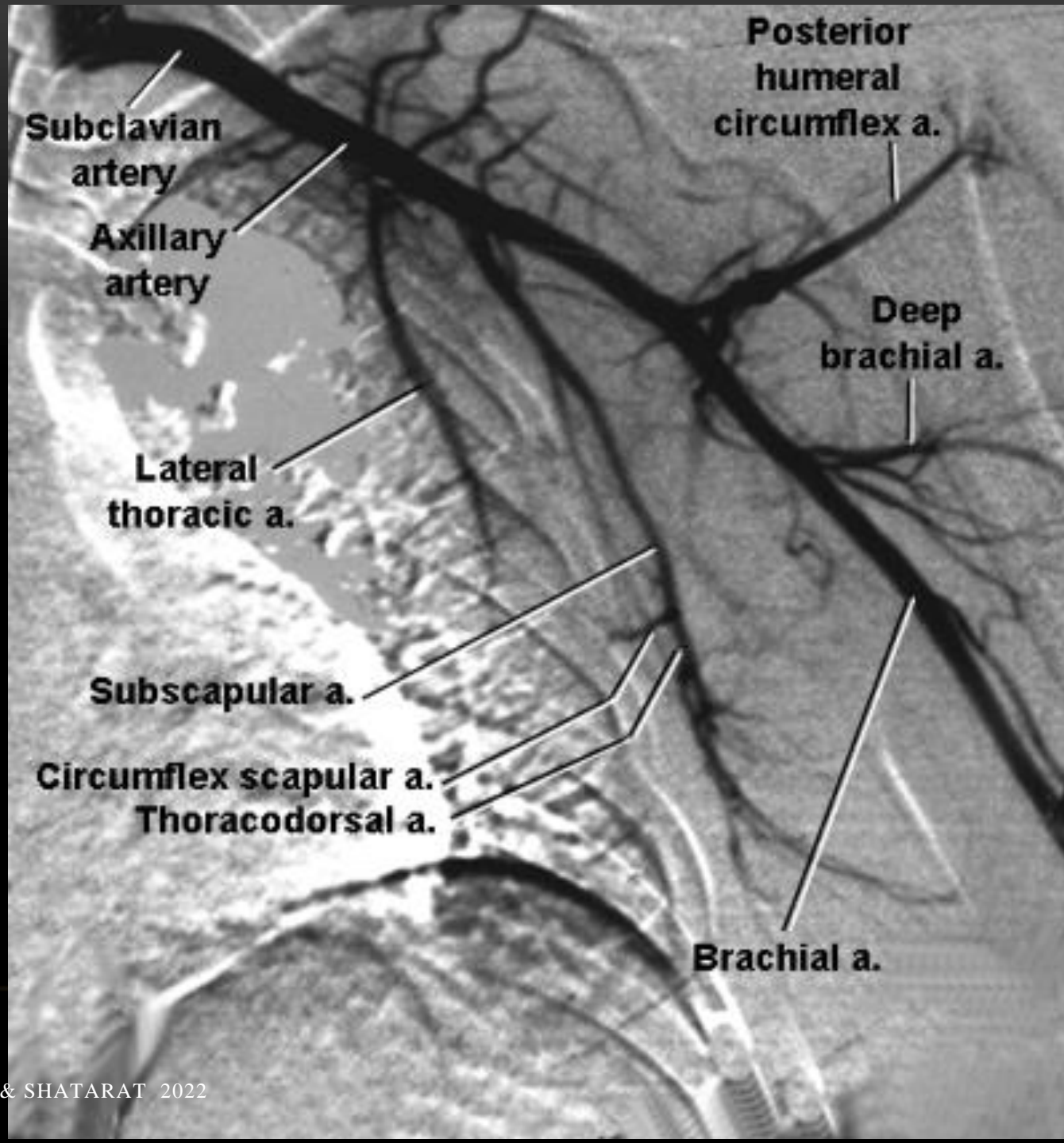
Course: Passes downwards in the axilla from the apex to the base.

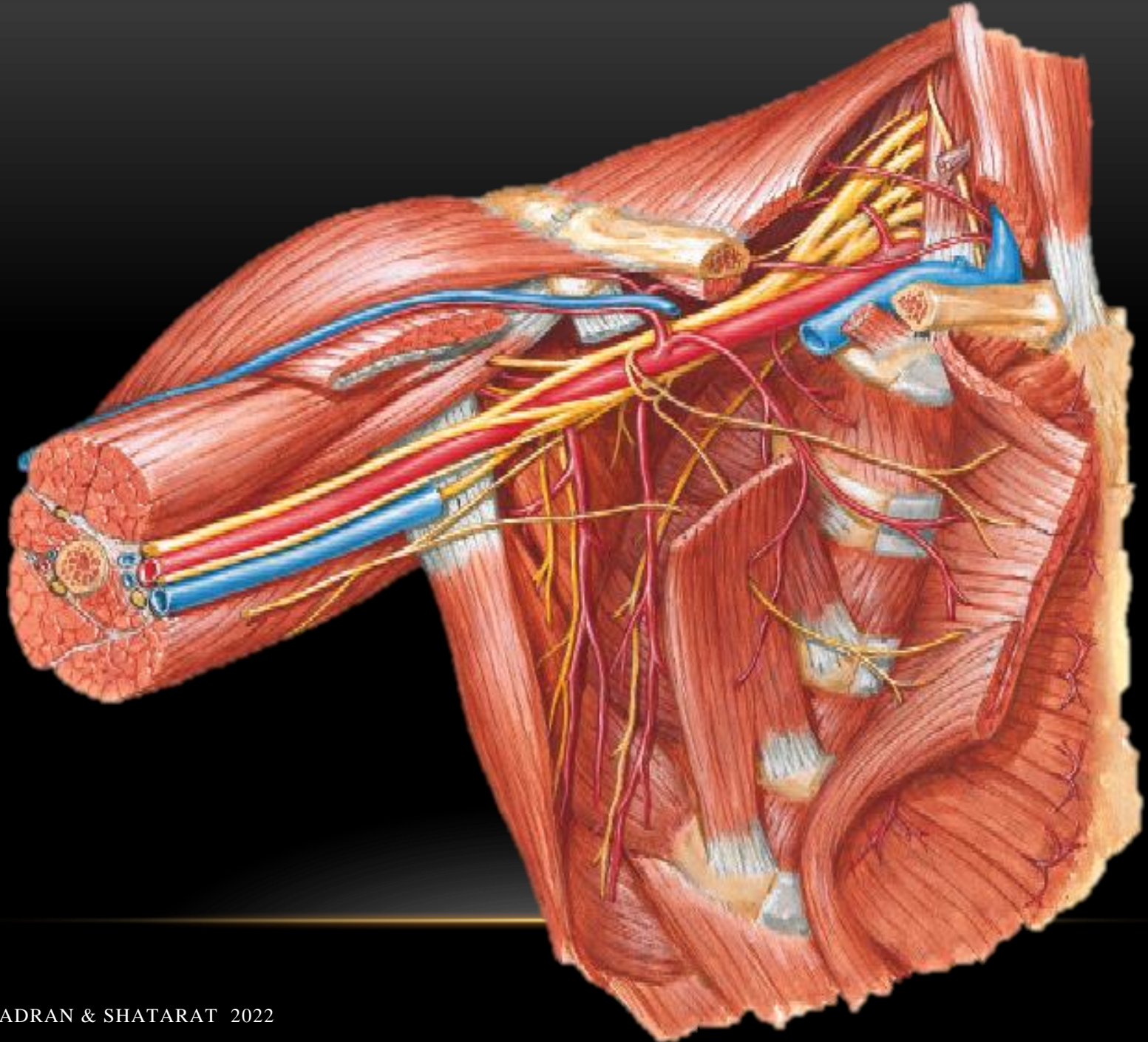
Termination: ends at the lower border of the teres major muscle, where it continues as the **brachial artery**.

Parts: it is divided by **pectoralis minor** into **three parts**:

- **First Part:** lies above the pectoralis minor
- **Second part:** lies behind the pectoralis minor
- **Third part:** lies below the pectoralis minor







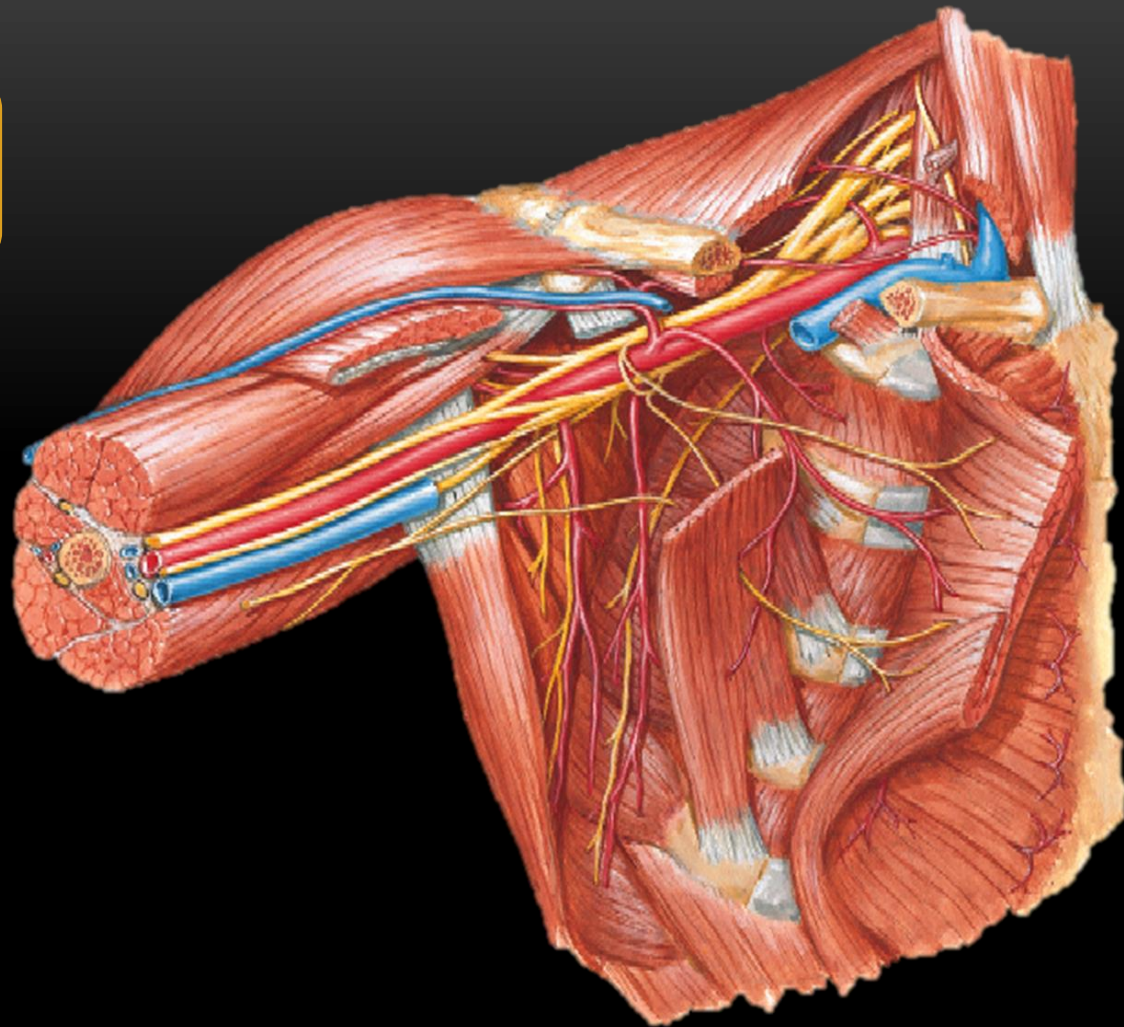
Relations of the 1st part of the axillary artery

Anteriorly: the clavicular part of pectoralis major, the clavipectoral fascia and vessels and nerves superficial to it

Posteriorly: 1st intercostal space, 1st digitation of serratus anterior and medial cord of brachial plexus

Laterally: lateral and posterior cords of the brachial plexus

Medially: The axillary vein



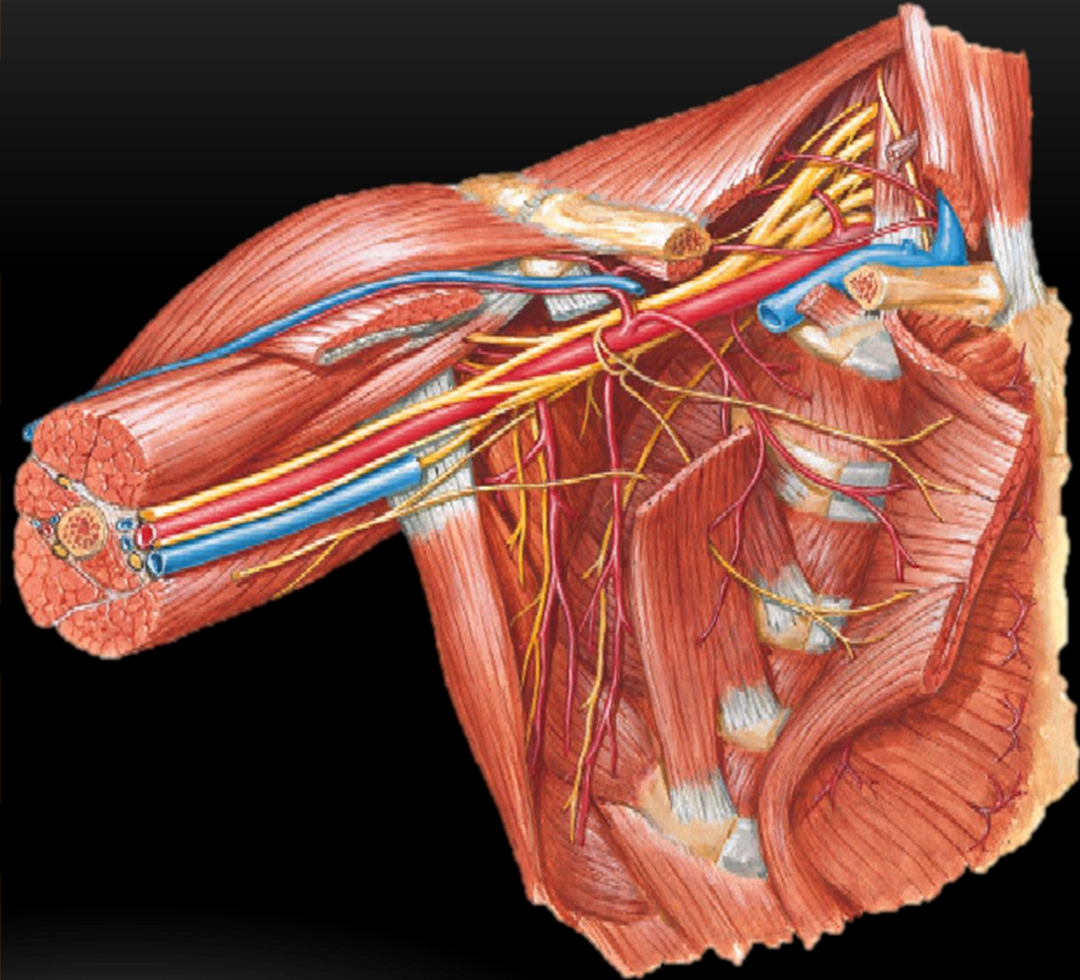
Relations of the 2nd part of the axillary artery

Anteriorly: The pectoralis minor and pectoralis major

Posteriorly: The posterior cord of the brachial plexus and the subscapularis muscle

Laterally: The lateral cord of the brachial plexus

Medially: The medial cord of the brachial plexus, medial pectoral nerve and the axillary vein



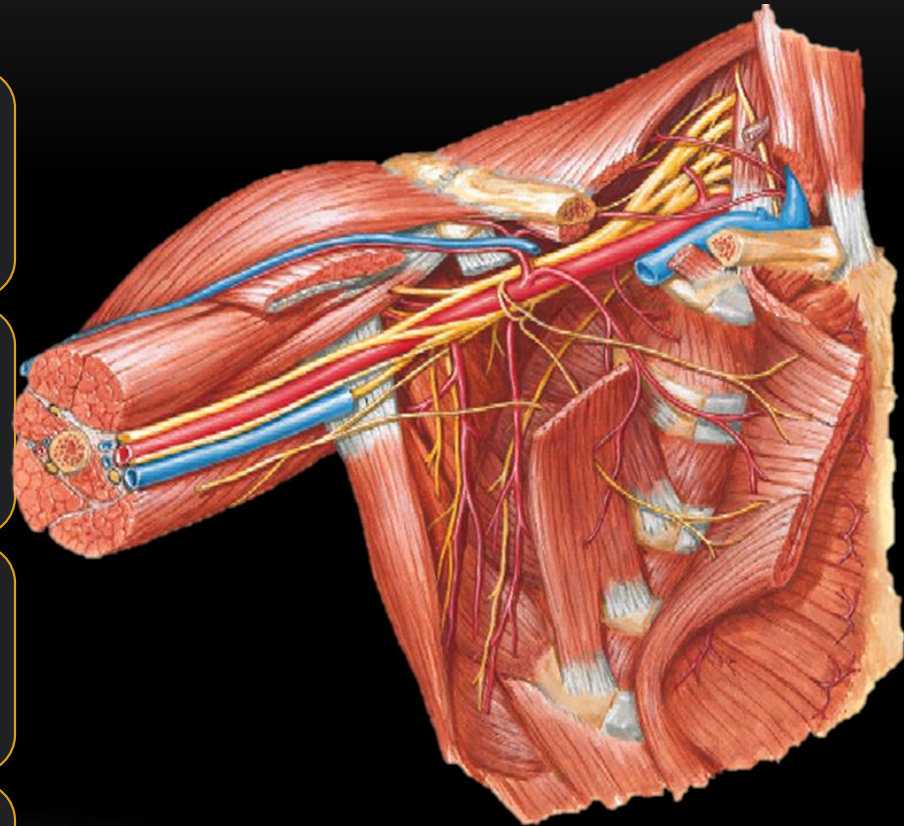
Relations of the 3rd part of the axillary artery

Anteriorly: its upper part is covered by pectoralis major but its lower part is covered by skin, superficial and deep fascia. It is crossed by the medial root of the median nerve

Posteriorly: The subscapularis, the latissimus dorsi, and the teres major. The axillary and radial nerves also lie behind the artery.

Laterally: The coracobrachialis, the biceps, and the humerus. The lateral root of the median and the musculocutaneous nerves also lie on the lateral side.

Medially: The ulnar nerve, the axillary vein, and the medial cutaneous nerve of the arm and the forearm



Branches of the Axillary Artery:

From the first part:

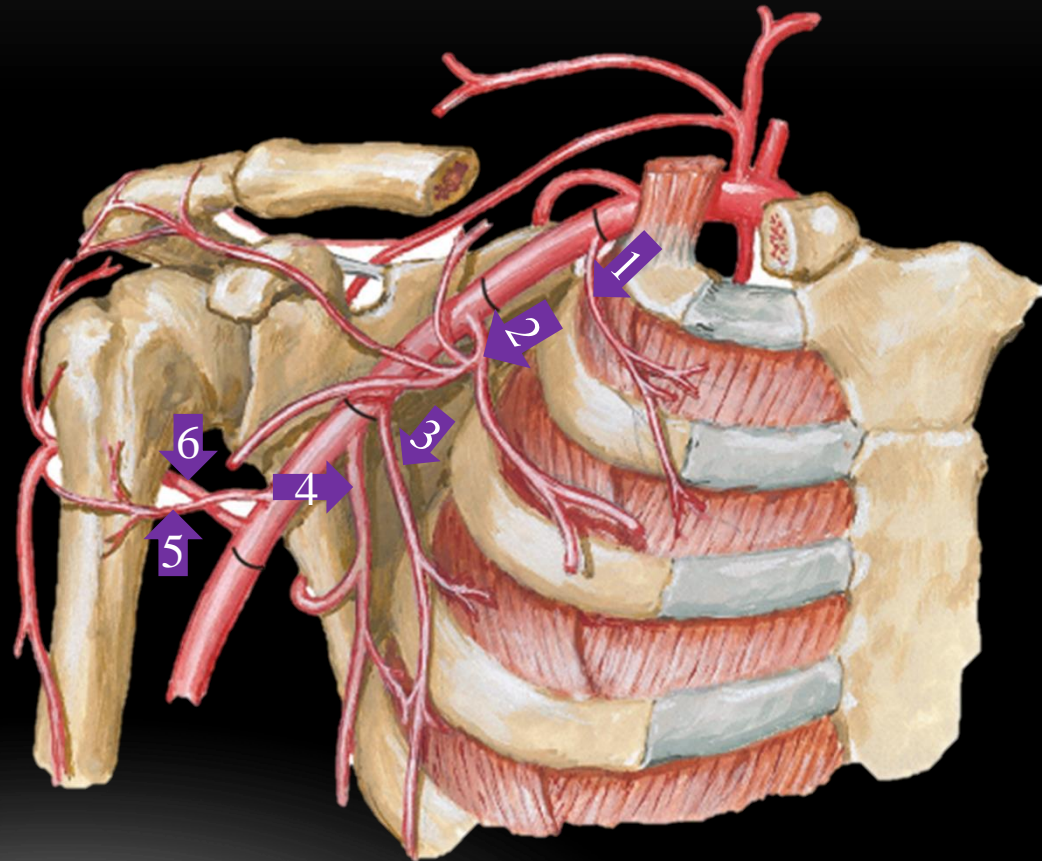
- The superior thoracic artery (1)

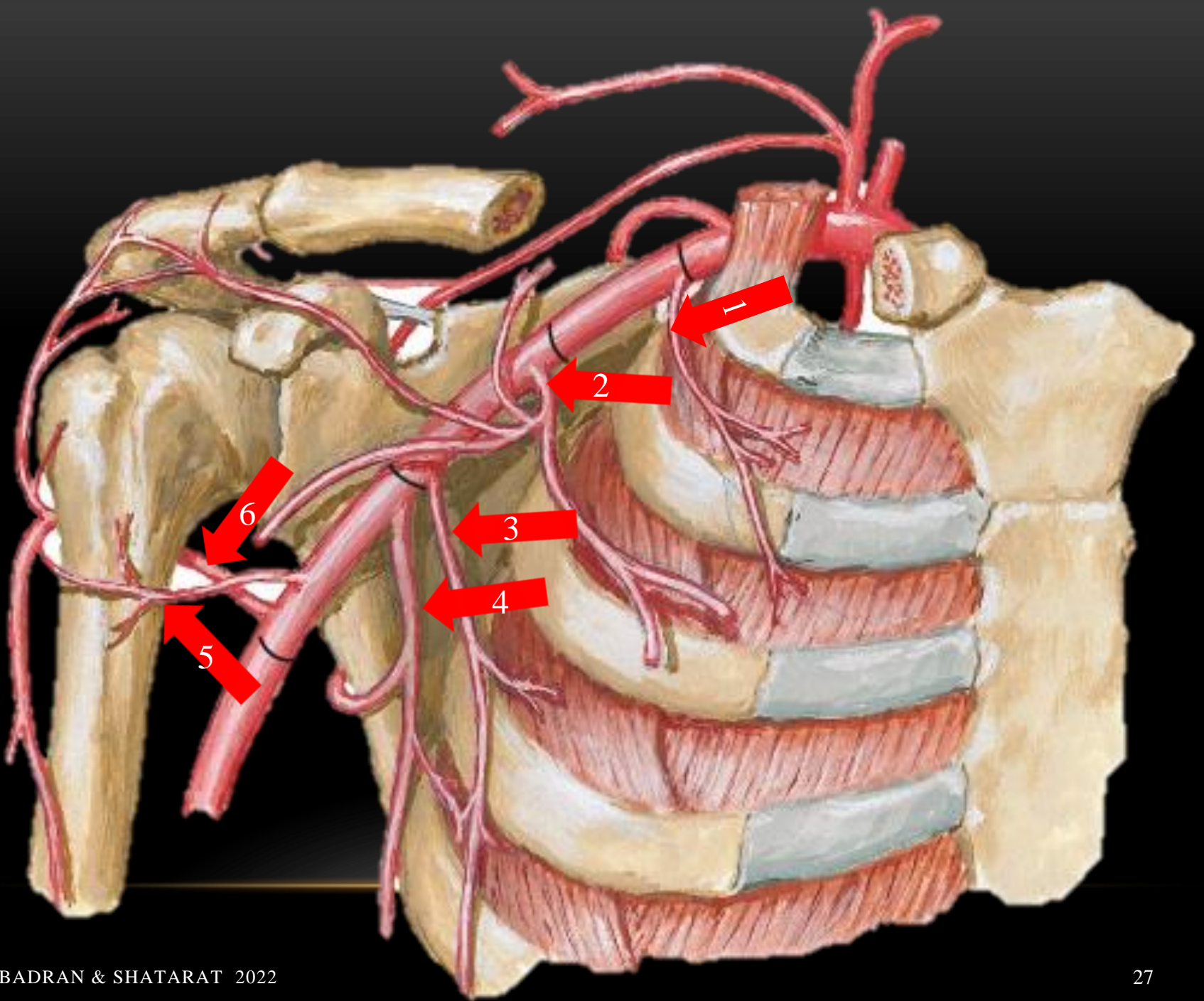
From the second part:

- The thoracoacromial trunk (2)
- The lateral thoracic artery (3)

From the third part:

- The subscapular artery (4)
- The anterior circumflex humeral artery (5)
- The posterior circumflex humeral artery (6)





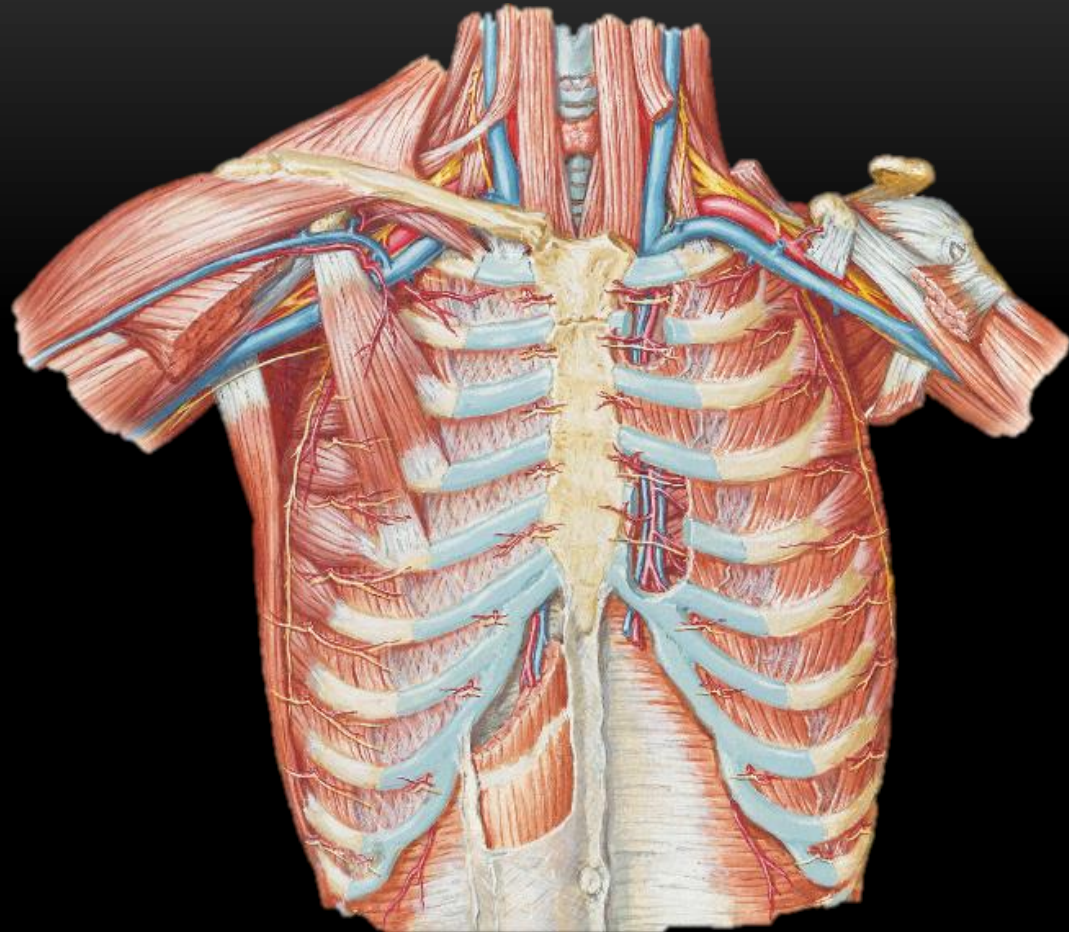
Axillary vein

Beginning: at the lower border of teres major as a continuation of basilic vein

End: at the outer border of the 1st rib where it becomes subclavian vein

It lies on the medial side of the axillary artery

Tributaries: 2 venae comitantes of brachial artery, cephalic vein and other tributaries follow the axillary arterial branches



Stages of the brachial plexus

roots: is formed by the anterior rami of C5, C6, C7, C8 & T1

trunks:

- **upper trunk** is formed by union of the anterior rami of C5 & C6
- **middle trunk** is the anterior ramus of C7
- **lower trunk** is formed by union of the anterior rami of C8 & T1

division: each trunk divides into **anterior** and **posterior** divisions

CORDS:

- the **lateral cord** is formed by the union of the anterior divisions of the upper and middle trunks
- the **medial cord** is formed by the anterior division of the lower trunk
- the **posterior cord** is formed by the union of the posterior divisions of all trunks



Pectoralis Major

Origin : 2 heads;

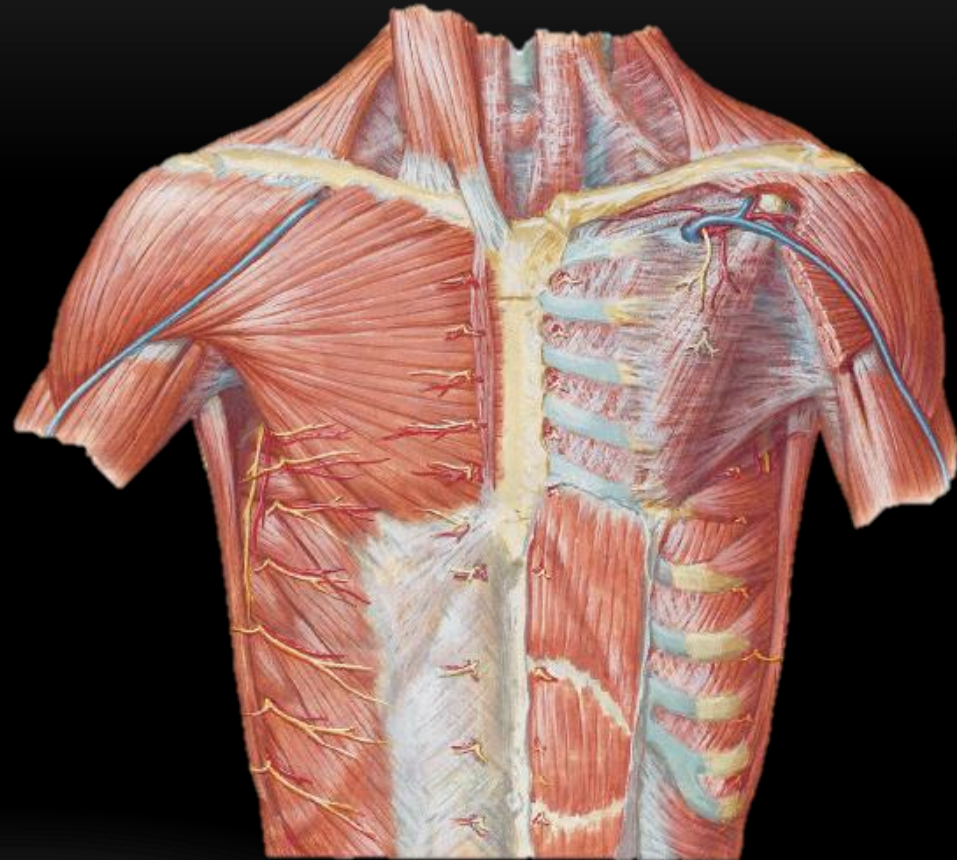
- **Clavicular head**: From the Medial $\frac{1}{2}$ of the front of the clavicle.
- **Sternocostal head**:
 - From the Sternum.
 - Upper 6 costal cartilages.
 - Aponeurosis of the external oblique muscle.

Insertion : Lateral lip of bicipital groove.

Nerve supply : Medial & lateral pectoral nerves.

Action :

- **Adduction and medial rotation** of the arm.
- **Clavicular head helps in flexion of arm (shoulder)**.



Pectoralis Minor

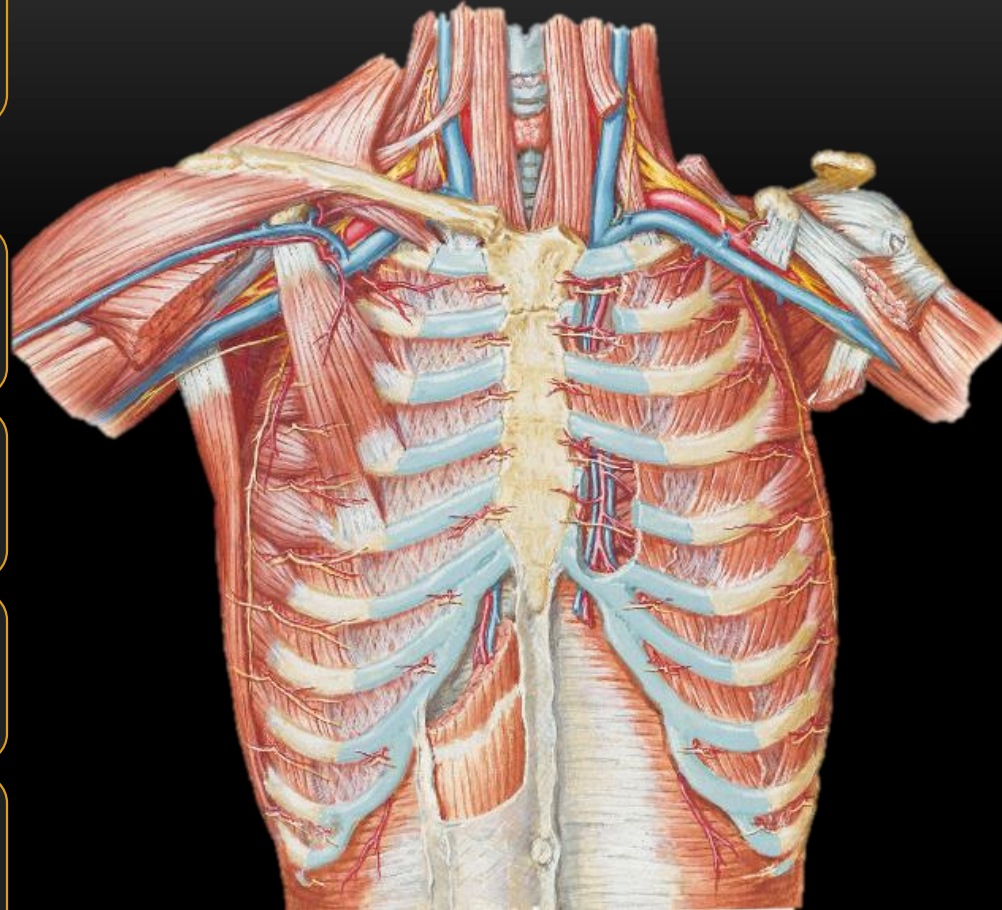
Origin: From 3rd, 4th, & 5th ribs close to their costal cartilages.

Insertion: Coracoid process.

Nerve supply: Medial pectoral nerve.

Action:

- Depression of the shoulder.
- Draw the ribs upward and outwards during deep inspiration.



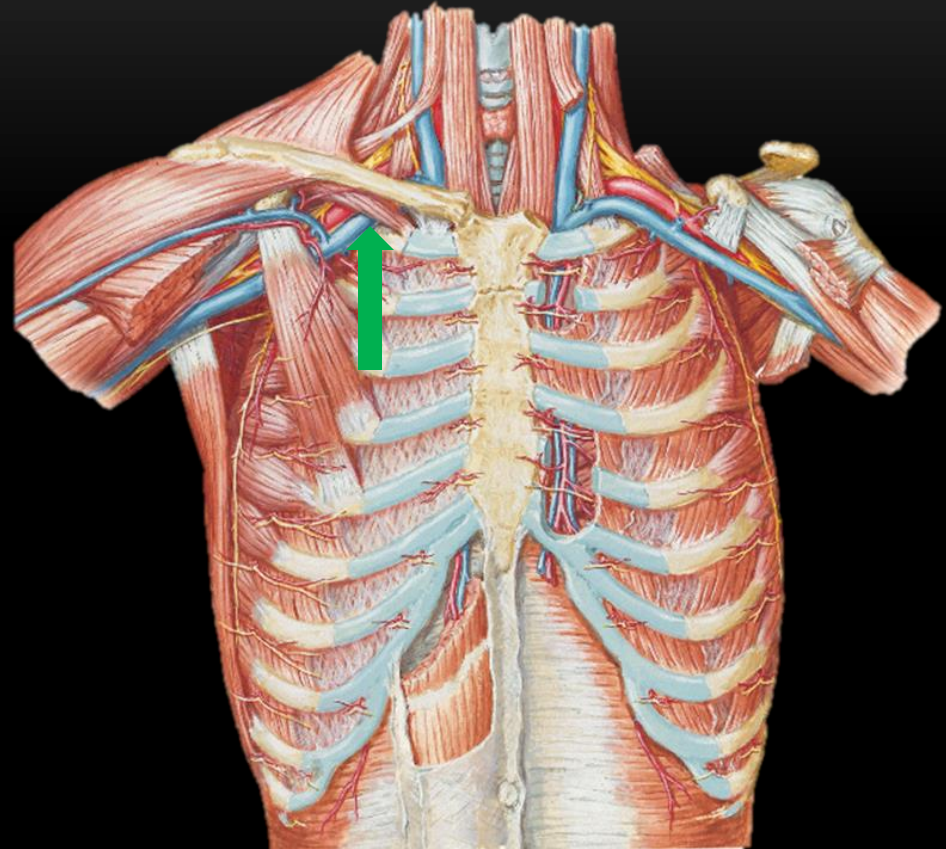
Subclavius

Origin: From 1st rib at its costal cartilage.

Insertion: Subclavian groove in the middle 1/3 of the inferior surface of clavicle.

Nerve supply: Nerve to subclavius from upper trunk of brachial plexus.

Action: Fixes the clavicle during movement of shoulder joint.



Serratus Anterior

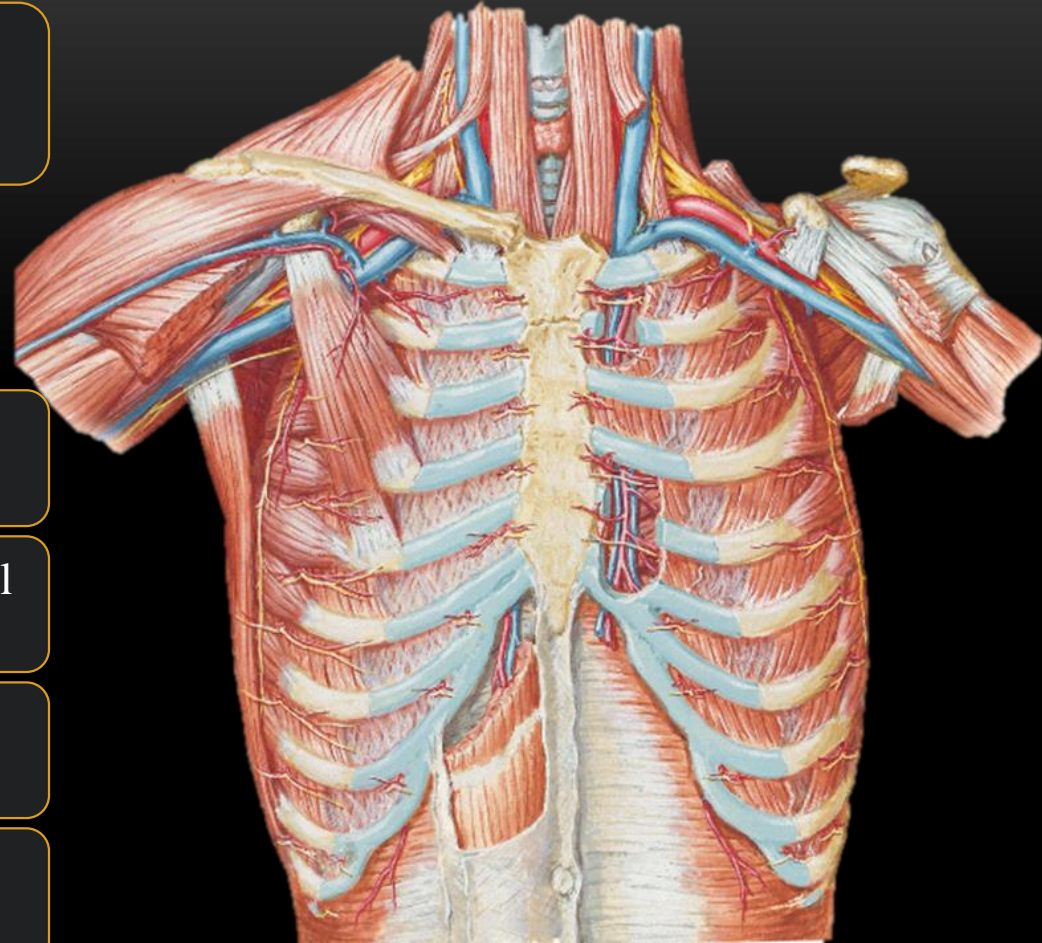
Origin: Upper eight ribs.

Insertion: anterior aspect of the medial border and inferior angle of scapula.

Nerve supply: Long thoracic nerve.

Action:

- Draws the scapula forward in boxing, (protrusion).
- Rotates scapula outwards in raising the arm above 90 degree.



Clavipectoral Fascia

It is a thickened membrane of deep fascia between the subclavius and pectoralis minor.

It is pierced by :

- Lateral pectoral nerve.
- Thoraco- acromial artery
- Cephalic vein.
- Few lymph vessels.

