

# THE AXILLA

BASRA UNIVERSITY/ COLLEGE OF MEDICINE  
DEPARTMENT OF HUMAN ANATOMY

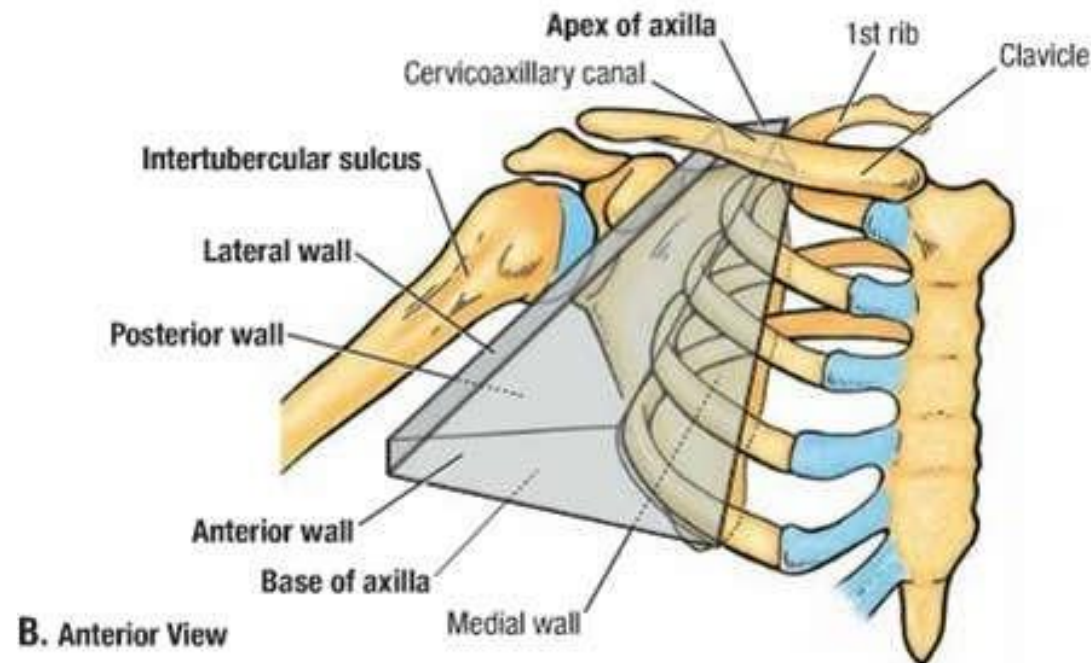
DR.SAMER AL-NUSSAIRI

# OBJECTIVE

- ✓ Definition
- ✓ Boundaries
- ✓ Contents
- ✓ Axillary Artery
- ✓ Axillary Vein
- ✓ Axillary Lymph Nodes LN

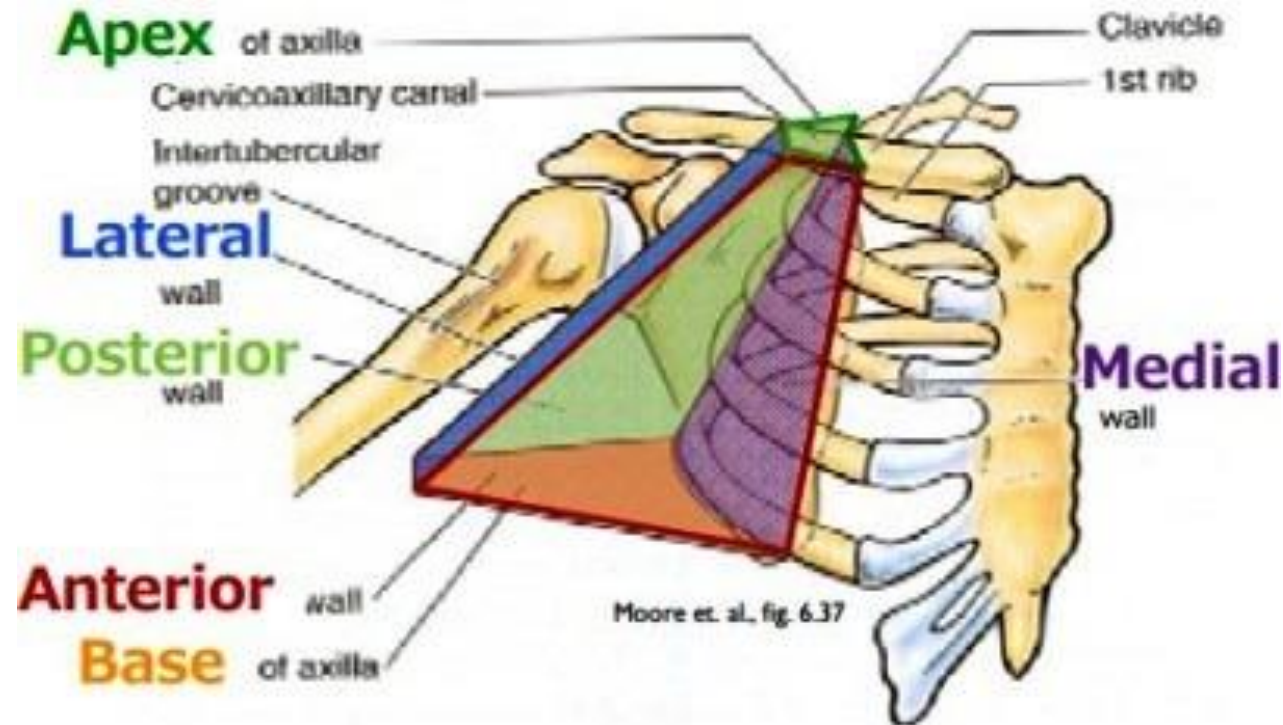
# AXILLA

- ❑ The axilla (or armpit), is a pyramid-shaped space between the upper part of the arm and the side of the chest.
- ❑ It's forms an important passage for nerves, blood and lymph vessels as they travel from the root of the neck to the upper limb.



# AXILLA

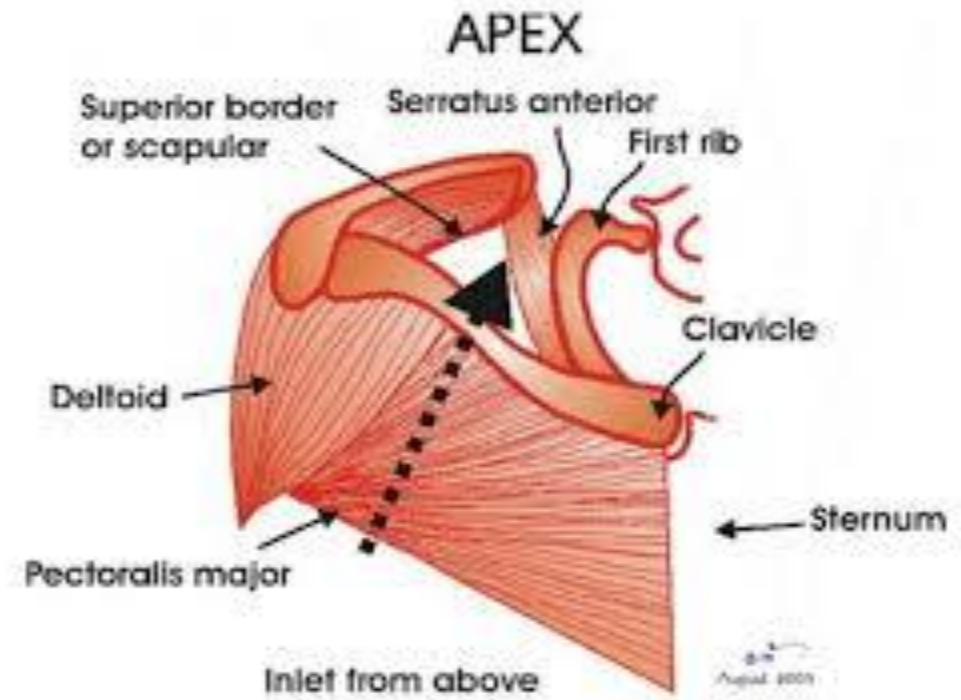
□ Boundaries: It's consist from: 1. Apex & Base. 2. Walls (there are 4 walls).



**4 Walls + Apex & Base**

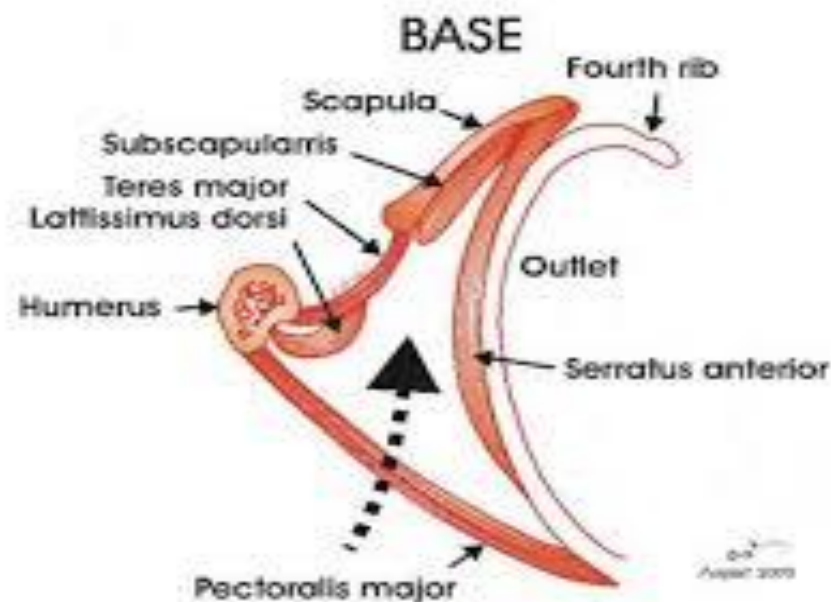
# AXILLA

- ❑ The upper end of the axilla (Apex), is directed into the root of the neck and is bounded in front by the clavicle, behind by the upper border of the scapula, and medially by the outer border of the first rib.
- ❑ It is channel of communication between axilla & neck.
- ❑ Through this opening the vessels, nerves reach the axilla.



# AXILLA

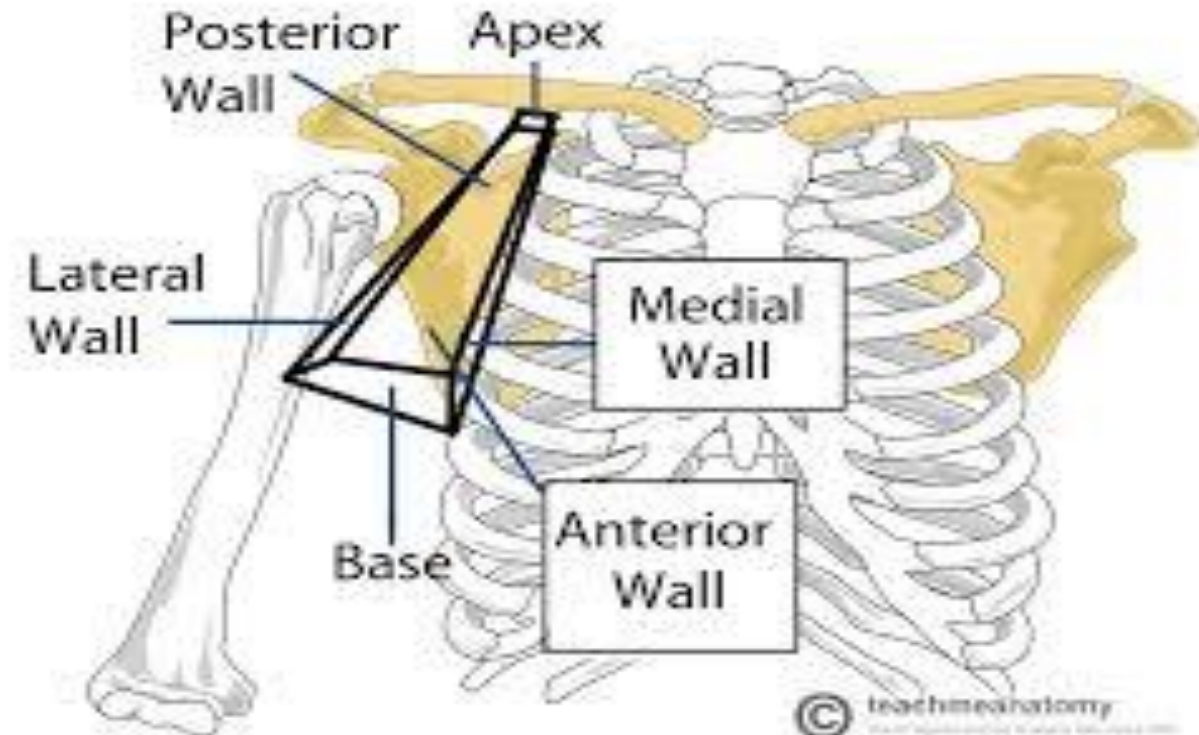
- ❑ The lower end (Base), is bounded in front by the anterior axillary fold (formed by the lower border of the pectoralis major muscle), behind by the posterior axillary fold (formed by the tendon of latissimus dorsi and the teres major muscle), and medially by the chest wall.
- ❑ The base is formed by the skin stretching between the anterior and posterior walls.



# AXILLA

□ Axillary walls, there are 4 walls:

1. Anterior wall
2. Posterior wall
3. Medial wall
4. Lateral wall

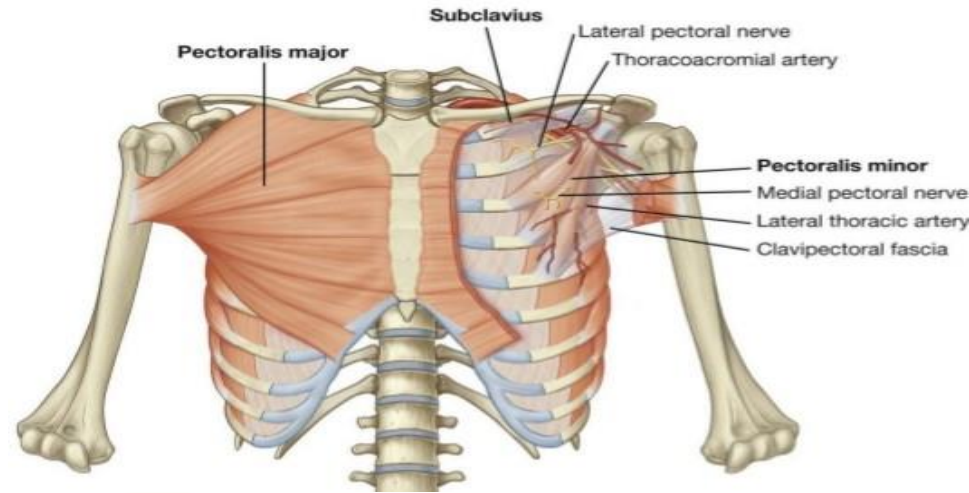




# AXILLA

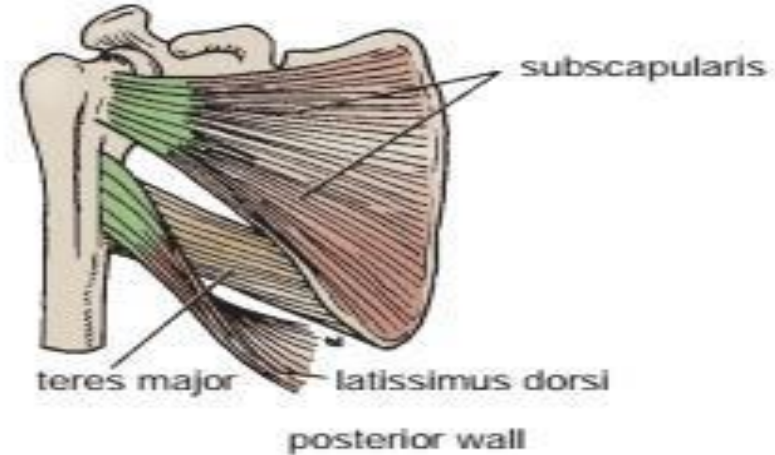
## ❑ Anterior wall:

- ❑ Pectoralis Major M.
- ❑ Pectoralis Minor M.
- ❑ Subclavius M.



## ❑ Posterior wall:

- ❑ Subscapularis M.
- ❑ Latissimus Dorsi M.
- ❑ Teres Major M.





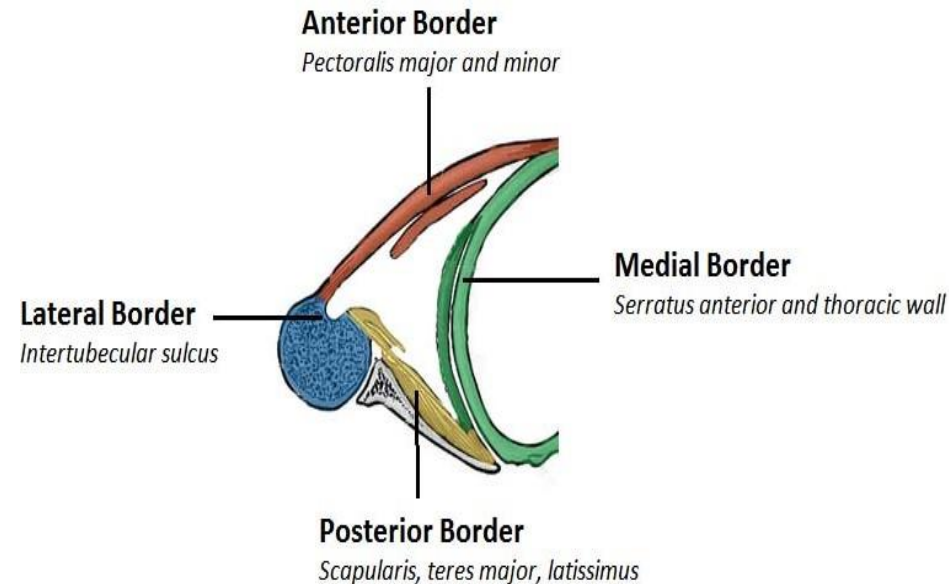
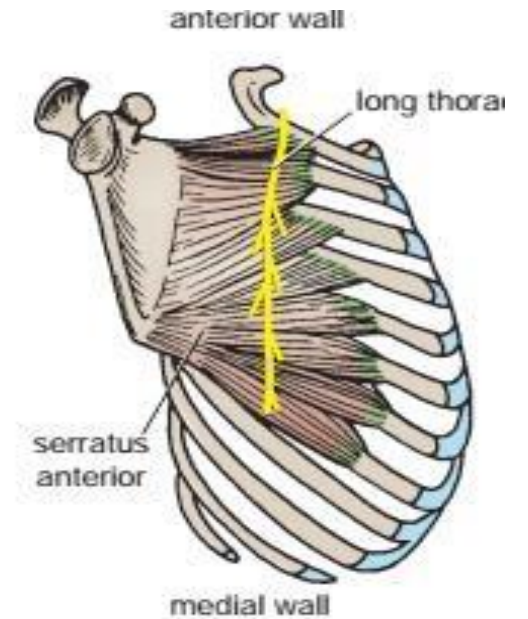
# AXILLA

## Medial wall:

By the upper four or five ribs and the intercostal spaces covered by the Serratus Anterior M.

## Lateral wall:

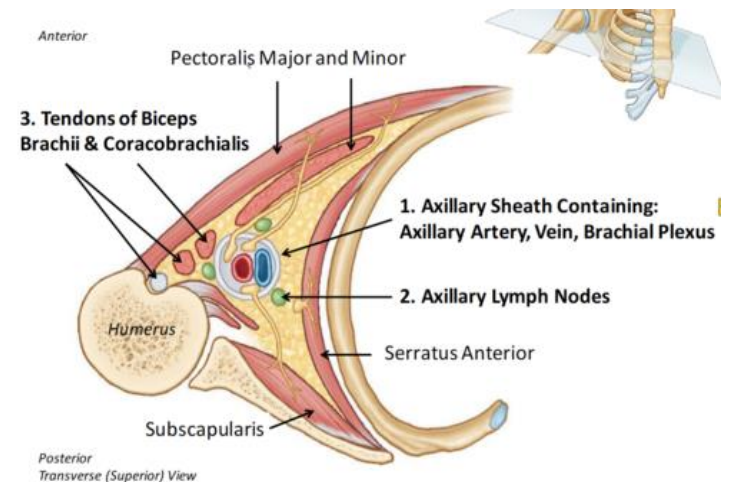
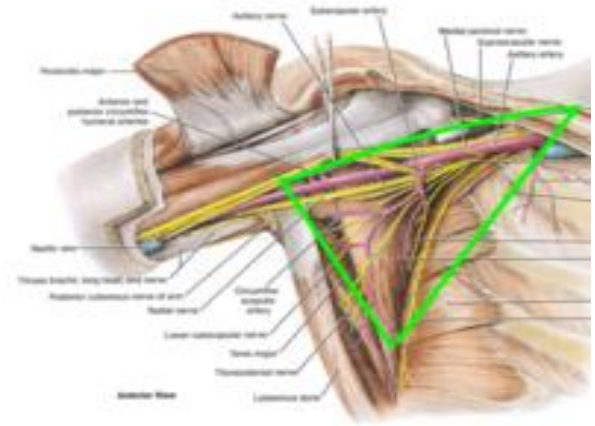
By the bicipital groove of the humerus & the Coracobrachialis M.



# CONTENTS OF THE AXILLA

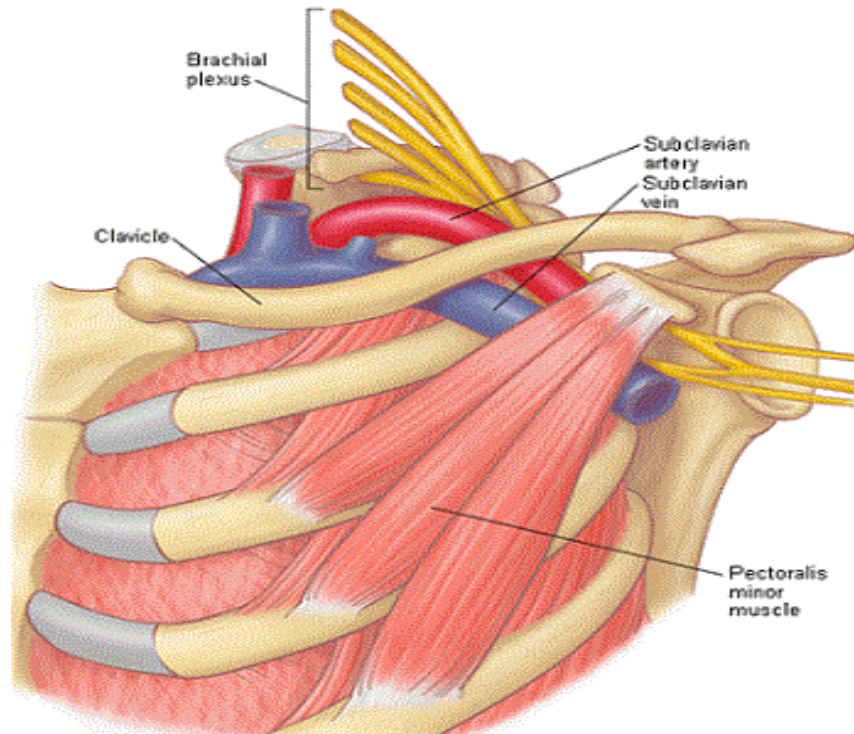
The axilla contains the principal vessels & nerves to the UL and many lymph nodes. These structures are embedded in fat. It's contains:

1. The axillary artery and its branches, which supply blood to the UL.
2. The axillary vein and its tributaries, which drain blood from the UL.
3. The lymph vessels and lymph nodes, which drain lymph from the UL and breast and from the skin of the trunk, down as far as level of the umbilicus.
4. The brachial plexus, is an important nerve plexus, which innervates the UL.



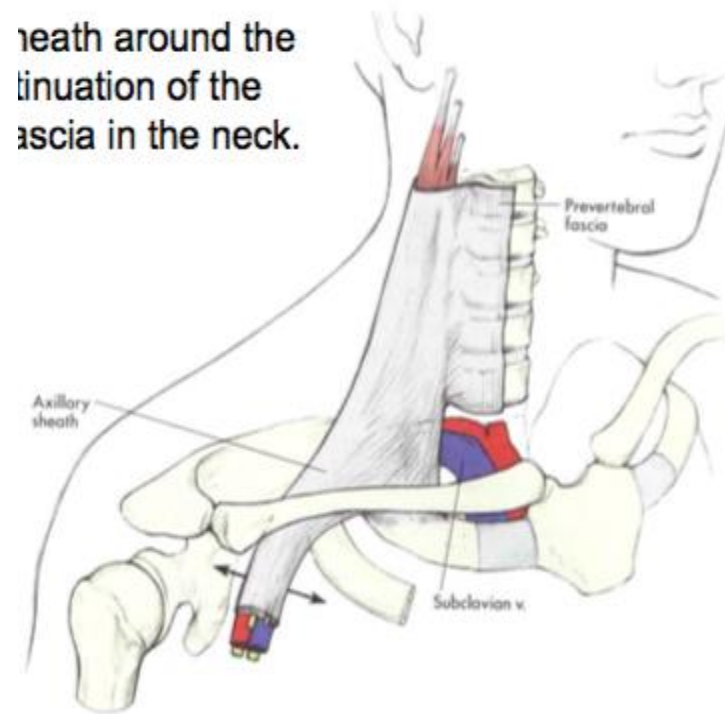
# AXILLA

- Key Muscle in the axilla is Pectoralis Minor Muscle.
- It's crosses the axillary artery and the brachial plexus of nerves.
- It is used when describing the axillary artery to divide it into three parts.



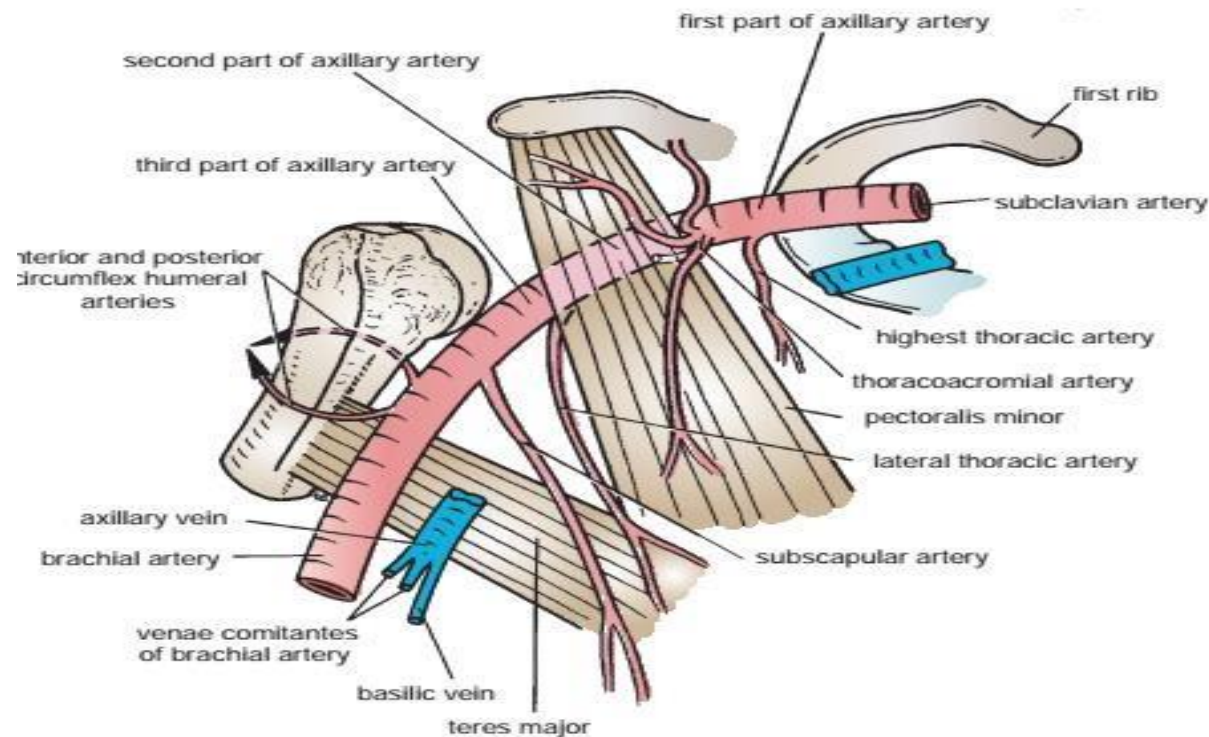
# AXILLARY ARTERY

- Throughout its course, it is closely related to the cords of the brachial plexus and their branches & is enclosed with them in connective tissue sheath called the *axillary sheath*. If this sheath is traced upward into the root of the neck & continuous with the prevertebral fascia.



# AXILLARY ARTERY

- It begins at the lateral border of the 1st rib as a continuation of the subclavian artery and ends at the lower border of the teres major muscle, where it continues as the brachial artery. The pectoralis minor muscle crosses in front of the axillary artery and divides it into three parts.



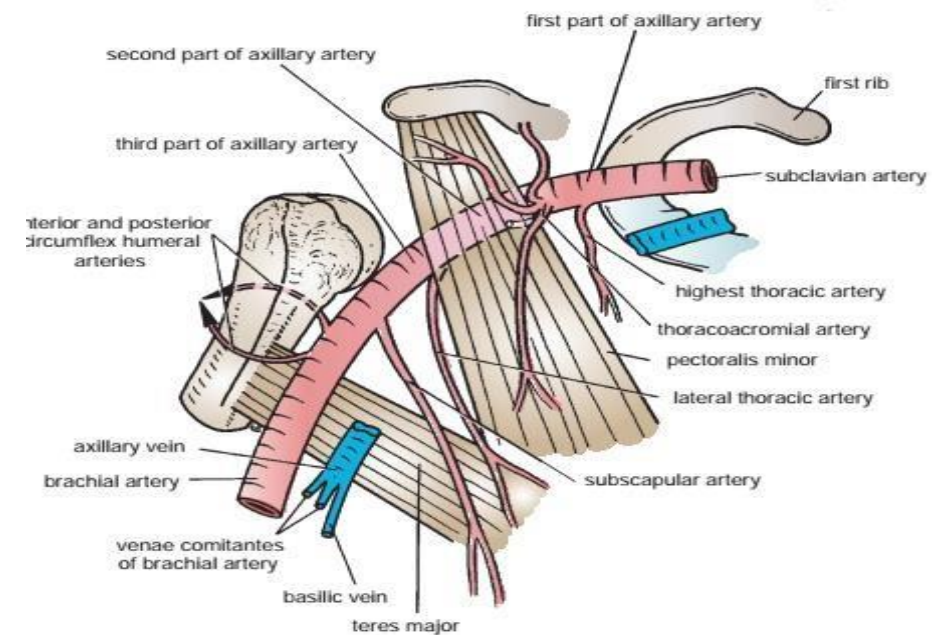


# AXILLARY ARTERY

**First Part:** it extends from the lateral border of the 1st rib to the upper border of the pectoralis minor muscle.

**Second Part:** it lies behind the pectoralis minor muscle.

**Third Part:** This extends from the lower border of the pectoralis minor m to the lower border of the teres major m.

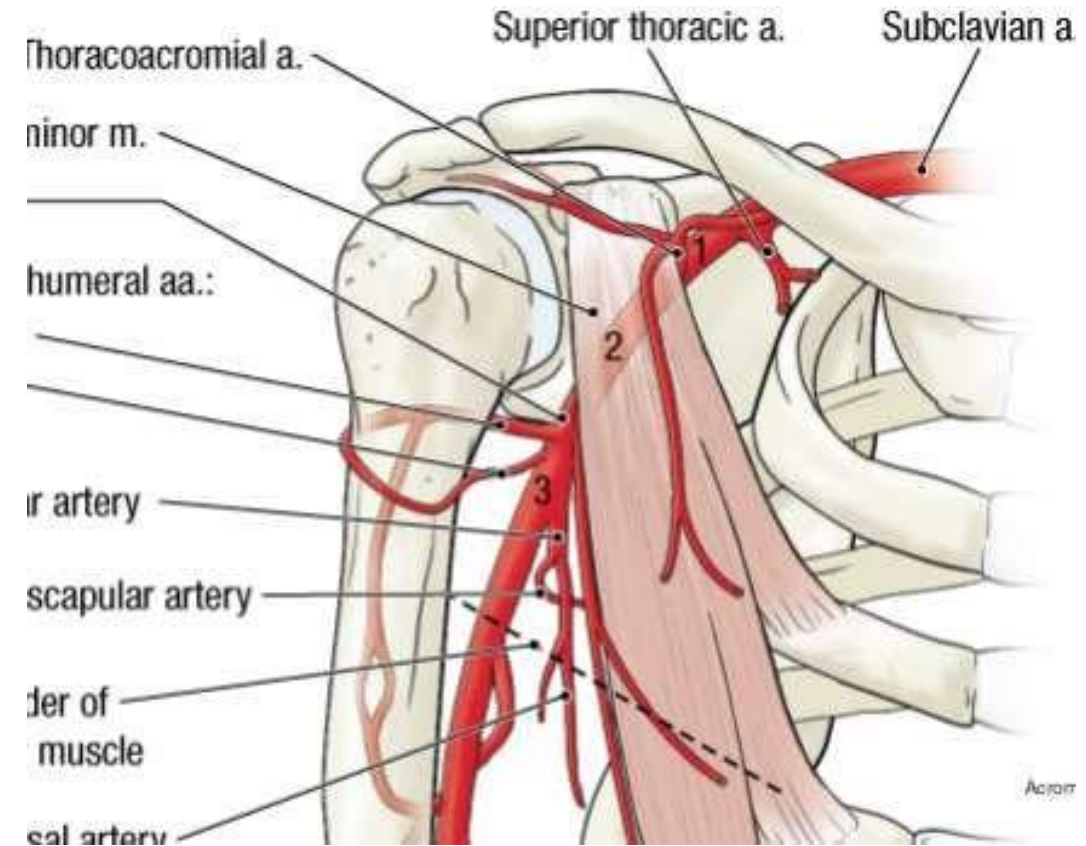


# BRANCHES OF THE AXILLARY ARTERY

## The first part:

- Superior Thoracic A. (Highest Thoracic A.)
- Small artery runs between the two pectoralis muscles:

Which supplies the side of the chest in the upper 2 intercostal spaces.

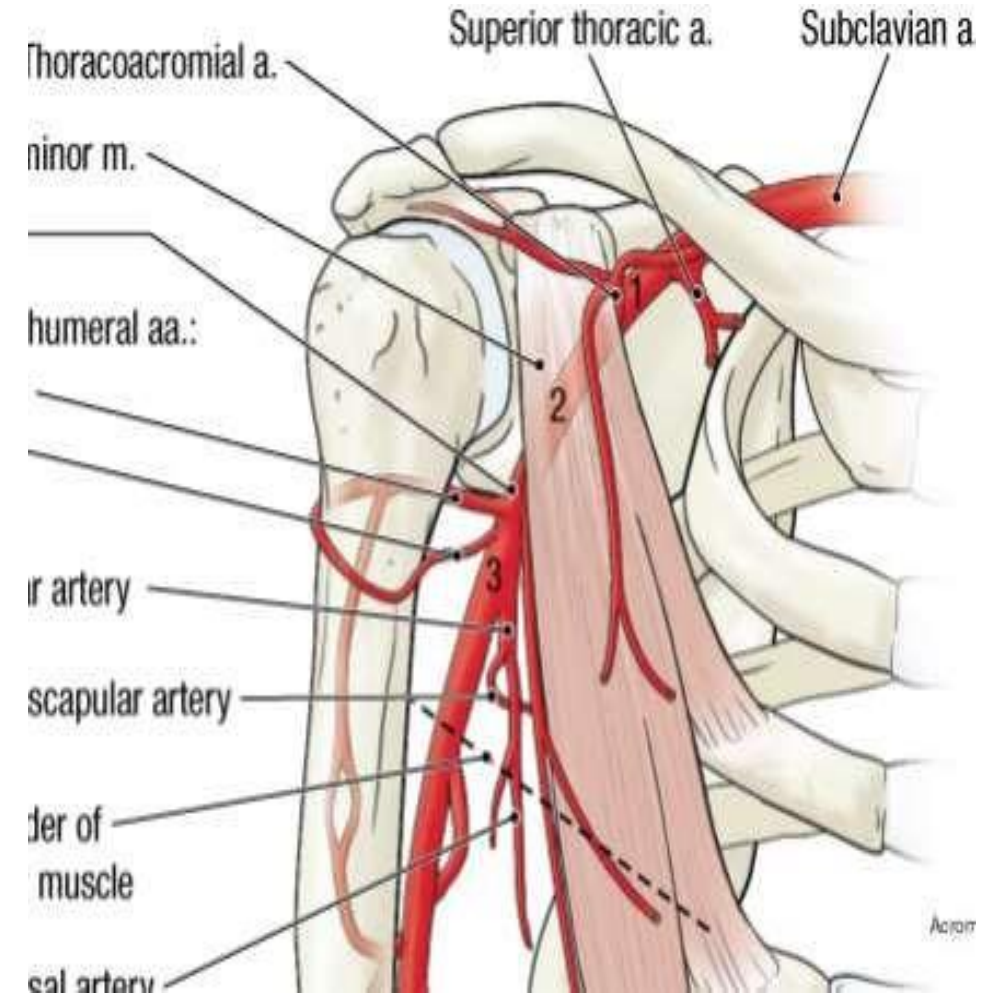




# BRANCHES OF THE AXILLARY ARTERY

## The 2nd part:

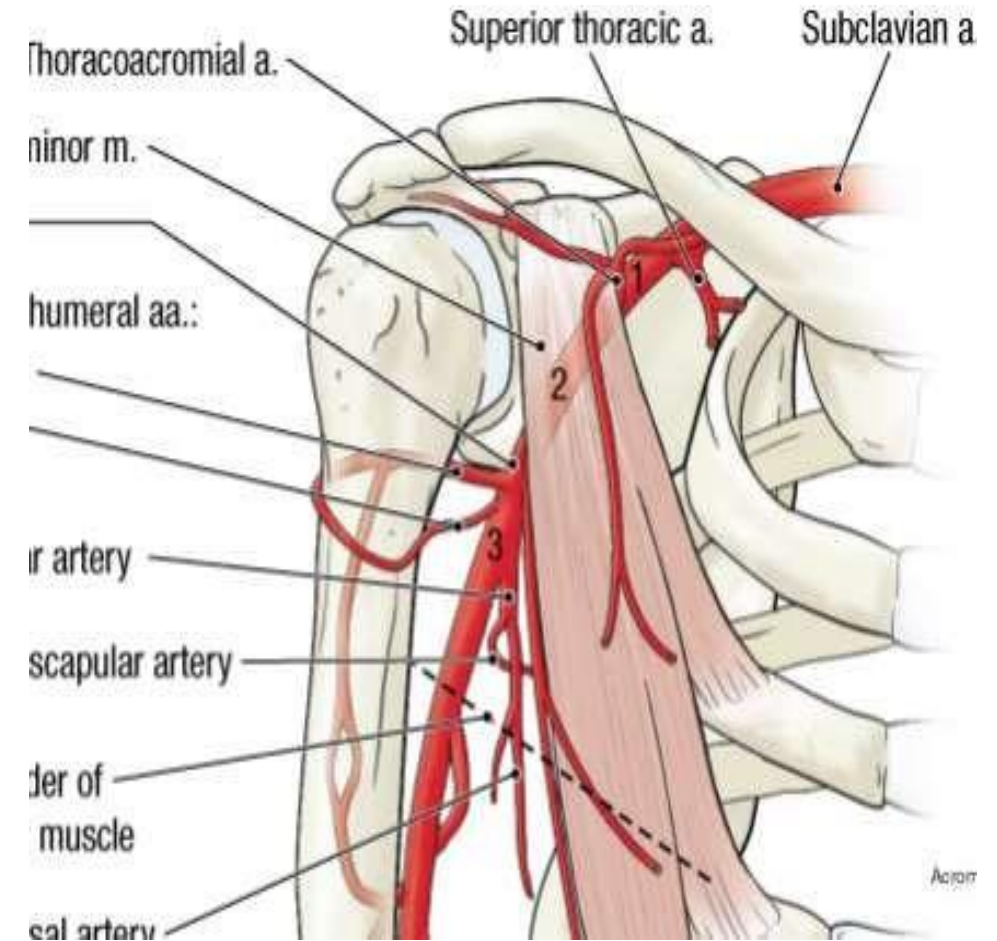
- Lateral thoracic artery:
  - Passes along the lower border of pectoralis minor
  - Supplies pectoral muscles, serratus anterior & the breast
- Thoracoacromial artery:
  - Passes along the upper border of pectoralis minor
  - Pierces the clavipectoral fascia.
  - Divides into 4 branches (pectoral, acromial, clavicular & deltoid).



# BRANCHES OF THE AXILLARY ARTERY

## The 3rd part:

- Subscapular artery: Largest branch.
    - Passes towards the inferior angle of scapula & Accompanied by thoracodorsal n. Gives the circumflex scapular branch. Both share in scapular anastomosis.
  - Anterior circumflex humeral artery:
    - Surrounds the surgical neck of humerus anteriorly
  - Posterior circumflex humeral artery:
    - Leaves the axilla through the quadrangular space & Surrounds the surgical neck posteriorly
- Both circumflex arteries anastomose with each other & are important for the supply of the shoulder joint.

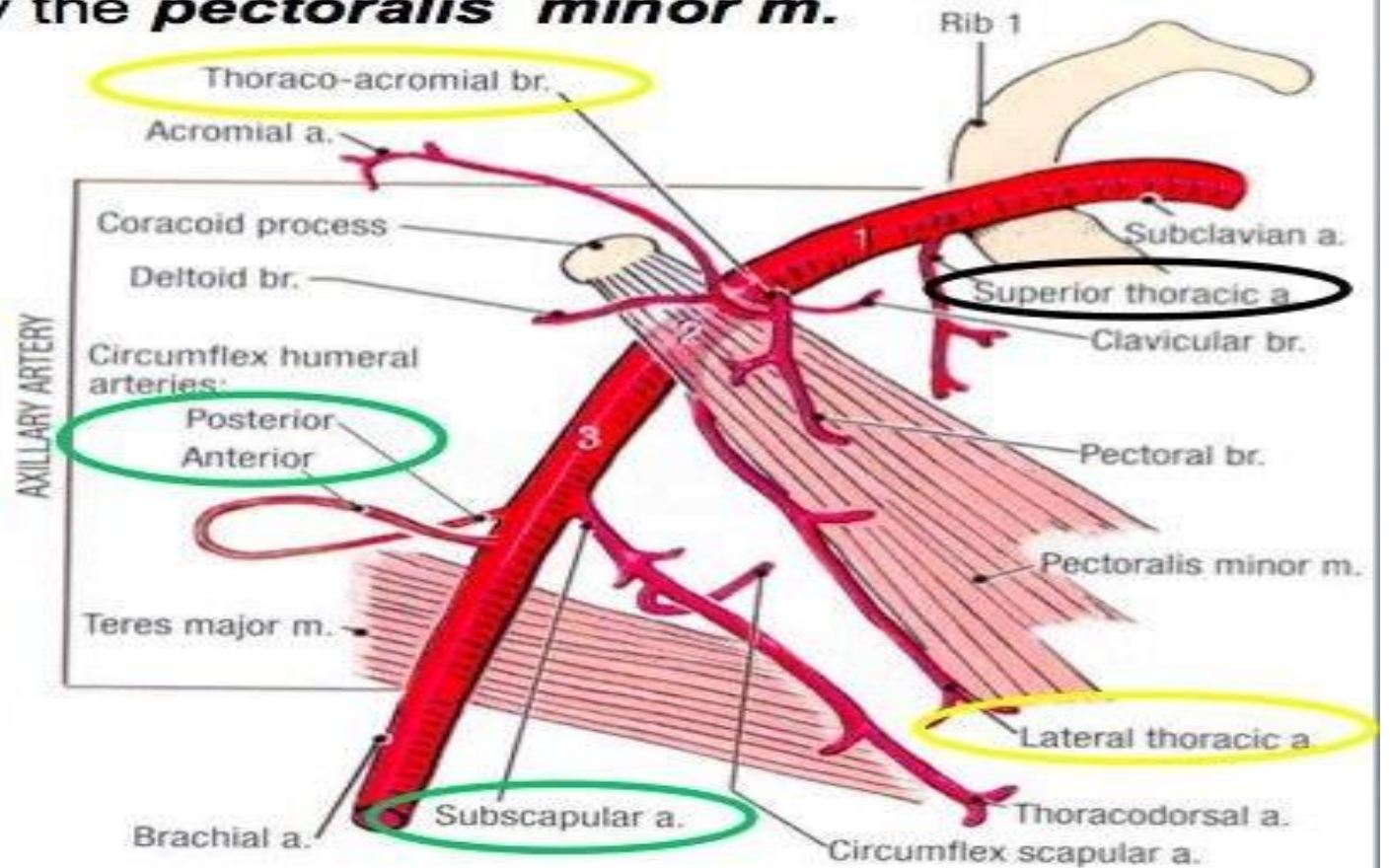


# THE AXILLARY ARTERY

## Axilla: Axillary Artery

**3 segments**, defined by the **pectoralis minor m.**

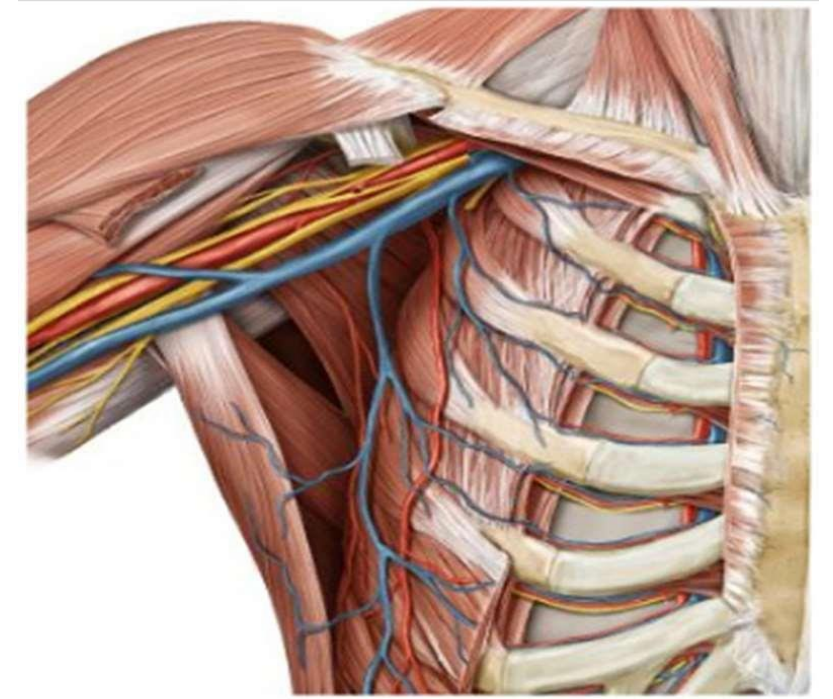
- **1<sup>st</sup> segment** = 1 branch:
  - superior thoracic a.  
(supplies 1<sup>st</sup> 2 intercostal spaces)
- **2<sup>nd</sup> segment** = 2 branches:
  - thoracoacromial a.
  - lateral thoracic a.
- **3<sup>rd</sup> segment** = 3 branches:
  - subscapular a.
    - circumflex scapular a
    - thoracodorsal a.
  - post. humeral circumflex a.
  - ant. humeral circumflex a.





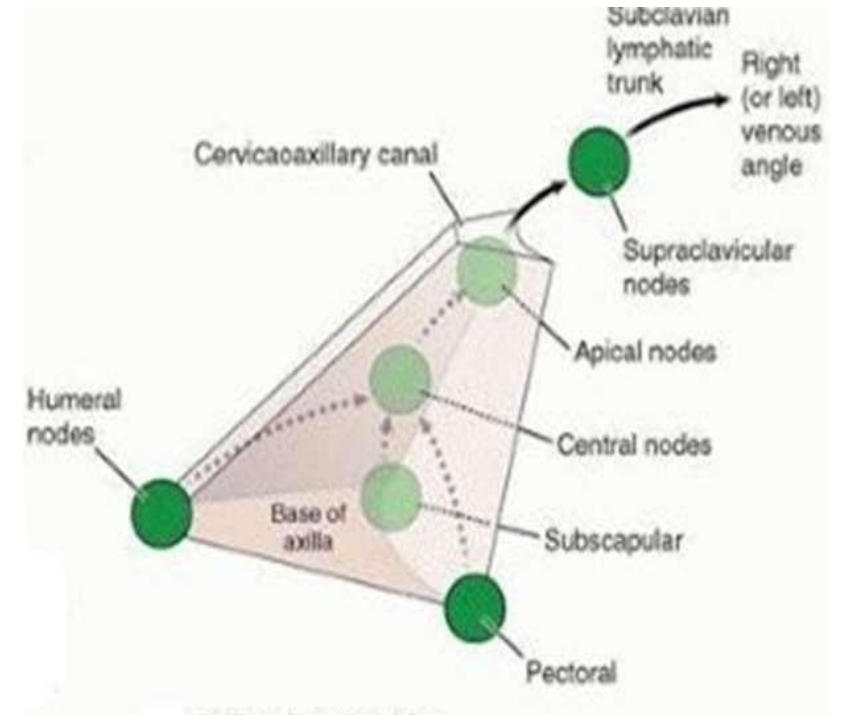
# AXILLARY VEIN

- This large vein is the continuation of the brachial vein at the lower margin of the teres major muscle.
- It becomes the subclavian vein at the outer border of the 1st rib.
- Has similar tributaries to the branches of axillary artery.
- Lies on the medial side of the axillary artery.



# AXILLARY LYMPH NODES

- Around 20-30 LN
- Embedded in the axillary fat around the branches of axillary artery.
- They drain an extensive area of the UL & trunk.
- They are arranged in 6 groups.
- The arrangement reflects the pyramidal shape of the axillary space.

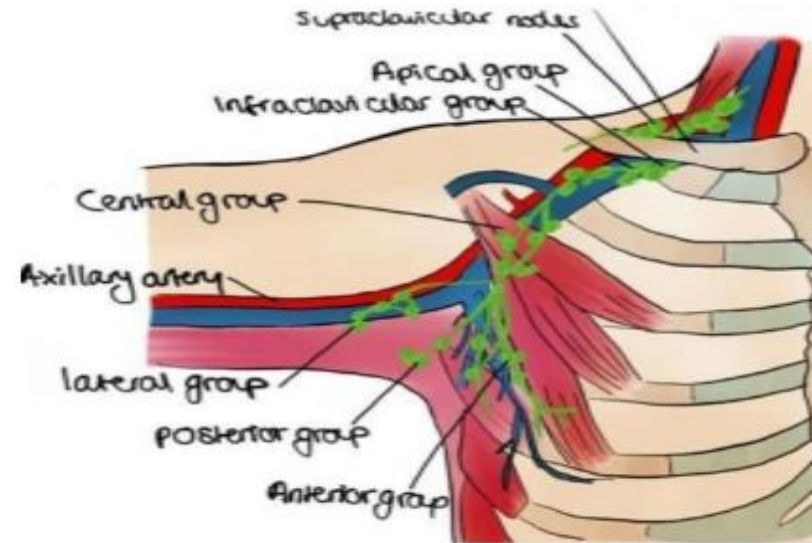


# AXILLARY LYMPH NODES

□ The lymph nodes are arranged in six groups:

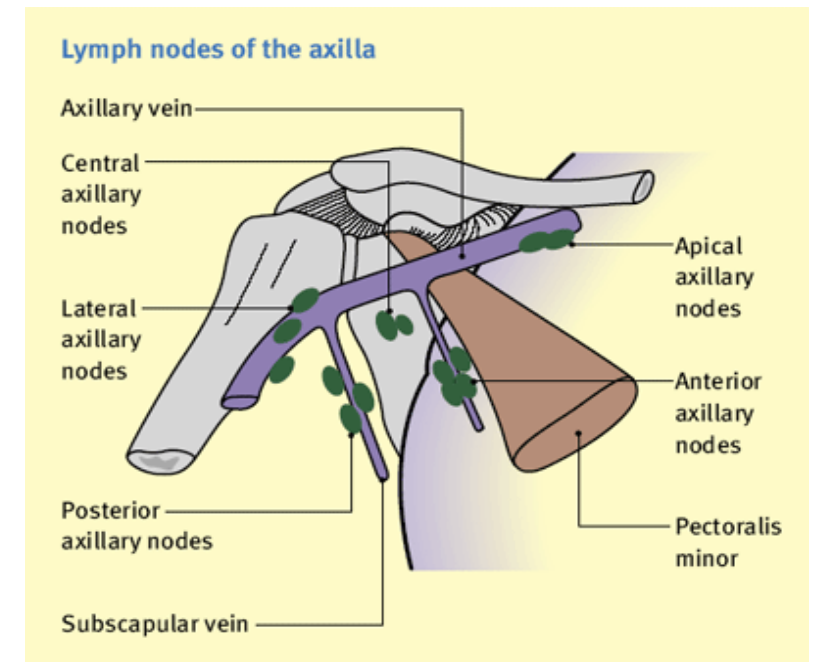
1. Anterior (pectoral) group.
2. Posterior (subscapular) group.
3. Lateral group.
4. Central group.
5. Infraclavicular (deltopectoral) group.
6. Apical group.

## AXILLARY LYMPH NODES



# AXILLARY LYMPH NODES

- 1.) **Anterior (pectoral) group:** Lying along the lower border of the pectoralis minor behind the pectoralis major muscle.
- 2.) **Posterior (subscapular) group:** Lying in front of the subscapularis muscle.
- 3.) **Lateral group:** Lying along the medial side of the axillary vein,
  - These 3 groups of L N are receive most of the lymph vessels of the upper limb.





# AXILLARY LYMPH NODES

## 4.) Central group:

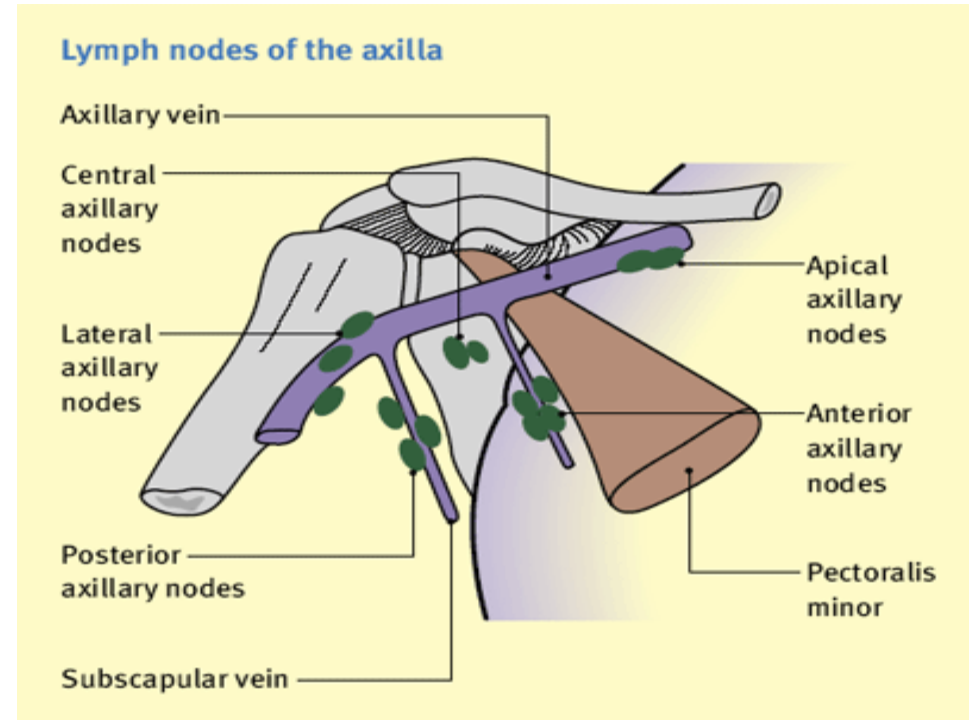
Lying in the center of the axilla in the axillary fat, these nodes receive lymph from the above three groups.

## 5.) Infraclavicular (deltopectoral) group:

They are located outside the axilla. They lie in the groove between the deltoid and pectoralis major muscles.

## 6.) Apical group:

Lying at the apex of axilla at lateral border of 1st rib, these nodes receive the efferent lymph vessels from all other axillary nodes. The apical nodes drain into the subclavian lymph trunk.



Thank You!

