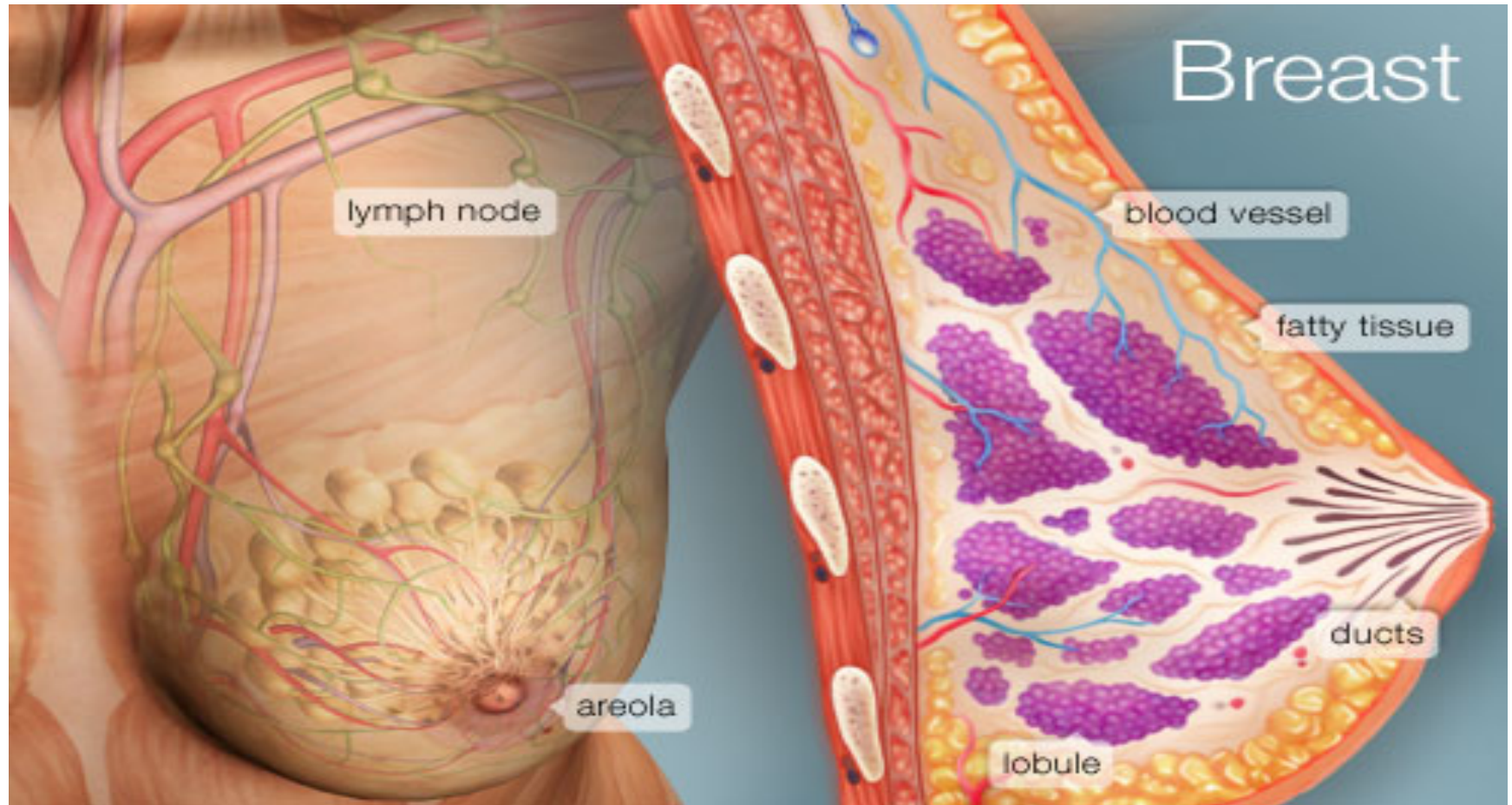


FEMALE BREAST



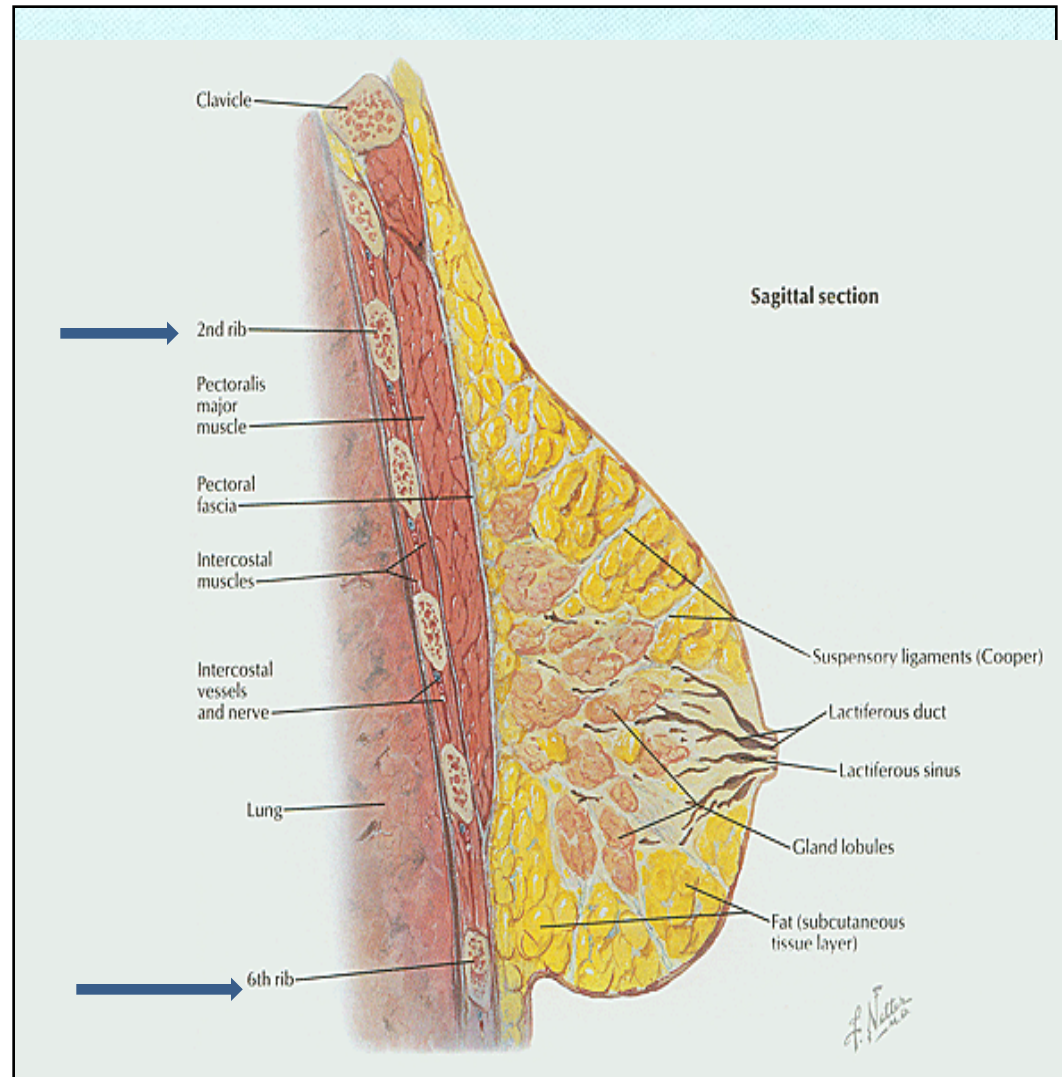
PROF. Saeed Abuel Makarem & DR.SANAA AL-SHAARAWI

OBJECTIVES

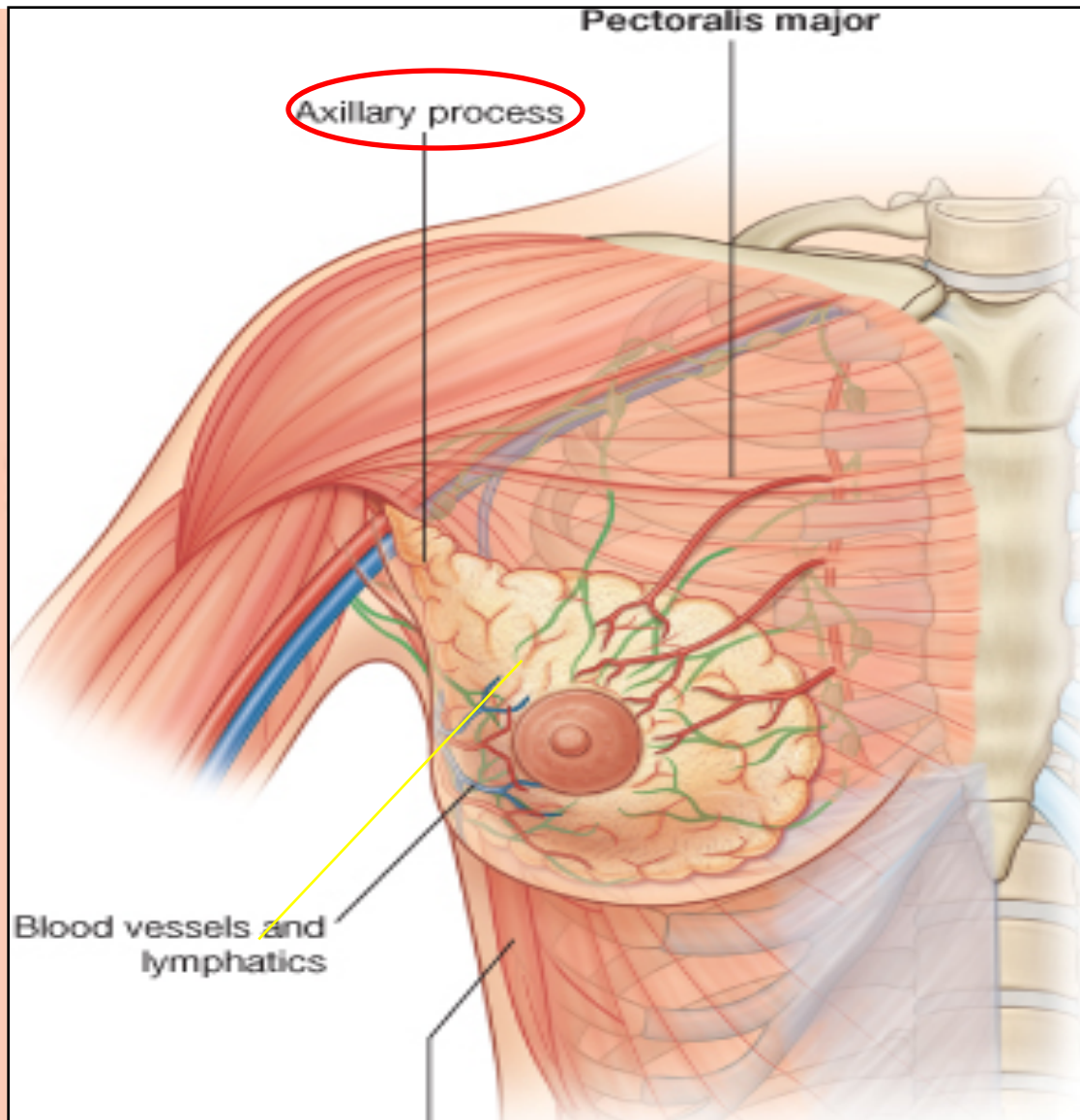
- *By the end of the lecture, the student should be able to:*
- Describe the shape and position of the female breast.
- Describe the structure of the mammary gland.
- List the blood supply of the female breast.
- Describe the lymphatic drainage of the female breast.
- Describe the applied anatomy in the female breast.

Parts, Shape & position of the Gland

- It is **conical** in shape.
- It lies in **superficial fascia** of the front of chest.
- It has a **base**, **apex** and **tail**.
- Its base :
- extends from **2nd to 6th ribs**.
- It extends from the **sternum** to the **midaxillary line** laterally.
- It has no capsule.

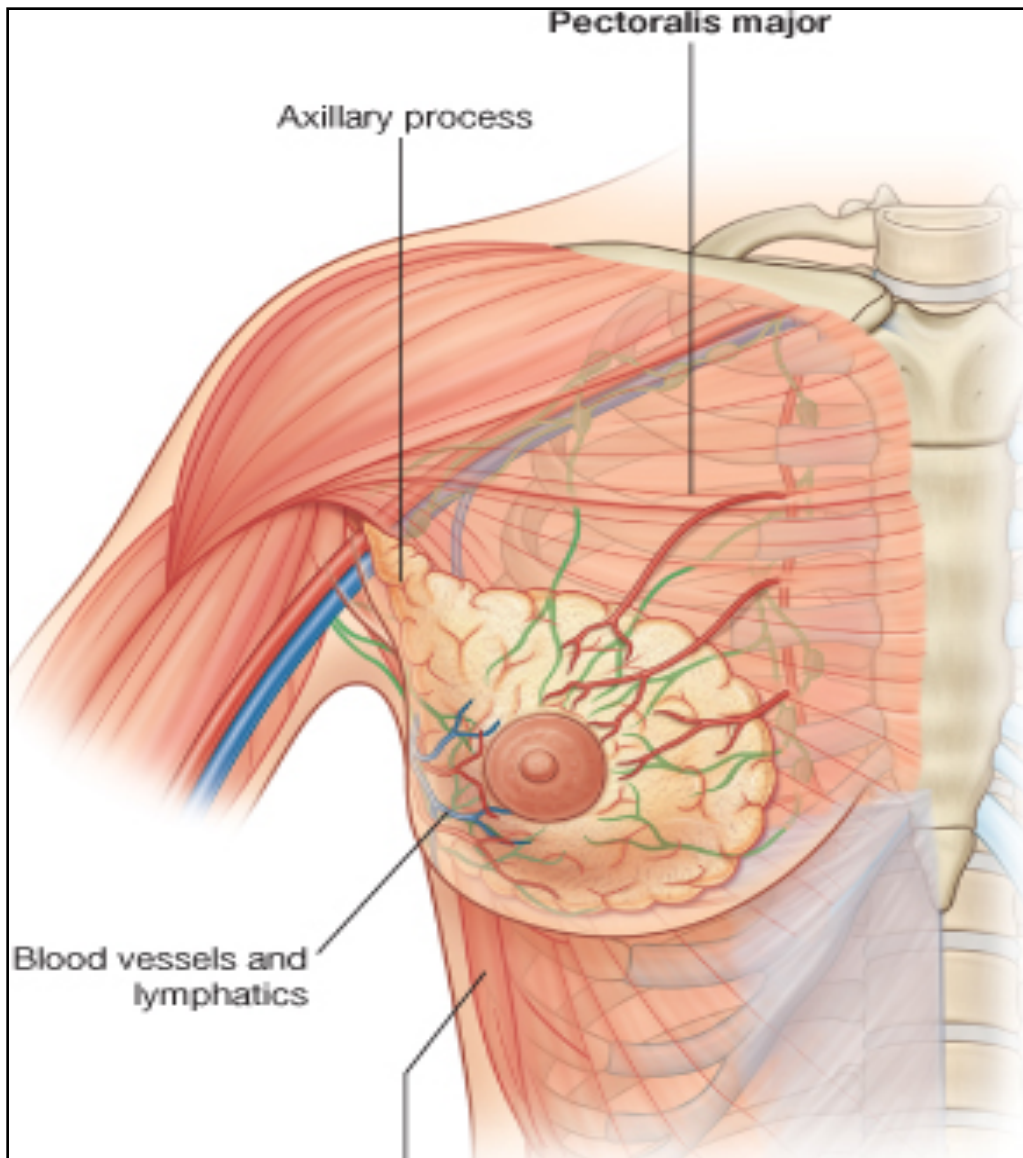


POSITION OF FEMALE BREAST



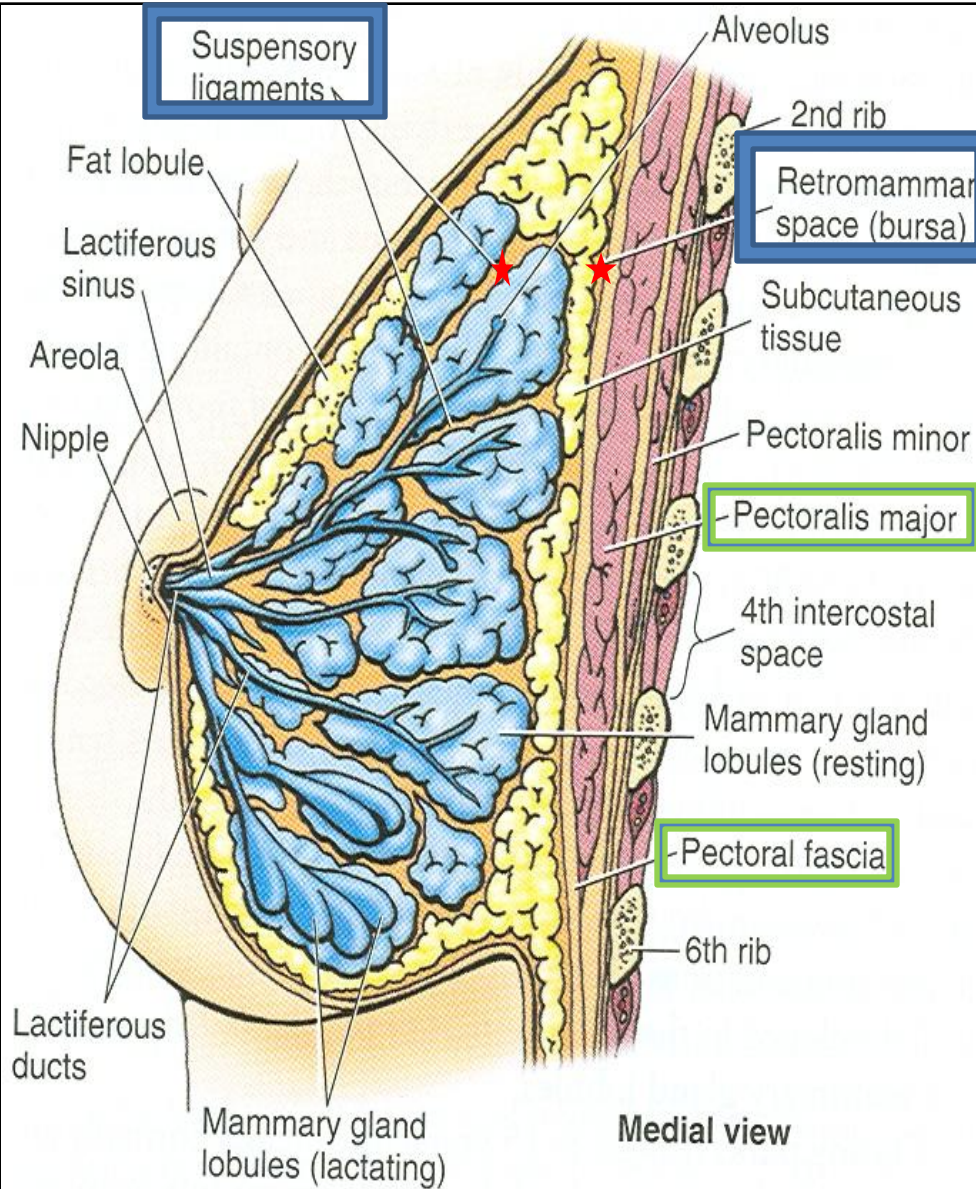
- 2/3 of its base lies on the **pectoralis major muscle**, while its inferolateral 1/3 lies on:
- **Serratus anterior &**
- **External oblique muscles.**
- Its superolateral part sends a process into the axilla called the ***axillary tail or axillary process.***

SHAPE AND POSITION OF FEMALE BREAST



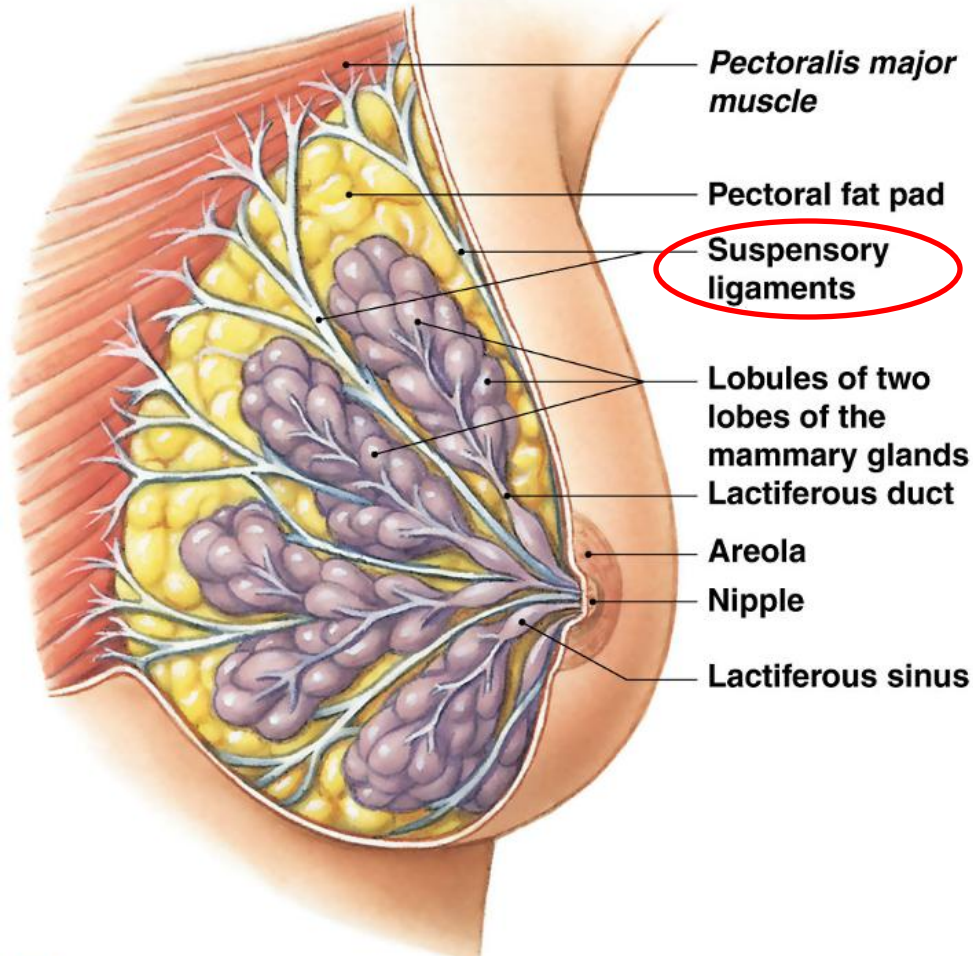
- **Nipple** :
- It is a **conical eminence** that projects forwards from the anterior surface of the breast.
- **The nipple lies** opposite **4th intercostal space**.
- It **carries 15-20 narrow pores** of the lactiferous ducts.
- **Areola** :
- It is a **dark pink brownish circular area** of skin that surrounds the nipple.
- The **subcutaneous tissues** of **nipple & areola** are **devoid of fat**.

STRUCTURE OF MAMMARY GLAND



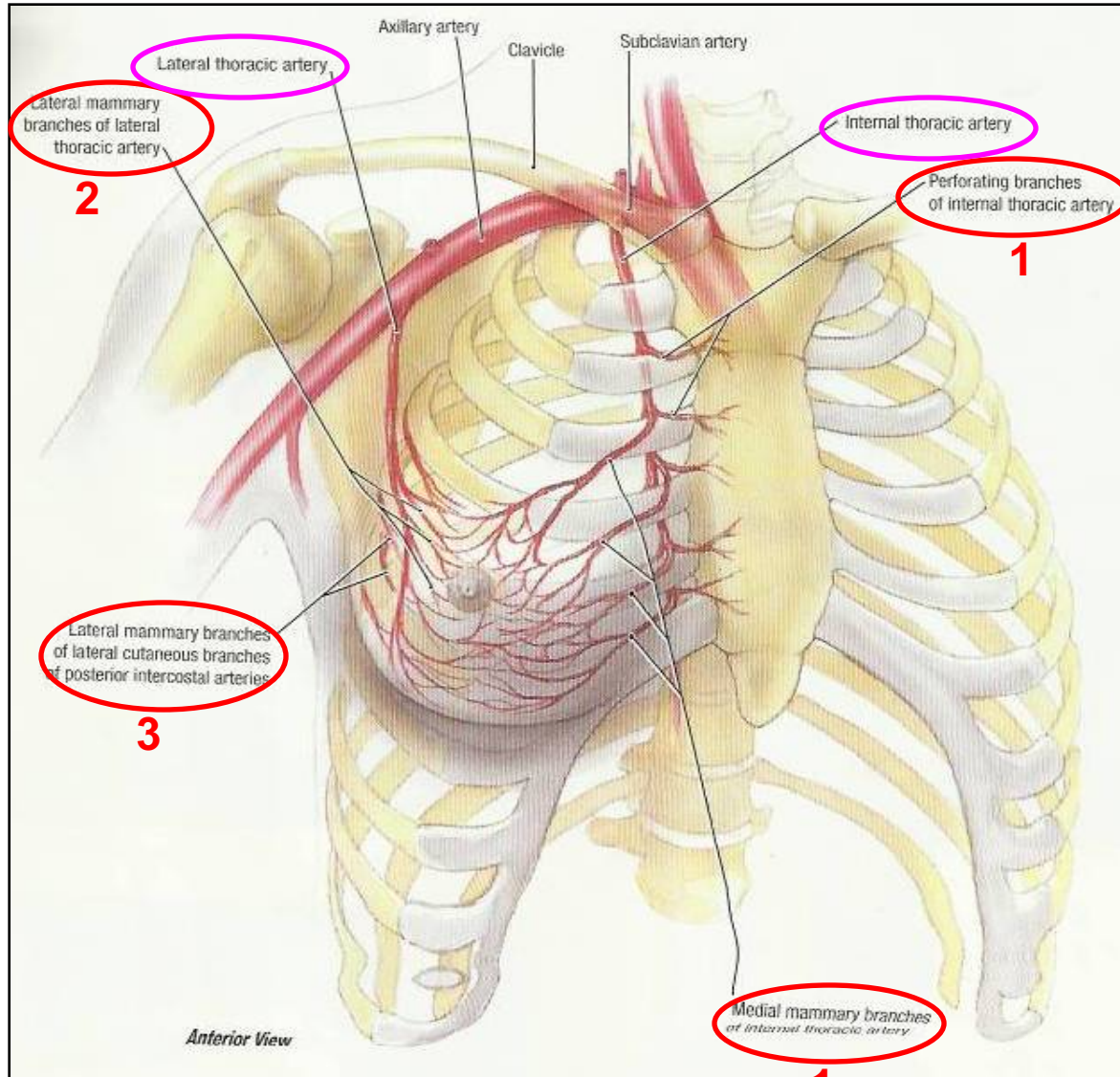
- It is **non capsulated** gland.
- **It consists of lobes and lobules** which are **embedded in the subcutaneous fatty tissue of superficial fascia.**
- It has **fibrous strands (ligaments of cooper)** which **connect the skin with deep fascia of pectoralis major.**
- **It is separated** from the deep fascia covering the underlying muscle by **a layer of loose areolar tissue** which forms the **retromammary space.**? **What is its Importance?** (allows the breast to move freely).

STRUCTURE OF MAMMARY GLAND



- It is formed of 15-20 lobes.
- Each lobe is formed of a number of lobules.
- The lobes and lobules are separated by interlobar and interlobular **fibrous** & fatty tissue, called **ligaments of Cooper. (Importance)?** These ligaments give the breasts support by connecting the skin of the breast to the deep fascia of underlying pectoralis muscle.
- It has from **15-20 lactiferous ducts** which open by the same number of openings on the summit of the nipple.

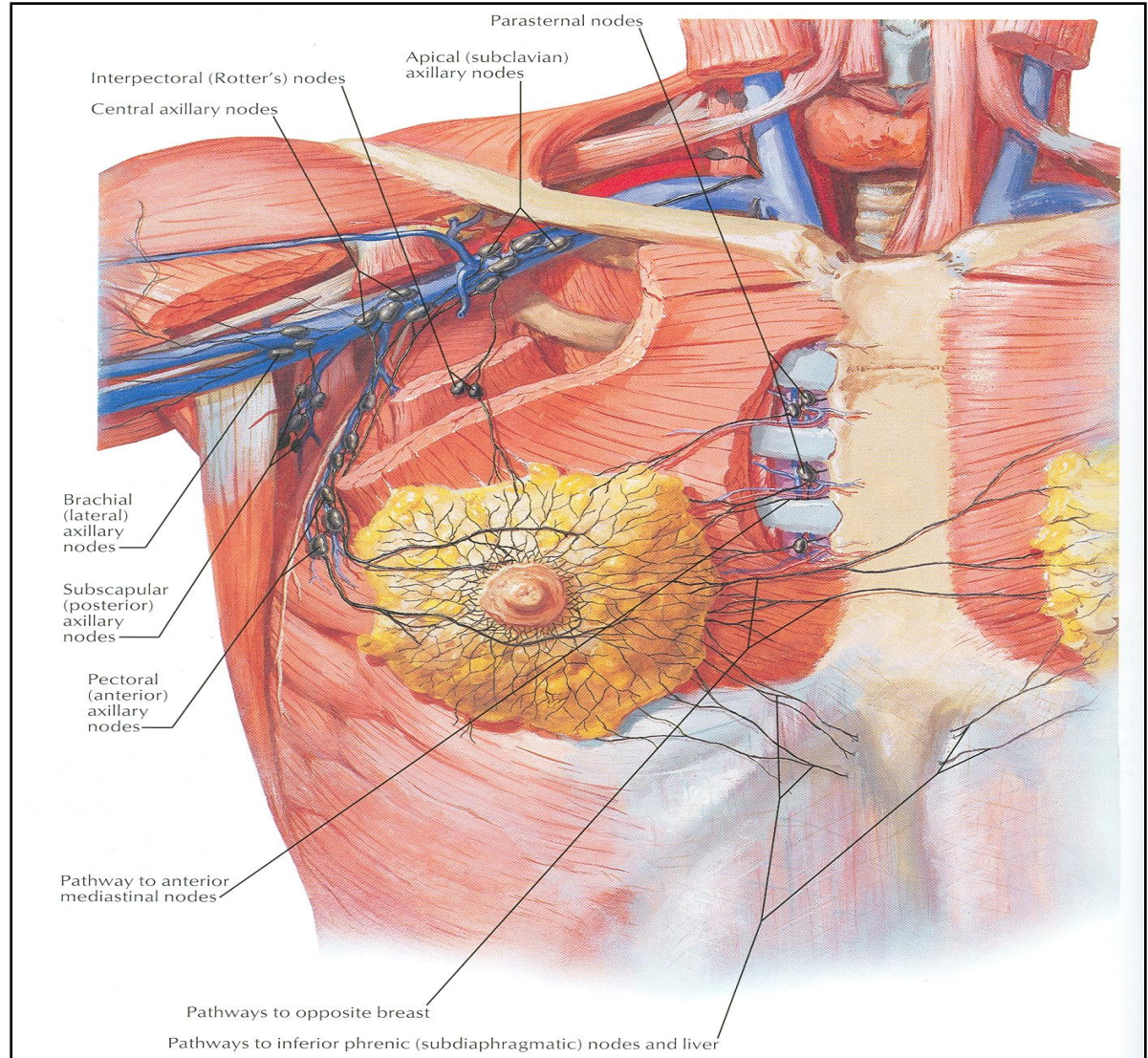
ARTERIAL SUPPLY



- **1. Perforating branches and mammary branches of internal thoracic (internal mammary) artery.**
- **2. Mammary branches of lateral thoracic artery.**
- **3. Mammary branches of Intercostal arteries.**

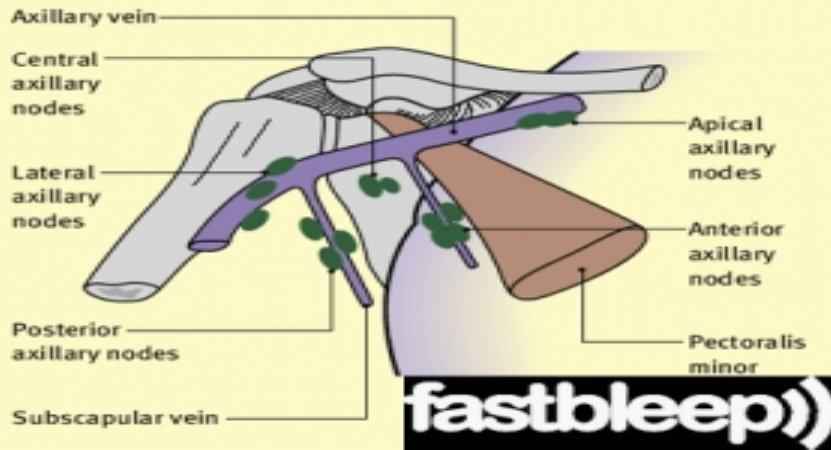
VENOUS SUPPLY

- Veins are corresponding to the arteries.
- **Circular venous plexus** are found at the base of nipple.
- **Finally,** veins of this plexus **drain** into axillary & internal thoracic veins.

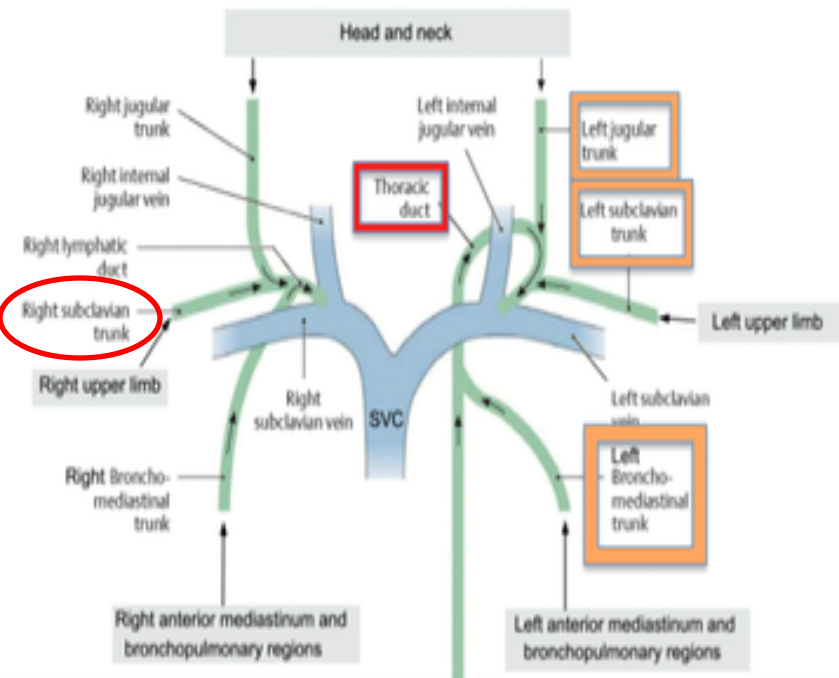


AXILLARY LYMPH NODES

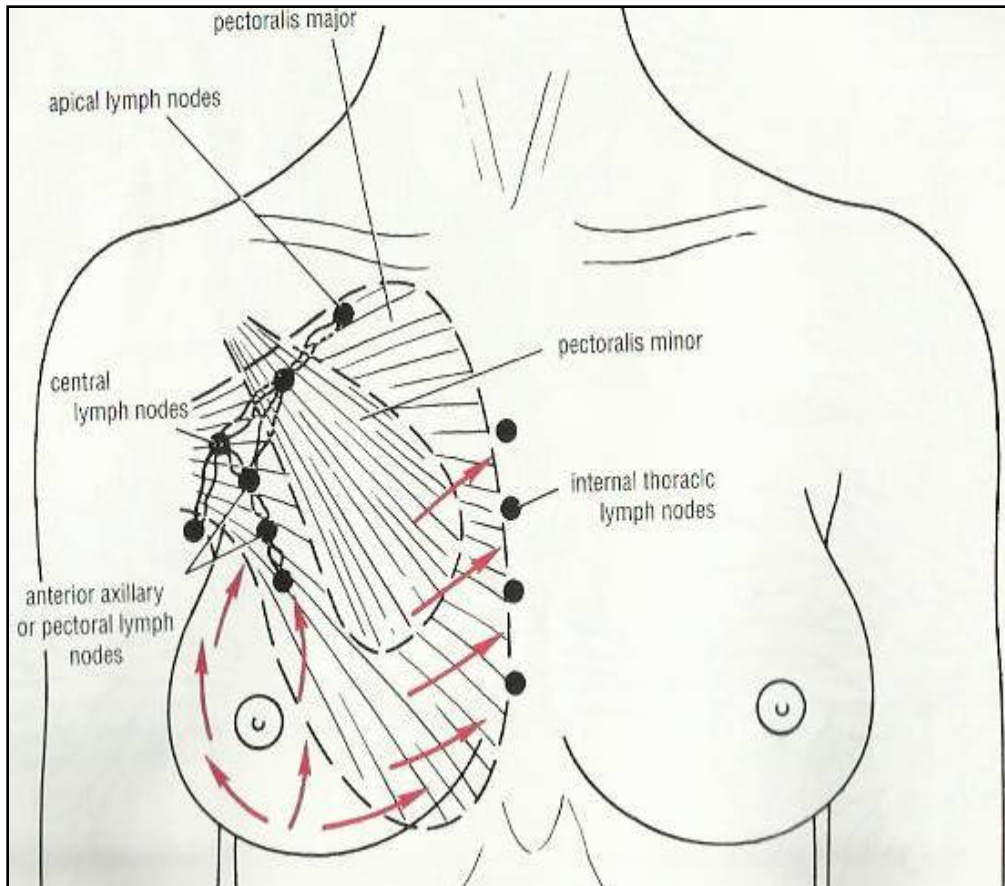
Lymph nodes of the axilla



- They are arranged into 5 groups which lie in axillary fat :
- **Pectoral (Anterior) group** : which lies on the pectoralis minor along **lateral thoracic vessels**.
- **Subscapular (Posterior) group** : which lies on posterior wall of axilla on lower border of subscapularis **along subscapular vessels**.
- **Brachial (Lateral) group** : lies on lateral wall of axilla along **3rd part of axillary vessels**.
- **Central group** : lies in axillary fat at the base of axilla.
- **Apical group** : lies at apex of axilla.
- **Subclavian lymph trunk** :
- It is formed by **union of efferent lymph vessels** of **apical group**. On the right side, It usually opens in **subclavian vein**. On the left side it usually opens into **thoracic duct**.

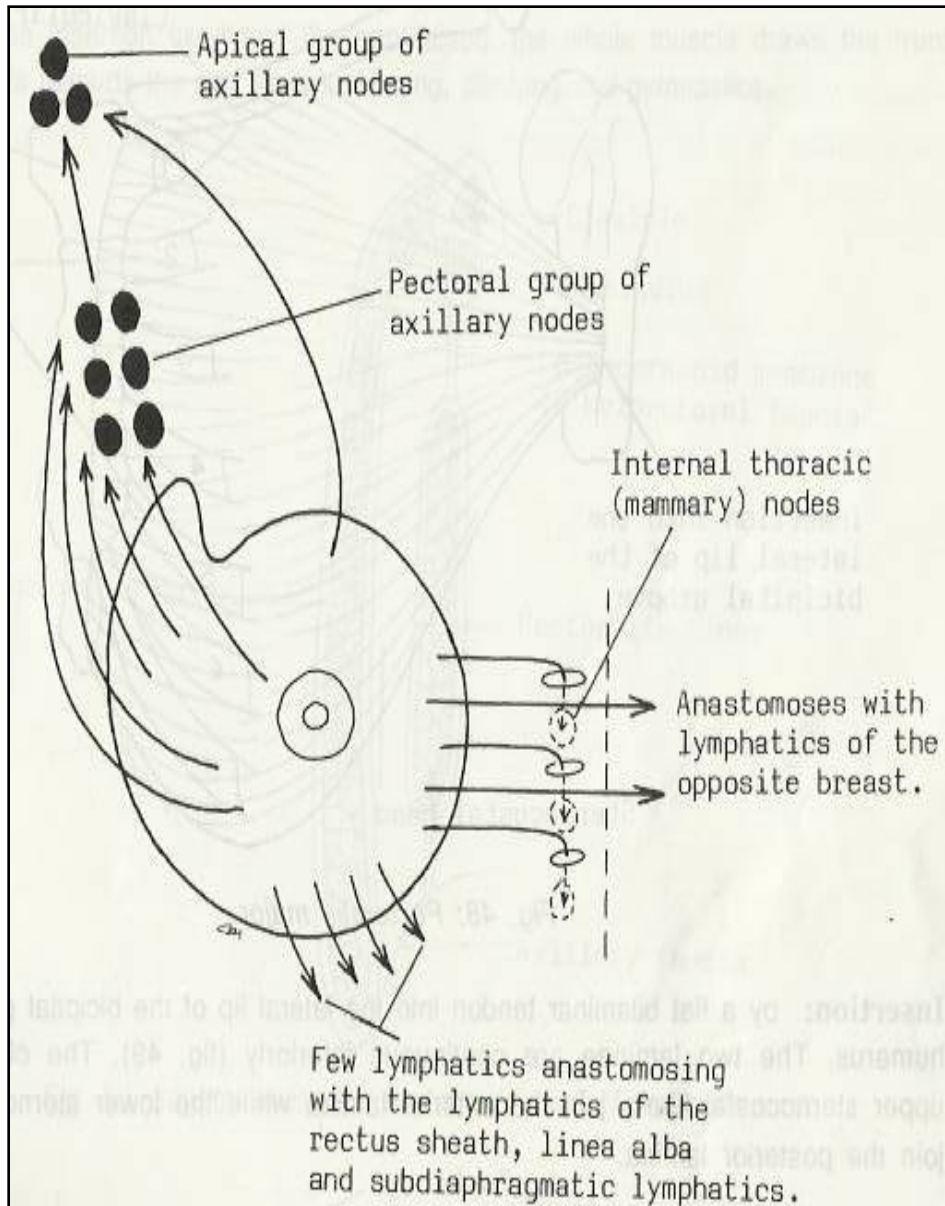


LYMPHATIC DRAINAGE OF BREAST



- **Subareolar lymphatic plexus :**
- **Lies beneath the areola.**
- **Deep lymphatic plexus :**
- **Lies on the deep fascia covering pectoralis major.**
- **Both plexuses radiate in many directions and drain into different lymph nodes.**

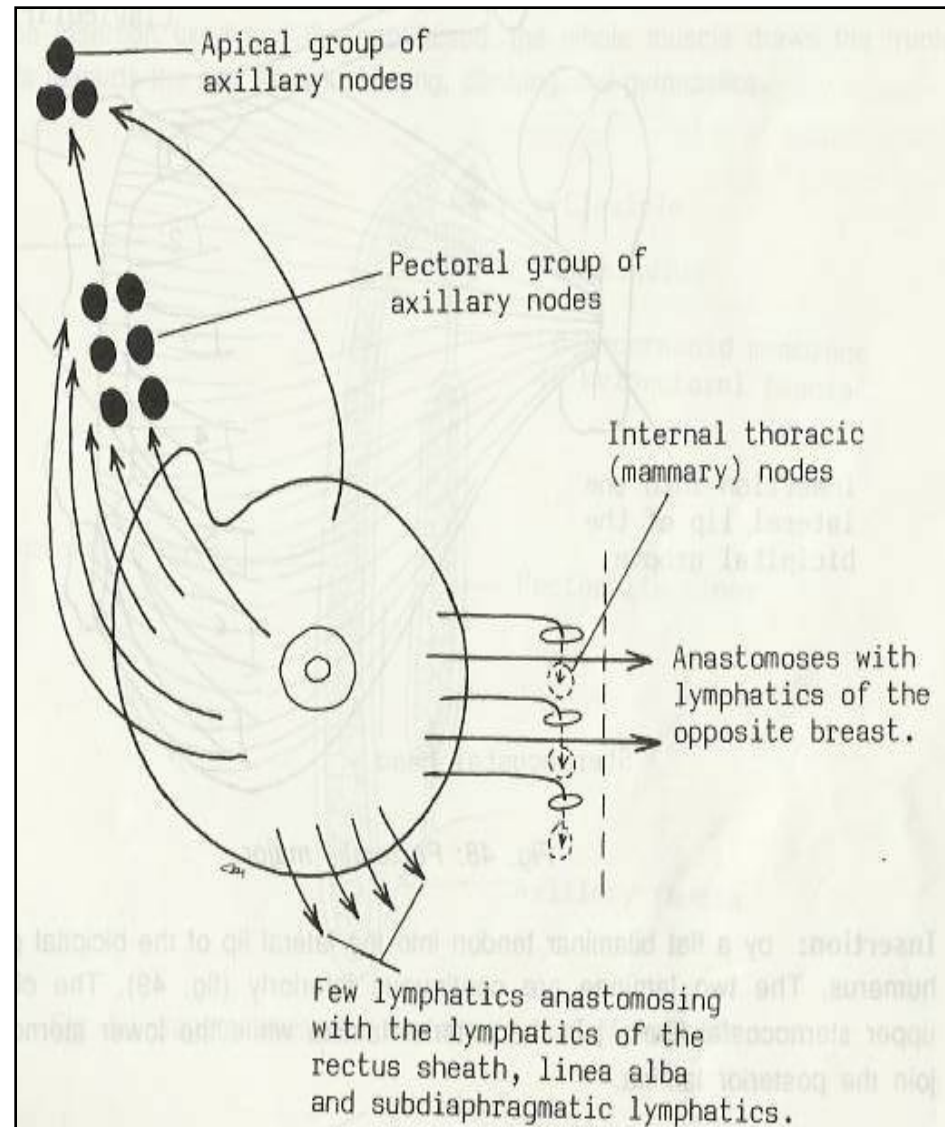
LYMPHATIC DRAINAGE



- **Central & lateral parts** of the gland (75%) drain into **pectoral group** of axillary lymph nodes.
- **Upper part** of the gland drains into **apical group** of axillary lymph nodes.
- **Medial part** drains into **internal thoracic (parasternal)** lymph nodes, forming a chain along the internal thoracic vessels.
- **Some lymphatics from the medial part** of the gland pass across the front of sternum to anastomose with that of **opposite side**.
- Lymphatics from the **inferomedial part** anastomose with lymphatics of rectus sheath & linea alba, and some vessels pass deeply to anastomose with the **sub diaphragmatic lymphatics**.

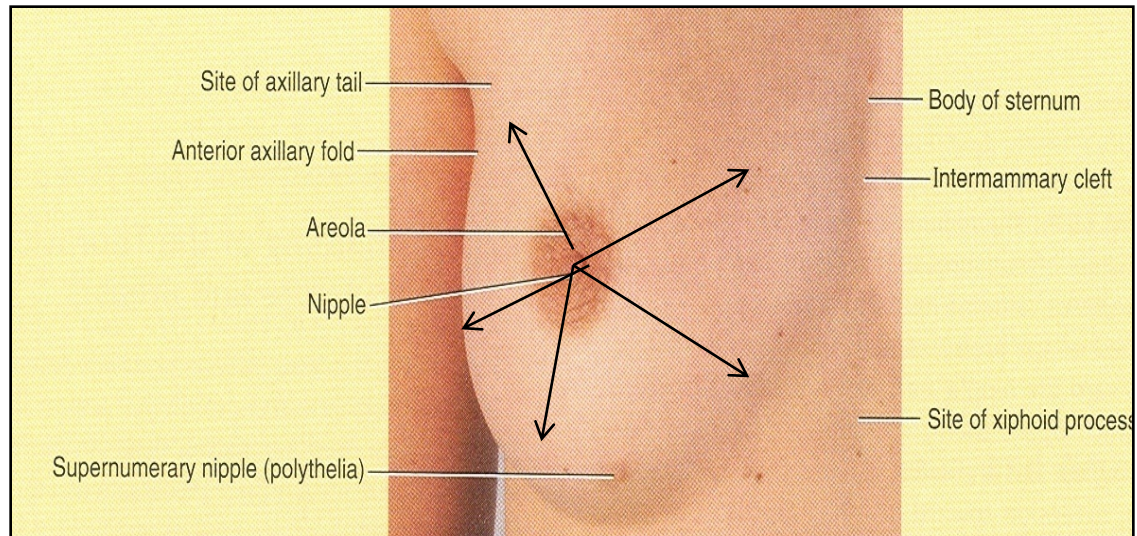
APPLIED ANATOMY- CANCER BREAST

- It is a common surgical condition.
- 60% of carcinomas of breast occur in the upper lateral quadrant.
- 75% of lymph from the breast drains into the **axillary lymph nodes**.
- In case of carcinoma of one breast, the **other breast** and the **opposite axillary lymph nodes are affected** because of the anastomosing lymphatics between both breasts.
- In patients with **localized cancer breast**, a simple mastectomy, followed by radiotherapy to the axillary lymph nodes is the **treatment of choice**.



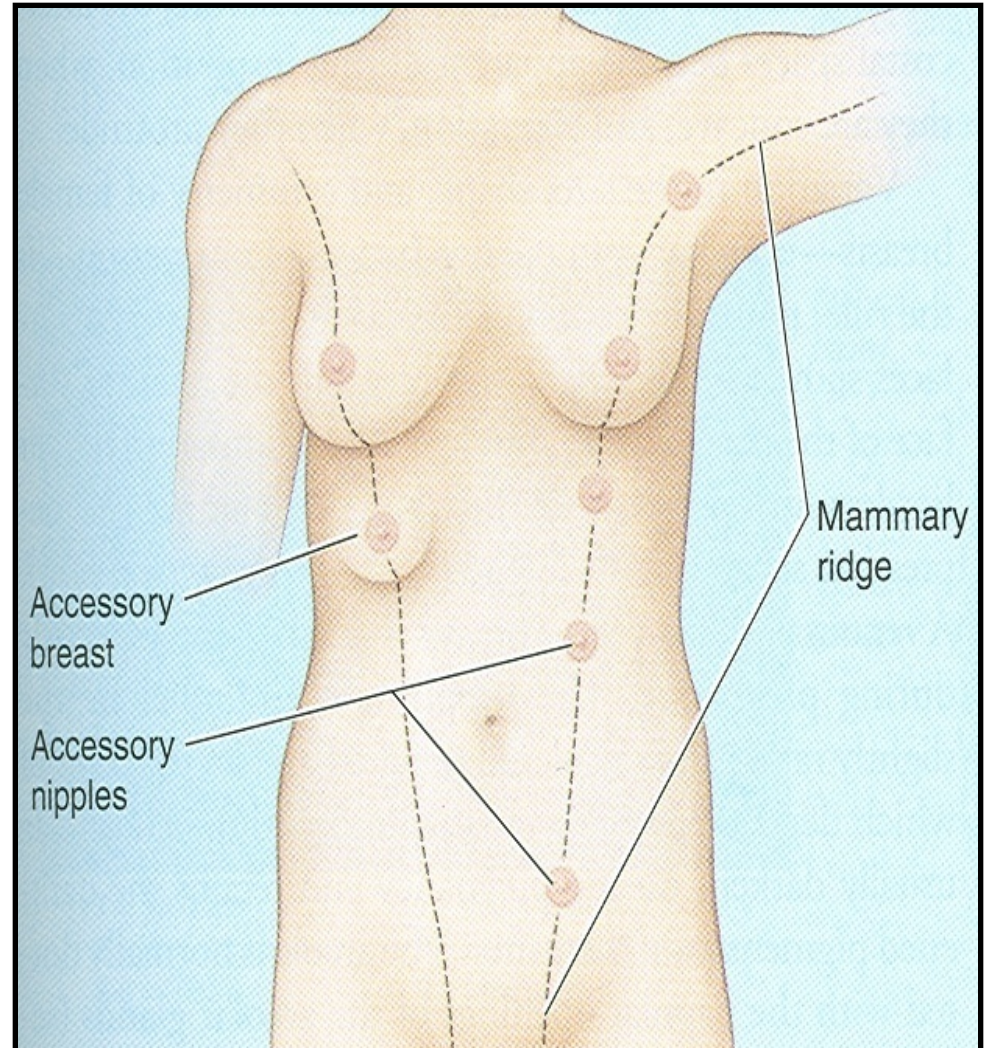
Applied Anatomy

- The lactiferous ducts **are radially arranged** from the nipple, so **incision of the gland should be made in a radial direction** to avoid cutting through the ducts.
- Infiltration of the ligaments of Cooper leads to its **shortening** giving **peau de'orange** appearance of the breast.



Mammary ridge

- **Mammary ridge** extends from the axilla to the inguinal region.
- In **human**, the ridge disappears **EXCEPT** for a small part in the **pectoral region**.
- In **animals**, several mammary glands are **formed along this ridge**.



Thank you

