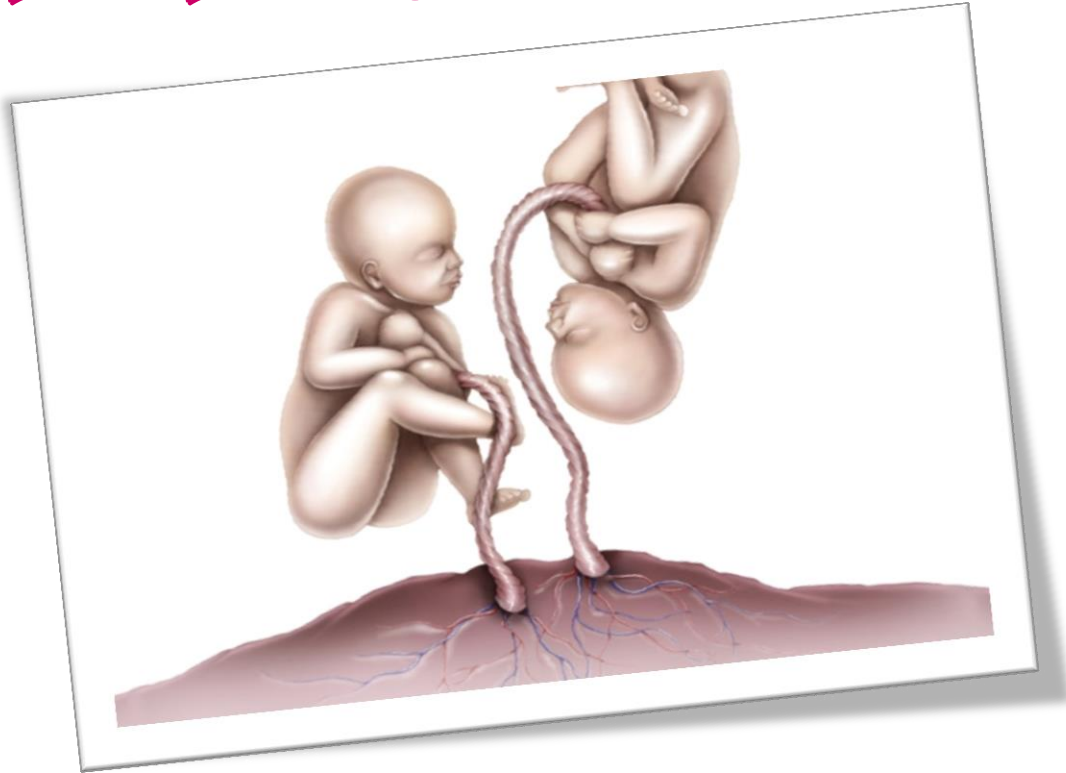




REPRODUCTIVE SYSTEM



LECTURE: FEMALE BREAST

DONE BY: JAWAHER ENANI ♣ LAMA ALFRAIDI

REVIEWED BY: ALWALEED S ALOTAIBI

[If there is any mistake or suggestions please feel free to contact us:](#)

Anatomyteam32@gmail.com

Both - Black

Male Notes - BLUE

Female Notes - GREEN

Explanation and additional notes - ORANGE

Very Important note - Red

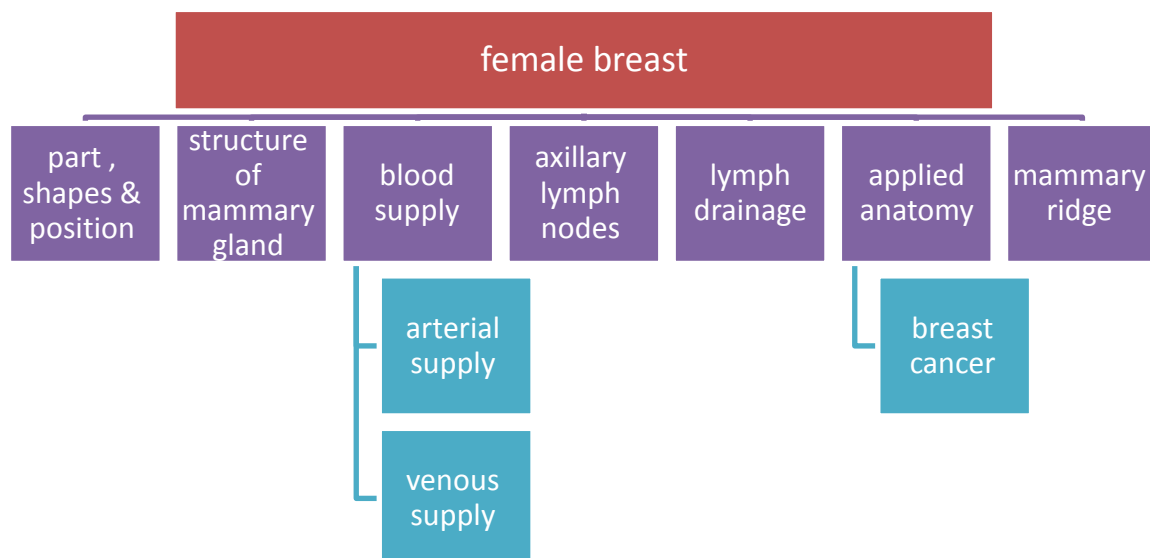


Objectives:

At the end of the lecture, students 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.

Mind map:



<http://www.nucleusanimationlibrary.com/animation-preview?animationid=68282>

Take a look!





SHAPE AND POSITION OF FEMALE BREAST

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 lateral margin of the sternum to the midaxillary line laterally.

It has no capsule.

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.**

Nipple:

It is a conical eminence that projects forwards from the anterior surface of the breast.

The nipple lies opposite 4th intercostal space.

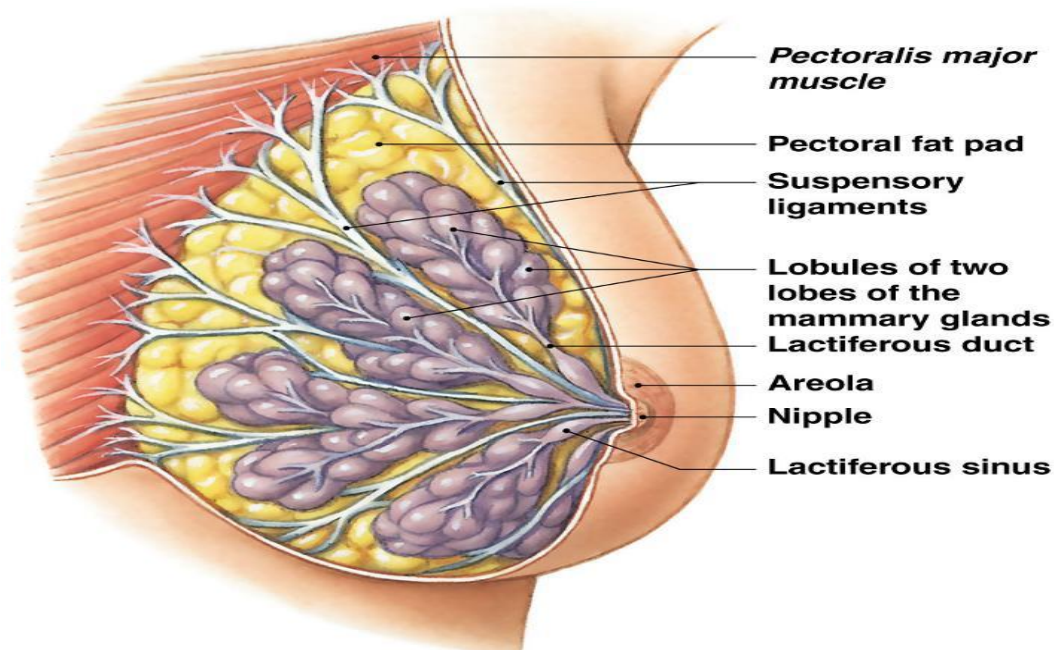
It carries 15-20 narrow pores of the lactiferous ducts.

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 muscles by a layer of loose areolar tissue which forms the retromammary space. What is its Importance? (Allows the breast to move freely).
- 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 breasts to the pectoralis muscles below them.
- It has from 15-20 lactiferous ducts which open by the same number of openings on the summit of the nipple



a The mammary glands of the left breast

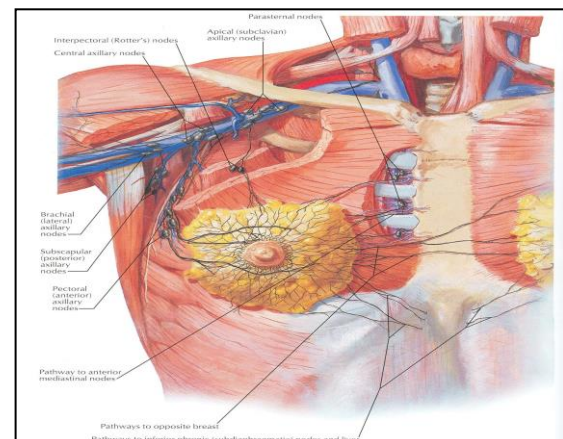
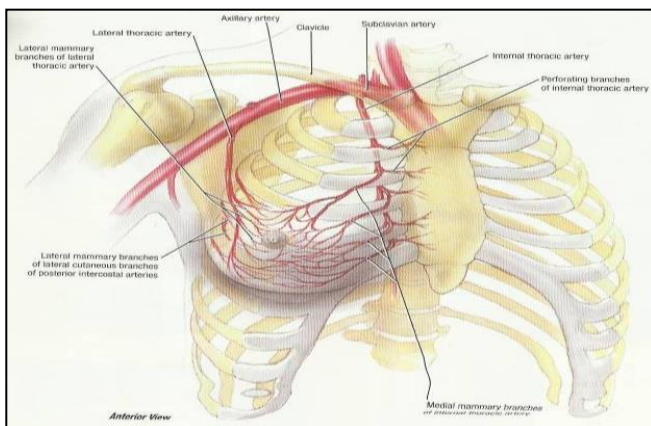


ARTERIAL SUPPLY

**Perforating
branches of
internal thoracic
(internal
mammary)
artery.**

**Mammary
branches of
lateral thoracic
artery.**

**Mammary
branches of
intercostal
arteries.**

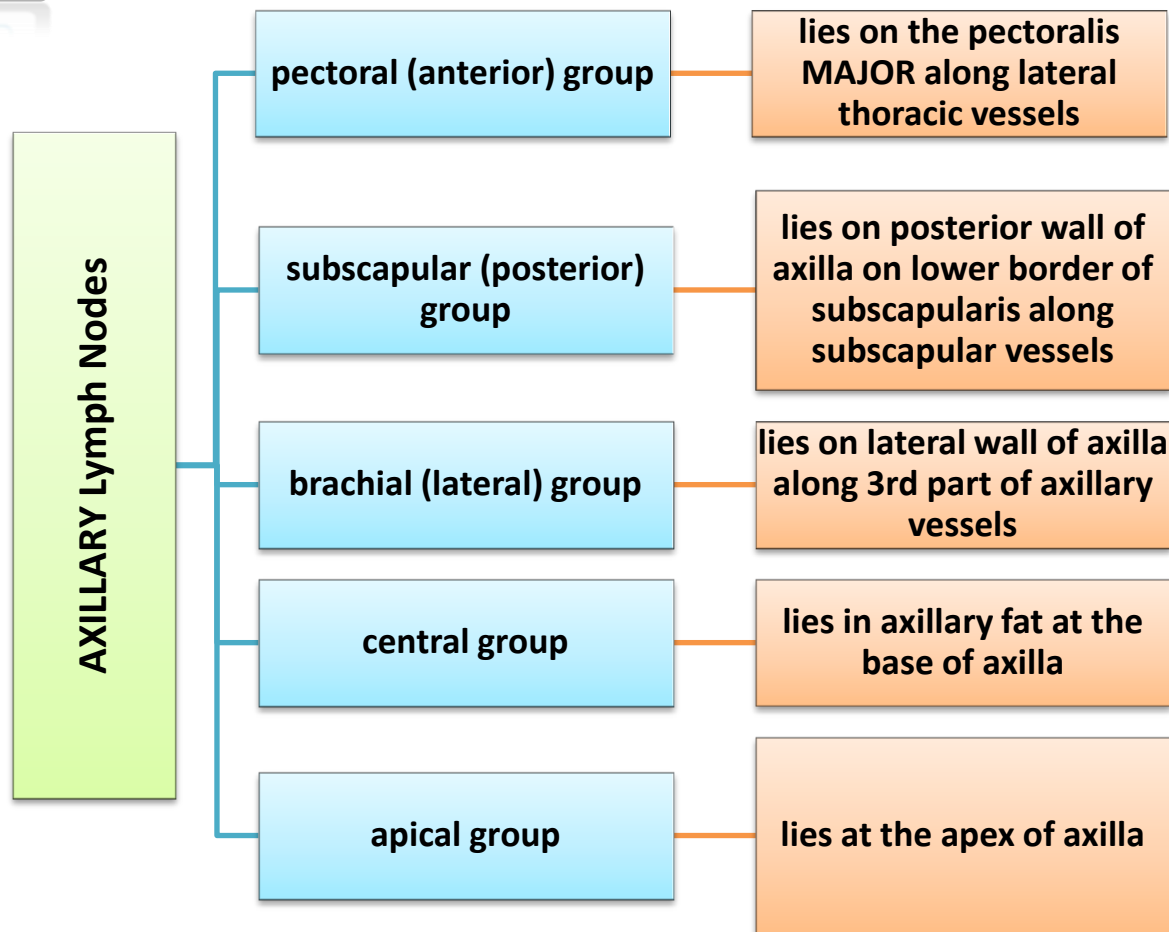


VENOUS SUPPLY

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.**



Subclavian lymph trunk: •

It is formed by union of efferent lymph vessels of **apical group**. It usually opens in subclavian vein. On the **left side it usually opens into thoracic duct**

EXTRA: About 75% of lymph from the breasts drains into the axillary lymph, making them important in the diagnosis of breast cancer.

Axillary lymph nodes mnemonic: remember the word APICAL

A = anterior (or pectoral) group

P = posterior (or subscapular) group

I = infraclavicular (or deltopectoral) group → we didn't take this lymph node but it's a part of axillary lymph nodes

C = central group

A = apical group

L = lateral (or brachial) group



LYMPHATIC DRAINAGE

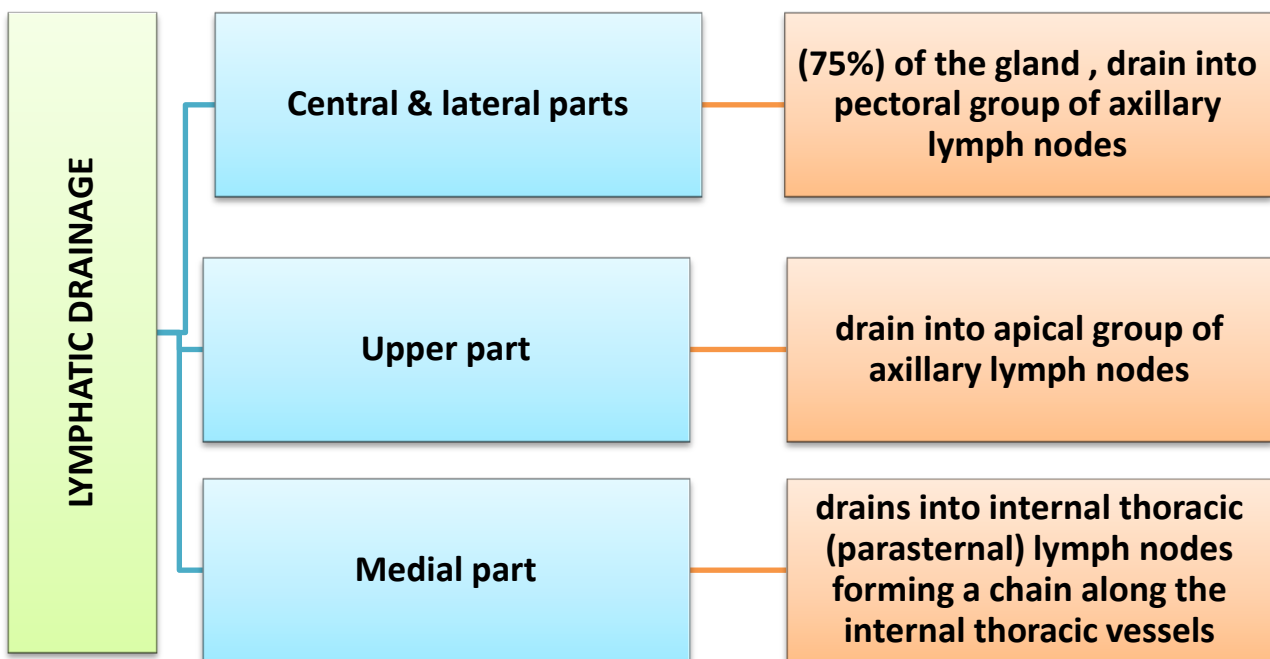
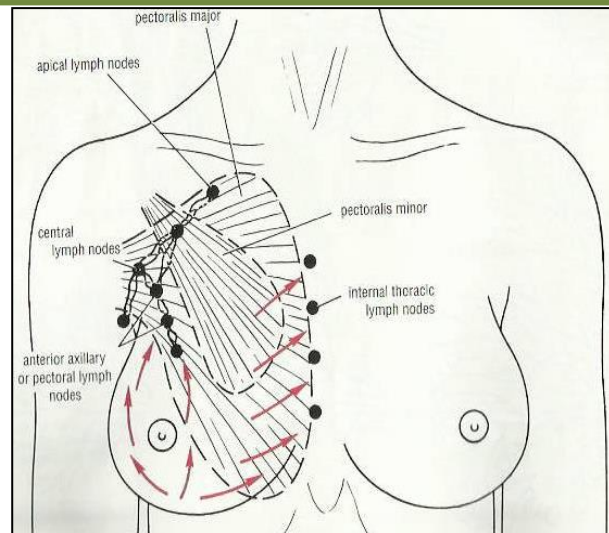
Subareolar lymphatic plexus:

Lies **beneath the areola.**

Deep lymphatic plexus:

Lies on the **deep fascia covering pectoralis major.**

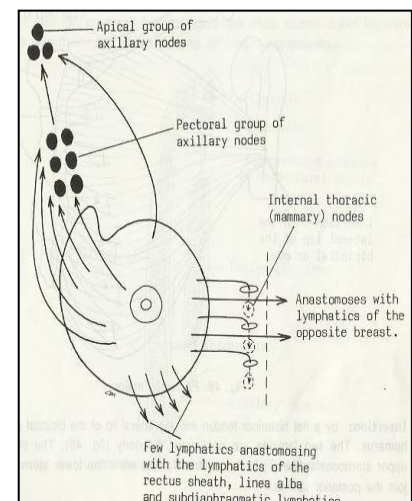
Both plexuses radiate in many directions and drain **into different lymph nodes.**



-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**

Subdiaphragmatic lymphatics.





ANATOMY APPLIED (BREAST CANCER)

It is a **common surgical condition**.

60% of carcinomas of breast occur in the **upper lateral quadrant**.

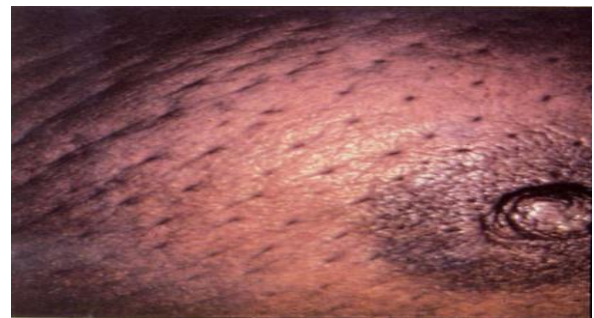
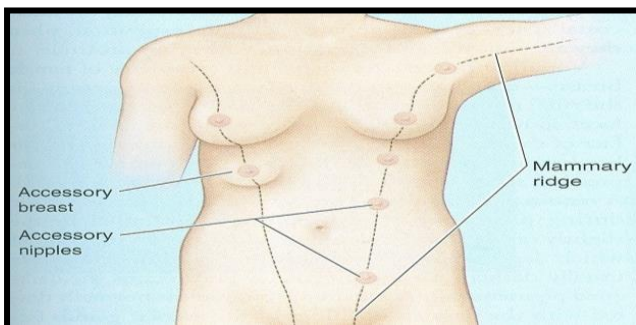
75% of lymph from the breast drains into the **axillary lymph nodes**.

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.

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** by breast cancer leads to its **shortening** giving **peau d'orange** appearance of the breast. → **The breast will look like an orange**



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



QUESTIONS :

1-Where does the pectoral group lies:

- A) On the pectoralis major
- B) On posterior wall of axilla
- C) On pectoralis minor
- D) On axillary fat

2-The subclavian lymph trunk is formed by union of efferent lymph vessels of:

- A) Central group
- B) Brachial group
- C) Pectoral group
- D) Apical group

3-Subareolar lymphatic plexus lies:

- A) Above the areola
- B) Anterior to the areola
- C) Lateral to the areola
- D) Beneath the areola

4-In lymphatic drainage, the medial part drain into:

- A) Pectoral group
- B) Apical group
- C) Parasternal lymph nodes
- D) None



5-The mammary ridge:

- A) Disappear in animal
- B) Disappear completely in human
- C) Present only in pectoral region of animals
- D) Disappear in human except in pectoral region

6-The base of breast extends from:

- A) The first to the fourth ribs
- B) The third to the sixth ribs
- C) The second to the sixth ribs
- D) The first to the sixth ribs

7- The upper 2/3rd of the breast base lies on:

- A) Serratus anterior
- B) Pectoralis minor
- C) Pectoralis major

8- The nipple of the breast lies in which intercostal space:

- A) 1
- b) 2
- c) 3
- D) 4



9- Which one of the following arteries not supplying the breast:

- A) Thyrocervical artery
- B) Mammary branches of intercostal arteries
- C) Mammary branches of lateral thoracic artery
- D) Perforating branches of internal thoracic

10- the most common site of breast cancer is:

- A) Upper lateral quadrant
- B) Lower lateral quadrant
- C) Upper medial quadrant
- D) Lower medial quadrant



Q	Answer
1	A
2	D
3	D
4	C
5	D
6	C
7	C
8	D
9	A
10	A

GOOD LUCK

Anatomy Team Leaders:

FahadAlShayhan

&

Eman AL-Bedica