BREAST HISTORY TAKING & CLINICAL EXAMINATION

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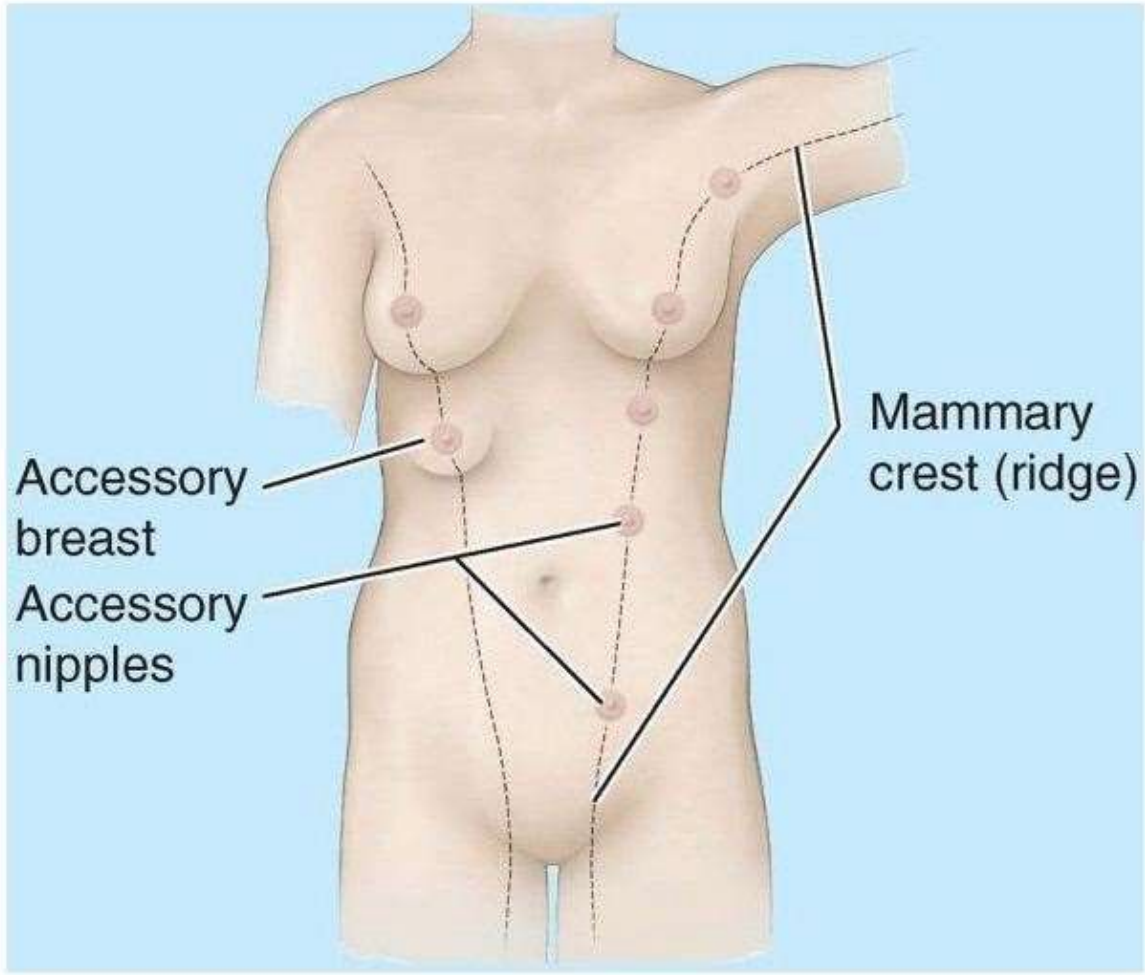
INTRODUCTION:
DEVELOPMENT OF THE BREAST:

- **The Breast is a modified Apocrine gland**

- As early as the **4th week** a thickened mammary ridge **(milk line)** of **ectoderm develops as** a down-growth **along a line** from the **Axilla to the inguinal region.**

- **Supernumerary nipples or even glands** proper may form at lower levels on this line.



Introduction: (cont)
ANATOMY OF BREAST (MICROSCOPIC STRUCTURE)

- **Origin:** Modified modified **Apocrine gland**
- **Structure: (the Gland, Areola, Nipple)**
- **The Gland:**

Made up of **15-20 lobes** of glandular tissue embedded in fat.

Fat accounts for its smooth contour and **most** of its bulk.

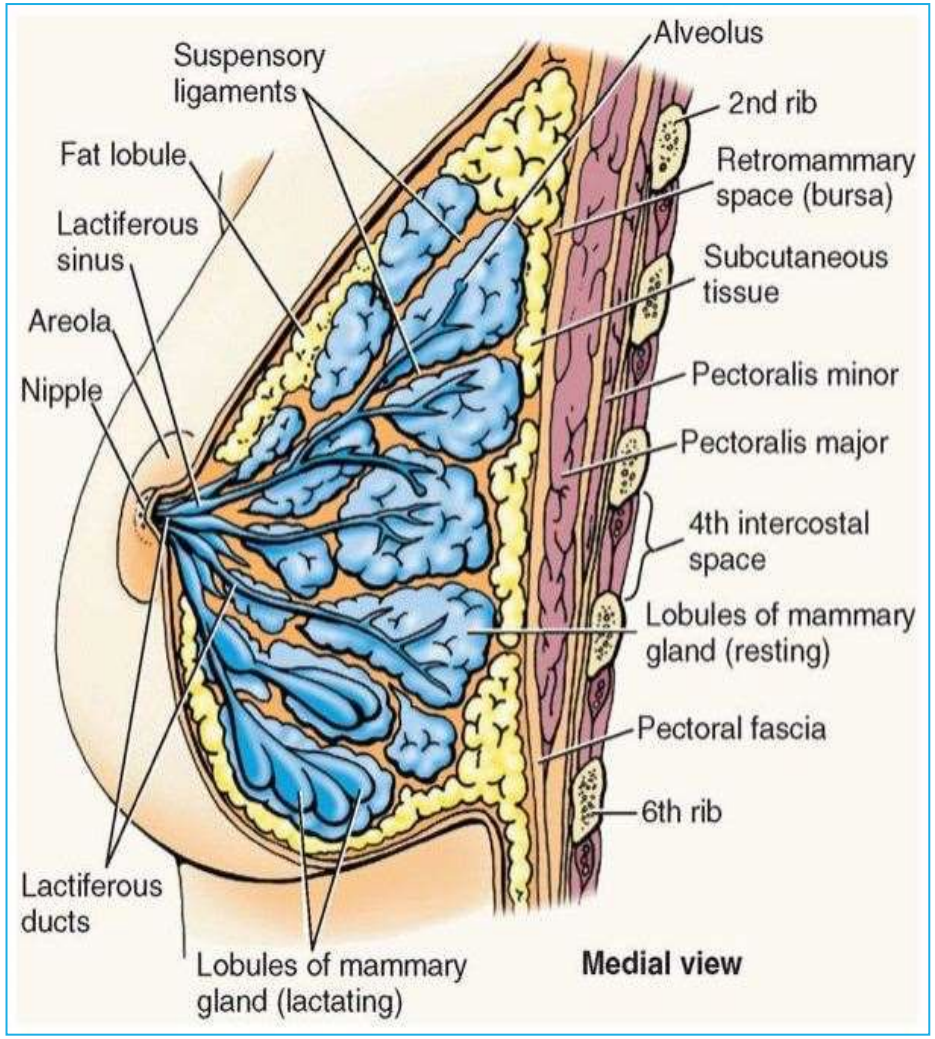
Lobule formation occurs **only in female** breast & **does so after puberty**

- Each **lactiferous duct** is connected to a treelike system of ducts and lobules, intermingled & enclosed by connective tissue to form **a lobe of the gland**.

These lobules are separated by **fibrous septa** running from the subcutaneous tissues to the fascia of the chest wall **(the ligaments of Cooper/ Astley Cooper fibers/ suspensory ligaments)**

- **Each lobule** drains by its lactiferous duct on to the **nipple**, which is surrounded by the pigmented **Areola** (modified skin "Myocutaneous")
- This area is lubricated by the *areolar* **glands of Montgomery:** large, modified sebaceous glands →may form sebaceous cysts → may infected.

Retromammary space: Between the **capsule and the fascia over pectoralis** major is the loose onnective tissue cells.

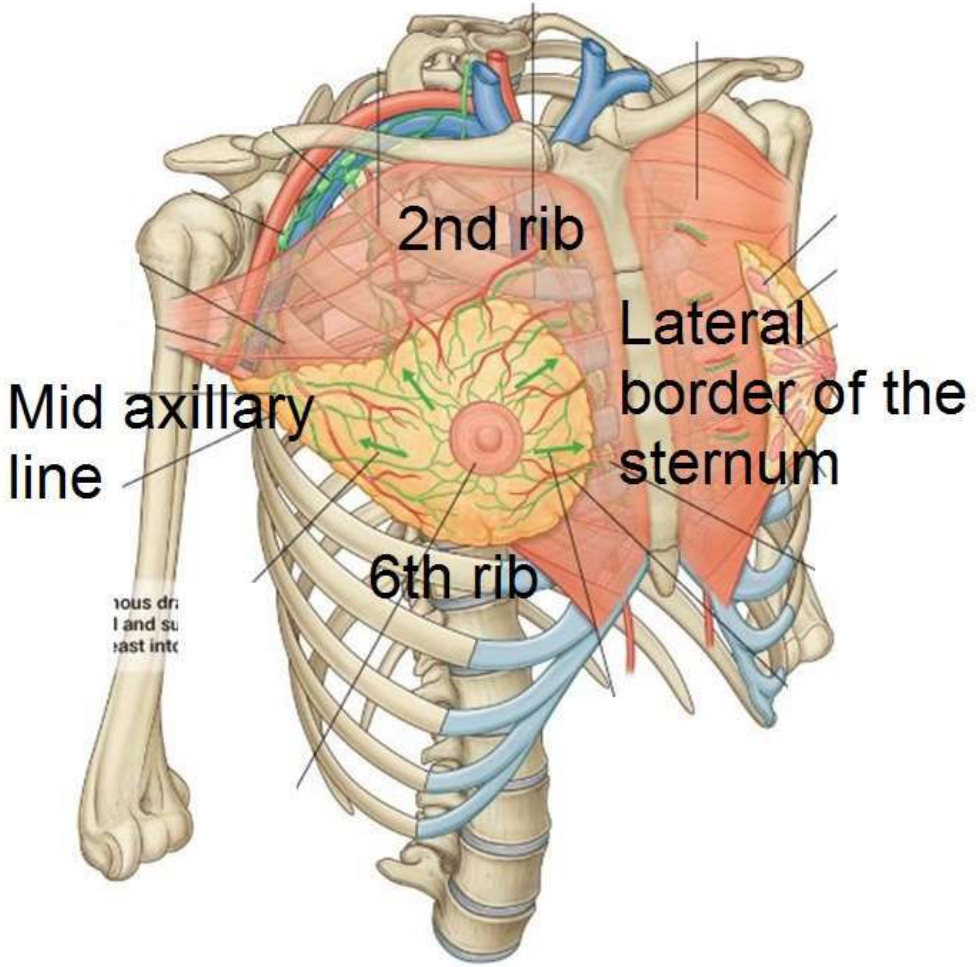


Introduction: (cont)
Regional Anatomy of Breast:

- **Breast Rests on (ie posteriorly):**
  - **pectoralis major : (upper and medial 2/3), &**
  - **serratus anterior : (lower and lateral 1/3)**
- **Covered completey with normal skin (devoid of h the**

  nipple and areola (modified Myocutaneous ski
- **Extensions:**
  - **Mediolateral: Lat edge of sternum to midaxillary**
  - **Cephal-caudal: 2nd to 6th Rib**
- The lower medial edge

  overlaps the upper part of the **rectus sheath.**



Introduction: (cont)
Anatomy of Breast:

LYMPHATIC DRAINAGE OF THE BREAST:

Into: - axillary glands,

- mediastinum nodes and

- portal fissure of the liver

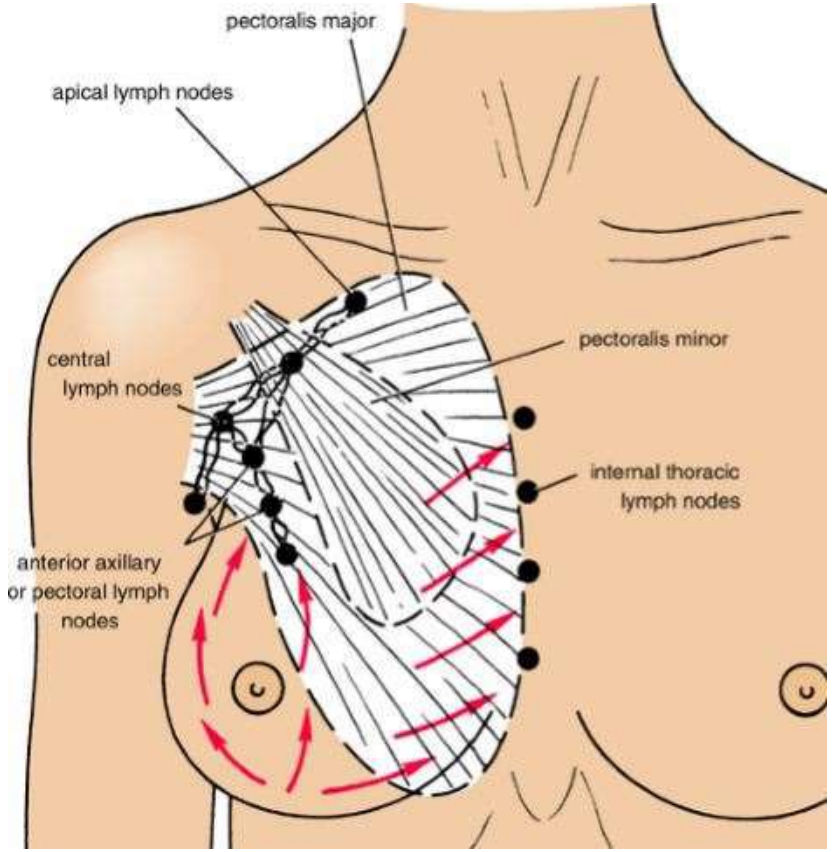
❖Lymphatic vessels of the two breast communicate **with each other**

LYMPHATIC DRAINAGE OF THE BRAST:

Follows the pathway of its blood supply along tributaries of the:
1. axillary vessels → axillary lymph nodes;
2. internal thoracic vessels → piercing pectoralis major → to traverse each intercostal space → to lymph nodes along the **internal mammary chain;**

A **subareolar** plexus of lymphatics below the nipple (the *plexus of Sappey)*

- ***75%* → *axillary***
- **15%** → internal mammary
- **Upper** → can go to **supraclavicular**
- **Lower 2 quadrants** can go to: **subdiapragmatic** or **abdominal nodes**

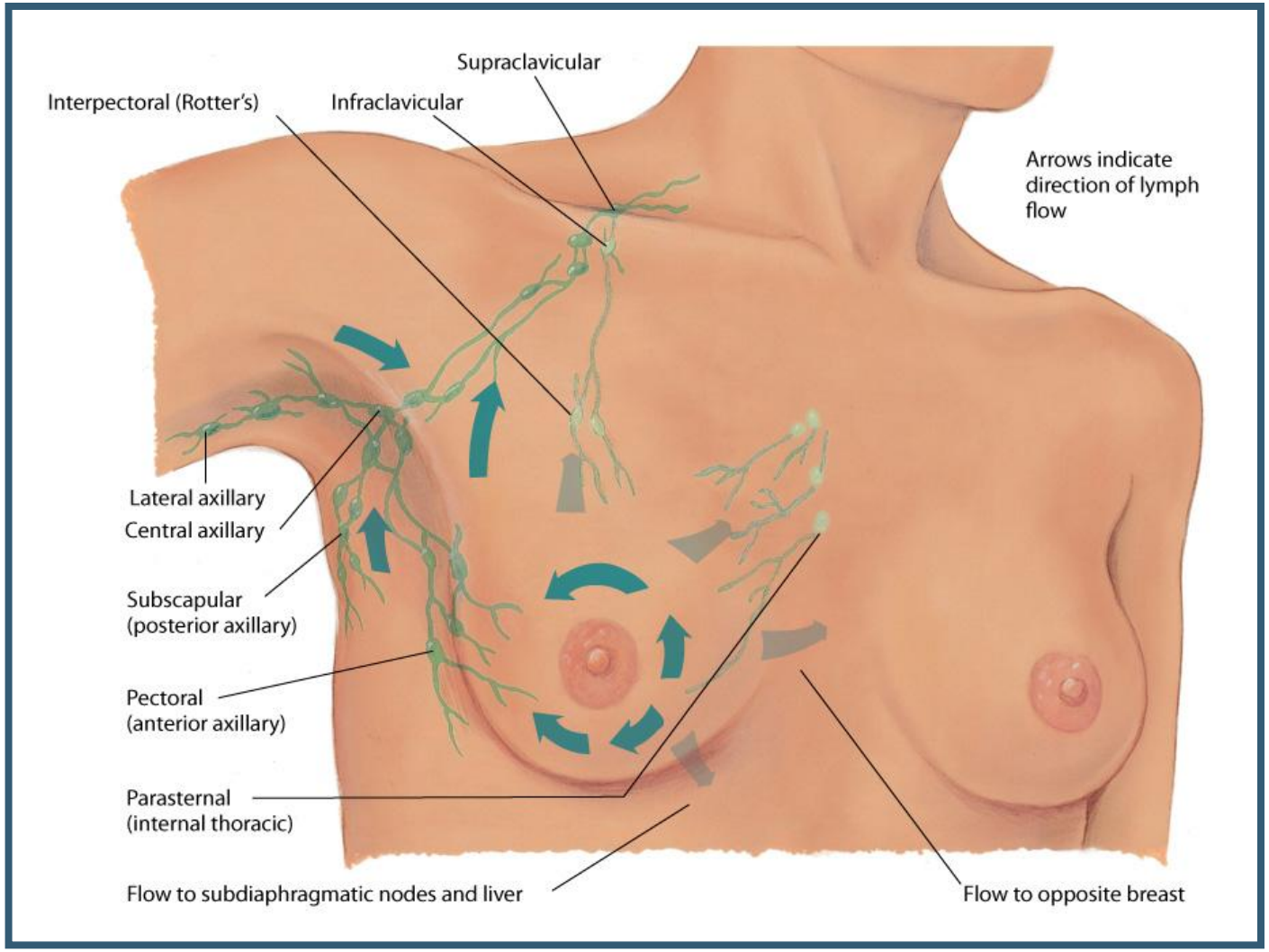


Introduction: (cont) Anatomy of Breast:

Axillary nodes

- Central
- Pectoral (anterior)
- Subscapular (posterior)
- Lateral
- Apical

Drainage patterns



Introduction: (cont)
Anatomy of Breast:

REGIONAL LYMPH NODES FOR BREAST

A: Pectoralis major muscle

Levels in Relation to <u>Pectoralis Minor:</u>

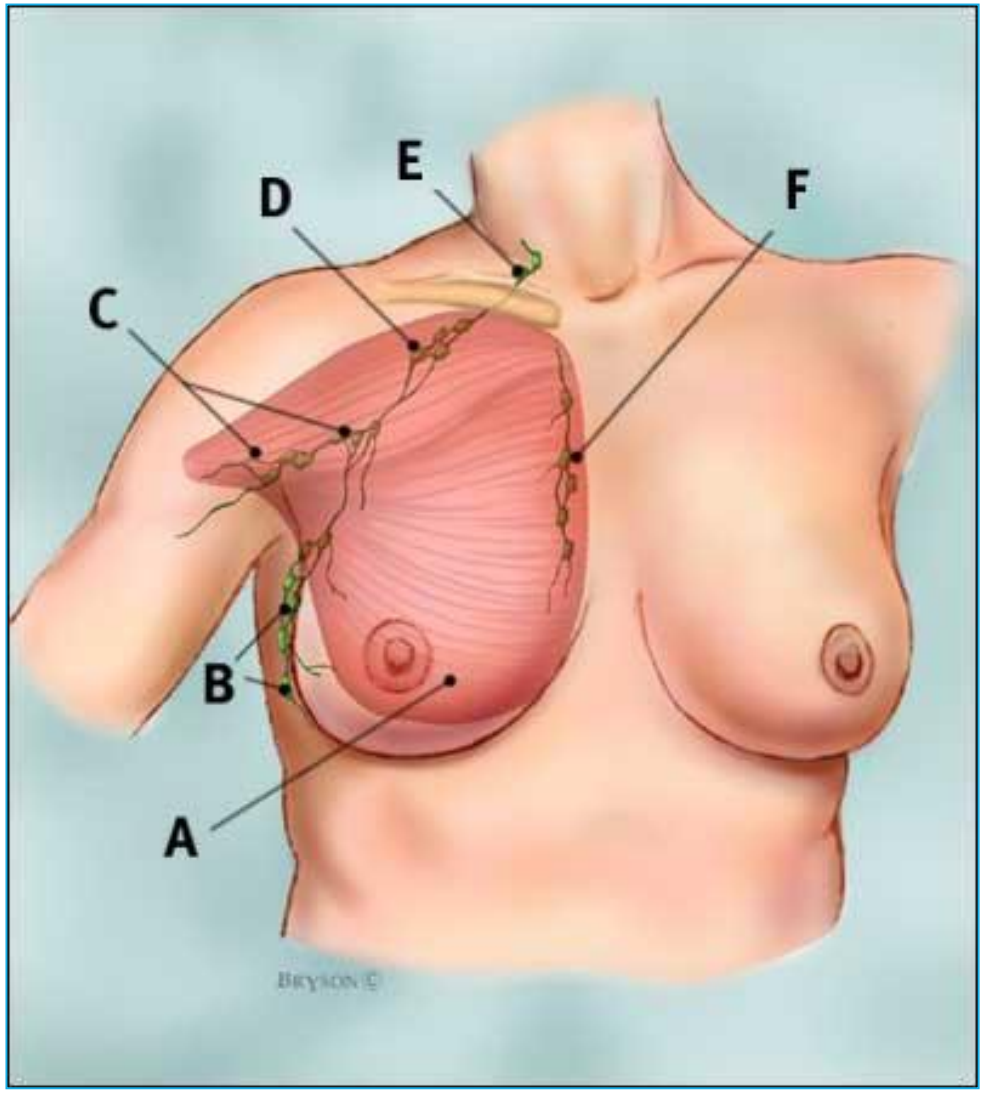
B: Axillary lymph nodes level I (**Below**)

C: Axillary lymph nodes level II (**Behind**)

D: Axillary lymph nodes level III (**Above**)

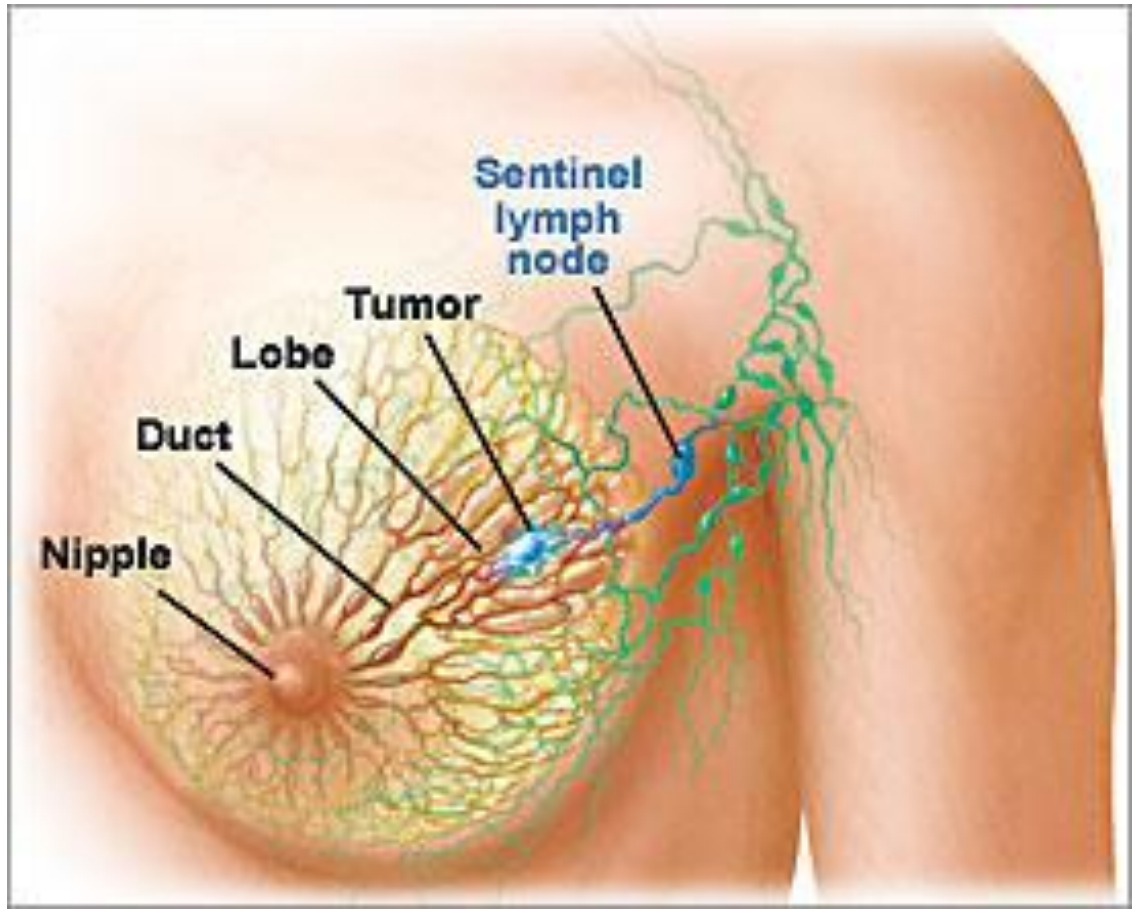
E: Supraclavicular lymph nodes

F: Internal mammary lymph nodes

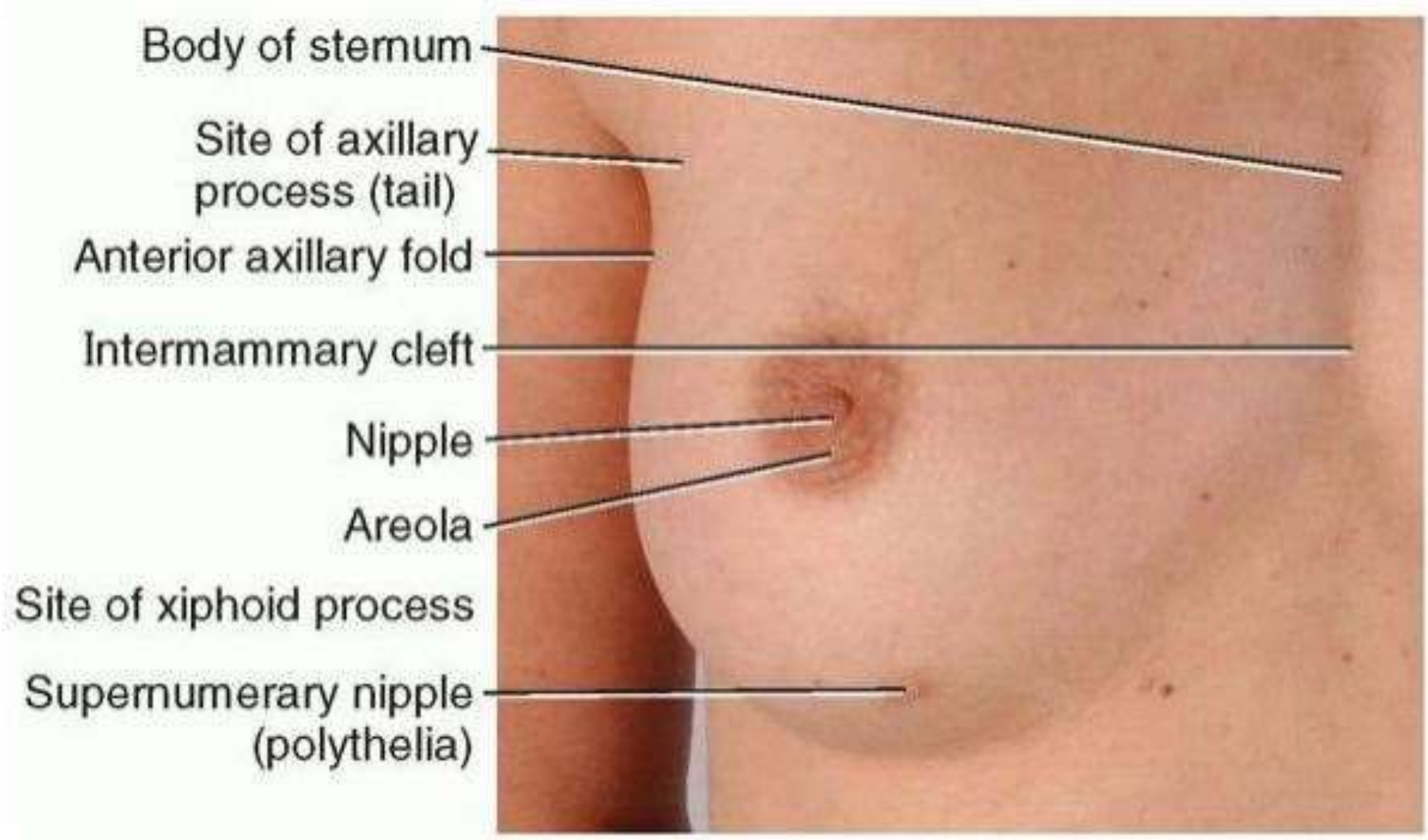


Clinical Hint:
Anatomy of Breast (microscopic structure)

Sentinel Lymph Node:
Is the first lymph node affected by metastatic malignant cell in Breast Cancer



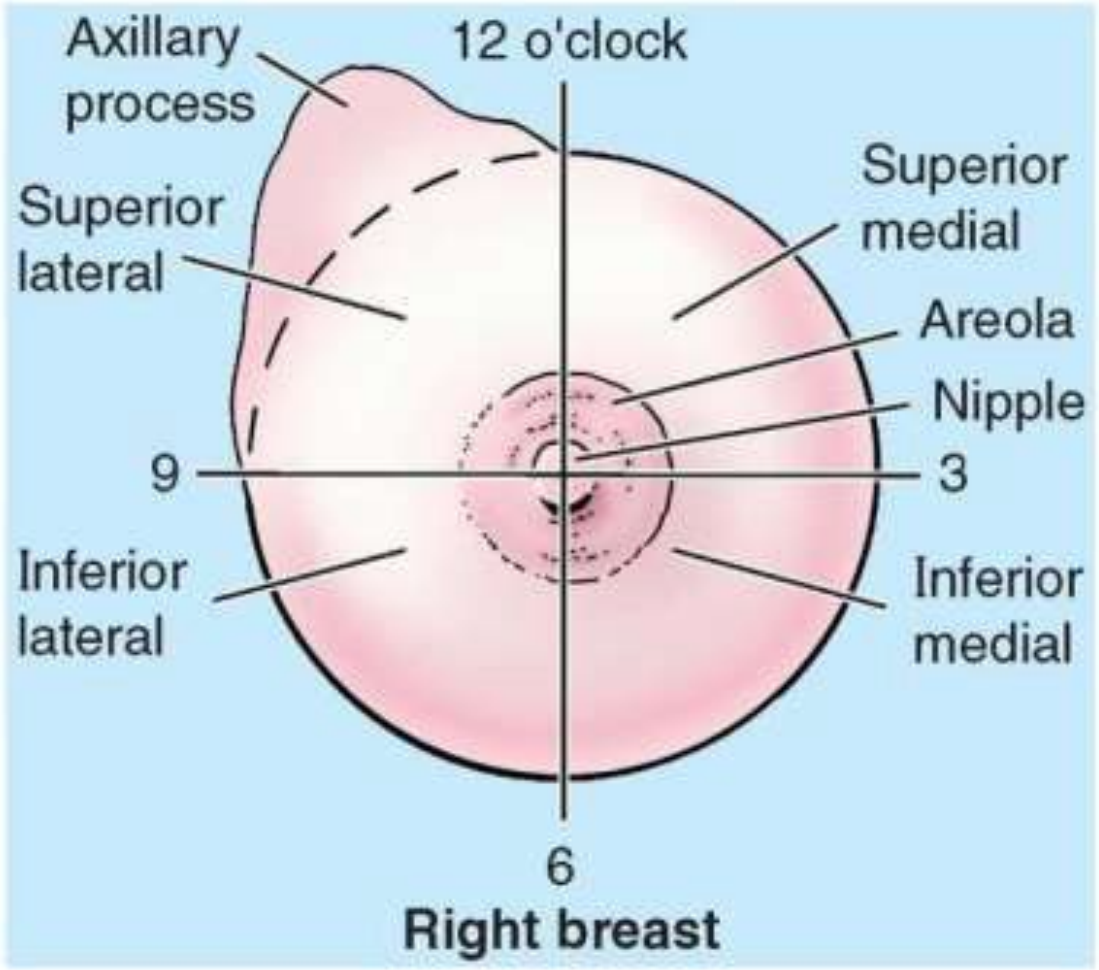
SURFACE ANATOMY IN RELATION TO BREAST



❑ QUADRANTS OF BREAST:

1. Upper medial quadrant
2. Upper lateral quadrant
3. Lower medial quadrant
4. Lower lateral quadrant

- ❑ Axillary Tail
- ❑ Axilla



BREAST HISTORY TAKING

- **HISTORY TAKING:**

  CHECK PATIENT IDENTIFICATION DATA

  INTRODUCE YOURSELF &

  ASK PERMISSION

  EXPLAIN WHAT YOU ARE GOING TO DO!

Always Be Kind and Ethical To Your Pt !!

THE COMPLAINT (C/O): NIPPLE OR THE GLAND OR,..
(PATIENTS OWN WARDS)

- Mass
- Pain
- Discharge
- Discoloration
- Skin changes
- Symmetry
- Size
- Shape
- Symptoms of metastatic Breast Cancer

Hx (cont)

HPI: onset, course,associated symptoms….

H/O pregnancy, Lactation,menarche

H/O contracepive pills

H/O diet,drug intake,…

H/O analysis of pain (mastalgia; cyclical..noncyclical

- Analysis of any other related complaint……

- Clinical systemic review

H x (cont)

Past History:

drug intake
medical illness, any related or unrelated surgery

Family History:

Any similar cases in the family, malignncies….

Drug intake

Allergy:

Blood Transfusion:

Social History: x

BREAST EXAMINATION:

NB: NEVER FOREGT TO DO **GENERAL EXAMINATION** OF YOUR PATIENT AND THIS STARTS WHILE TAKING THE HISTORY. THEN GO FOR THE LOCAL BRAST EXAMINATION

EXAMINE THE BREAST TWICE:

- **FIRST**: while the patient is **SITTING UPRIGHT**
- **SECOND**: while the patient is **LYING FLAT**

(Inspection , Palpation , Percussion, Auscultation)

BREAST

CLINICAL EXAMINATION

ROUTINE EXAMINATION OF THE BREAST

❑ Inspection:

Pt undressed completely above the waist **sitting upright**

Look for: ⟶

-Asymmetry

-Areola and Nipples: Level, characters (eversion, inversion,flat,..), clcerations,…

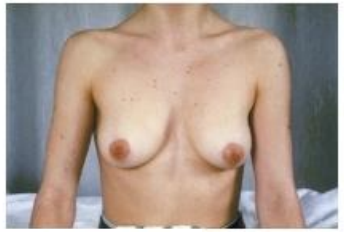
-Redness and other discolorations,…

-Masses

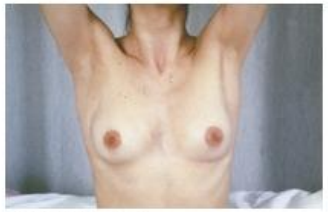
-Accessory breasts or nipples

INSPECTION IN FOUR POSITIONS:

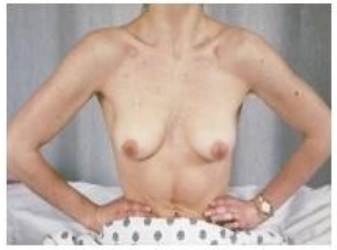
Sitting, arms at sides



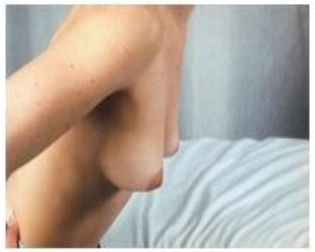
Arms overhead



Arms pressing on hips



Leaning forward



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INSPECTION (CONT.):

Breasts:

size, shape, symmetry, color, lesions, venous pattern, dimpling, or retraction

Nipple and Areola:

nipple position and direction; discharge, ulcerations,..

Axillae:

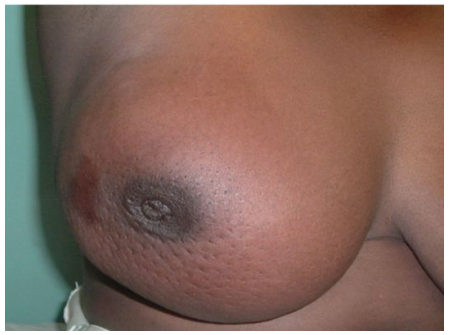
swellings, color, lesions, rashes

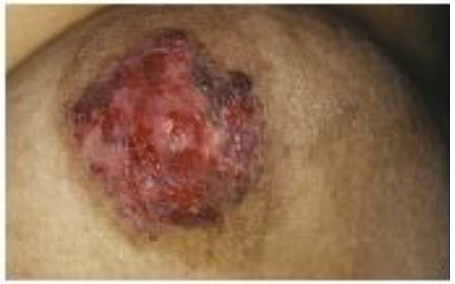
THE NIPPLE

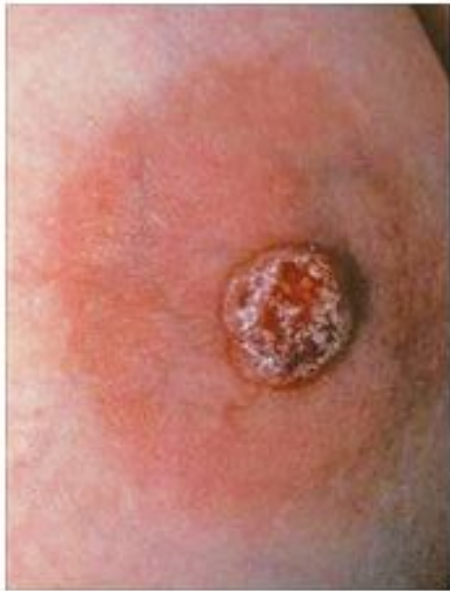
- **Retraction (duration)**
- **Fissures**
- **Inversion/ eversion**
- **Eczematous lesion !… Paget's**
- **Discharge**;….. How many openings, charecters, color, smell associated mass,..

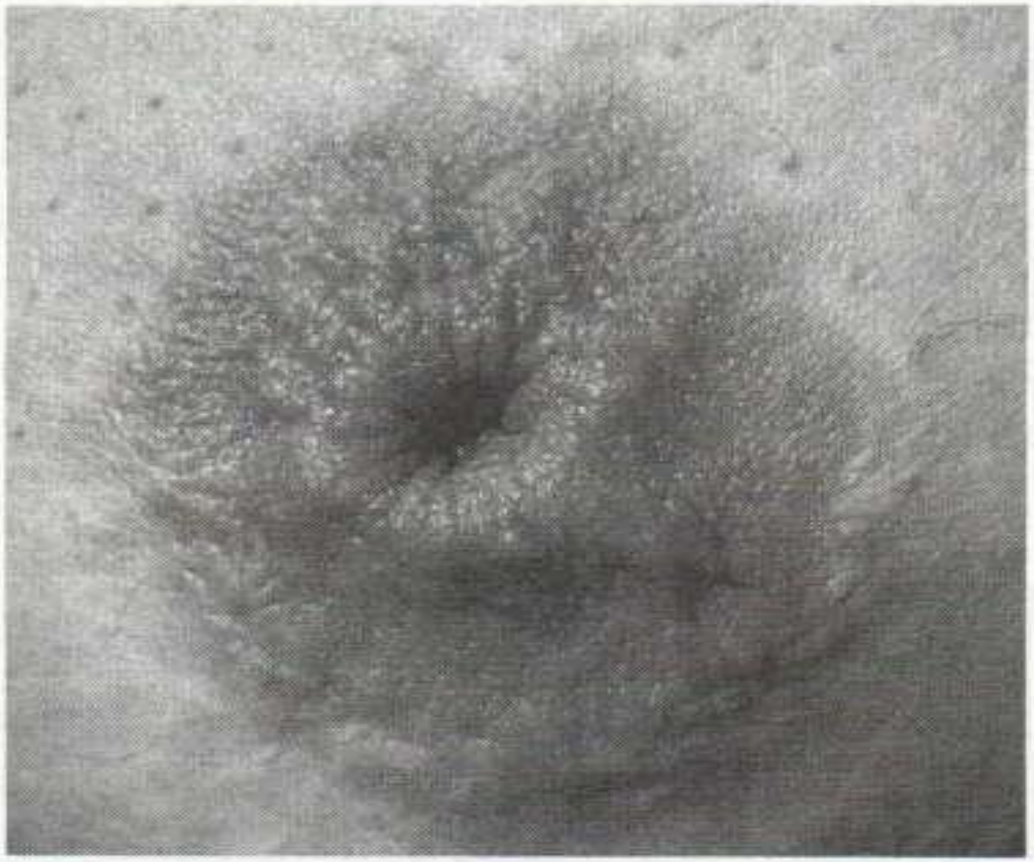
NB:Nipple signs;
Paget's Disease
Discharge
Displacement

6 D's
Depression
Deviation
Destruction

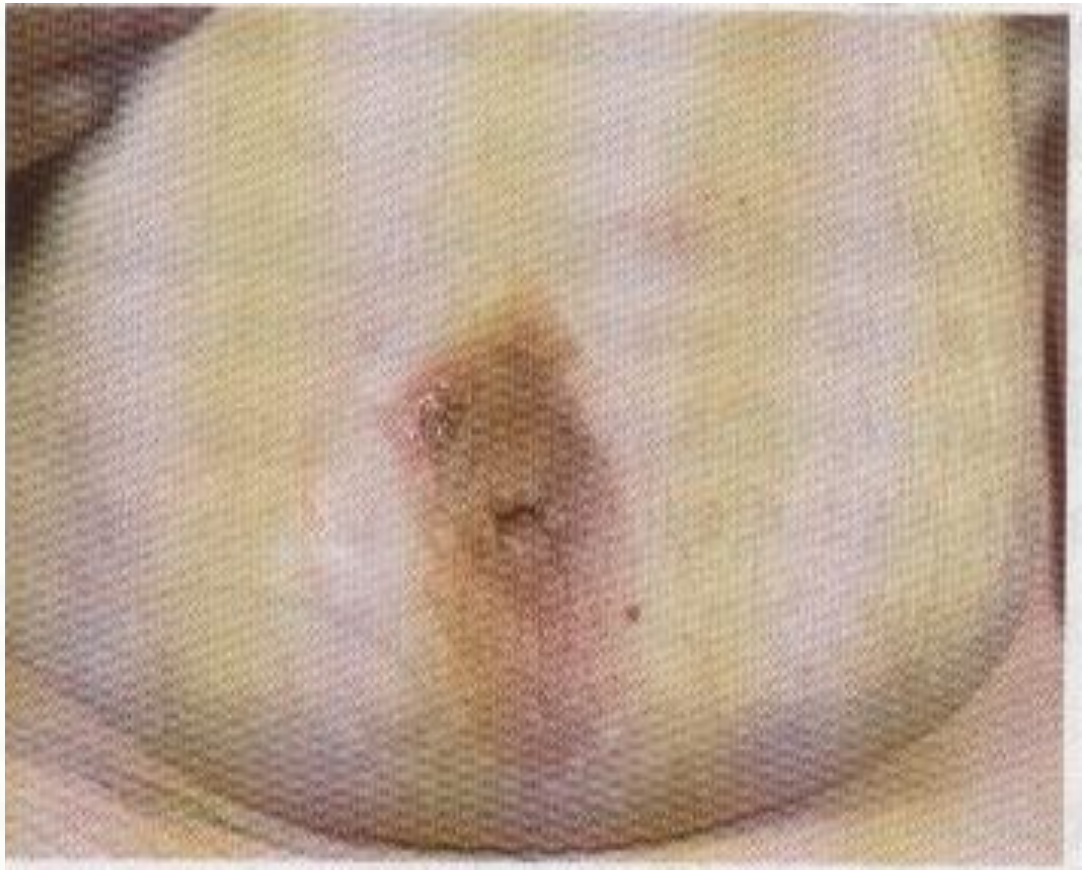




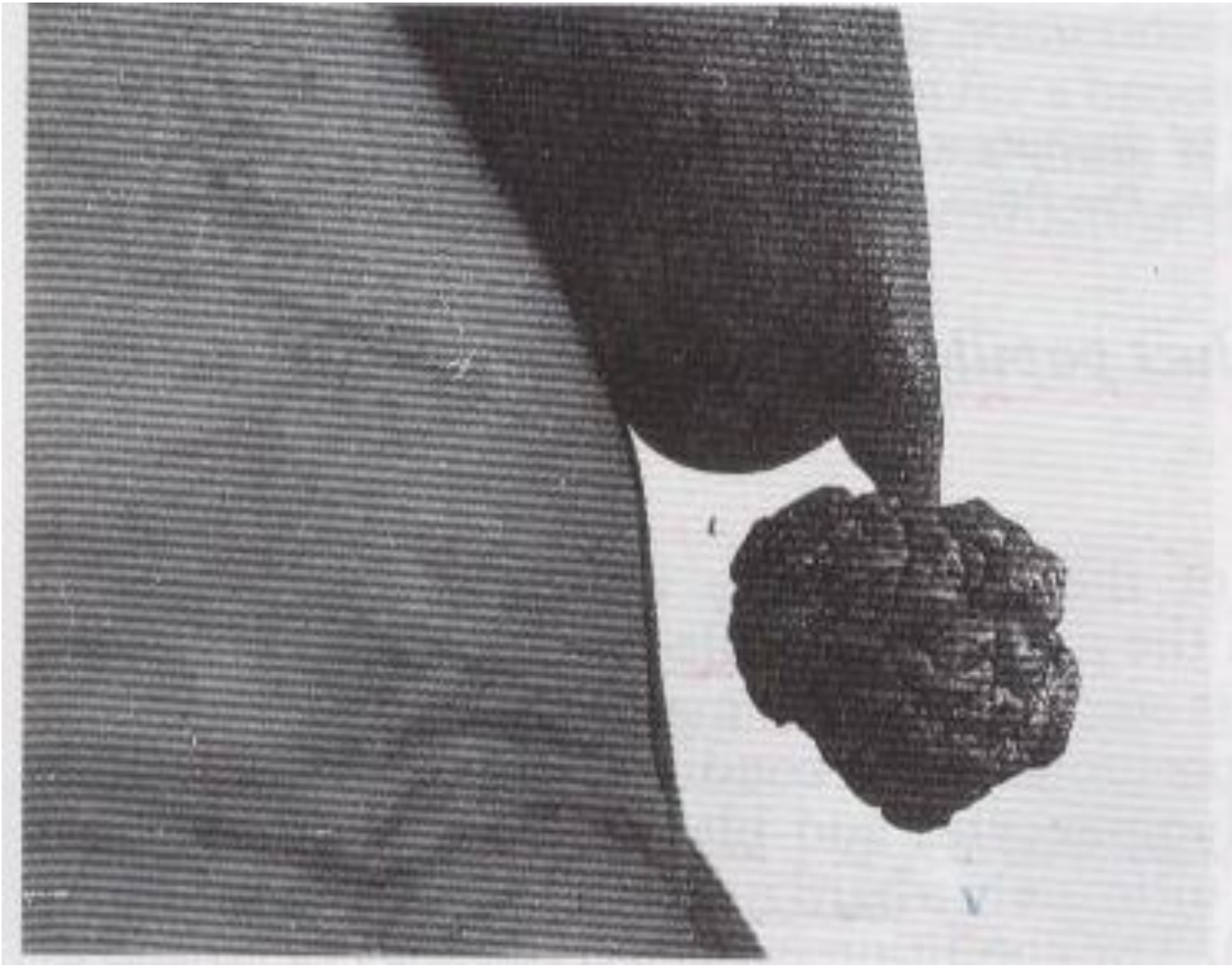




INVERTED NIPPLE



Recent or long ago!



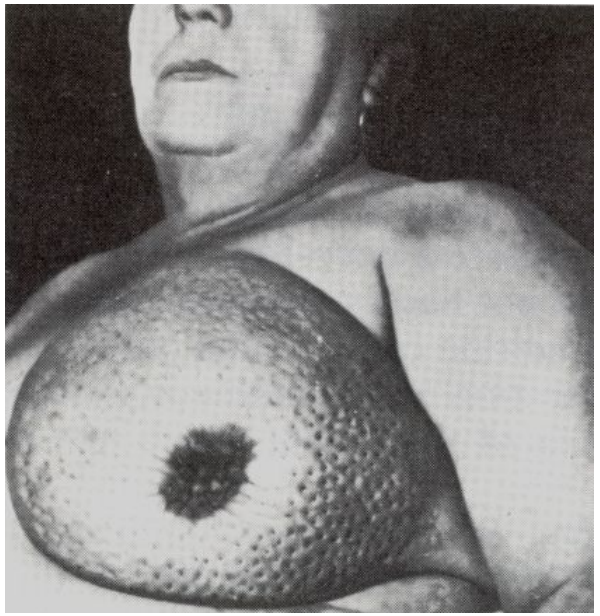
Nipple papilloma

THE AREOLA

Degree of pigmentation

Swellings

Glands and Follicles



The skin of mamma

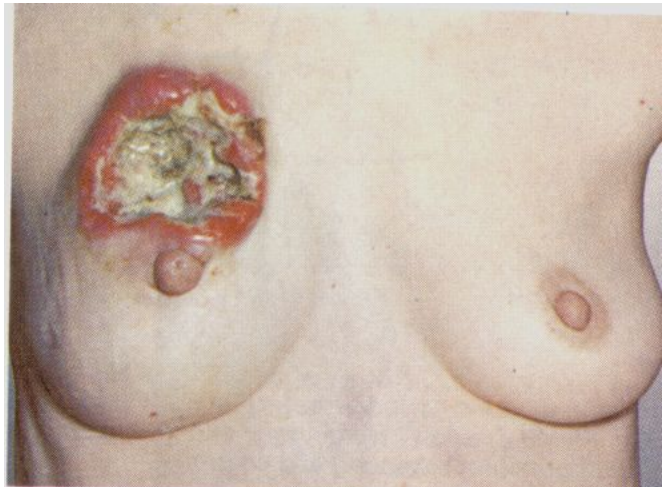
Visible veins

Peau d'Orange

Ulceration/ nodule

Tethering of the skin (on elevation arm)

over a Carcinoma.



❑ Palpation of the Breast:

Examine:

consistency, masses, tenderness in **supine position**

Nipple:

elasticity, masses, tenderness, discharge

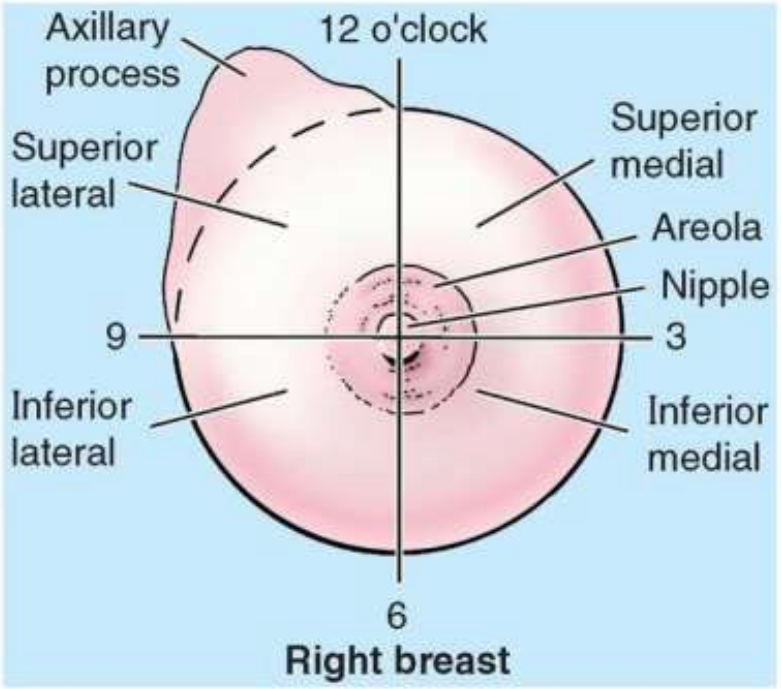
Lymph nodes:

axillary, clavicular “**while sitting**”

PALPATION (CONT)

Ask pt. **to herself to locate the mass** she complained of

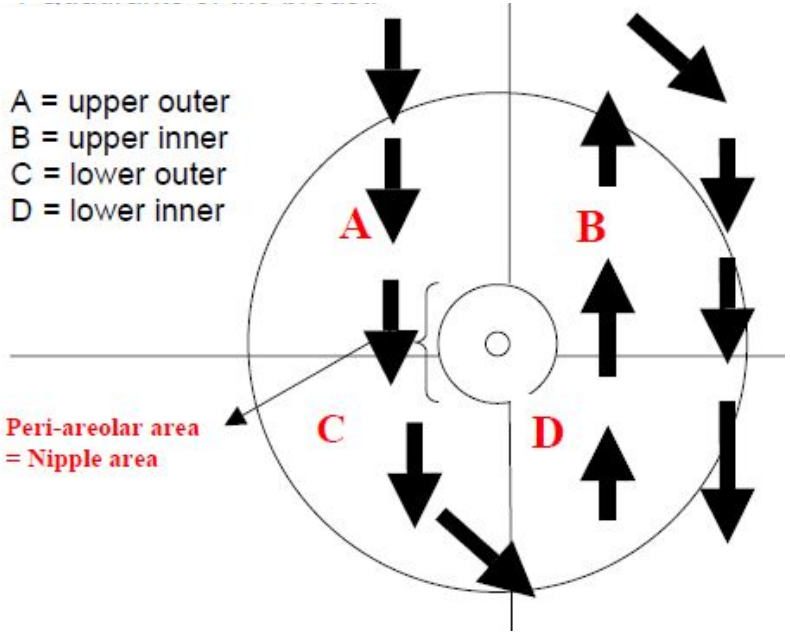
Then, examine yourself



START: by **the other breast** as follows:

1. **Palpate the four quadrants of the breast between pulps of figures & thumb for each breast**….. **THEN Palpate each breast with the flat of the hand (fingers)**

(normal breast fell firm, lobulated with nodulity esp. before period)

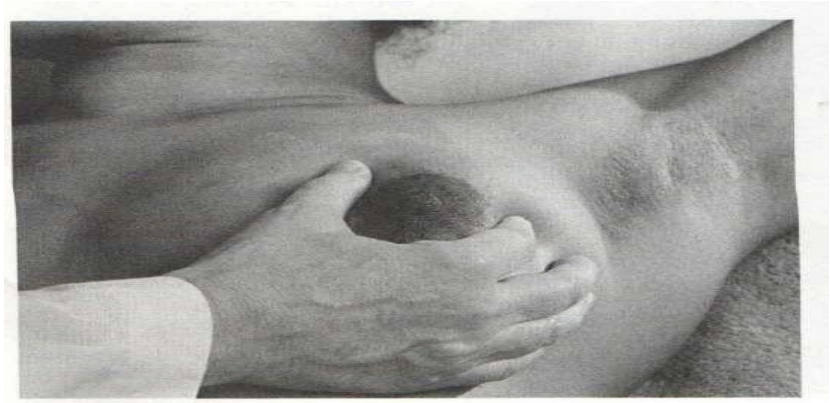


2. **Palpate behind the areola** (note any secretion), mass,.. hotness, tenderness,..

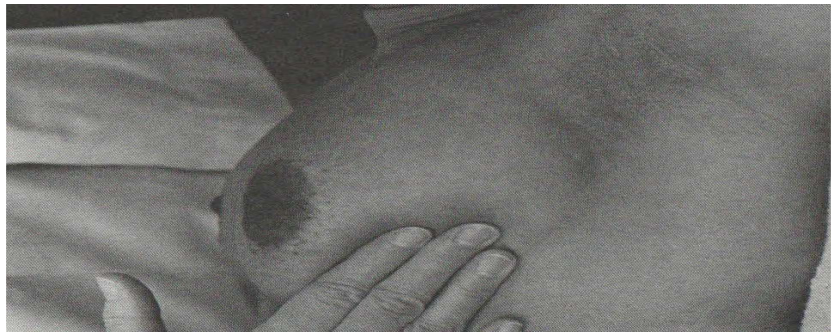
PALPATION:

START: by **the other breast** as follows:

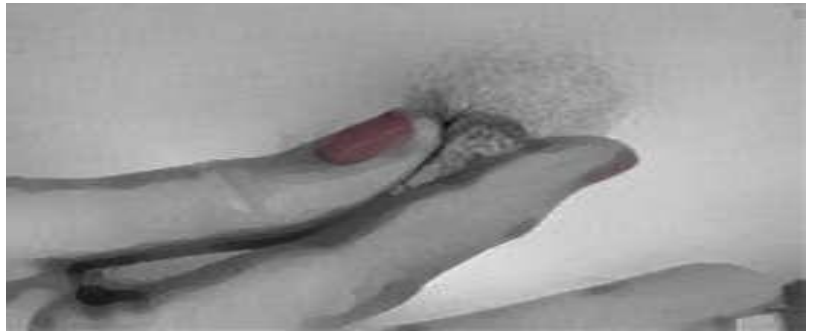
1. **Palpate "between pulps of figures & thumb" for each breast….. THEN**



2. **Palpate each breast with the flat of the hand (fingers)**

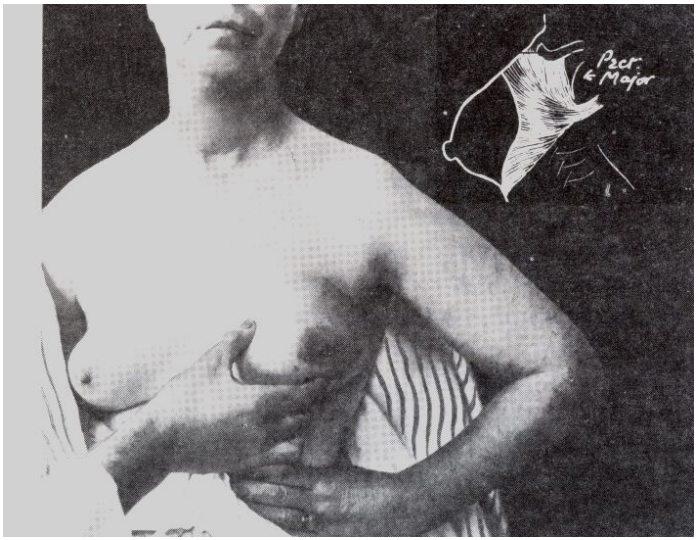


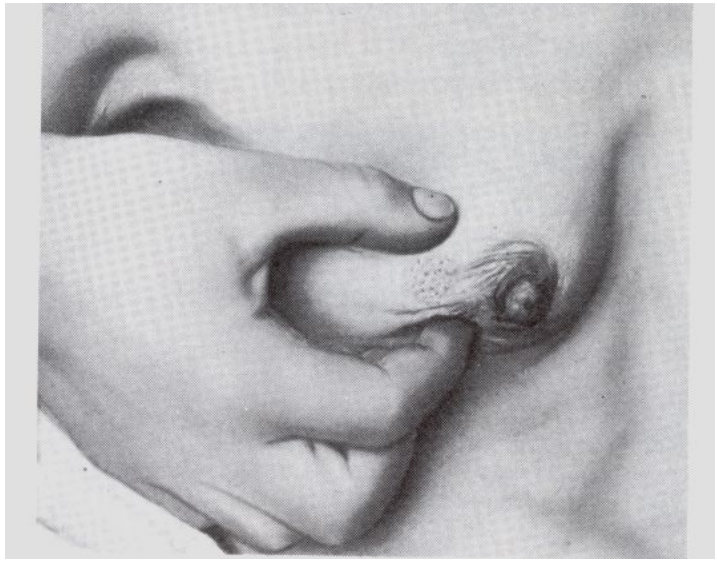
3. **Palpate the nipple and behind the areola (note any secretion), mass,hotness, tenderness**,..

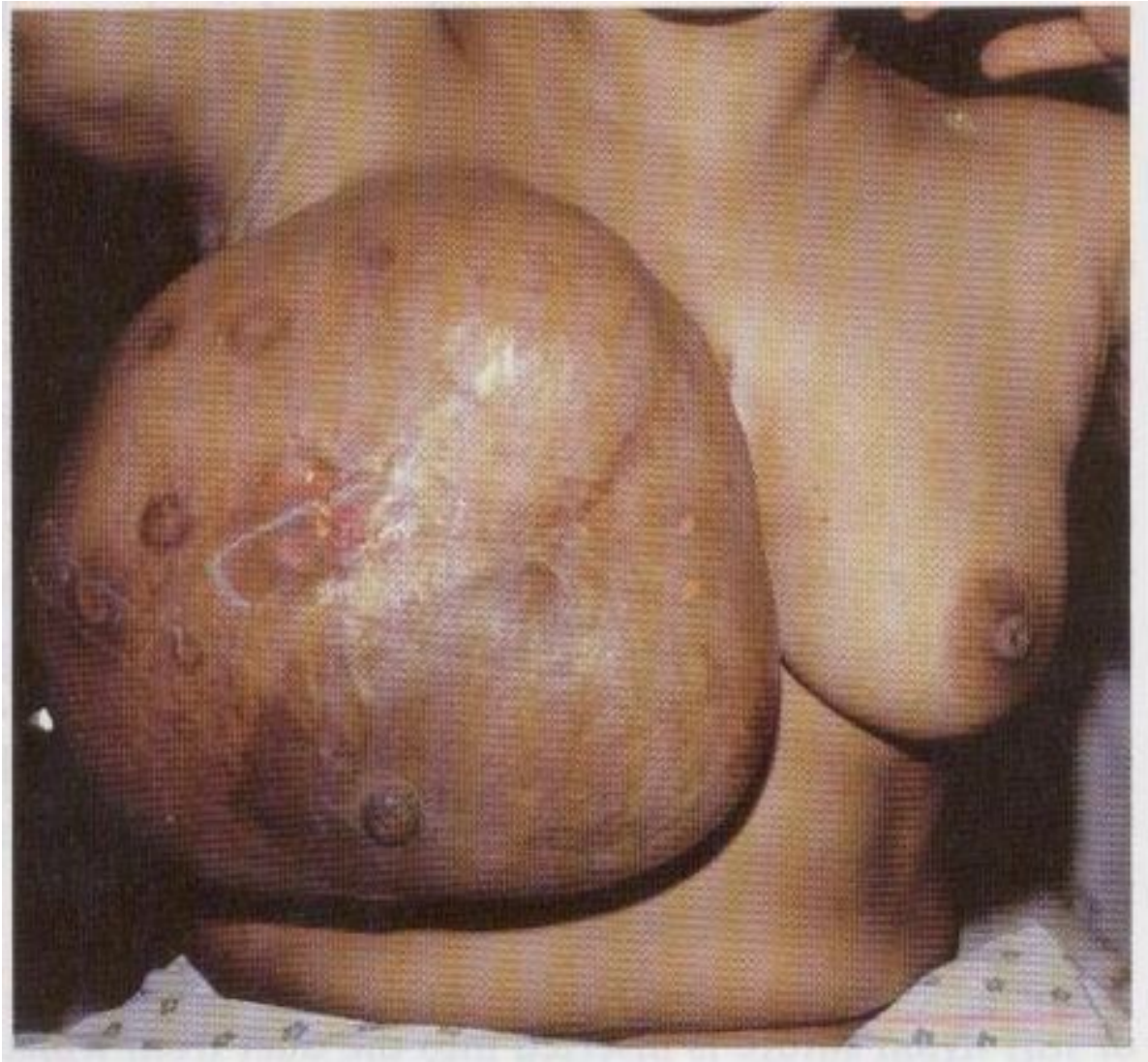


DESCRIBE ANY LUMP (AS USUAL)

- **Position**
- **Consistency** & shape, hard or soft, regular or irregular (If small hold between fingers)
- **Fixity to skin** nipple gentle pinch up of skin over
- **Fixity to deep structures** (*TEST: hand on hip test*)
- **Test for mobility**







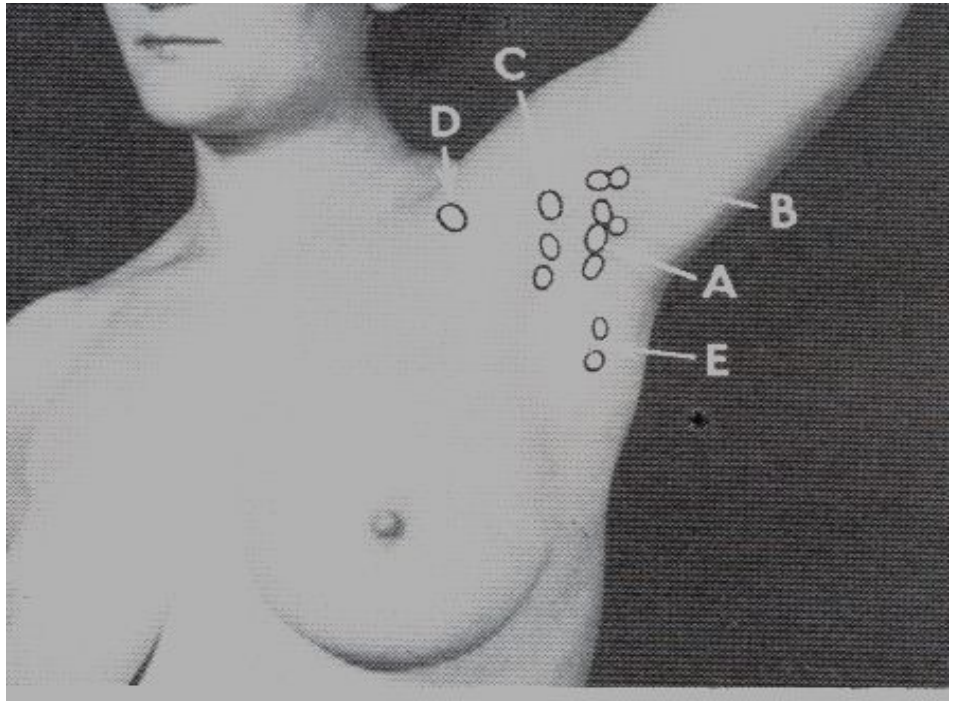
Cystosarcoma Phylloid Tumor

EXAMINE THE LYMPHATIC FIELD OF BREAST
(AXILLARY LYMPH NODE EXAMINATION)

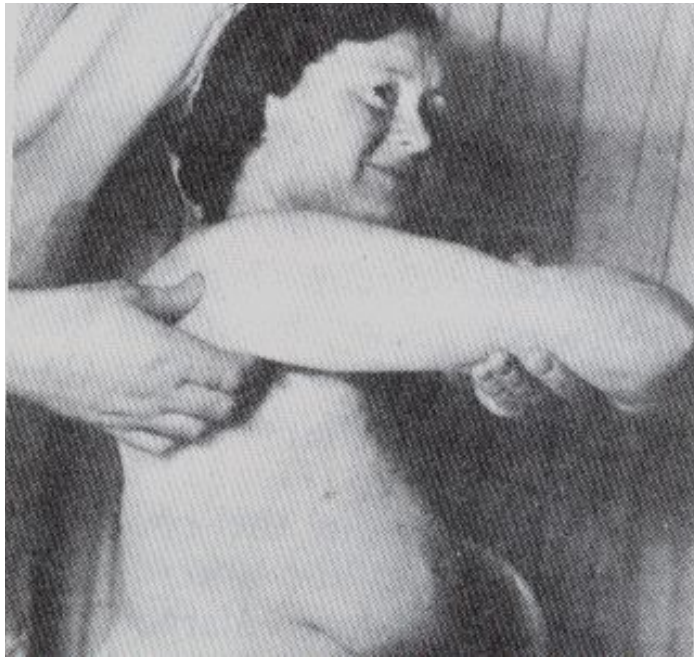
- **Pt.: seated** (her hand **on your arm or shoulder**) or,….
- **Right axilla** is tested by **Left hand** & vice versa
- **Five** groups:
  - **A** Central group
  - **B** Lateral group
  - **C** Interpectoral group
  - **D** Infra clavicular
  - **E** Subcapsular group (from the back)
- Examine supraclavicular fossae

NB:

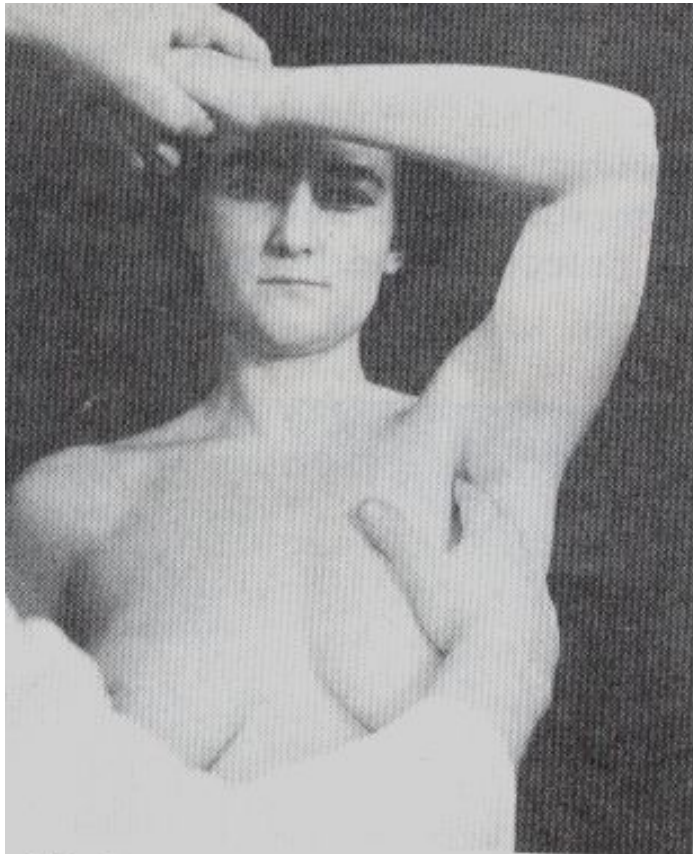
- (internal mammary group of LN cannot be examined)



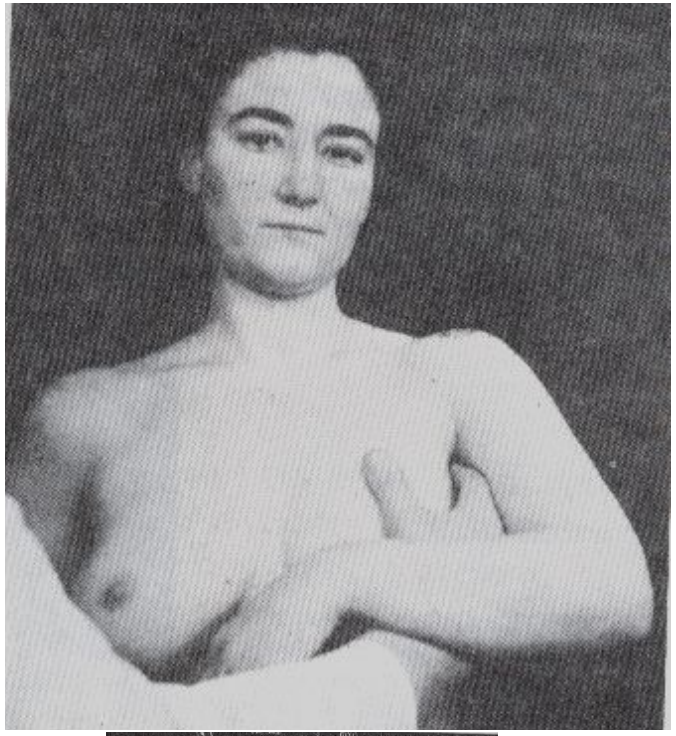
Examination of the Axilla

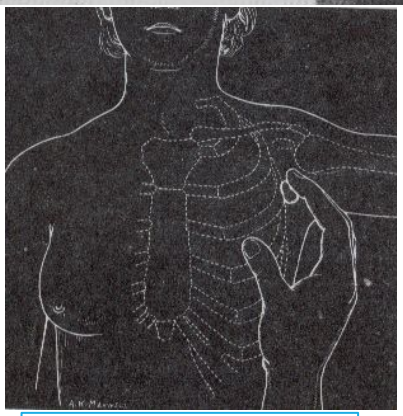


Subscapular LN from the Back



Central/?Apical



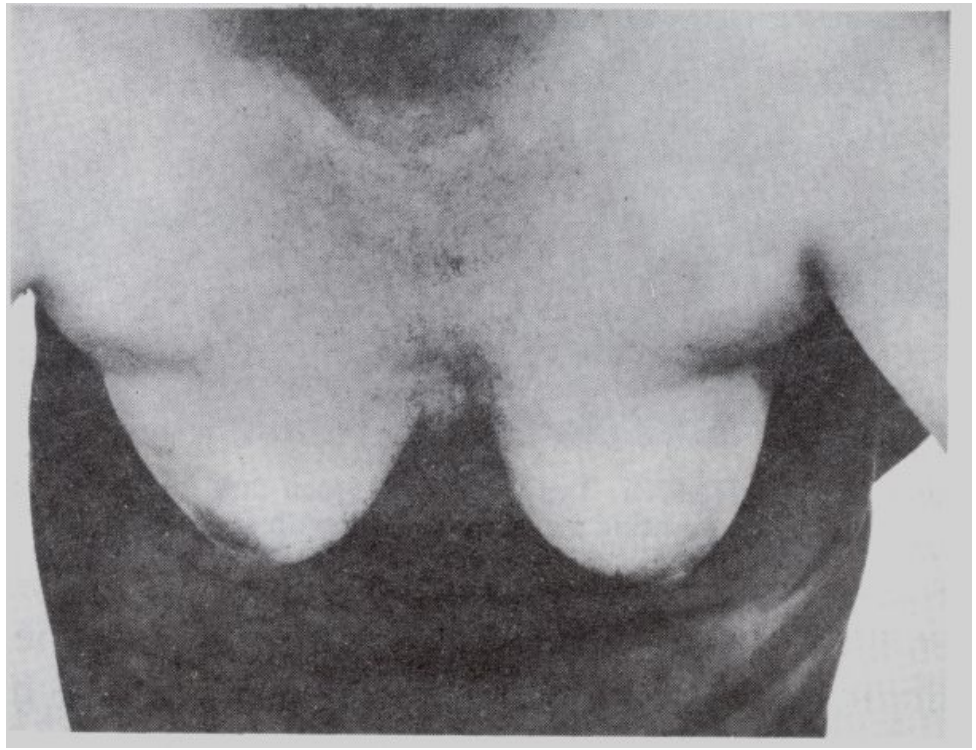


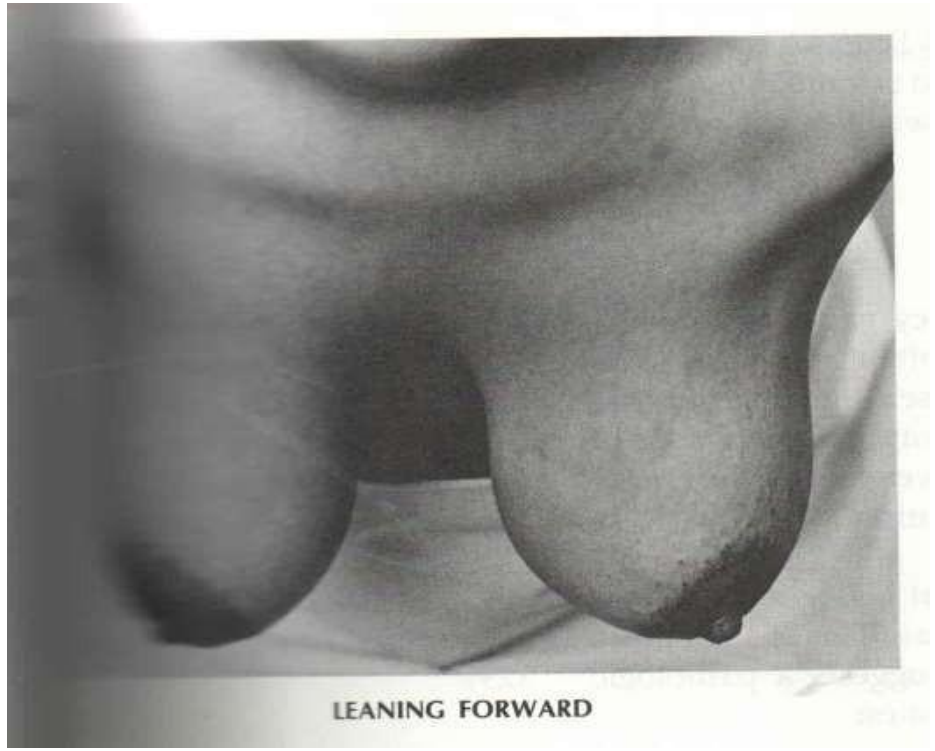
Pectoral LN

PENDULOUS BREASTS

Method:

while hanging when pt. leans on a chair hanging her breast while you're infront of pt observing both breasts and symmetry,…





SOME COMMON DISEASES OF BREAST:

❖ Fibrocystic disease of breast (fibroadenosis)

❑ Lumps

. Both breasts, lumpy & ± tender

. Painful lumps on menstruation(character not pathognomonic with Ca)

❑ Cysts

- elation to menses
- Tense
- **Fluctuation test** …positive or negative
- **Aspiration test** ….positive or negative

:Some common diseases of Breast (cont.)

- **Fibroadenoma** (type of pt.)

  . Small: mouse of breast
  . Large: pesi canalicular, intracalicular

- **Fat ncrosis**

- **Galactocele**

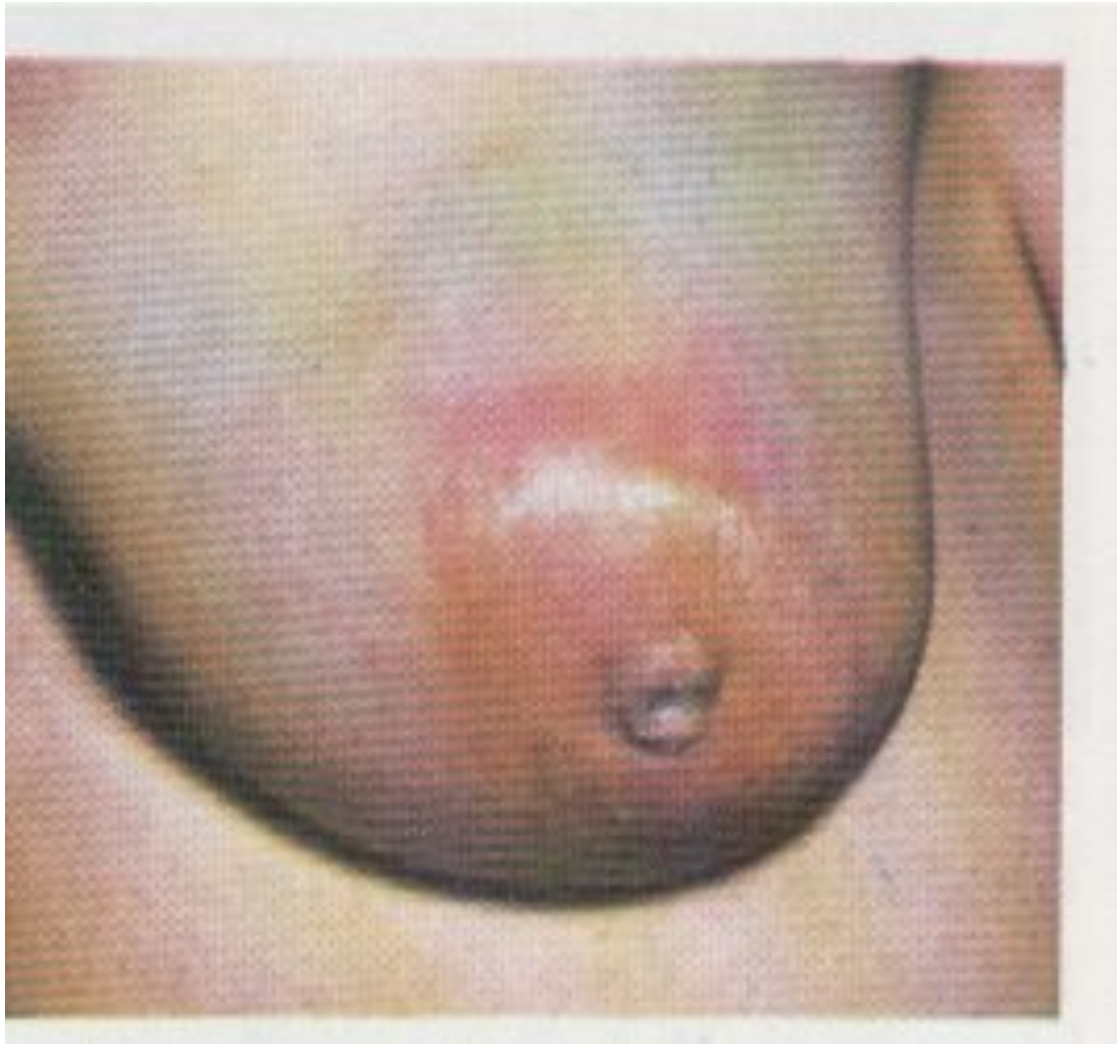
- **Sarcoma (serocystic disease of brodie)**

NIPPLE DISCHARGE:

- **Blood per nipple**:
  - Dark red bright: papilloma / Ca,
  - Dark altered: papilloma / Ca
- **Serosarguinous**:
  Ca- intracystic
- **Yellow serous**:
  - lumpy breast
  -fibroadenosis
- **Green** coloured,
  duct actasia, carcinoma
- **Opalescent**
- **Crystal clear fluid**
- **milk**

MASTITIS:

- **Infant** mastitis .
- **Adolescent** (puberty) Mastitis
- **Mastitis of mumps**
- **Bacterial mastitis of adult women (lactational)** ..to Acute Abscess
- **Inflammatory Carcinomatosis**



CHRONIC INFLAMMATORY PROCESSES:

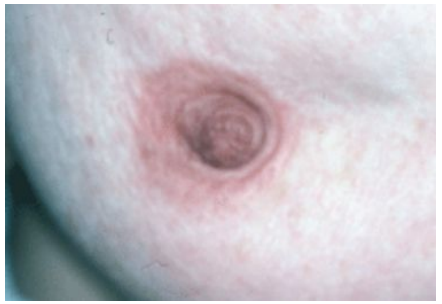
Chronic abscess

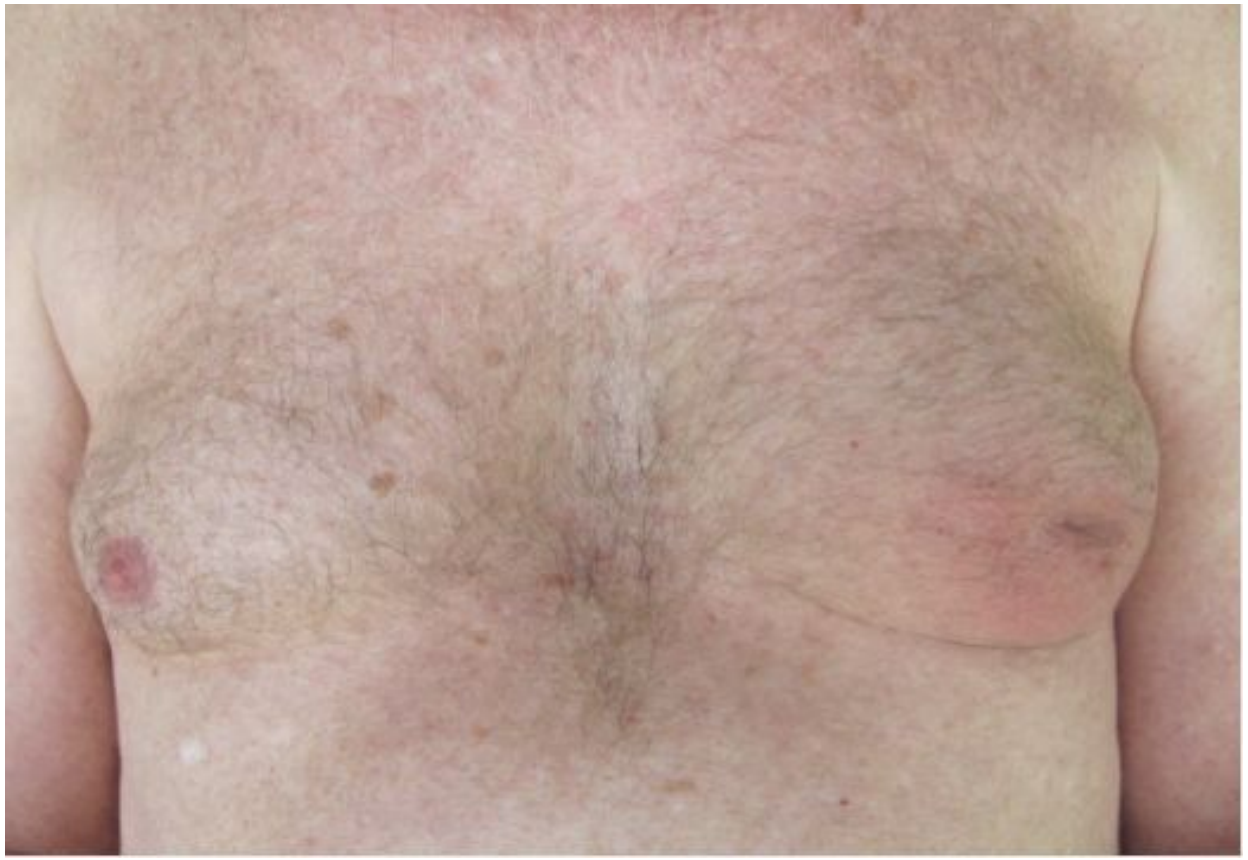
Chronic sub-areolar abscess

Mammary fistula

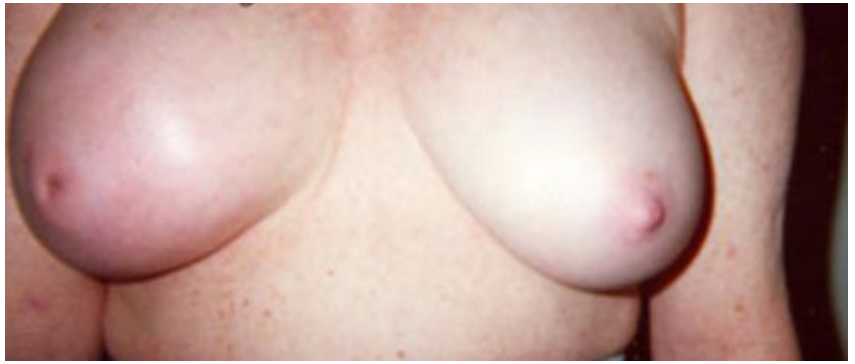
NB: DD Breast Carcinoma

Some common presentations of Breast Carcinoma (cont):

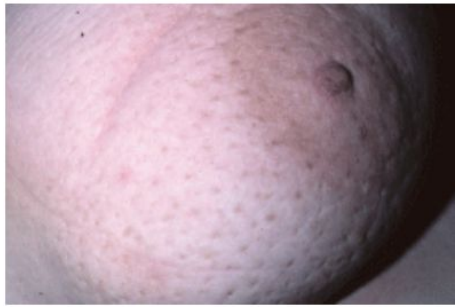




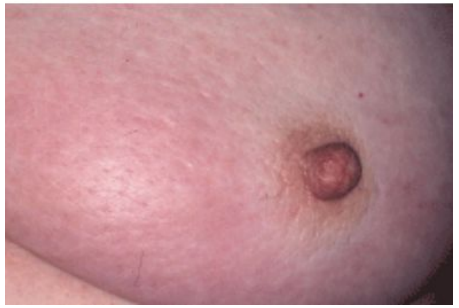
Breast Carcinoma male



Peau d'orange



Inflammatory breast cancer



CLINICAL STAGING OF BREAST CARCINOMA

Two main Systems:

- **Manchester Classification:**
- **TNM Classification**

Manchester Classification:

Stage I : lump localized to breast

Stage II : lump + mobile L.N. to same side

Stage III: lump + fixed L.N. to same side or contralateral breast

Stage IV : distant metastasis skin nodules & pea d'Orange

TNM CLASSIFICATION:

T: TUMOR (MAXIMUM DIAMETER OF THE TUMOR)

- **T1** : **2 cm** or less
- **T2** : **2-5** cm
- **T3** : **5-10** cm
  (or 5 cm with infiltration of skin, or
  pea d'orange)
- **T4 < : 10 cm** (any size with infiltration)

TNM Classification (cont.)

N: Lymph Nodes

- **N0:** No palpable nodes
- **N1:** Mobile LN on the same side
- **N2:** Fixed LN together or tissue
- **N3:** Supraclavicular LN enlarged or arm edema

TNM Classification(cont.)

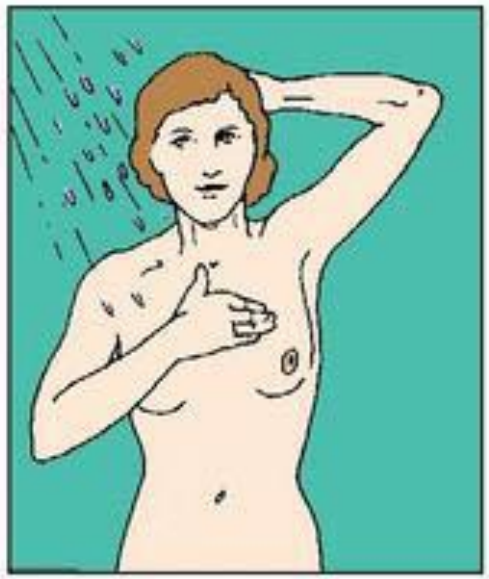
M: Metastasis

M0: no mets

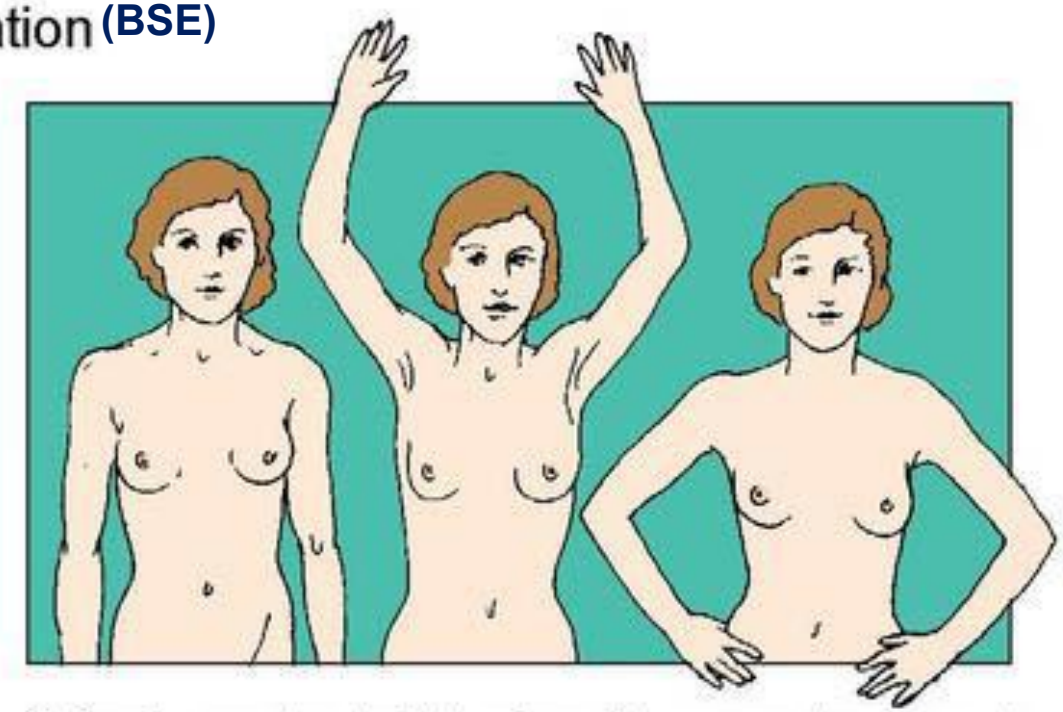
M1: Distant mets with wider skin and opposite breast or other mets.

FINDINGS:

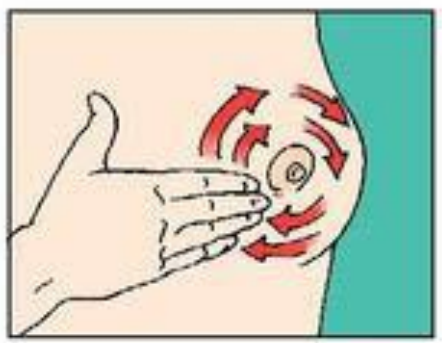
Breast Self-Examination (BSE)



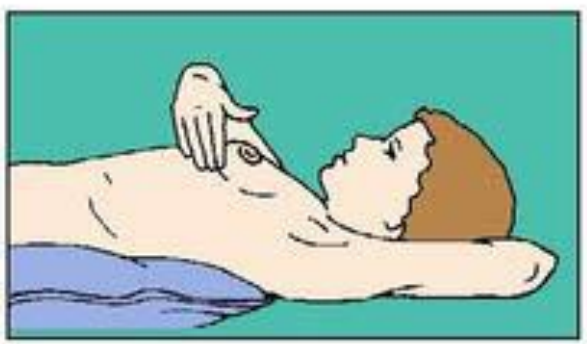
1. Examine your breasts in the shower.



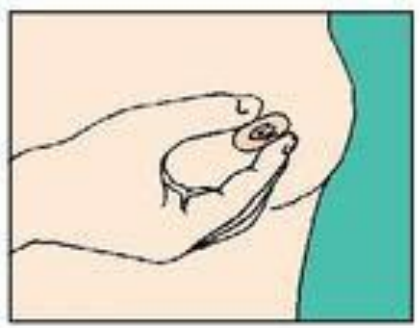
2. Examine your breasts in the mirror with your arms down, up, and on your hips.



3. Stand and press your fingers on your breast, working around the breast in a circular direction.

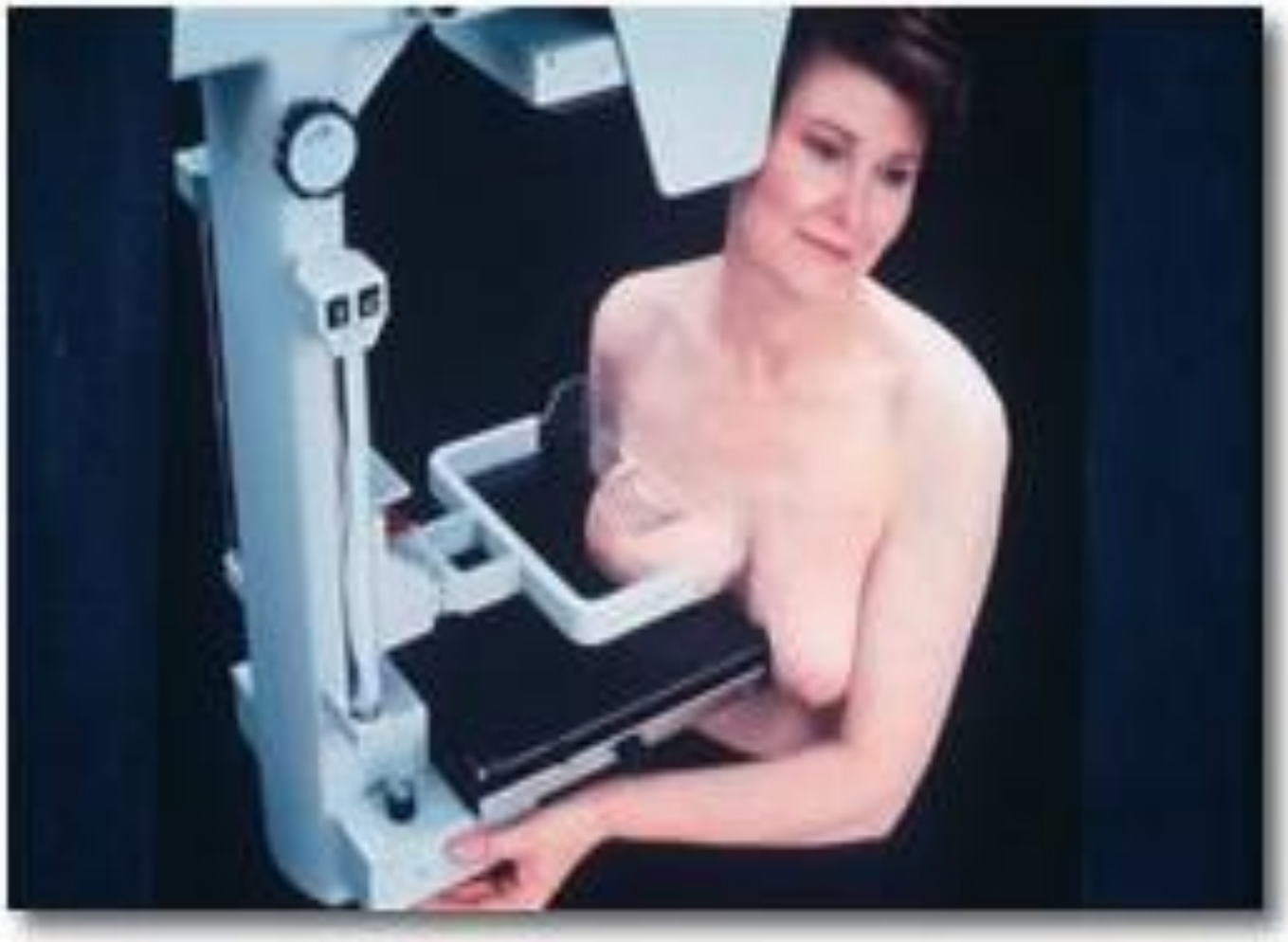


4. Lie down and repeat step 3.



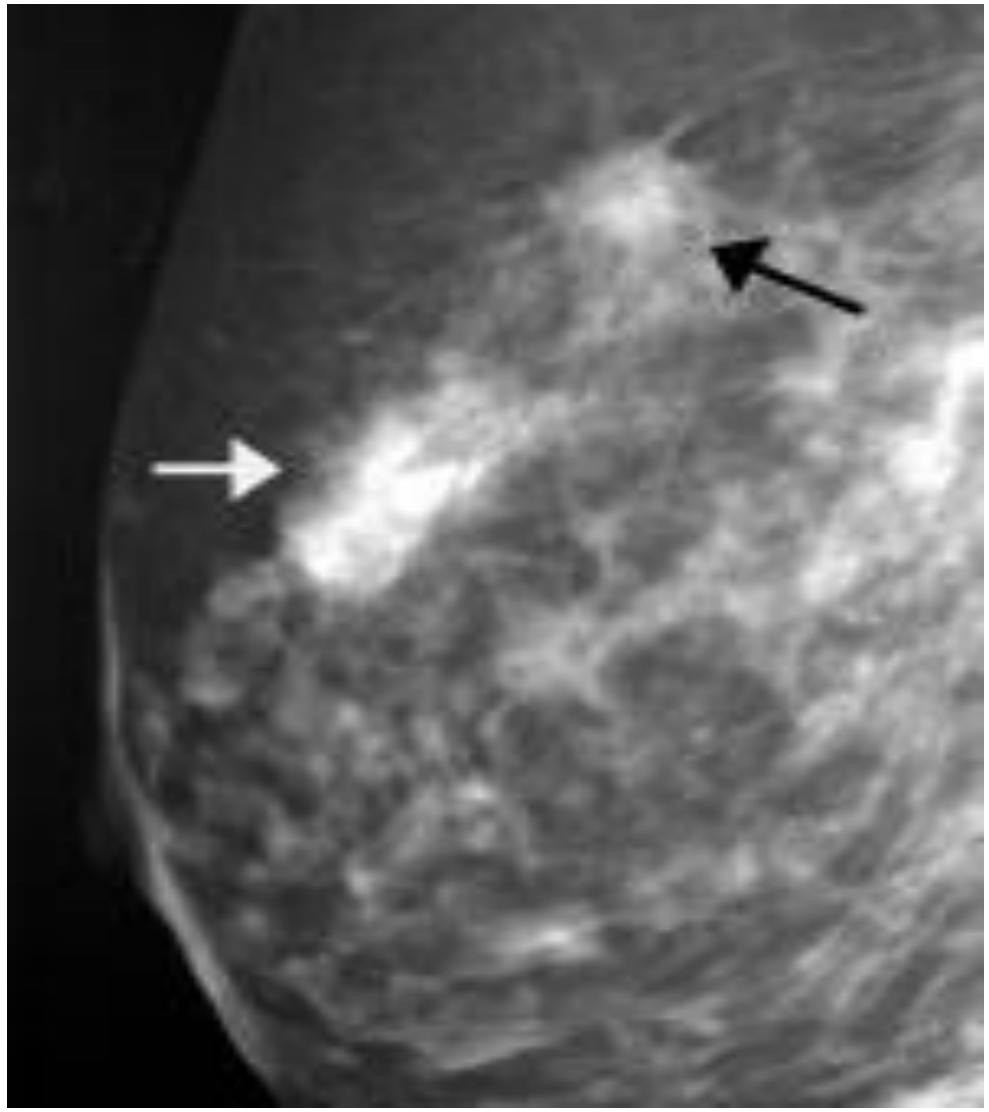
5. Squeeze your nipples to check for discharge. Check under the nipple last.

MAMMOGRAPHY



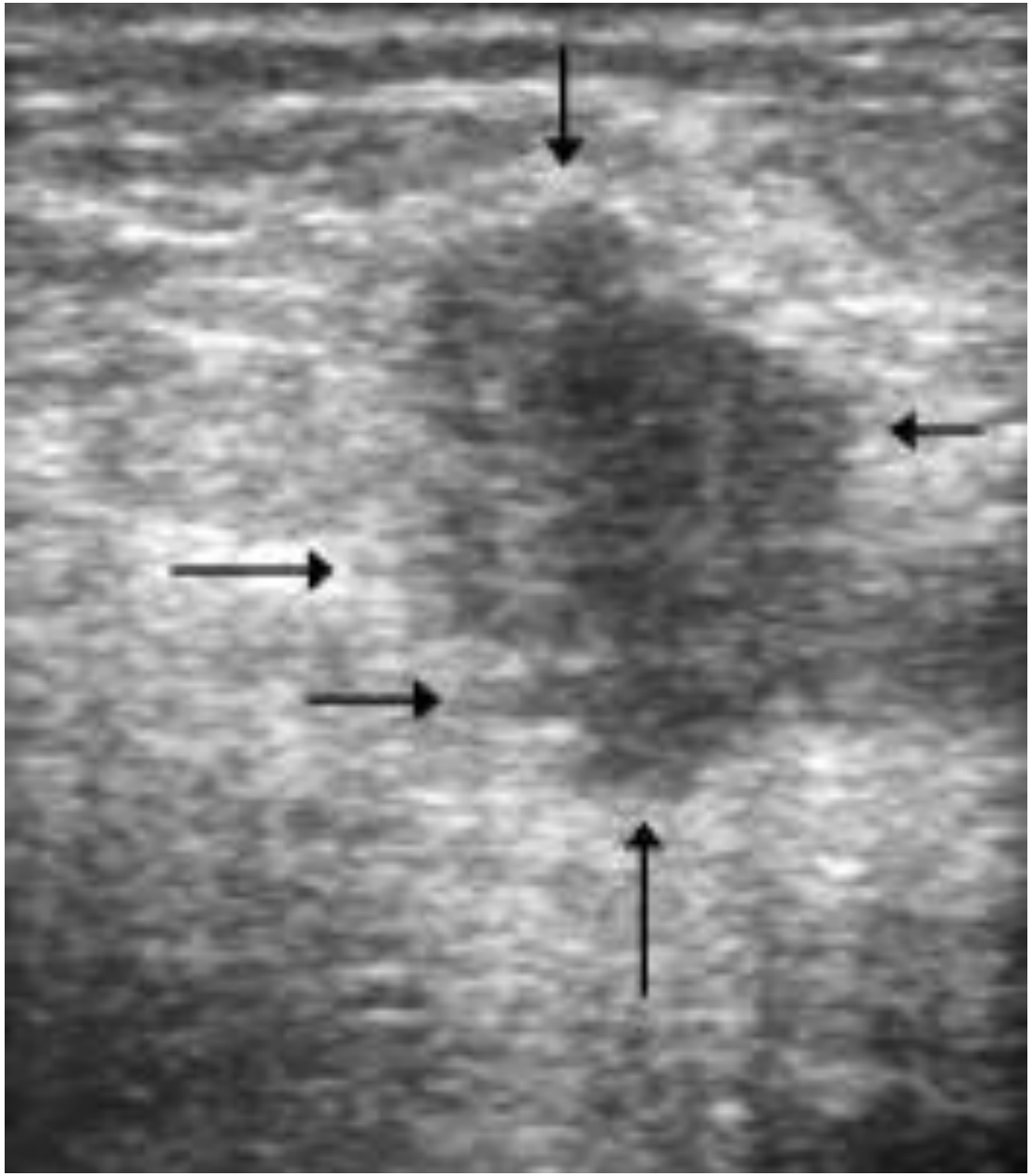
Signs of Malignancy on a mammogram:

- A **spiculated mass** is a common mammographic appearance.
- **Micro calcifications:** 1 mm or less and sand-like calcifications
- **Distortion of architecture** of breast
- **Poorly defined mass or asymmetric density**



Breast, Imaging, Reporting And Data System (BI RADS)

	Category	Management	Likelihood of cancer
0	Needs additional imaging or prior exams	Recall for additional imaging or obtain prior studies	n/a
1	Negative	Routine Screening	Essentially 0
2	Benign	Routine Screening	Essentially 0
3	Probably Benign	Short interval Follow-up (6 months)	0-2%
4	Suspicious for malignancy	Tissue diagnosis	4a. low suspicion for malignancy- 2-10% 4b. moderate suspicion for malignancy 10-50% 4c. high suspicion for malignancy 50-95%
5	Highly Suspicious for malignancy	Tissue diagnosis	>95%
6	Biopsy proven malignancy	Surgical excision when clinically appropriate	n/a



TRIPLE ASSESSMENT OF BREAST DISEASE:

- Clinical Assessment
- Imaging Technique Assessment
- Cytological/Histopathology Assessment

NB: Significance of Tumor Markers Assay in Ca Breast: - CEA
- CA 15-3

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