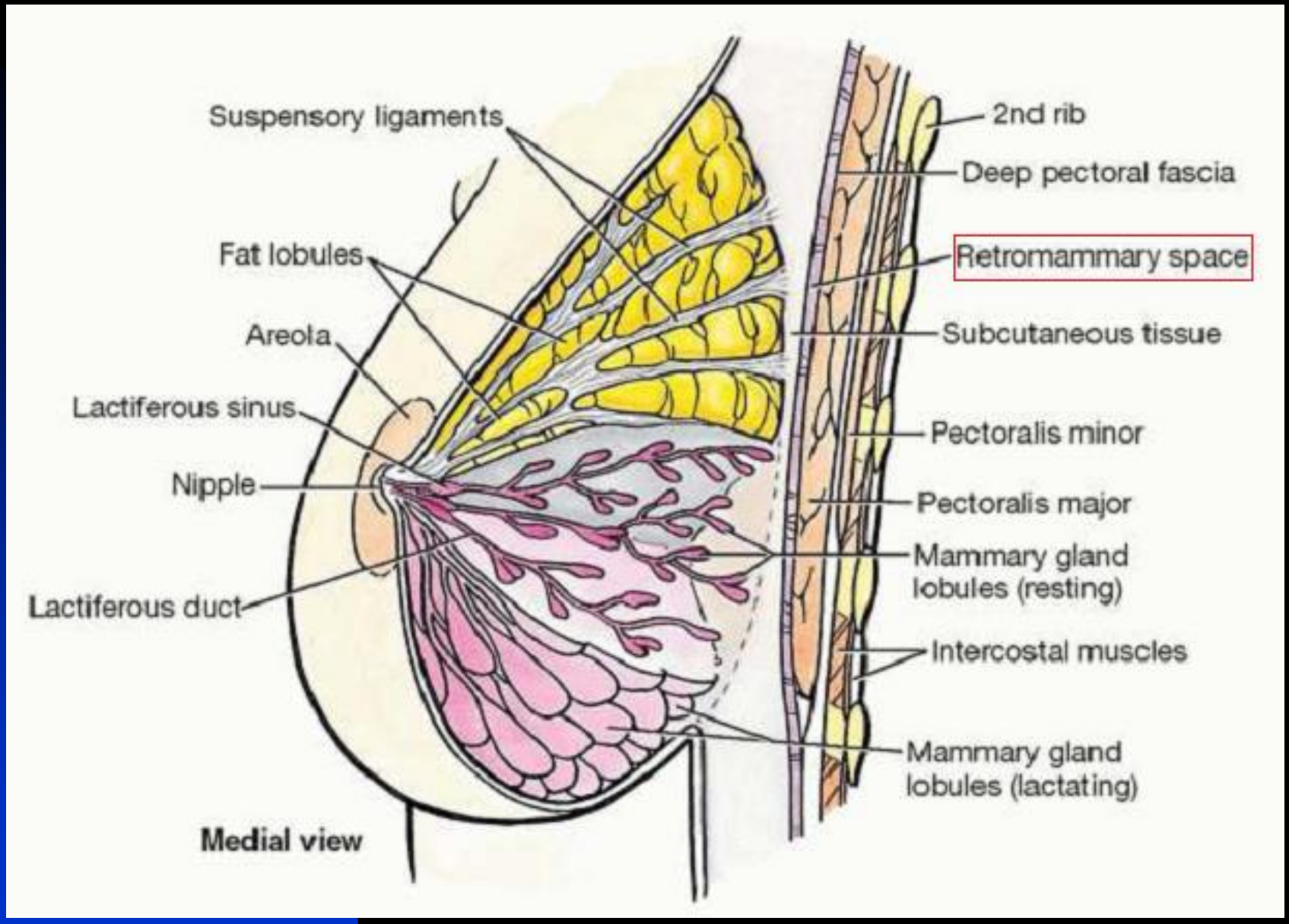
Breast examination

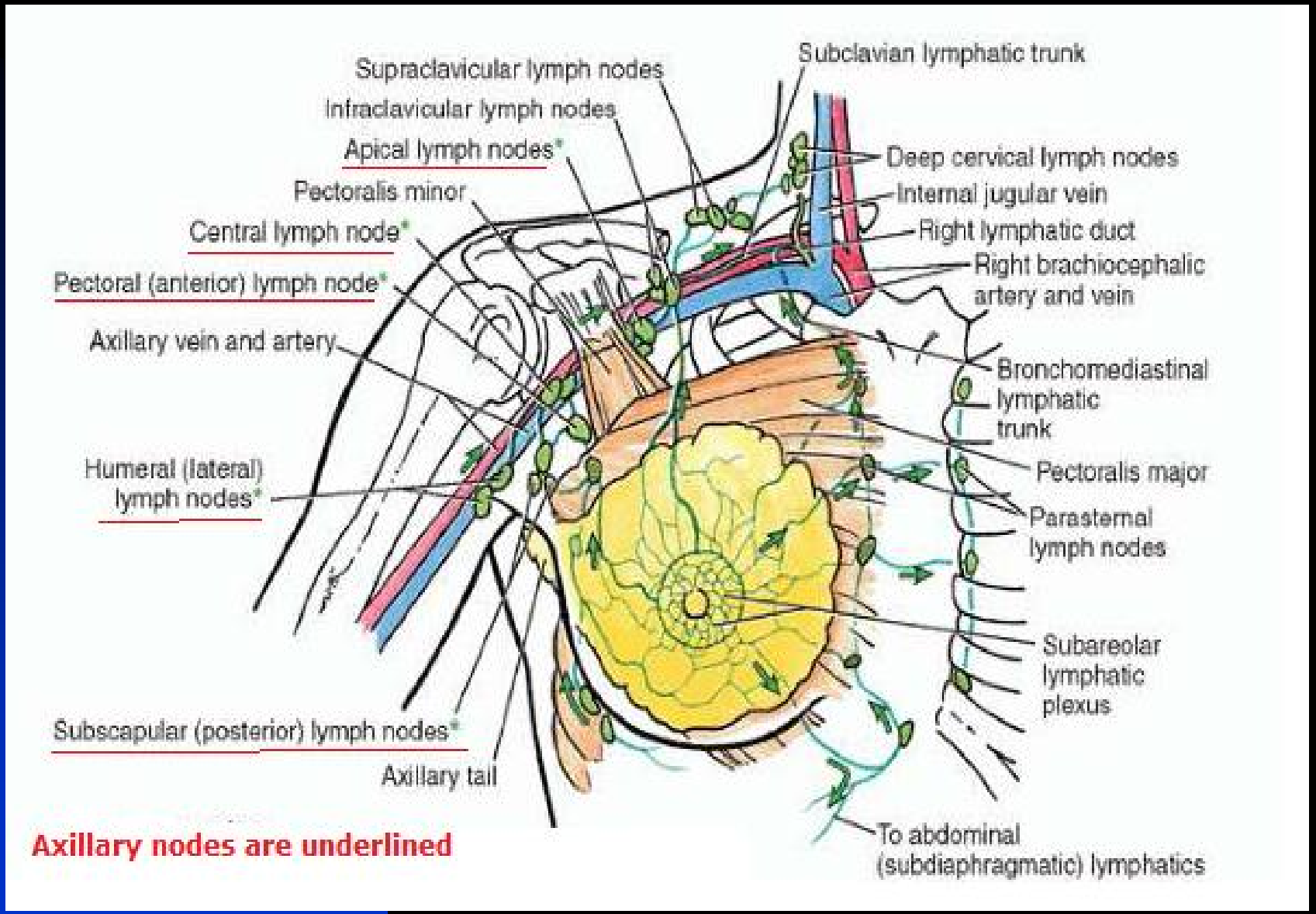
Dr Irfan Ahmad
Resident, Radiation Oncology

- *The major parts to be examined are:*
  - *Breasts*
  - *Nipples*
  - *Areolae*
  - *Arms & Thorax*
  - *Axillae & Supraclavicular fossae*

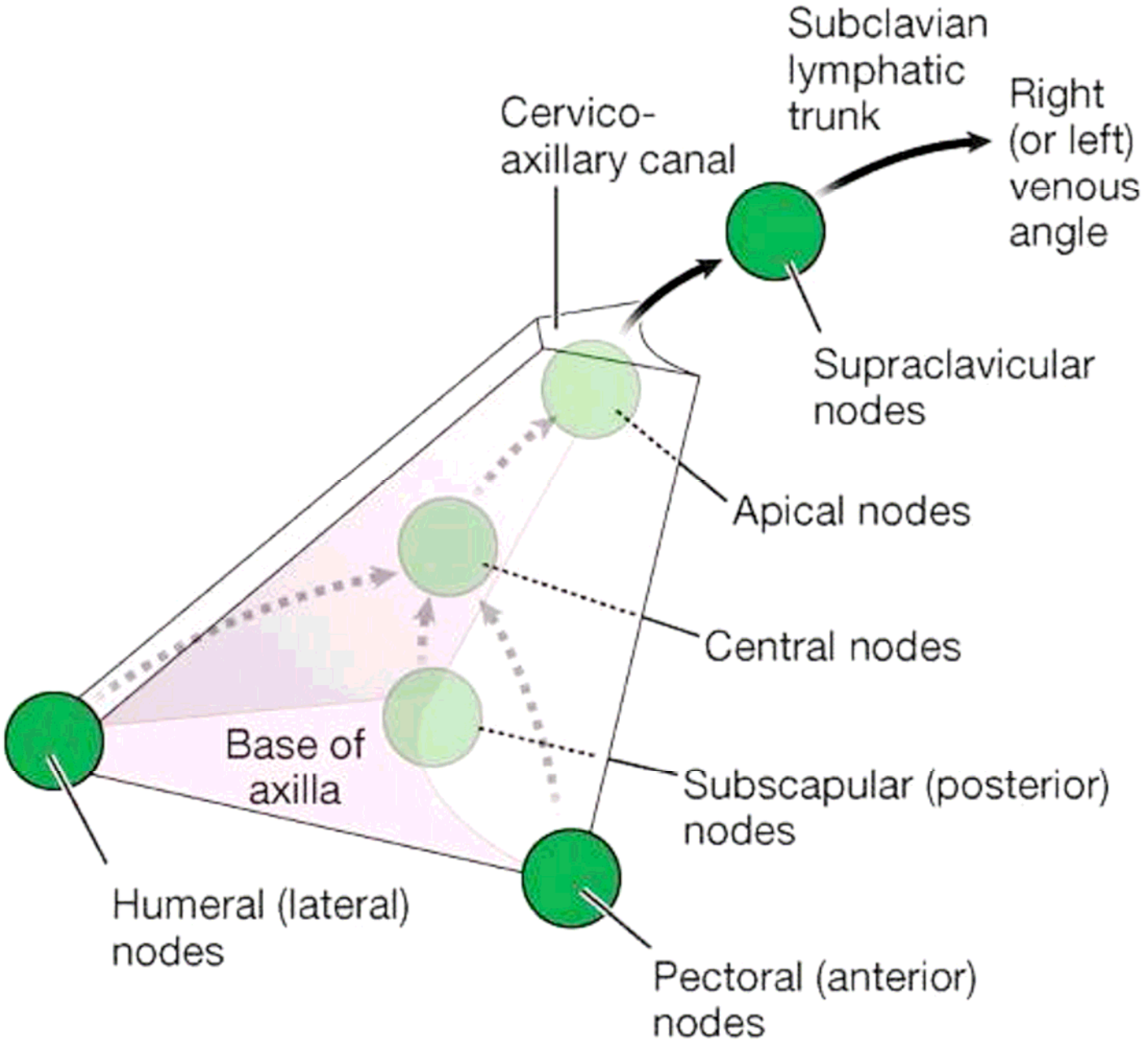
Anatomical perspective

- *Modified sweat glands without any special sheath or capsule.*
- *The appearance and content(fat vs glandular enlargement) varies with age as well as racial, genetic and dietary factors.*
- *Has rich lymphatic network and malignancies usually spread via lymphatics, although venous spread may occur directly(via azygous system l/t spinal/brain mets) or following lymphatic spread.*
- *Lymphatic drainage is structured(c/f pelvic nodes)*


Suspensory ligaments
Fat lobules
Areola
Lactiferous sinus
Nipple
Lactiferous duct
Medial view
2nd rib
Deep pectoral fascia
Retromammary space
Subcutaneous tissue
Pectoralis minor
Pectoralis major
Mammary gland lobules (resting)
Intercostal muscles
Mammary gland lobules (lactating)

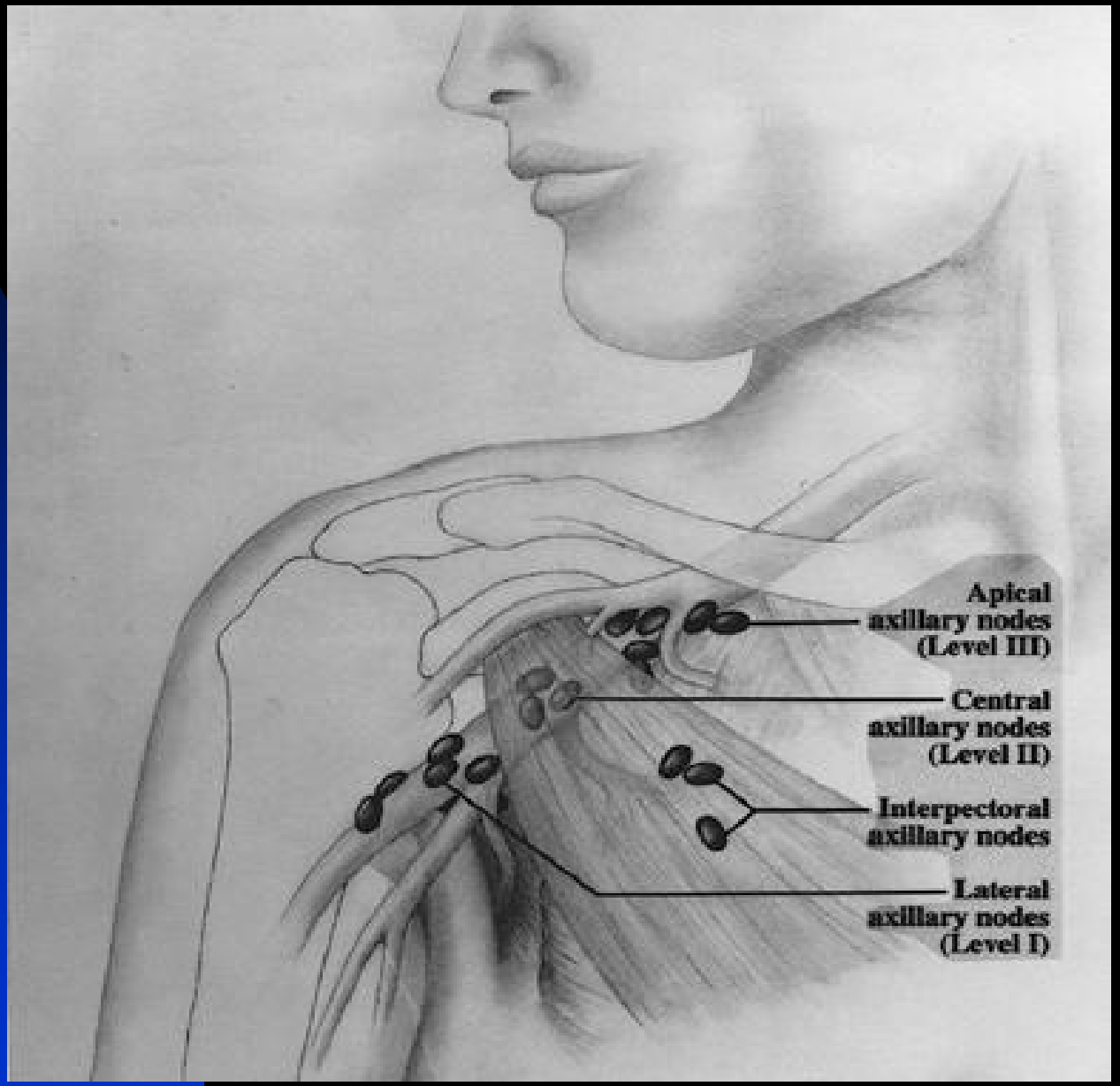


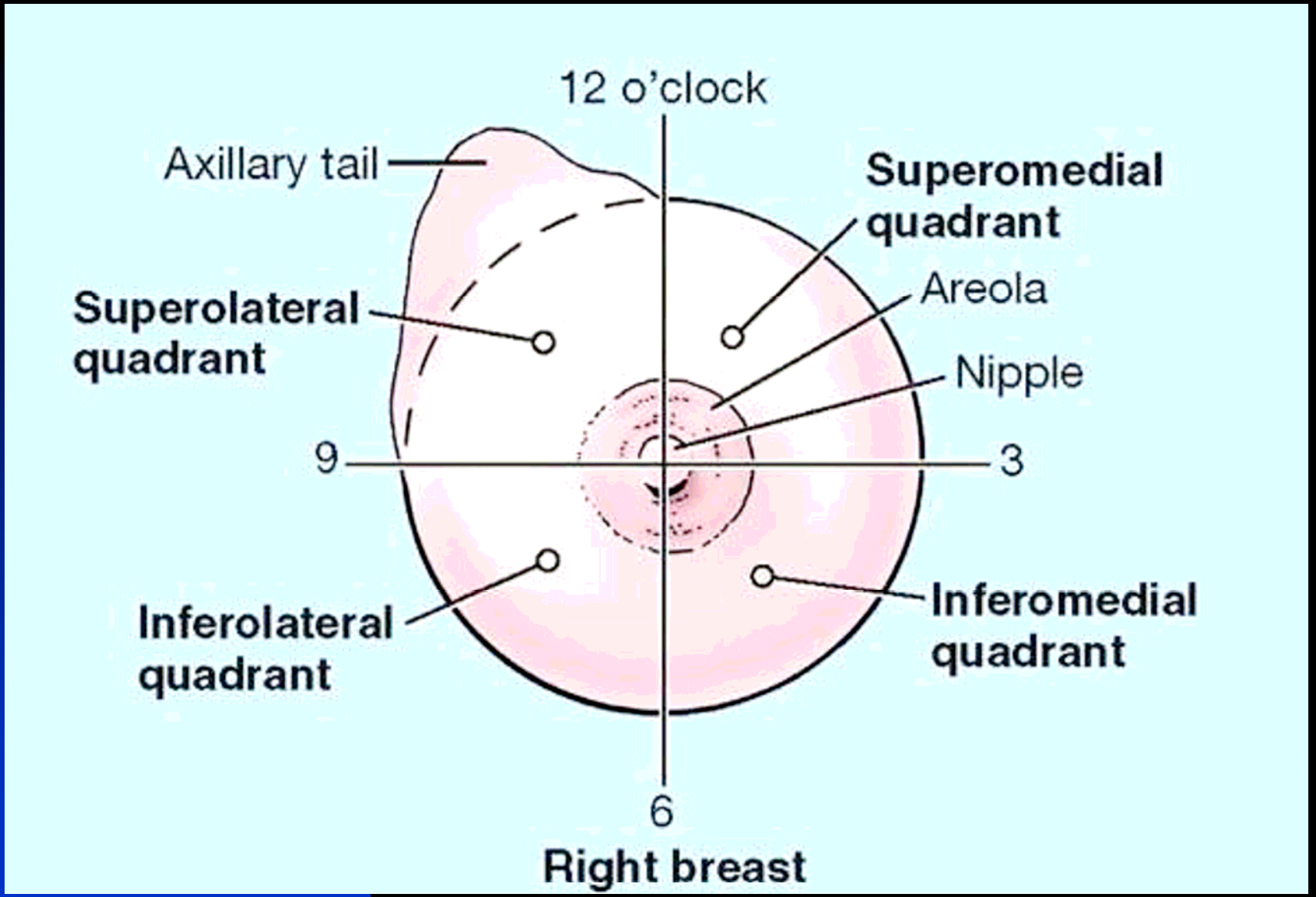
Axillary nodes are underlined

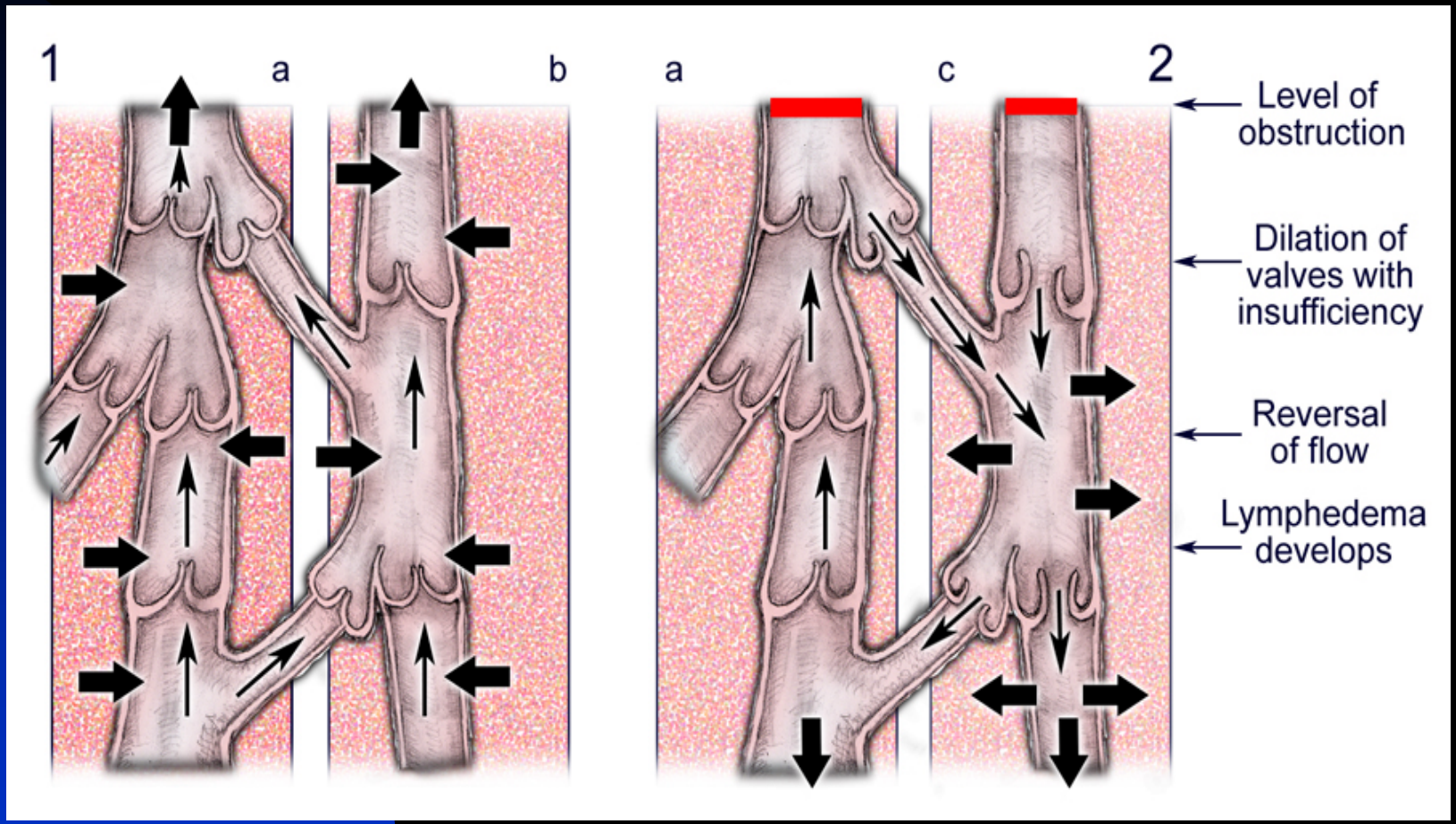

Subclavian lymphatic trunk
Right (or left) venous angle
Cervico-axillary canal
Supraclavicular nodes
Apical nodes
Central nodes
Base of axilla
Subscapular (posterior) nodes
Humeral (lateral) nodes
Pectoral (anterior) nodes

Axillary node levels

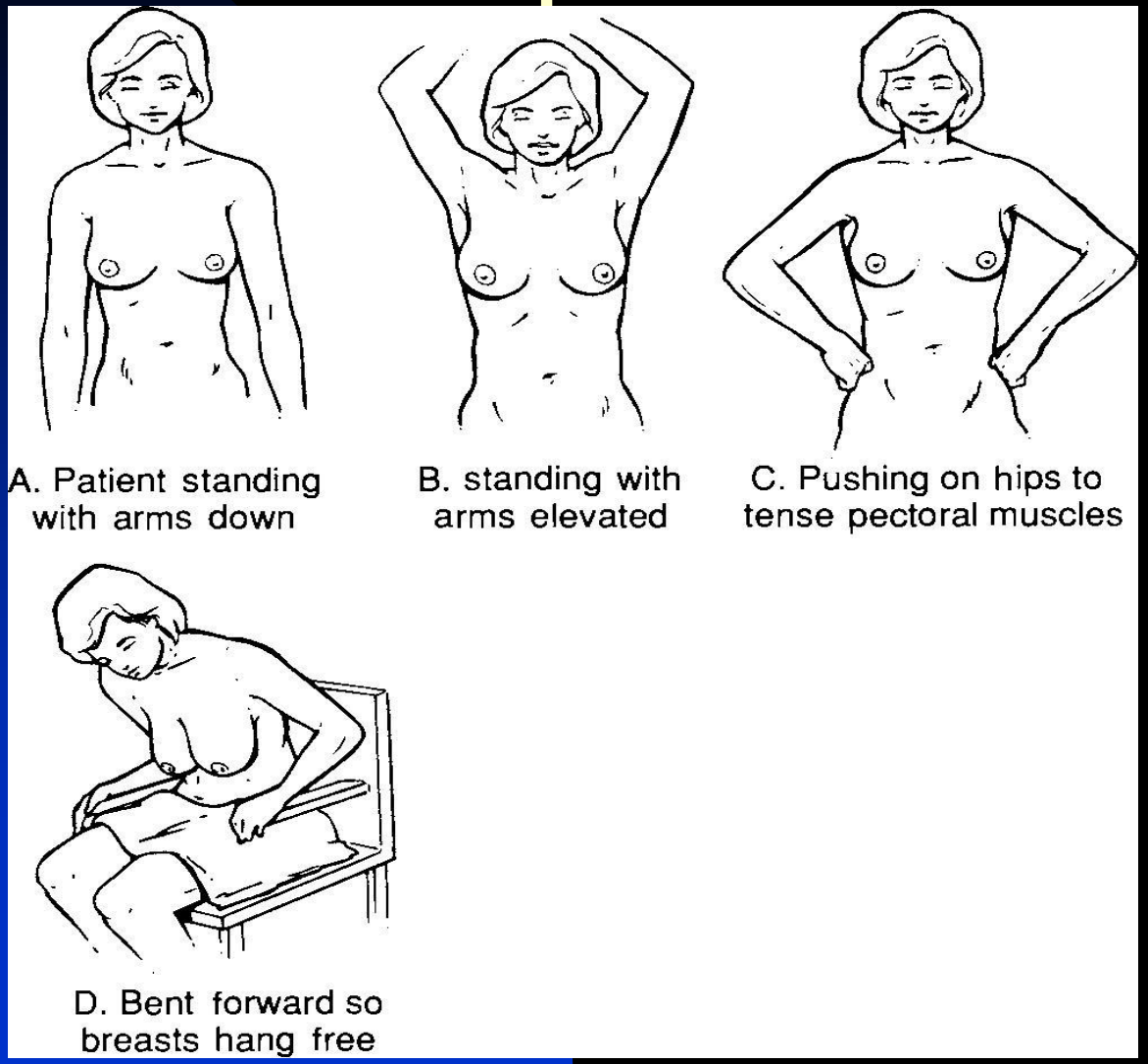
- *Based on the relationship of the lymph node regions to the pectoralis minor muscle.*
- *The level I axilla is caudal and lateral to the muscle.*
- *The level II axilla is beneath the muscle.*
- *The level III (also known as the infraclavicular region) is cranial and medial to the muscle.*


Apical
axillary nodes
(Level III)
Central
axillary nodes
(Level II)
Interpectoral
axillary nodes
Lateral
axillary nodes
(Level I)


12 o'clock
Axillary tail
Superomedial quadrant
Areola
Superolateral quadrant
Nipple
9
3
Inferolateral quadrant
Inferomedial quadrant
6
Right breast


1
a
b
a
c
2
Level of obstruction
Dilation of valves with insufficiency
Reversal of flow
Lymphedema develops

Inspection of the breast



- *Position/ Level*
- *Size & Shape*
- *Surface*
- *Color*
- *Texture*
- *Dimple/ puckering/ retraction/ PD'O*
- *Nodules or Ulcer*

Inspection of the nipple

- *Presence*
- *Number*
- *Position(distance from clavicle + midline)*
- *Size & shape*
- *Surface*
- *Discharge*

Inspection of Areola, Arm+Thorax & Axilla+Supraclavicular fossa.

Areola

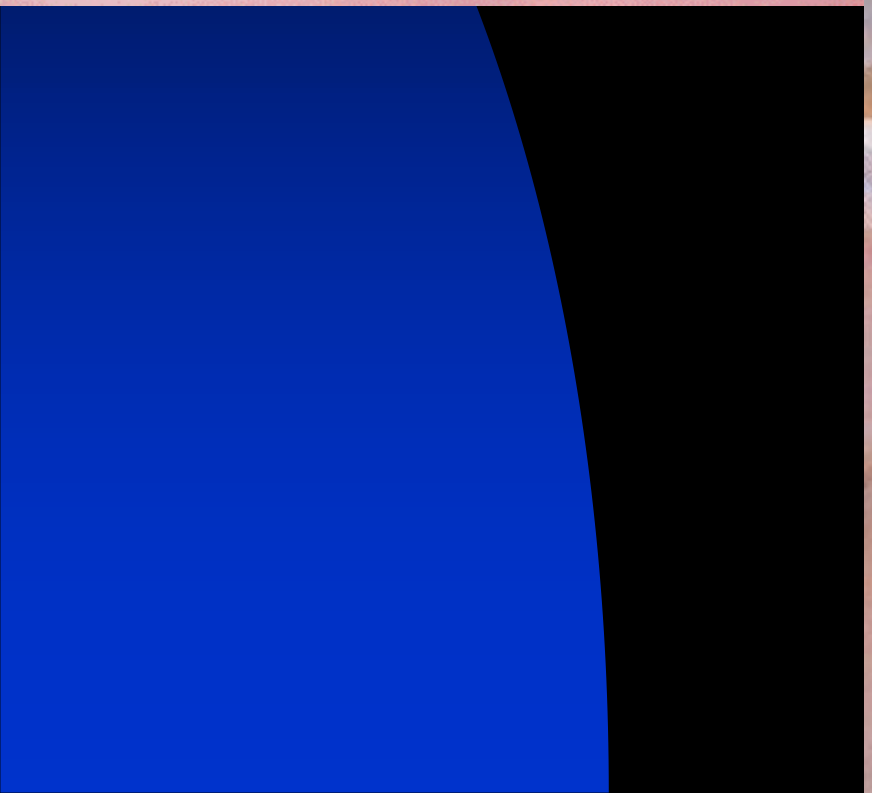
- *Color*
- *Size*
- *Surface & texture*

Arm & Thorax

- *Edema/ Infiltration(Cancer en cuirasse/ Brawny induration)*

Axilla & Supraclavicular fossa

- *Swelling*



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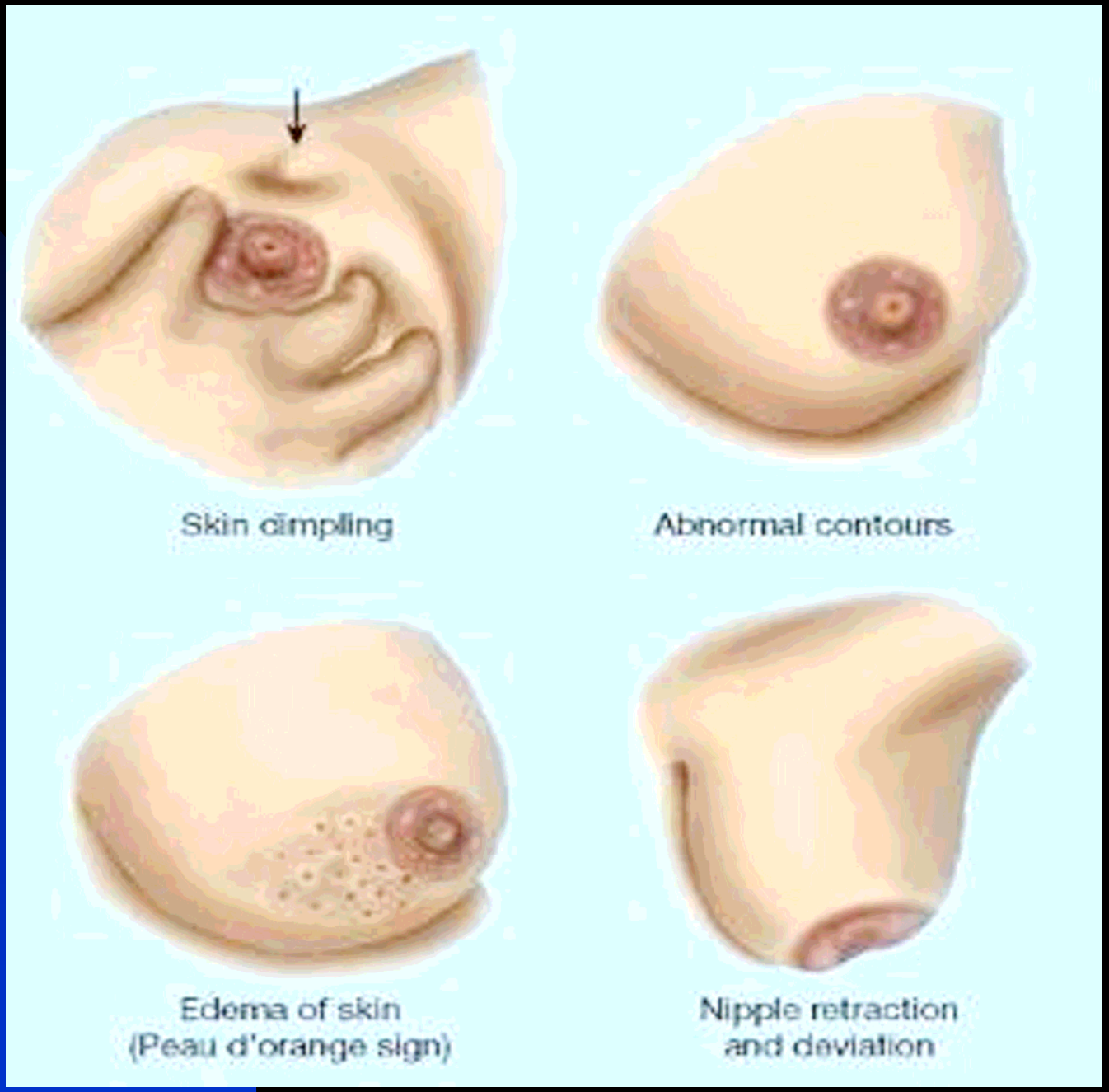
Palpation of the Breast

- *3 positions:*
  - *Sitting*
  - *Semi-recumbent*
  - *Supine(Lateral & Medial part)*
- *3 levels of pressure:*
  - *Light*
  - *Medium*
  - *Firm*
- *4 quadrants + Axillary tail(of Spence) + Nipple*
- *Test for discharge from nipple*
- *Examine Normal breast f/b Abnormal breast*

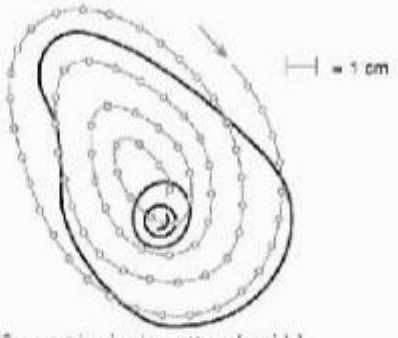
- *Palpation of Breast Lump*
  - *Temperature/ Tenderness*
  - *Quadrant/ Size/ Shape/ Surface/ Number/ Margin/ Consistency*
  - *Fluctuation(tested from behind)*
  - *Fixation to:*
    - *overlying skin (tethered vs fixed)*
    - *underlying structures (Inspection + Palpation)*
    - *within the breast*
    - *Chest wall(immovable)*


Skin dimpling
Abnormal contours
Edema of skin
(Peau d'orange sign)
Nipple retraction
and deviation

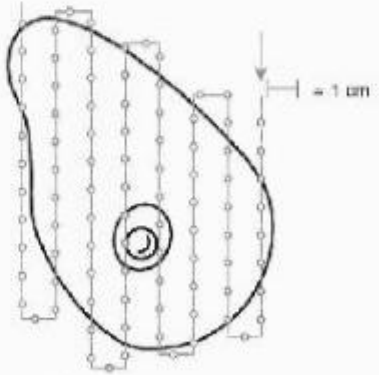
A

B

D

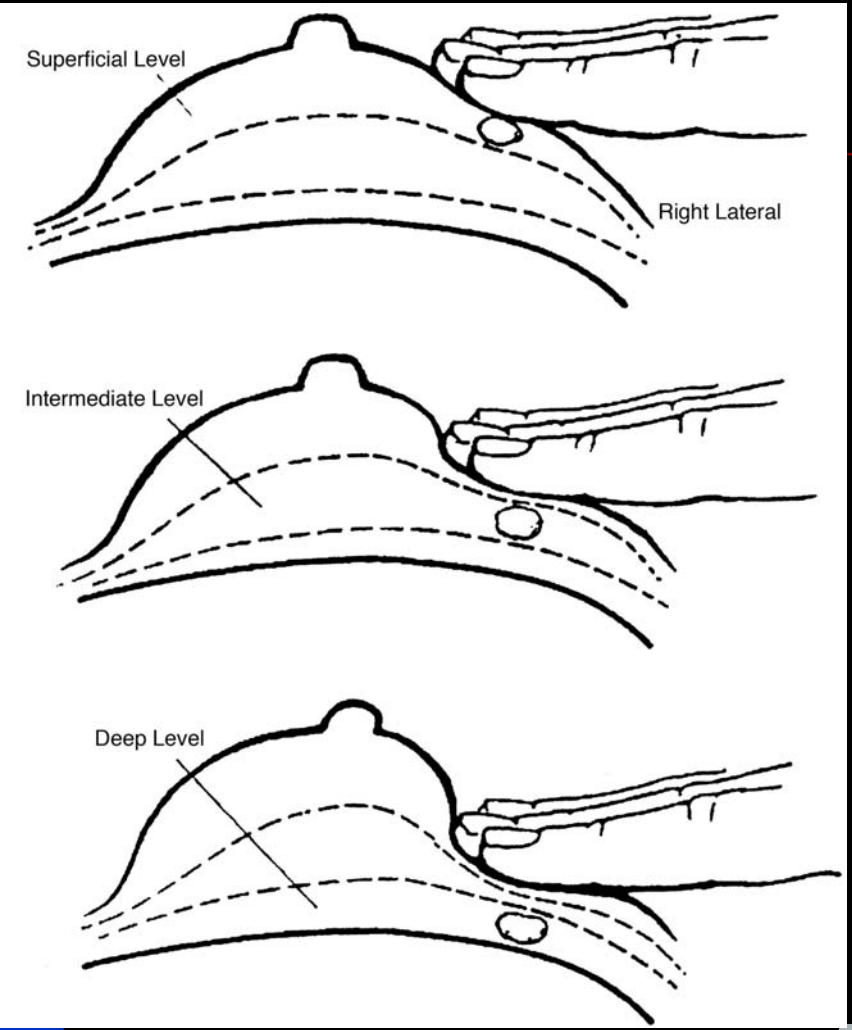


E Concentric circular pattern (ovoids)



F Vertical strips

3 Levels of Pressure for Palpation of Breast Tissue Shown in a Cross-sectional View of the Right Breast



From Saslow, D. et al.
CA Cancer J Clin 2004;54:327-344.

CA
A Cancer Journal for Clinicians

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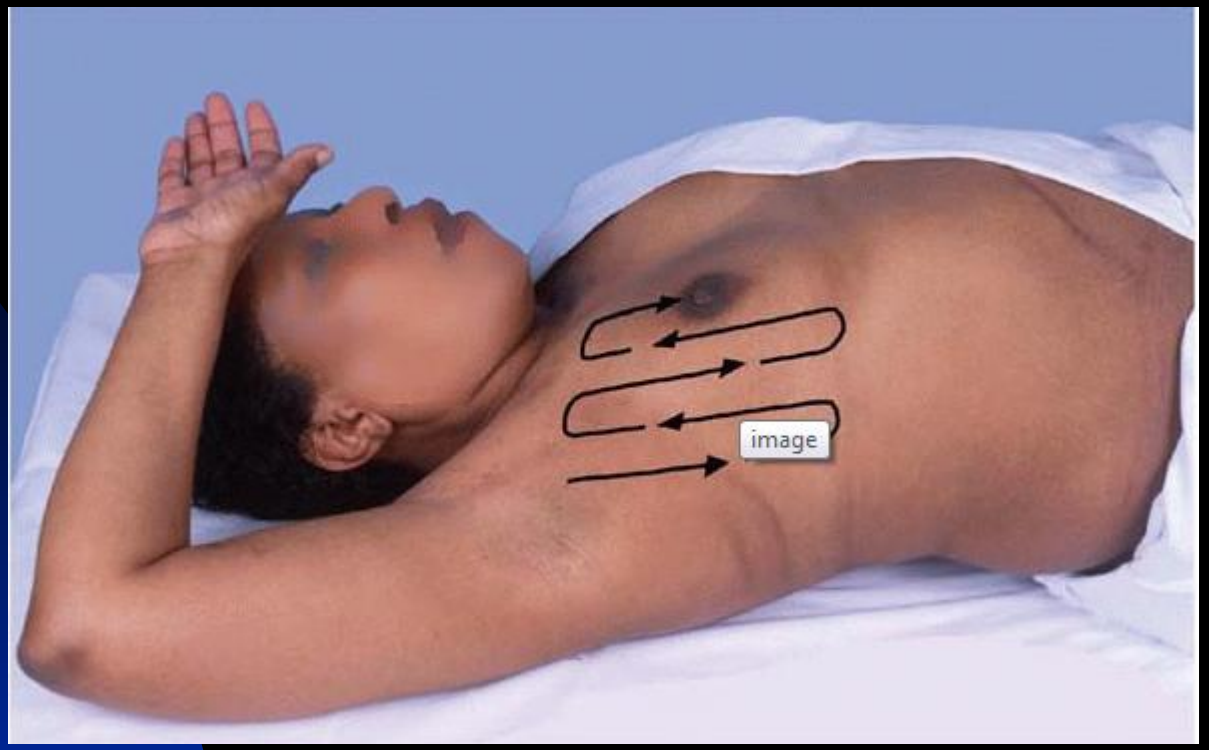
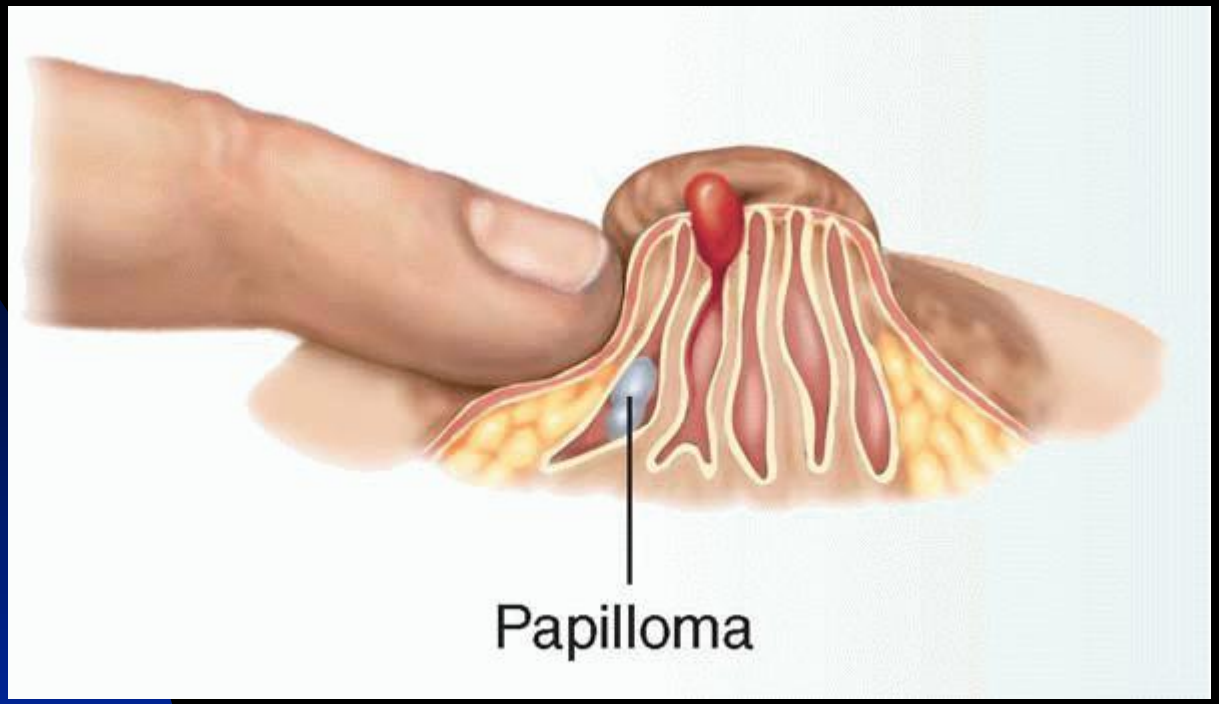


Position patient onto the opposite hip, placing her hand on her forehead but keeping the shoulders pressed against the examining table.

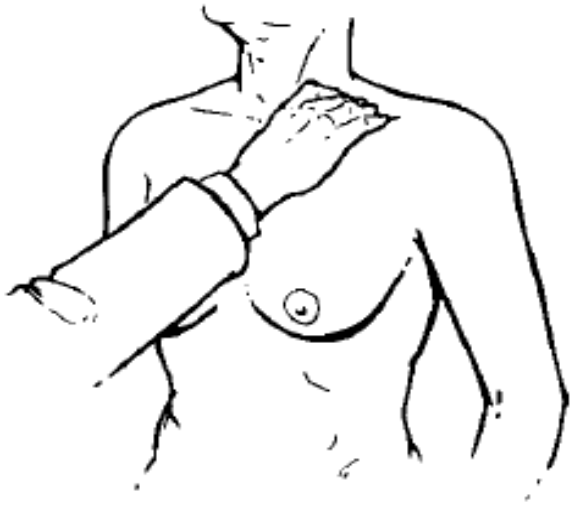
Position the patient with her shoulders flat against the examining table, placing her hand at her neck and lifting up her elbow until it is even with her shoulder.



- *Eliciting nipple discharge:*
  - *Done by compressing the areola in radial positions around the nipple.*
  - *Note color(Bloody vs Serous/Clear/Green/Black), consistency, amount and location*
  - *Whether from one or two ducts vs multiductal*

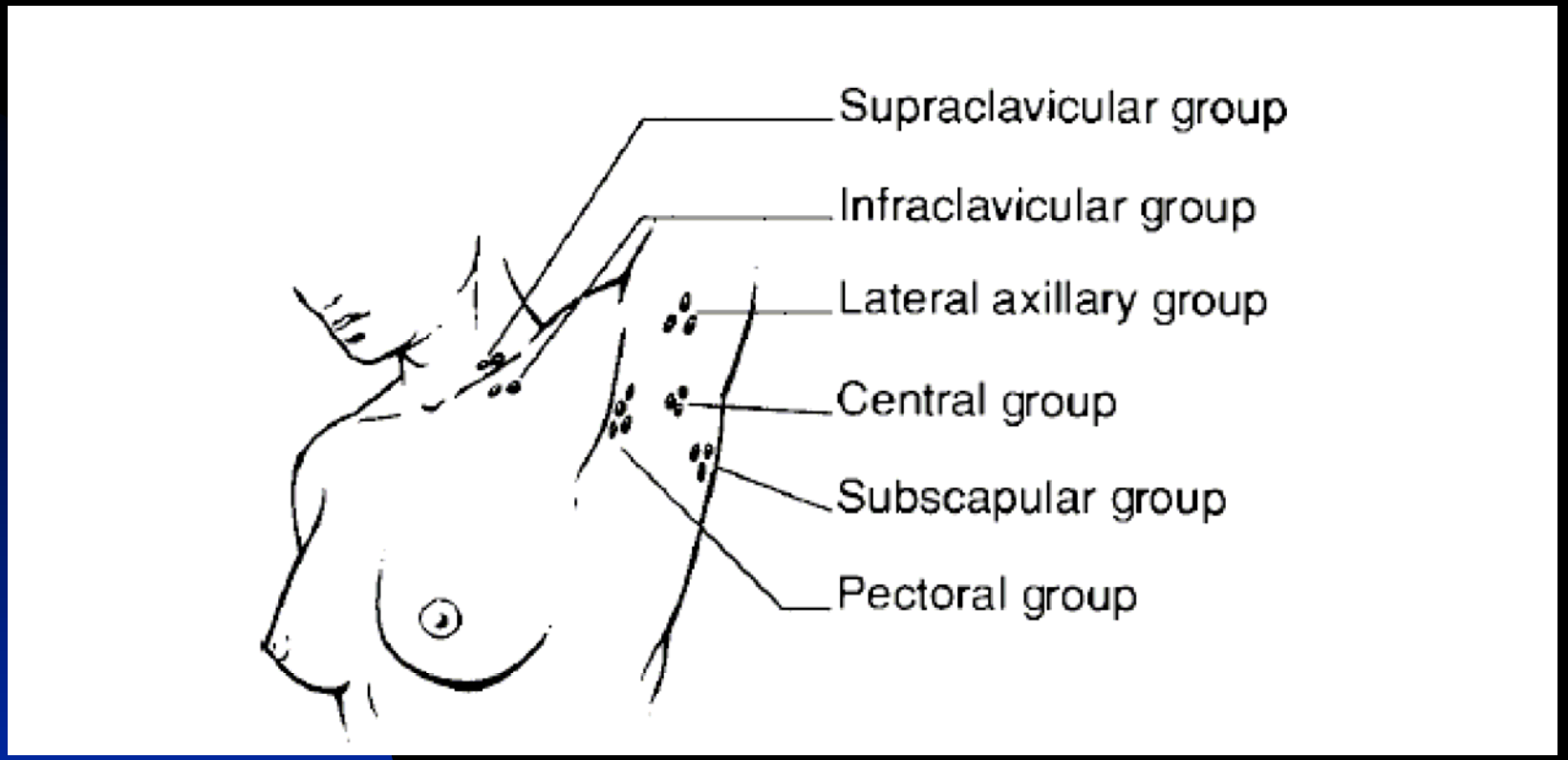
Palpation of Axillary & Supraclavicular nodes

A. Search for axillary nodes



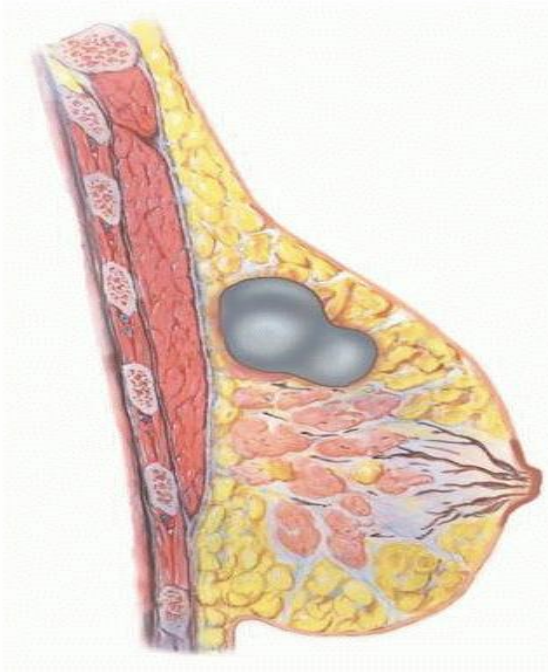
B. Search for supraclavicular nodes

Fig. 5–2 ***Palpation of Axillary and Supraclavicular Lymph Nodes. A.*** *Axilla: In palpation of the left axilla, the examiner slides his right hand toward the axillary apex, with palm toward the chest wall and approximated fingers extended so the pulps feel the structures on the thoracic cage. With his left hand, he directs the patient's upper arm close to the chest to relax the axillary muscles. He asks the patient to rest her arm on his examining arm and he supports her shoulder with his left hand. The positions are reversed to examine the right side.* ***B.*** *Supraclavicular Fossa.*

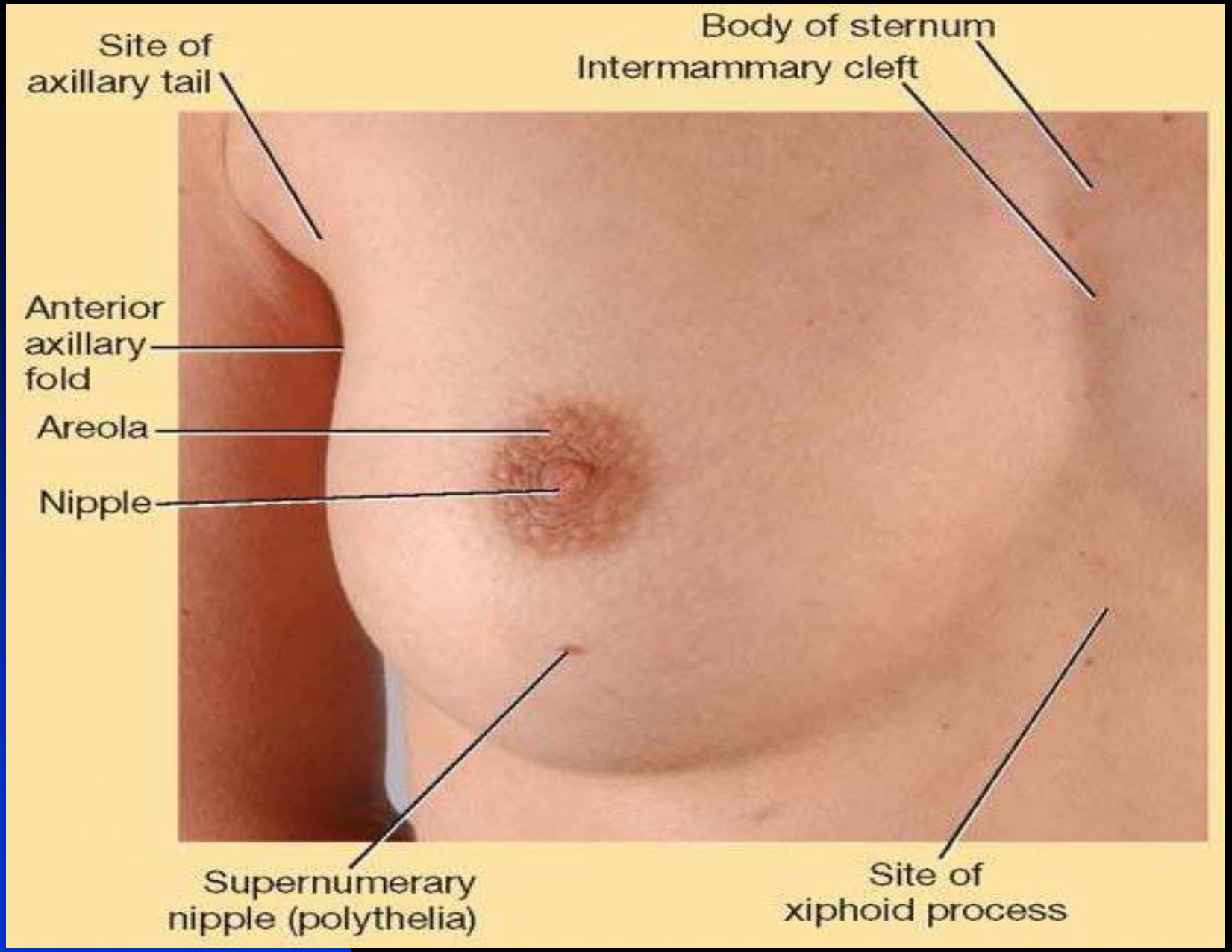


With arms Elevated/Neutral:

1. *Feel underneath P. Major for Anterior(Pectoral) group*
2. *Feel along humerus for Lateral(Humeral) group*
3. *Feel along Ant edge of Lat. Dorsi for Posterior(Subscapular) group*

Fibroadenoma	Cysts	Cancer
		
Usual Age	15-25, usually puberty and young adulthood, but up to age 55	30-50, regress after menopause except with estrogen therapy	30-90, most common over age 50
Number	Usually single, may be multiple	Single or multiple	Usually single, although may coexist with other nodules
Shape	Round, disclike, or lobular	Round	Irregular or stellate
Consistency	May be soft, usually firm	Soft to firm, usually elastic	Firm or hard
Delimitation	Well delineated	Well delineated	Not clearly delineated from surrounding tissues
Mobility	Very mobile	Mobile	May be fixed to skin or underlying tissues
Tenderness	Usually nontender	Often tender	Usually nontender
Retraction Signs	Absent	Absent	May be present

Thank you


Site of axillary tail
Body of sternum
Intermammary cleft
Anterior axillary fold
Areola
Nipple
Supernumerary nipple (polythelia)
Site of xiphoid process