Points in The Breast Cancer Diagnosis

By:

Farzad Vaghef Davari M.D.

Associate Professor of Surgery

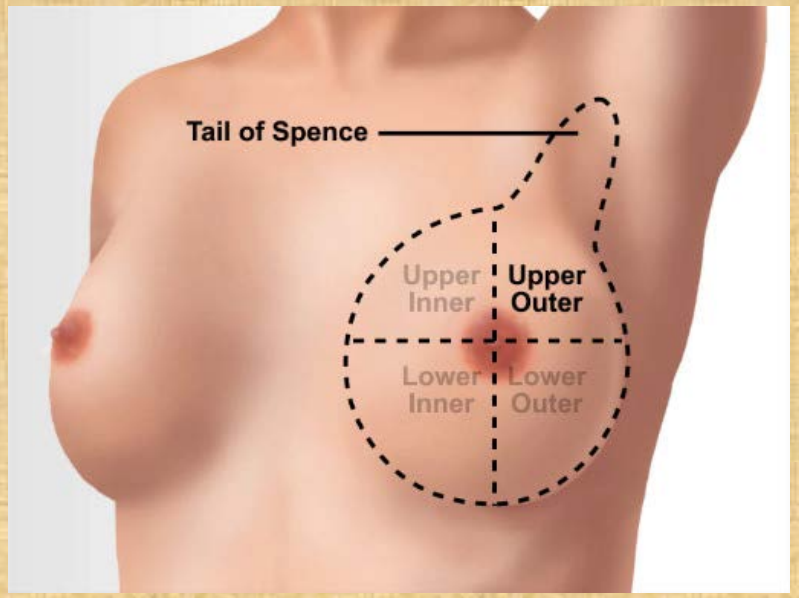
Fellowship of Surgical Oncology

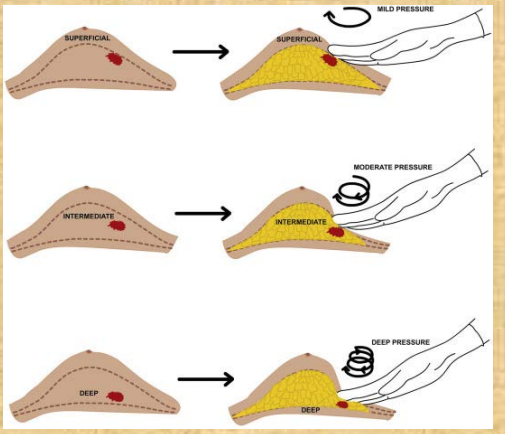
Symptoms:

- ***Change in the general appearance of the breast(Size-Symmetry)***
- ***New or persistent skin changes***
- ***Ne nipple inversion***
- ***Nipple discharge***
- ***Breast Pain***
- ***Breast Mass (Duration-Wax and Wanes)***

Signs:

- ***Breast Examination:***
- ***Total breast from clavicle to the lower ribs and axillary***
- ***Clock system***
- ***Timing of exam is the menstrual cycle is important but not determinant***
- ***Documentation of examinations***





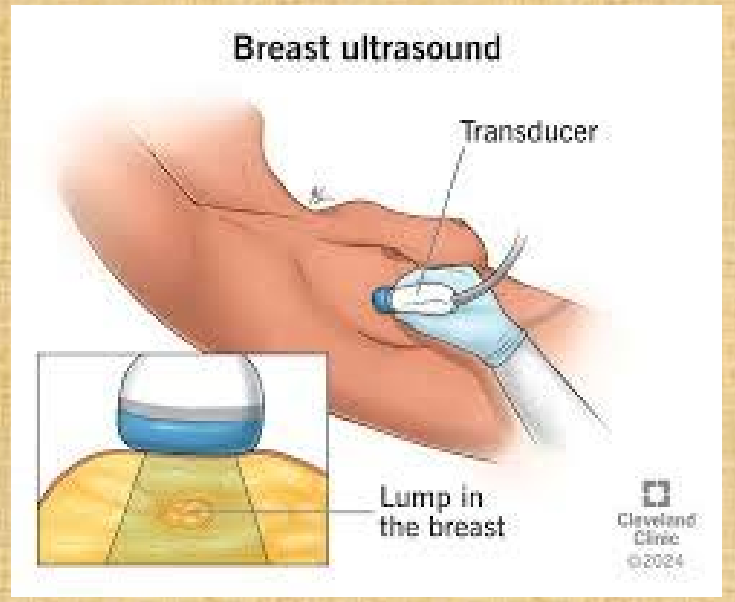
Palpable Mass:

A: Younger than 30

- ***Start with US***

B: 30-39 Years

- ***Start with mammography or US***



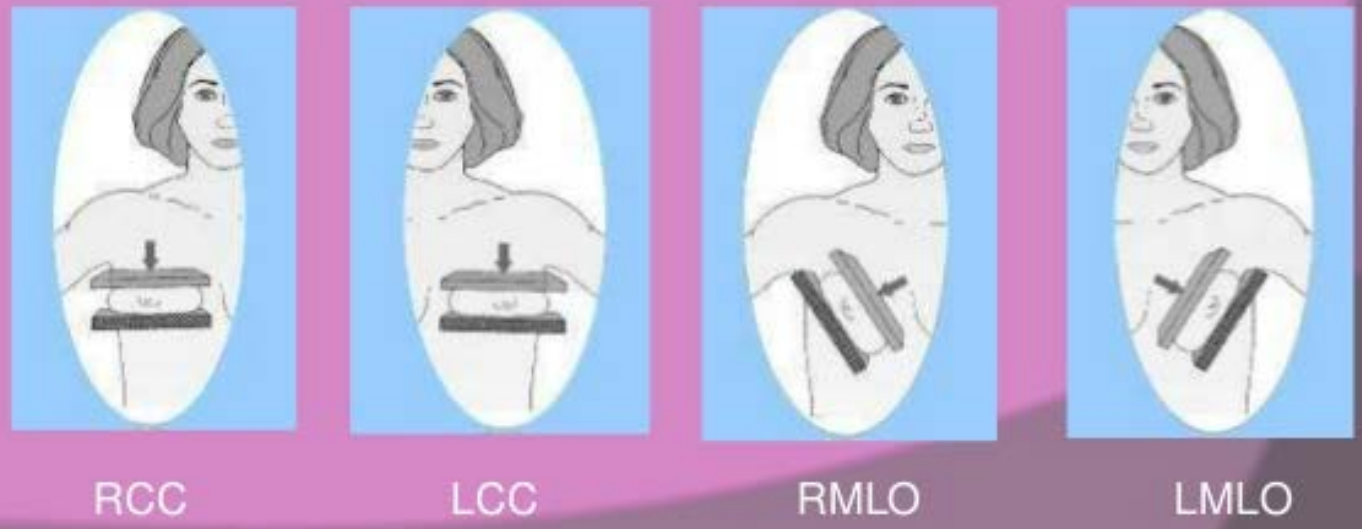
C: 40 Years or Older:

- ***Start with mammography***

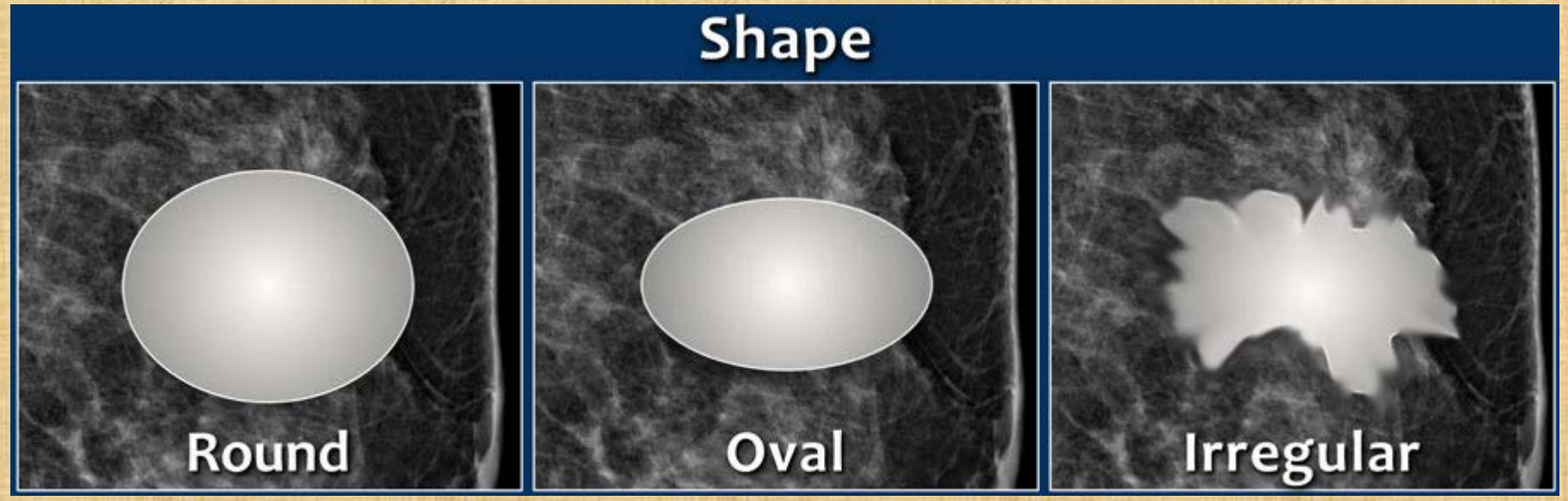
Mammographic views

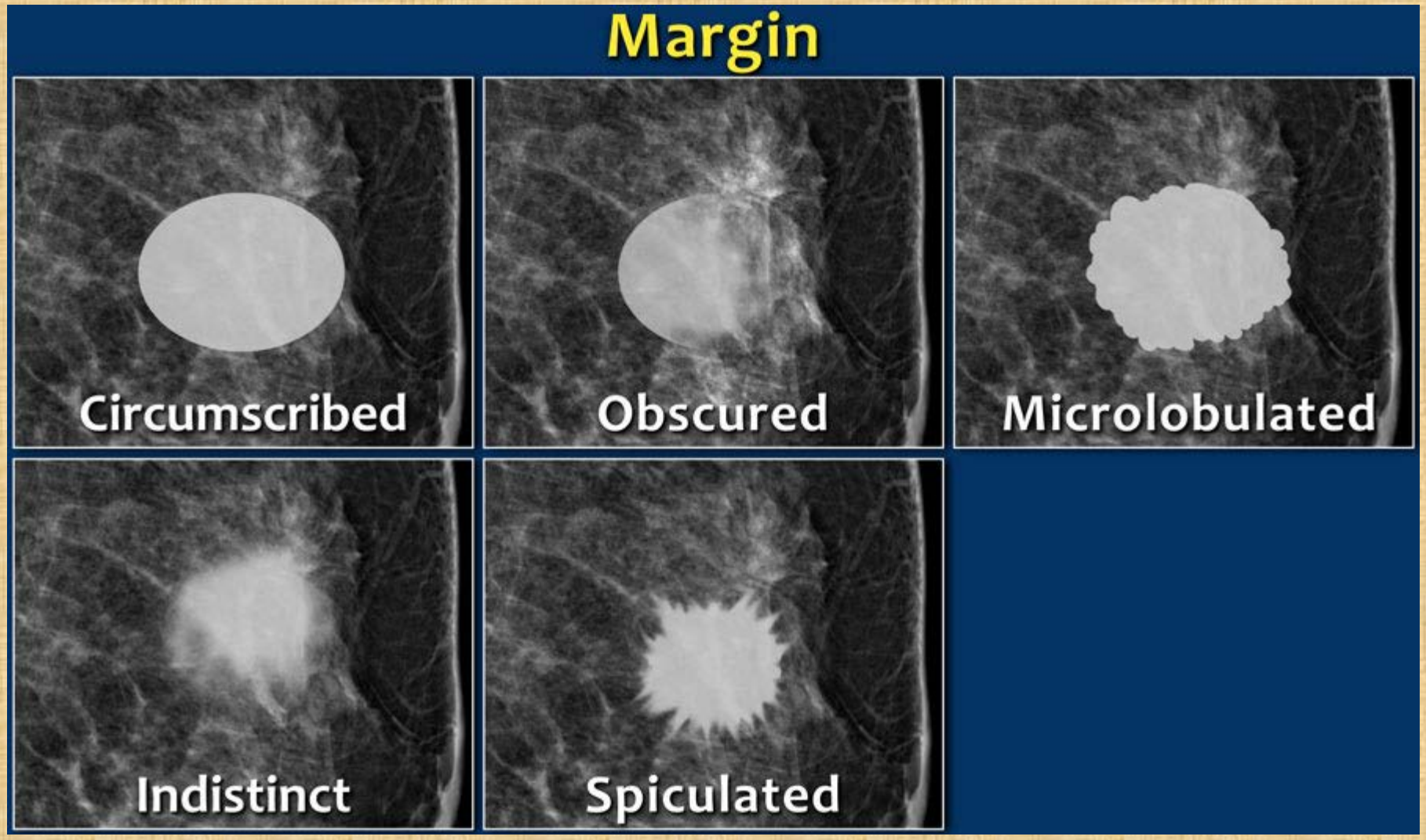
Standard views:

- Craniocaudal view (CC view)
- 45* Medio lateral Oblique (MLO view)/ Lundgren's view

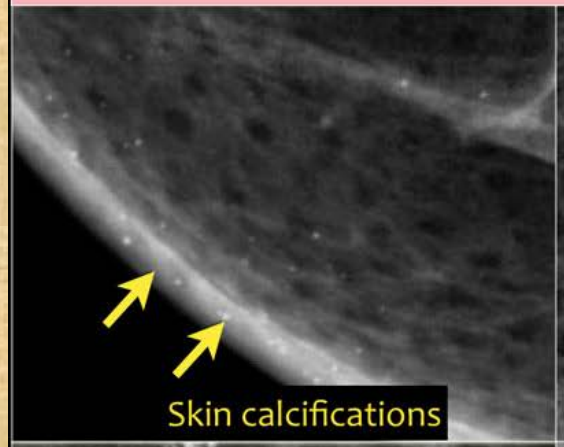


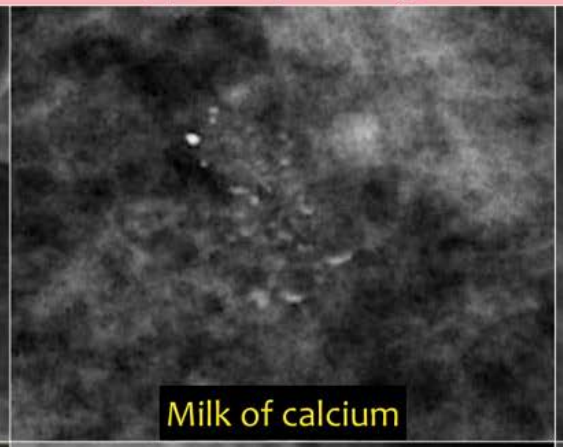
RCC LCC RMLO LMLO

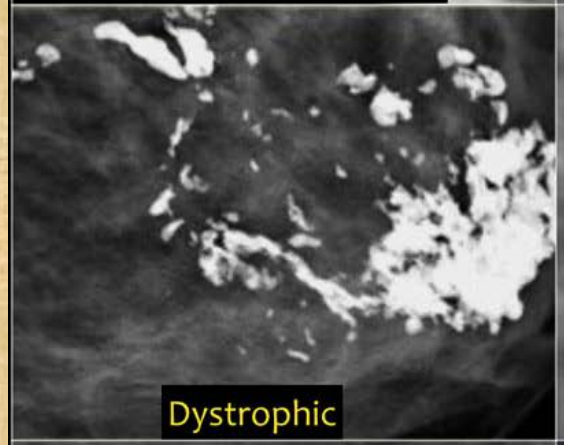

Shape
Round
Oval
Irregular

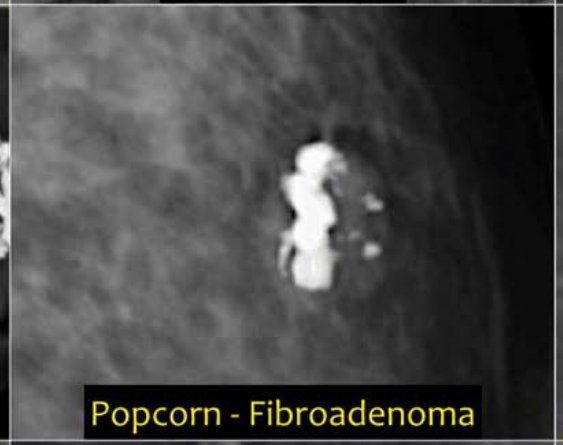

Margin
Circumscribed
Obscured
Microlobulated
Indistinct
Spiculated

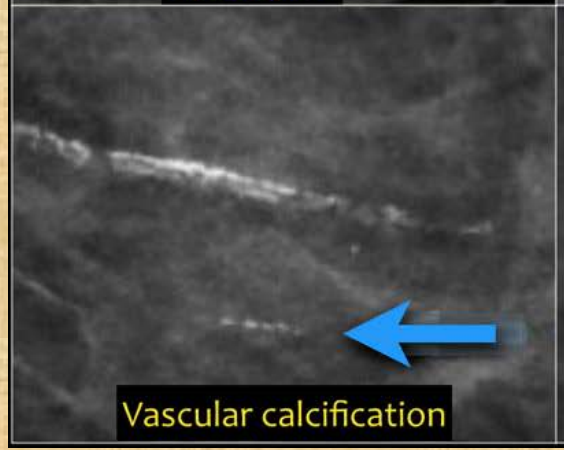
Typically Benign

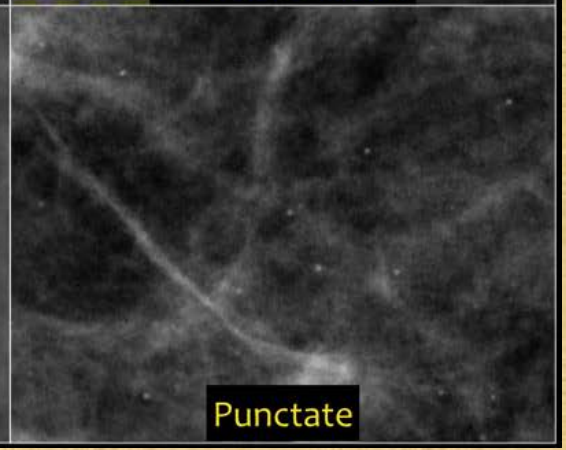


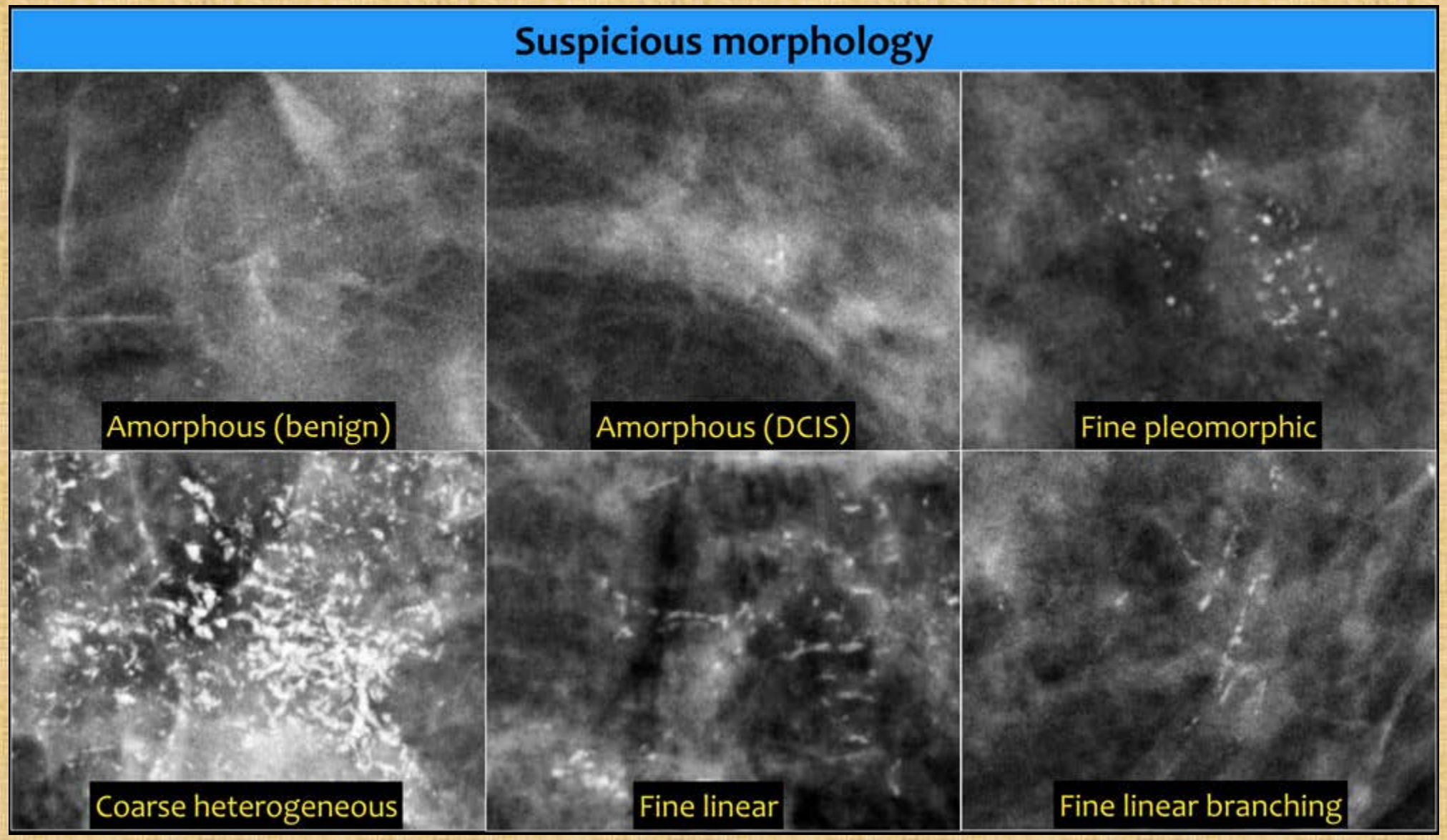


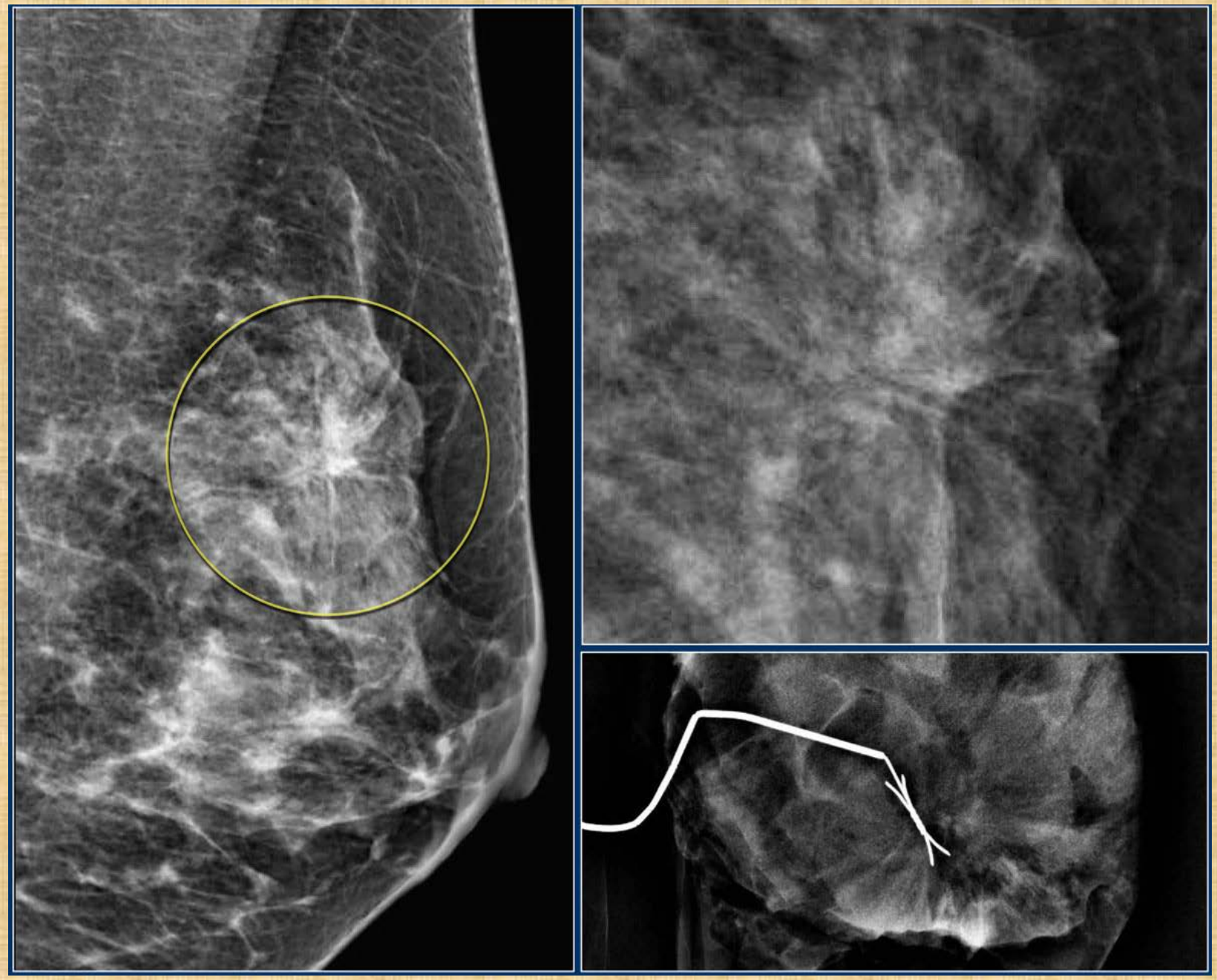


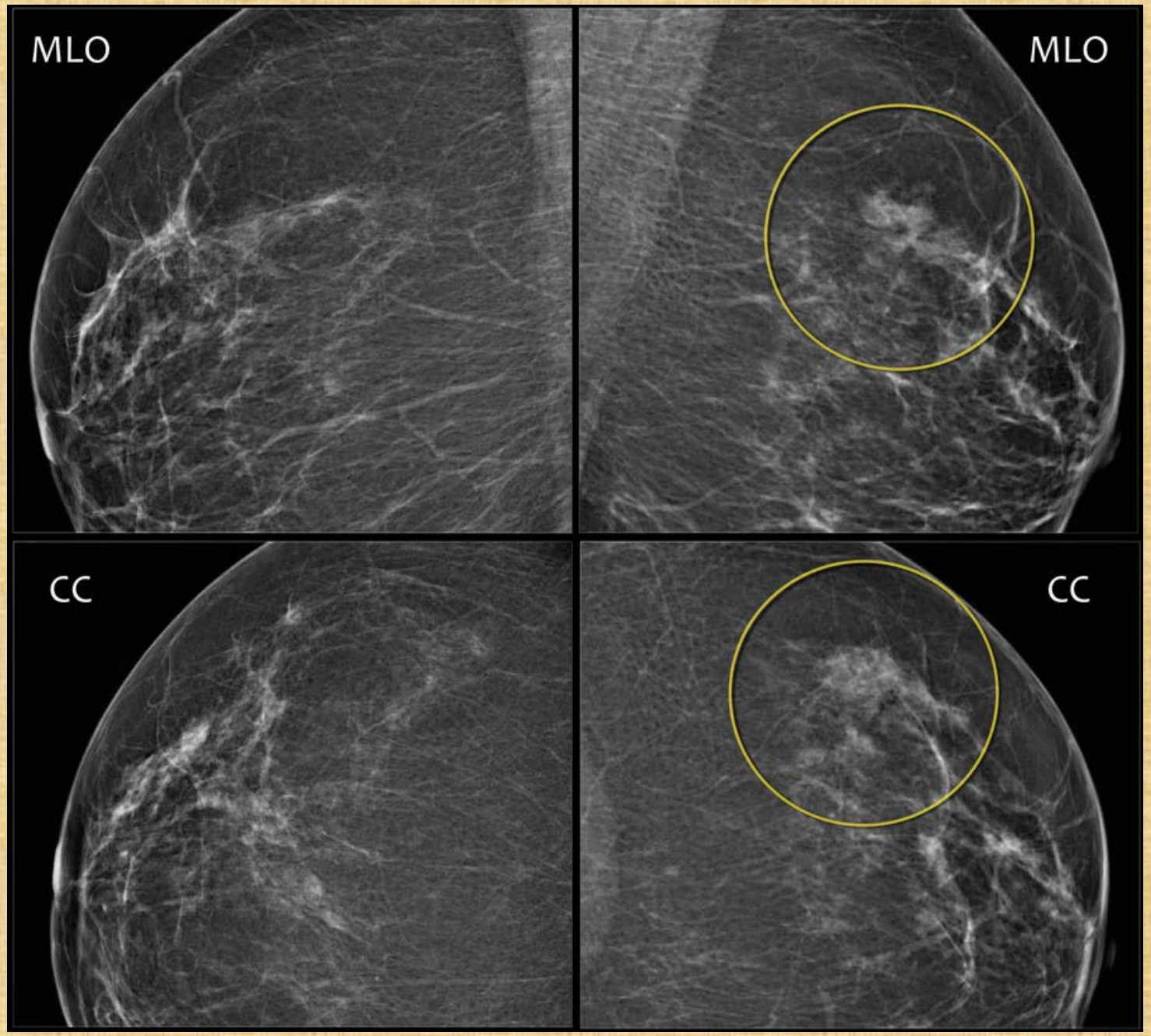







Suspicious morphology
Amorphous (benign)
Amorphous (DCIS)
Fine pleomorphic
Coarse heterogeneous
Fine linear
Fine linear branching



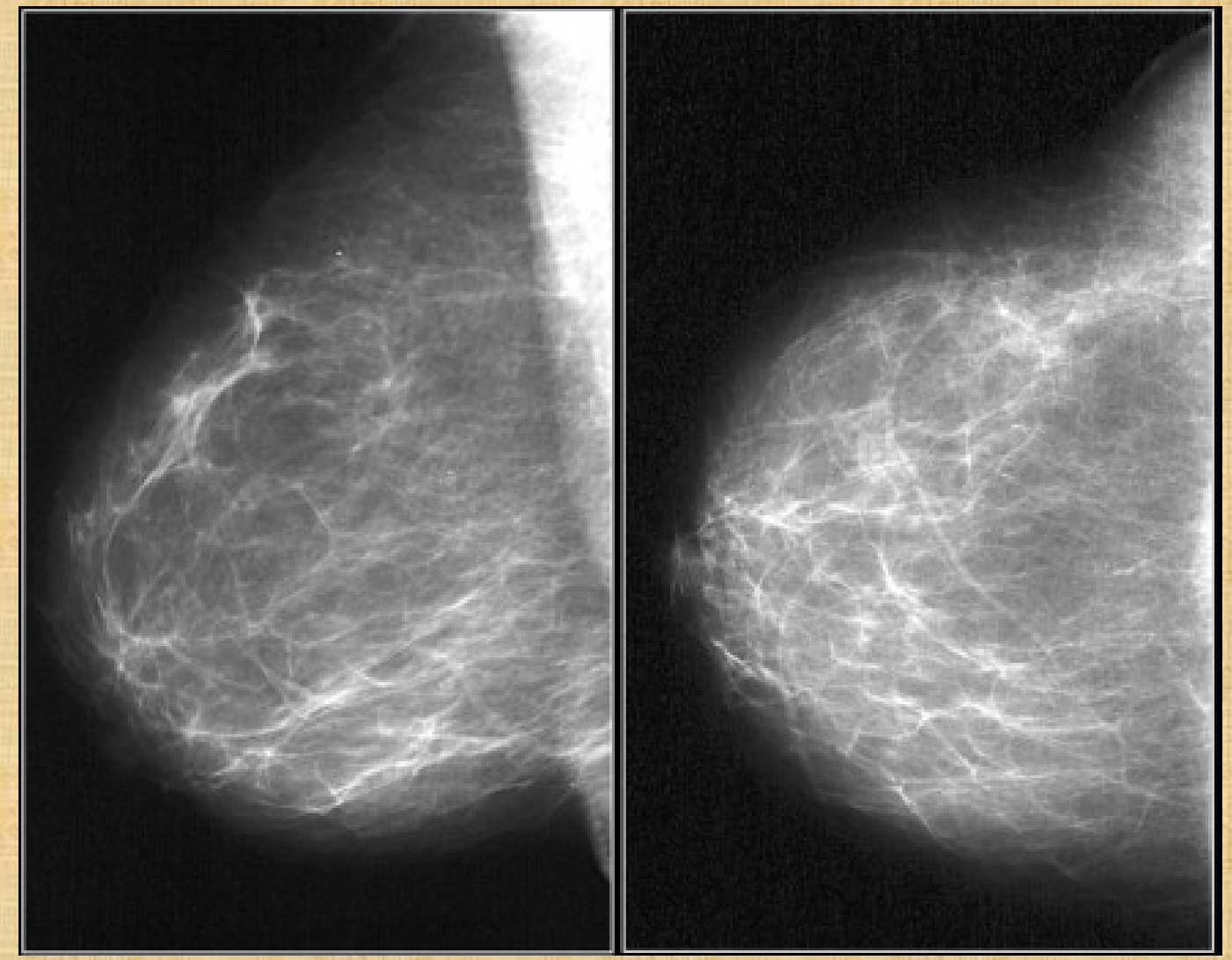

MLO
MLO
CC
CC

BIRADS: Breast Imaging Reporting and Data System

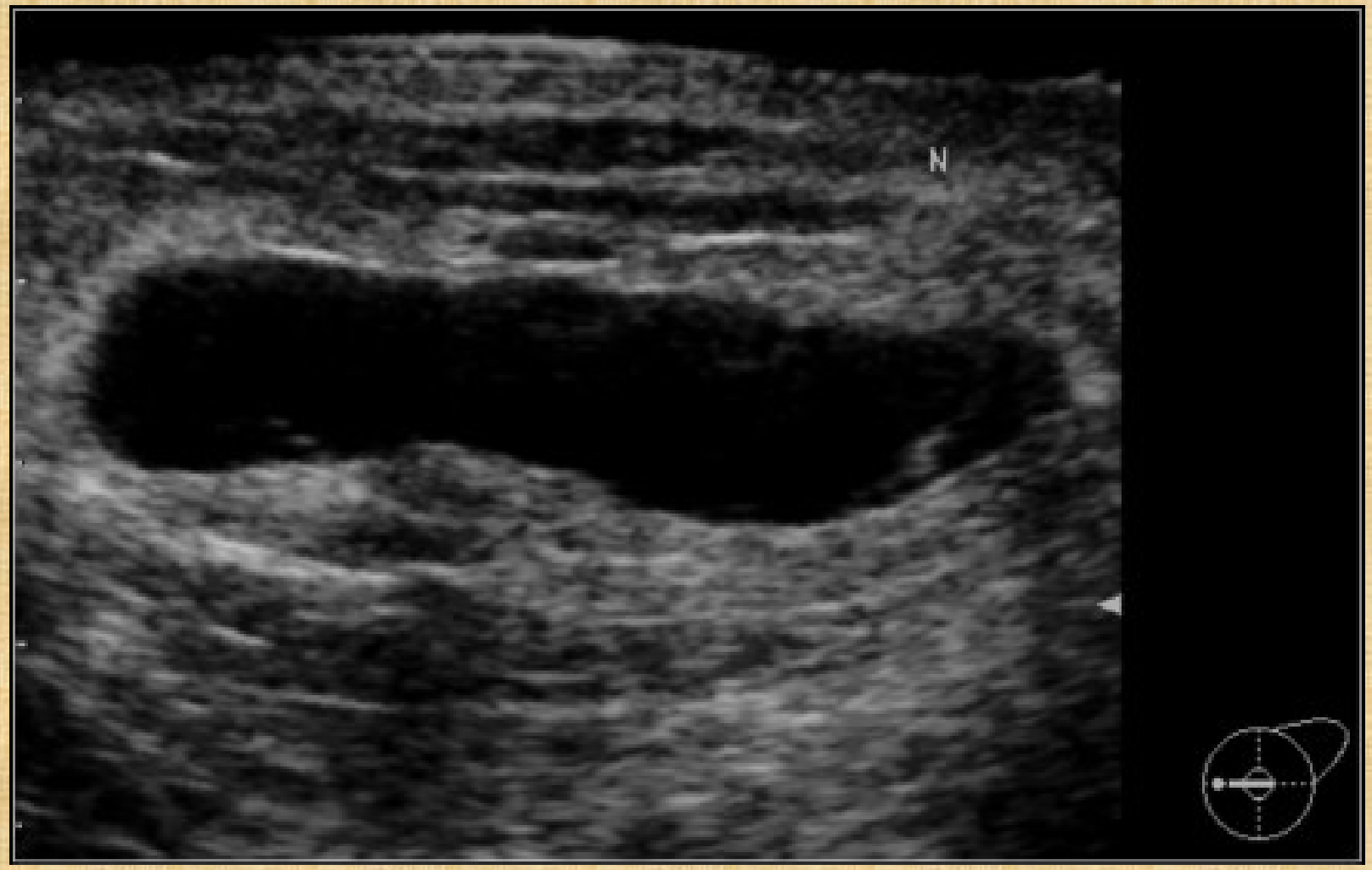
Final Assessment Categories			
Category		Management	Likelihood of cancer
0	Need additional imaging or prior examinations	Recall for additional imaging and/or await prior examinations	n/a
1	Negative	Routine screening	Essentially 0%
2	Benign	Routine screening	Essentially 0%
3	Probably Benign	Short interval-follow-up (6 month) or continued	>0 % but ≤ 2%
4	Suspicious	Tissue diagnosis	4a. low suspicion for malignancy (>2% to ≤ 10%) 4b. moderate suspicion for malignancy (>10% to ≤ 50%) 4c. high suspicion for malignancy (>50% to <95%)
5	Highly suggestive of malignancy	Tissue diagnosis	≥95%
6	Known biopsy-proven	Surgical excision when clinical appropriate	n/a

B0

B1

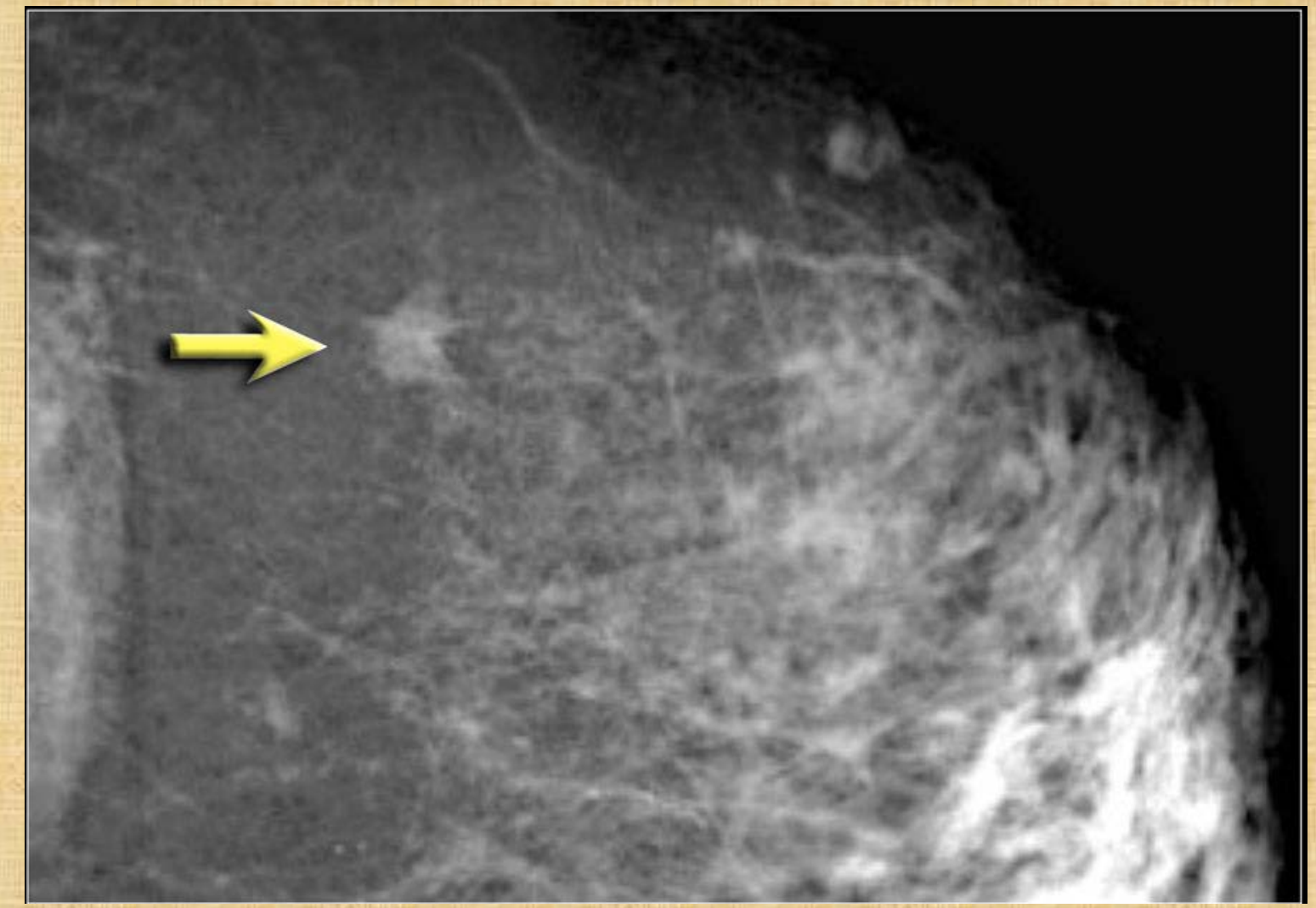


B2

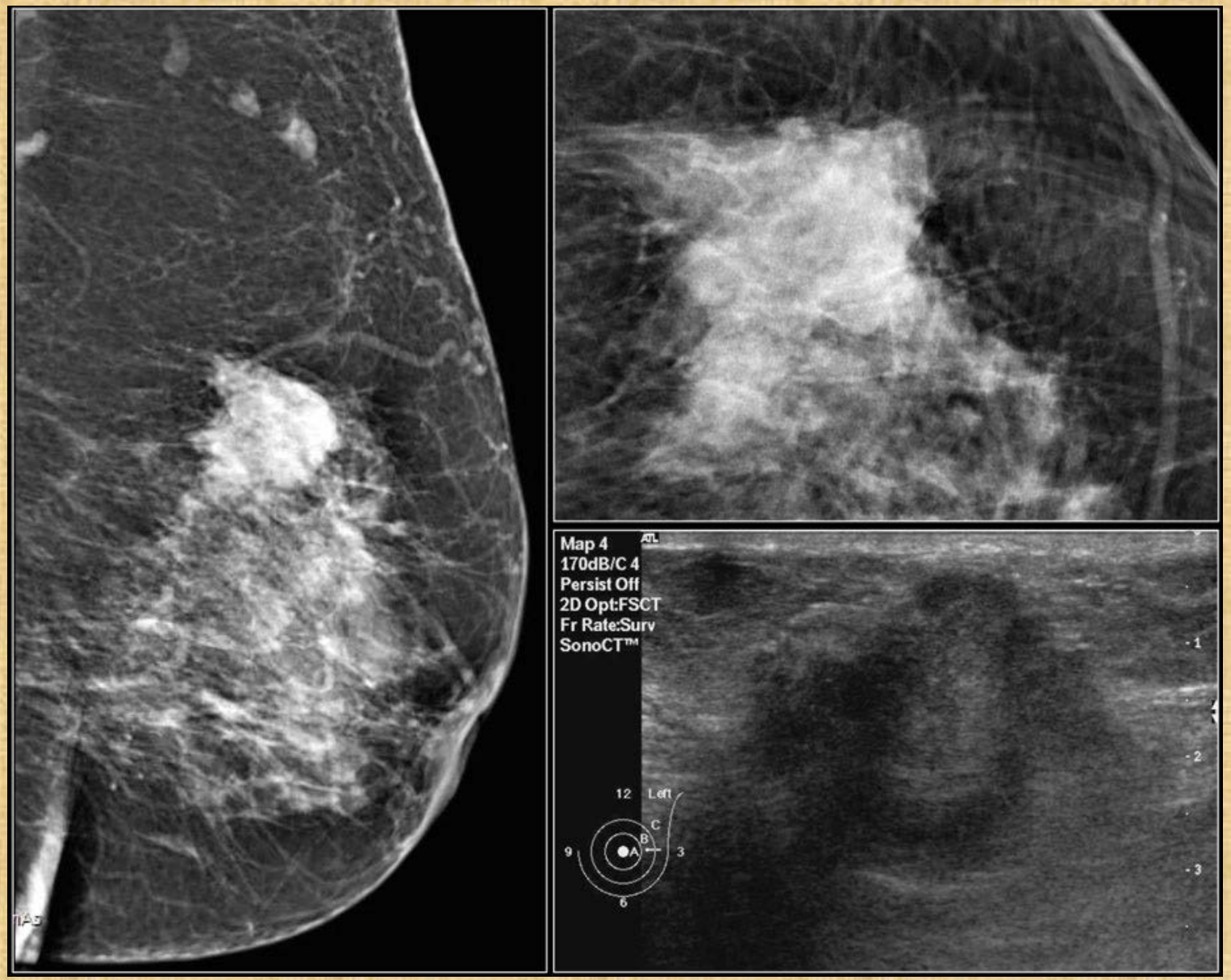


B3

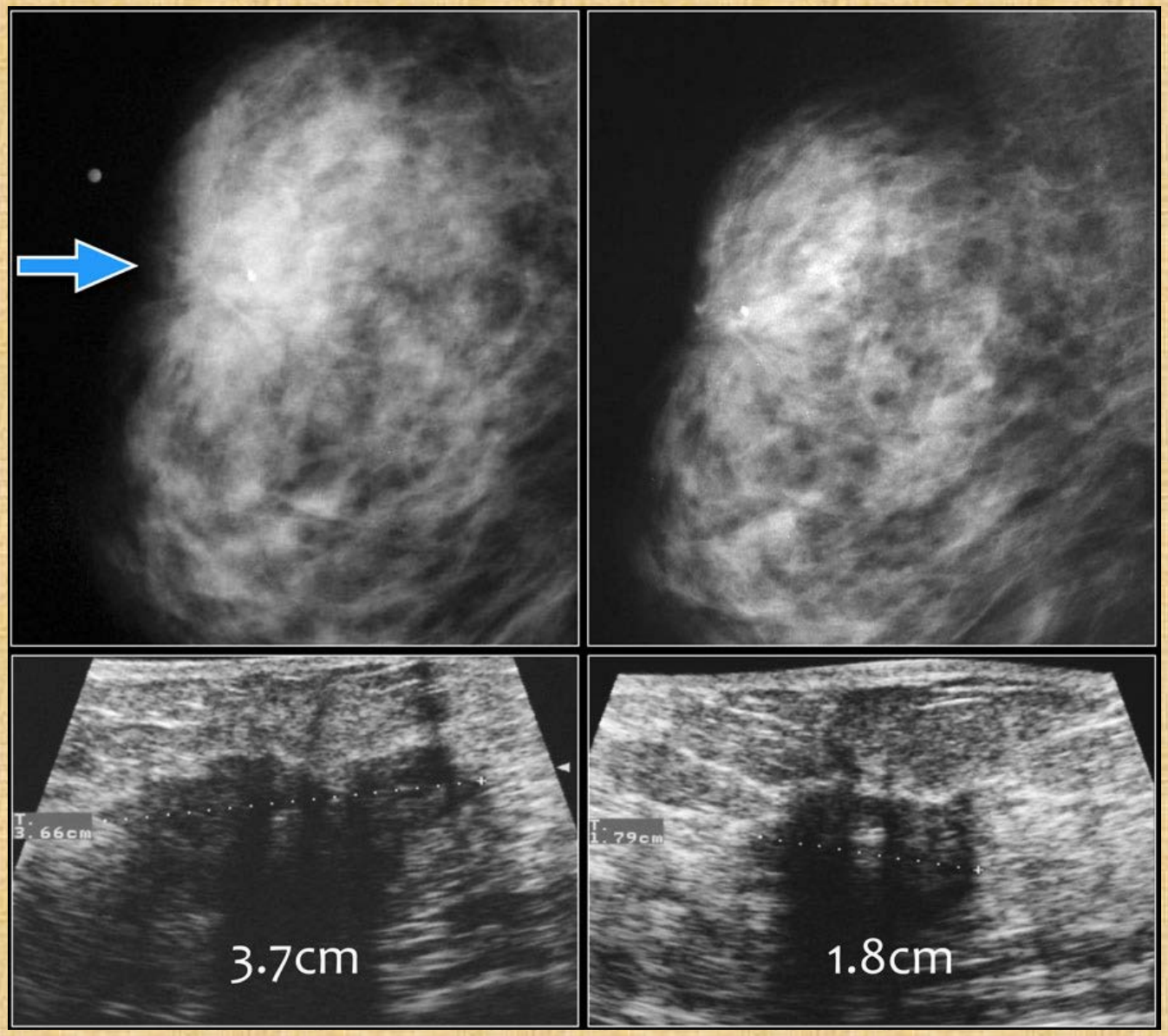
B4



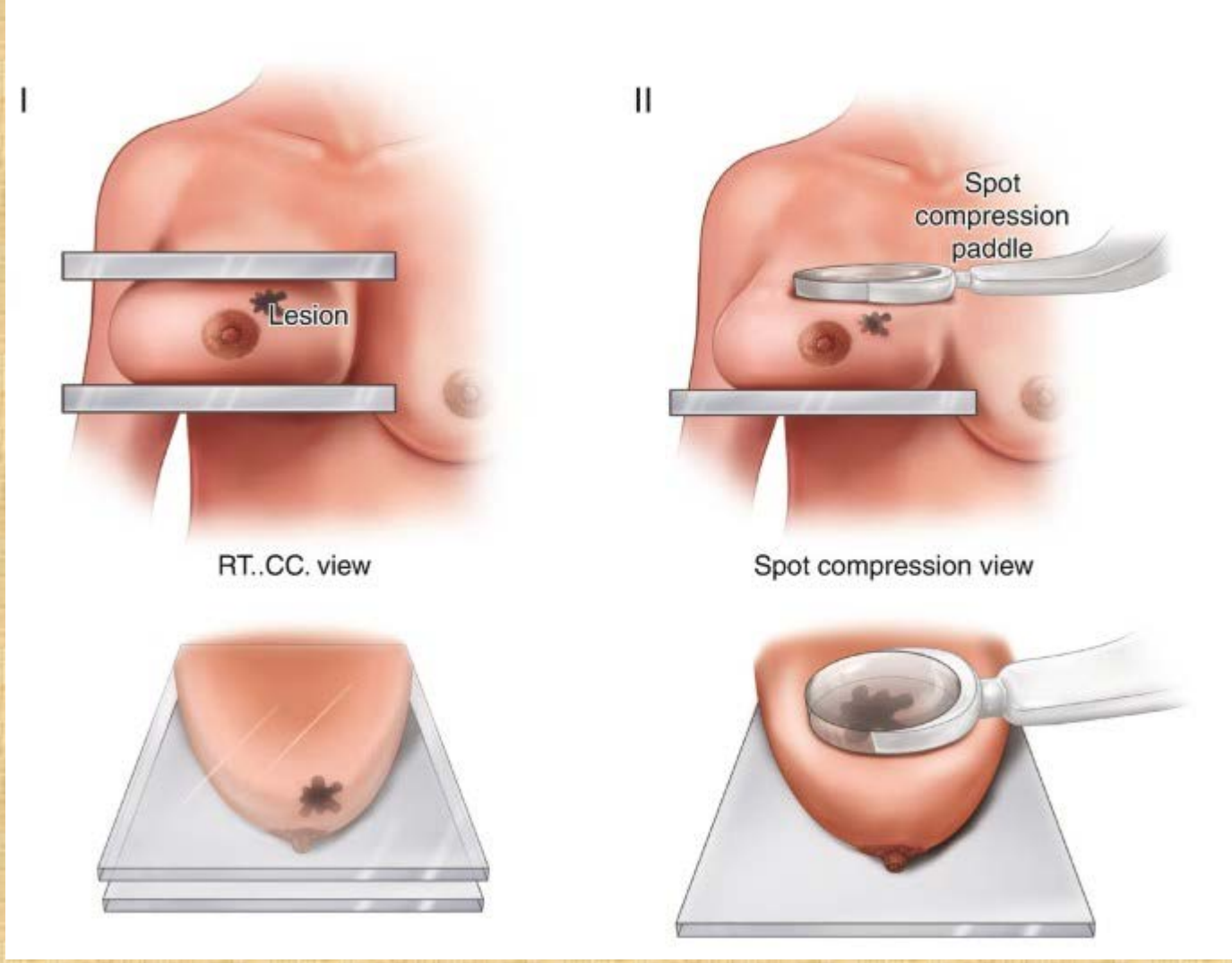
B5


Map 4
170dB/C 4
Persist Off
2D Opt:FSCT
Fr Rate:Surv
SonoCT™
ATL
1
2
3
12
Left
9
6
A
B
C

B6

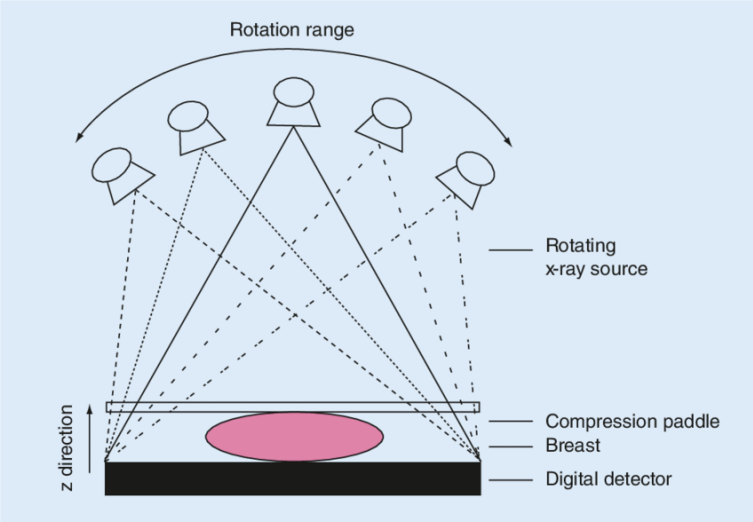


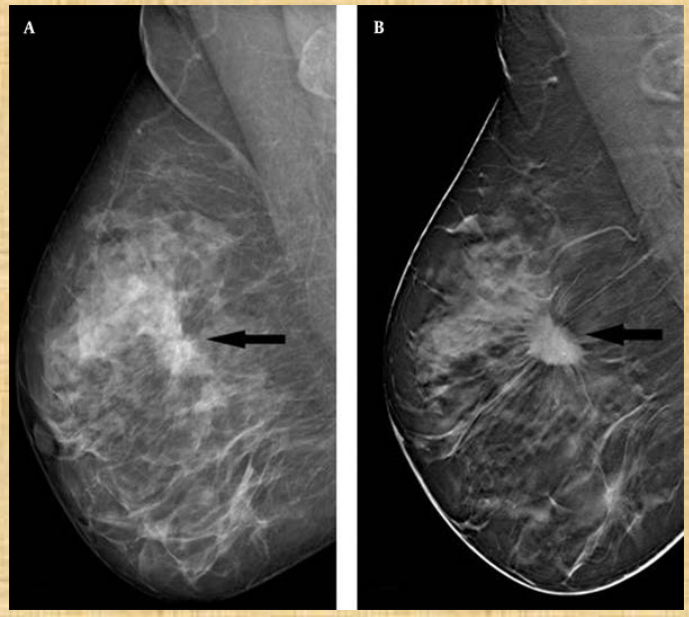
Focal Compression Magnification View (FCMV):



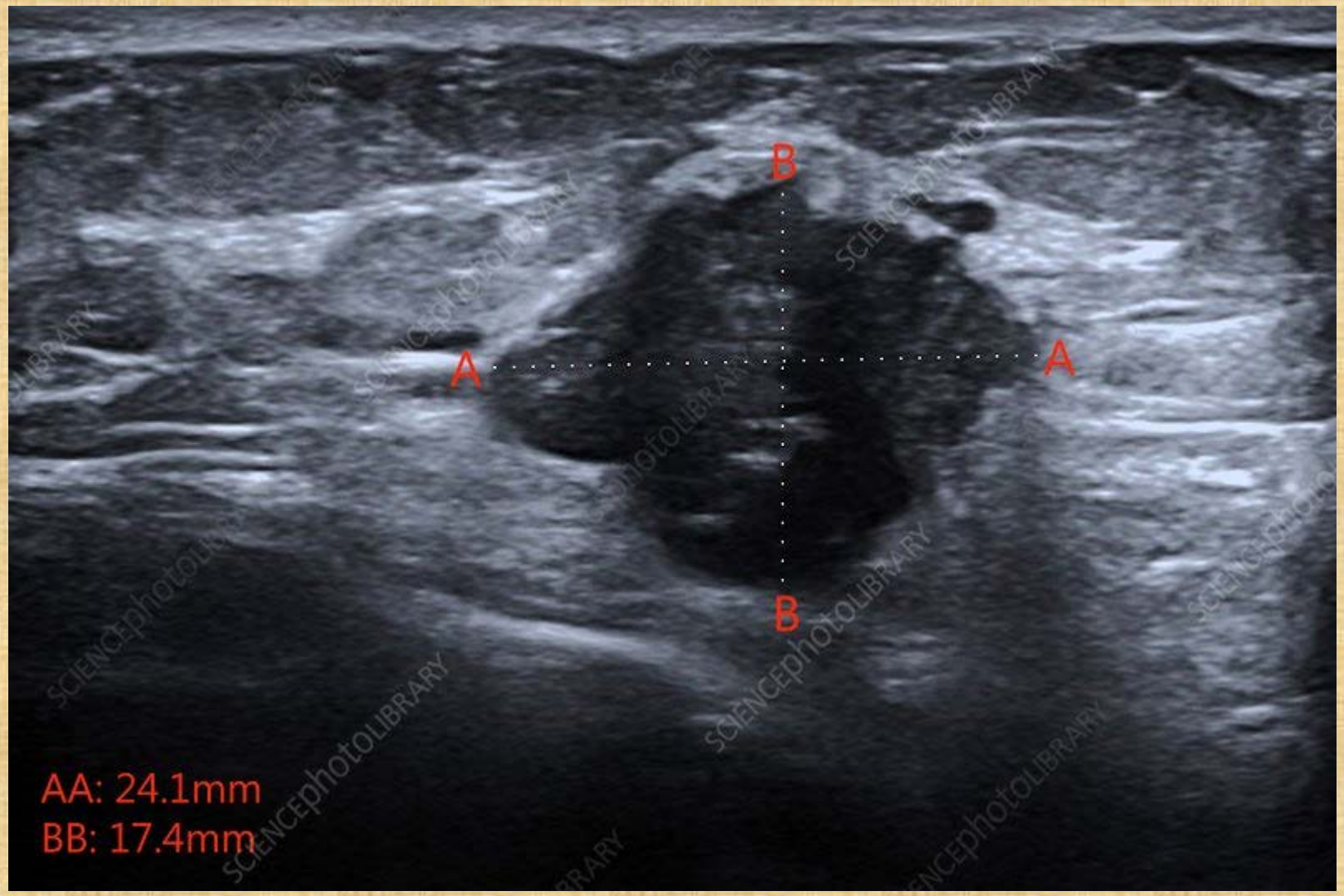
Digital Breast Tomosynthesis (DBT):

- ***More angles than a standard mammogram, creating a more detailed image***
- ***Special benefit is in the dens breasts***
- ***Improve lesion localization and characterization in non calcified lesions (both diagnostic and screening)***
- ***Decrease both false positive and false negative cases***





Ultrasonography:



Breast MRI:

Indication proposed of breast MRI:

1-Screening for high risk women with dens breast

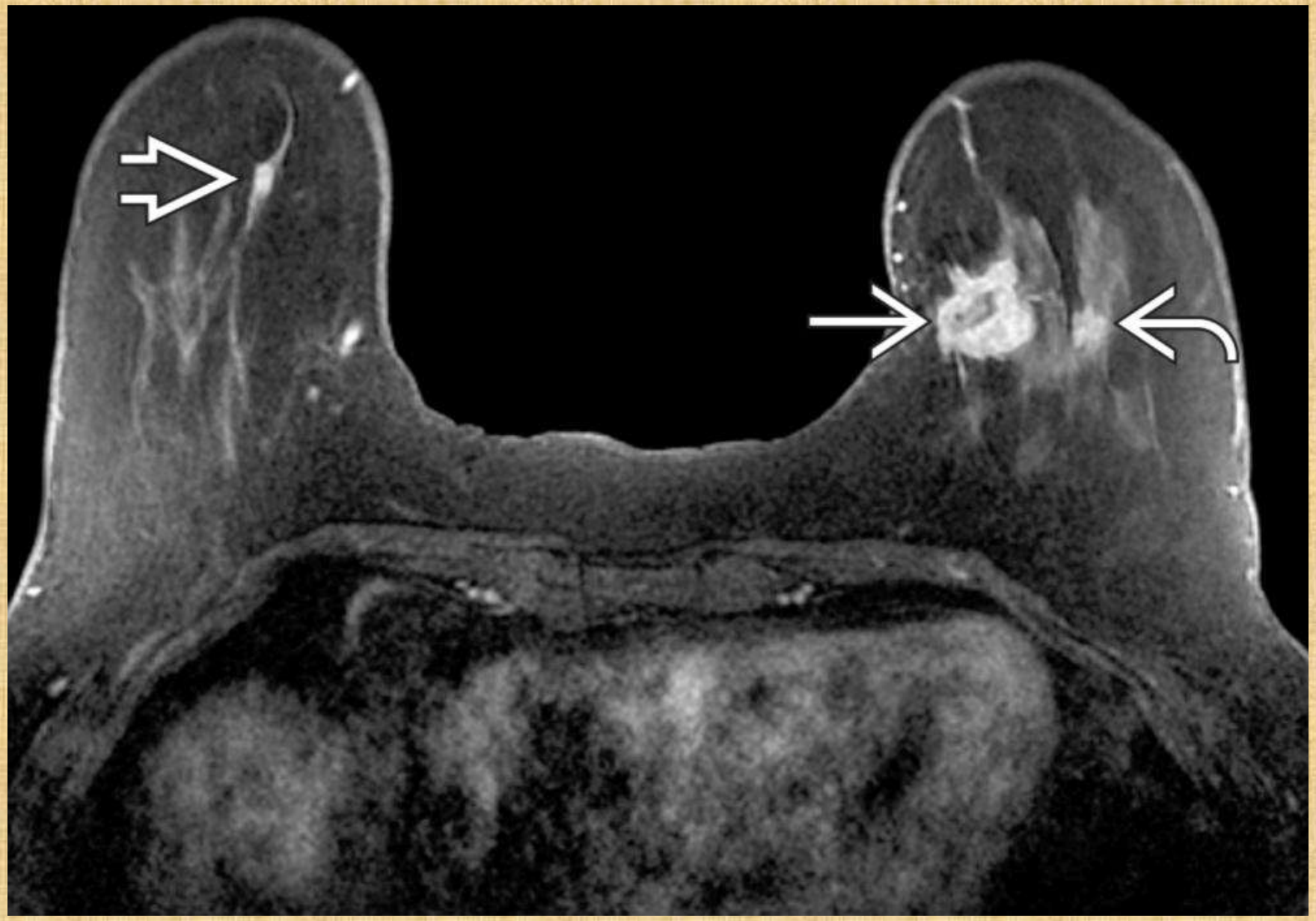
2- Evaluation of contralateral and same breast in newly diagnosed breast cancer

3- Unknown origin metastatic axillary node with no pathology defined at regular imaging

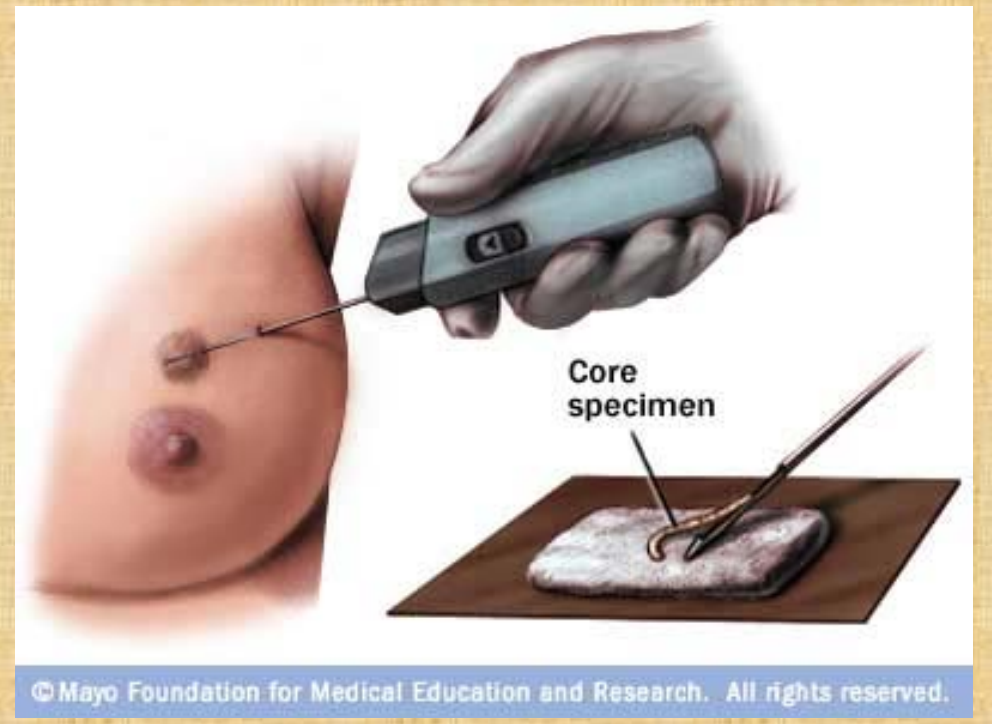
4- To assess response to therapy in the setting of neo-adjuant therapy

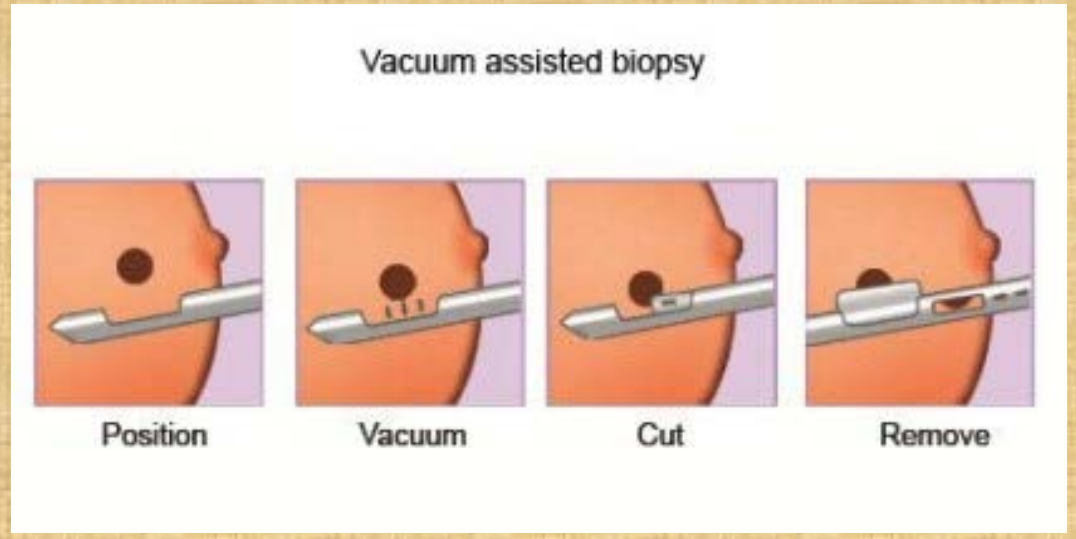
5- To select patients for partial breast irradiation therapy

6-Evaluation of treated breast for tumor recurrence

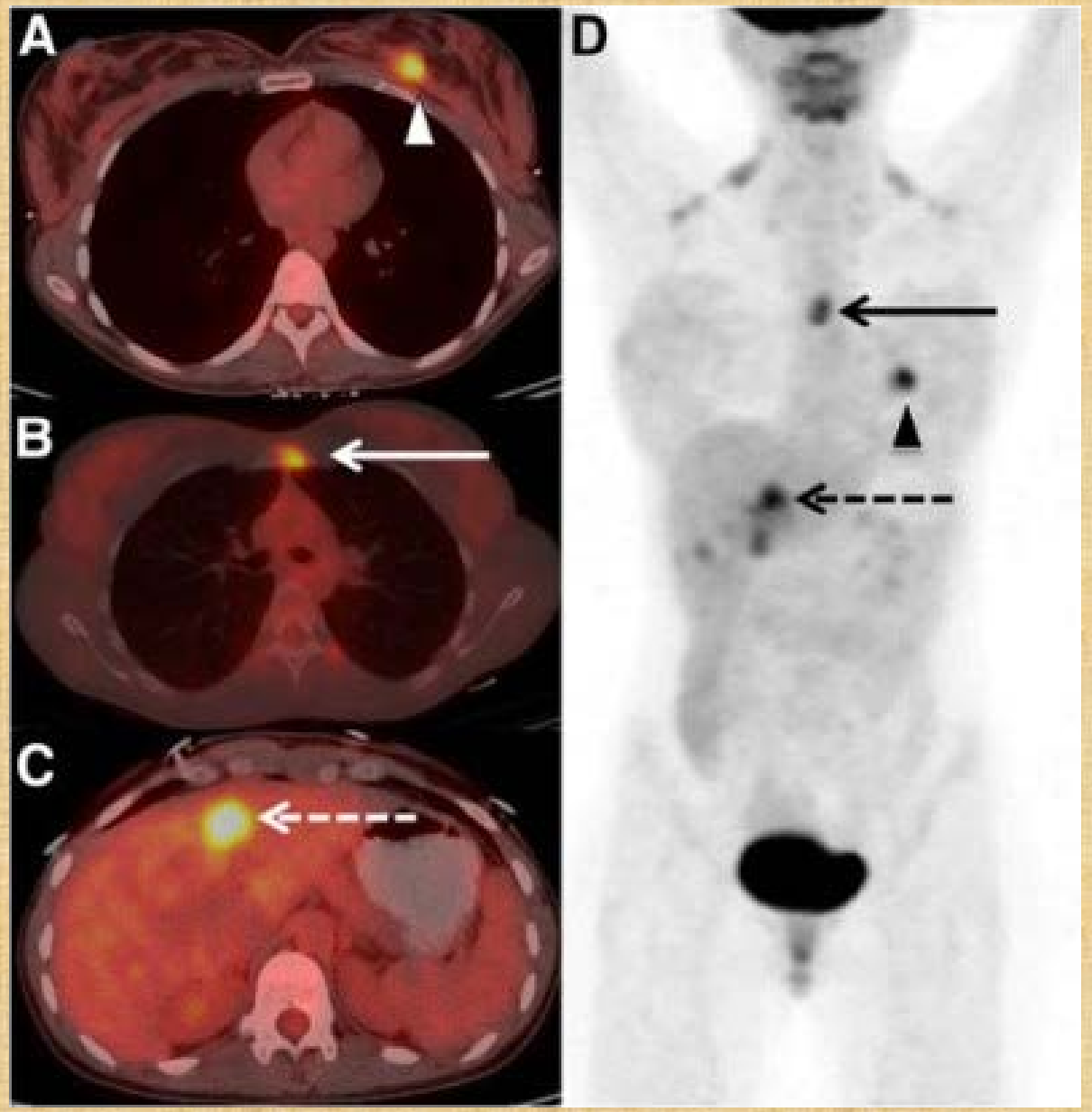


Biopsy needle
Breast lump
Needle Breast Biopsy


Core specimen
©Mayo Foundation for Medical Education and Research. All rights reserved.


Vacuum assisted biopsy
Position
Vacuum
Cut
Remove

PET Scan:



LOCOREGIONAL TREATMENT OF T1-3,N0-1,M0 DISEASE[l]

Lumpectomy with surgical axillary staging (category 1)[m,n,o]

- **≥4 positive[r] axillary nodes** → Radiation therapy to whole breast with or without boost[s] to tumor bed (category 1), infraclavicular region, supraclavicular area, internal mammary nodes, and any part of the axillary bed at risk (category 1). It is common for radiation therapy to follow chemotherapy when chemotherapy is indicated.
- **1–3 positive axillary nodes** → Radiation therapy to whole breast with or without boost[r] to tumor bed (category 1). Strongly consider radiation therapy to infraclavicular region, supraclavicular area, internal mammary nodes, and any part of the axillary bed at risk. It is common for radiation therapy to follow chemotherapy when chemotherapy is indicated.
- **Negative axillary nodes** → Radiation therapy to whole breast with or without boost[s] to tumor bed, and consider regional nodal radiation in patients with central/medial tumors or tumors >2 cm with other high-risk features (young age or extensive lymphovascular invasion [LVI]).
  or
  Consideration of accelerated partial breast irradiation (APBI) in selected low-risk patients.[s,t]
  It is common for radiation therapy to follow chemotherapy when chemotherapy is indicated.[u]

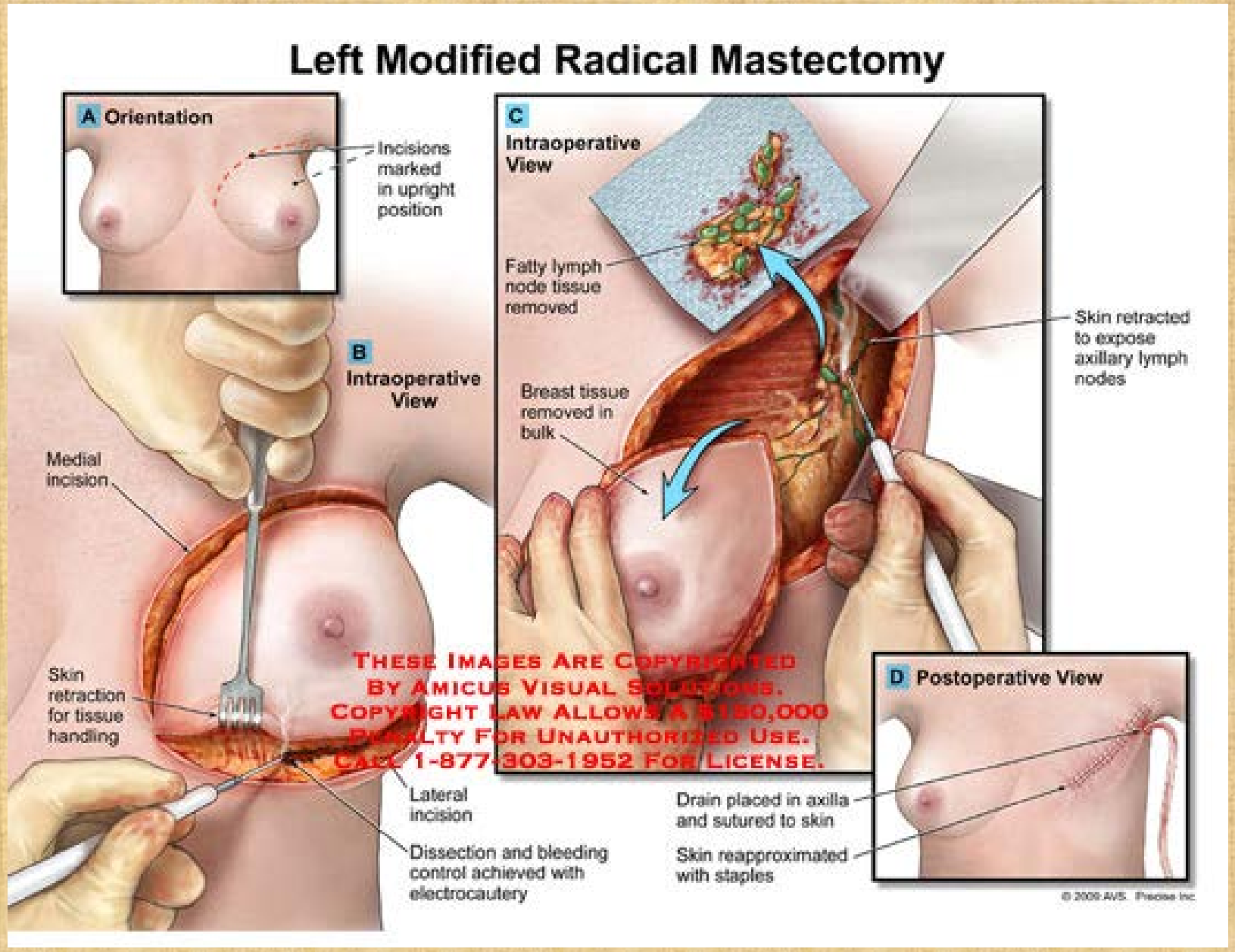
→ See BINV-4

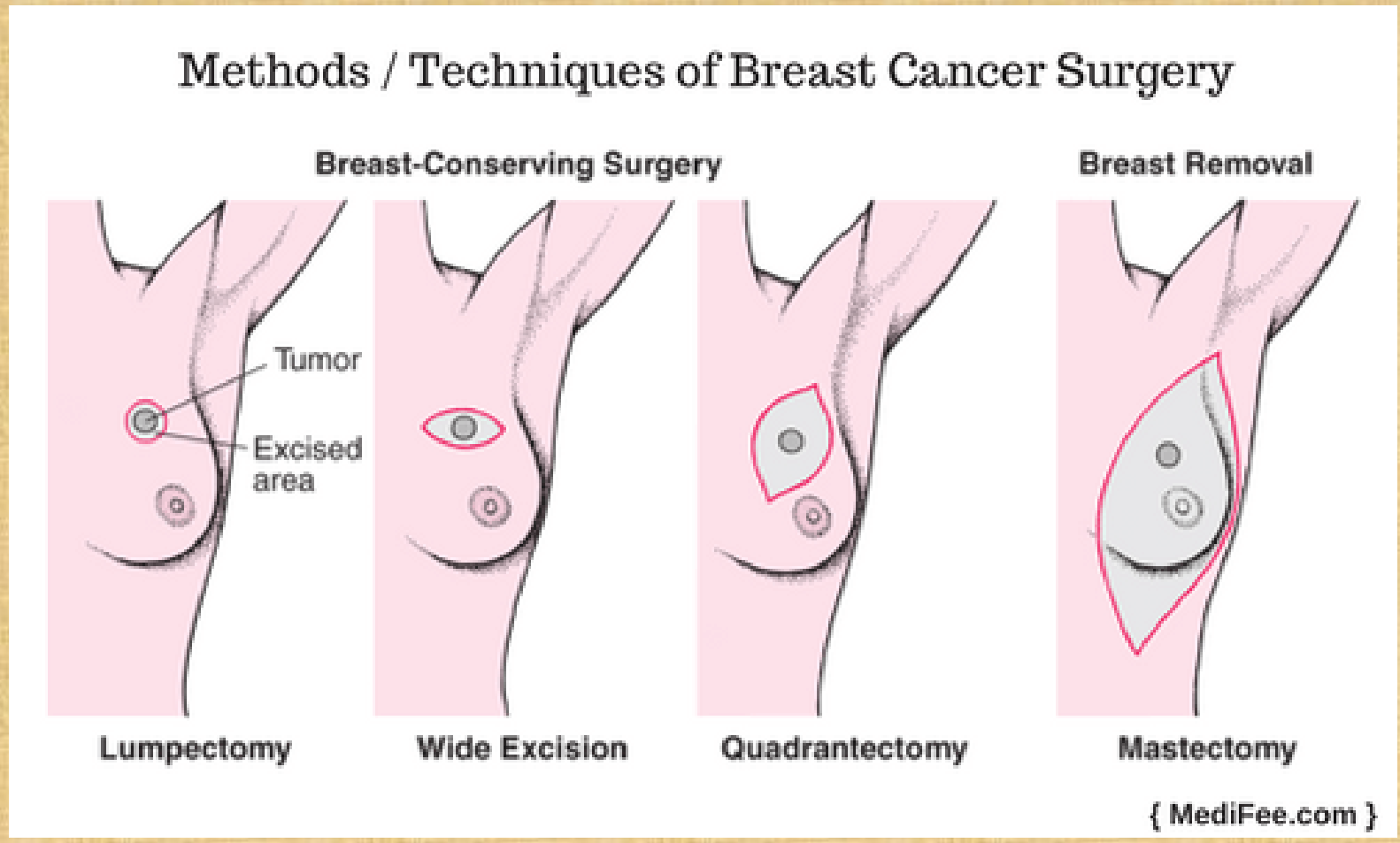
or

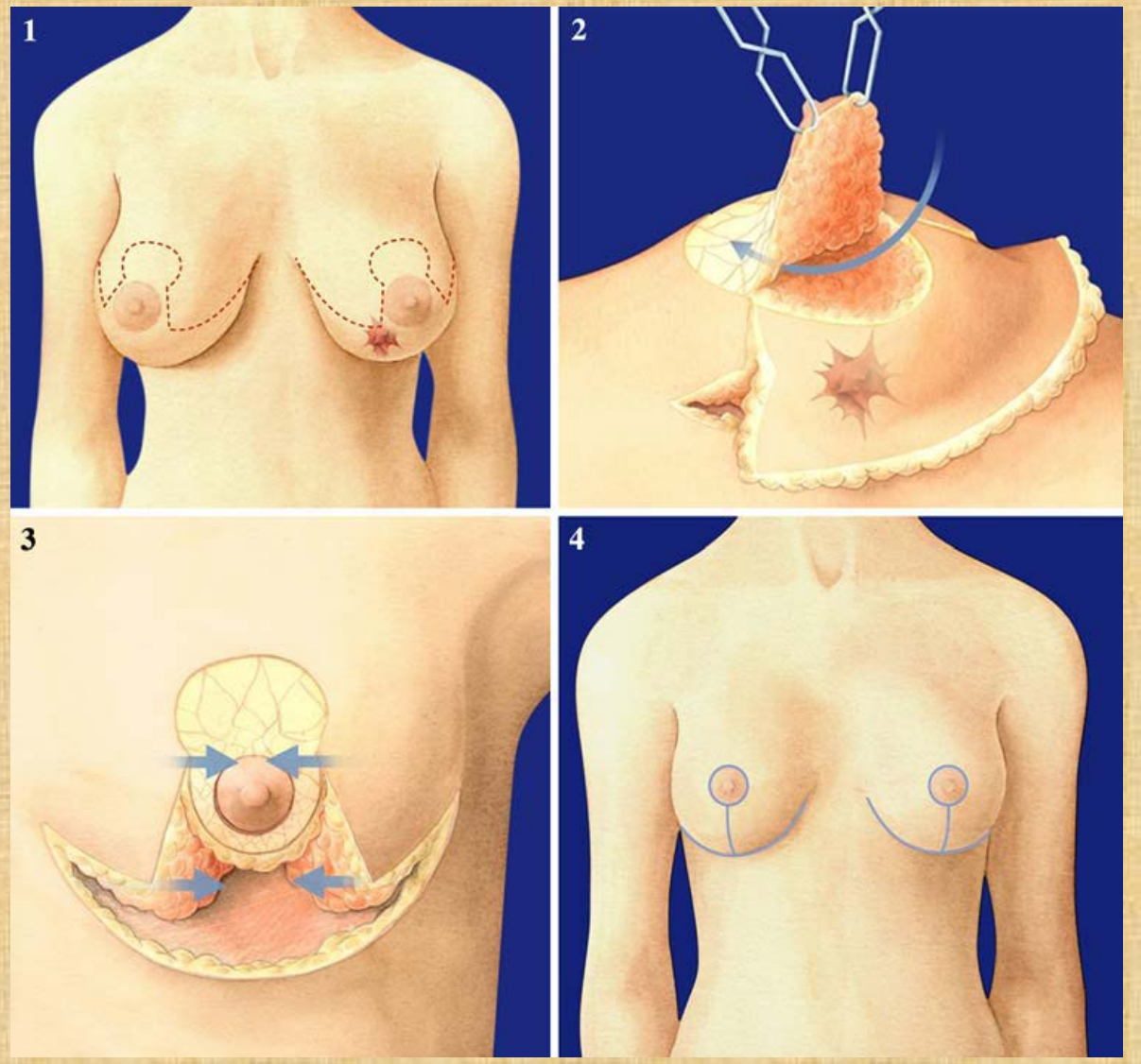
Total mastectomy with surgical axillary staging[m,n,p] (category 1) ± reconstruction[q] → See Locoregional Treatment (BINV-3)

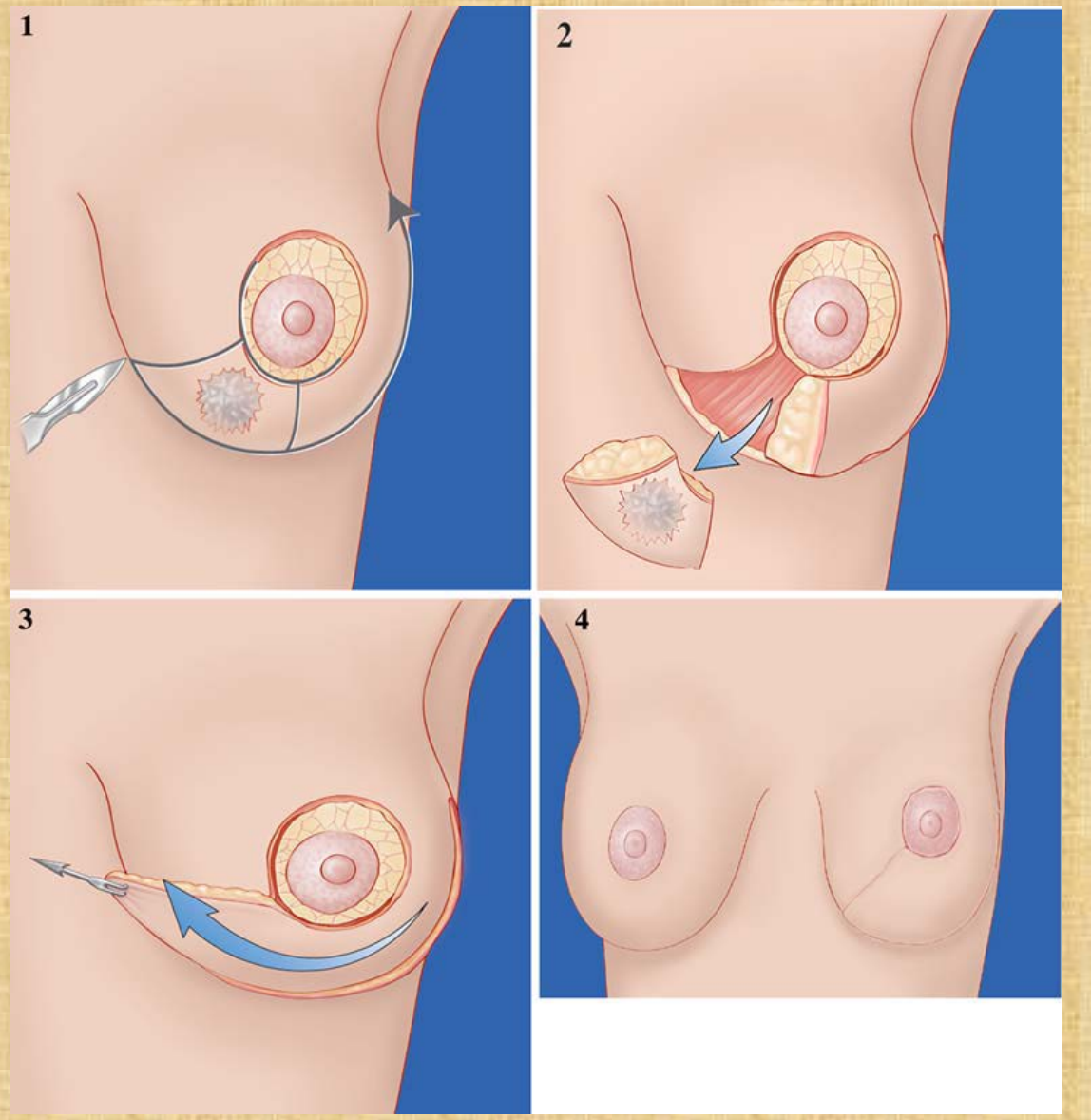
or

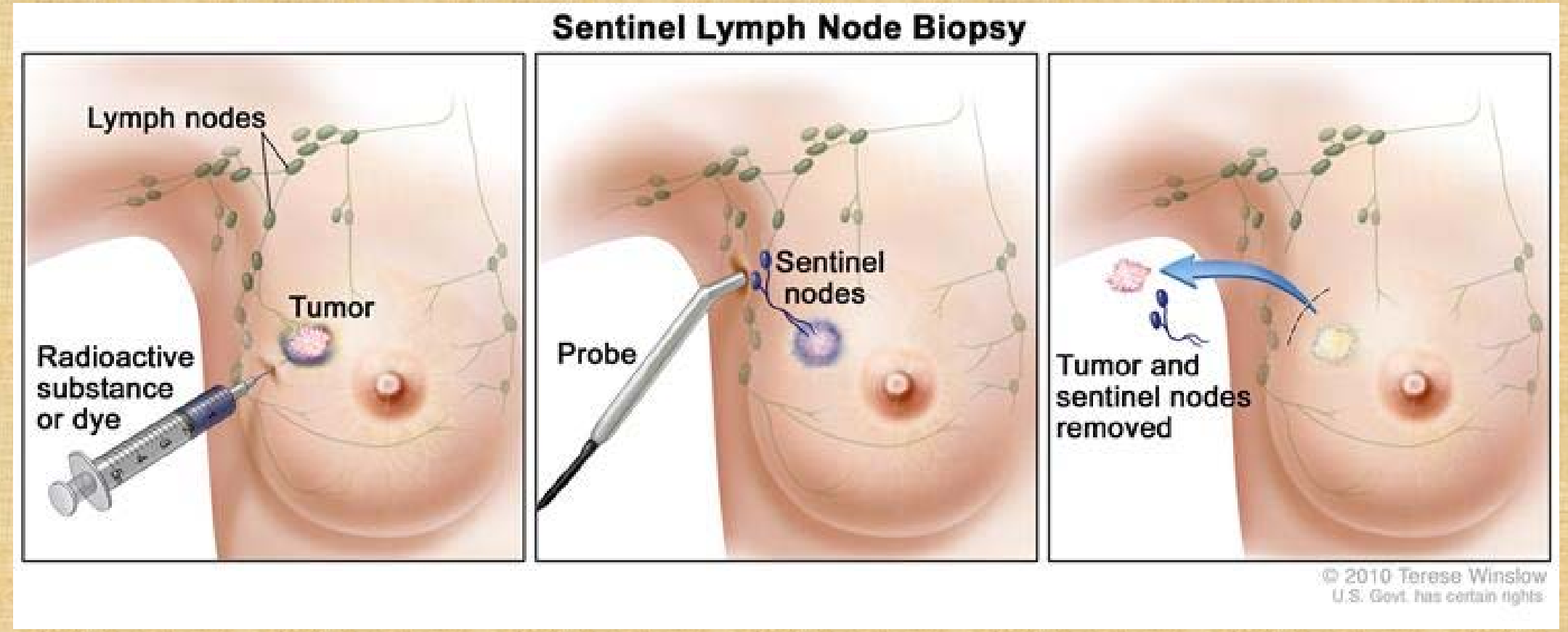
If T2 or T3 and fulfills criteria for breast-conserving therapy except for size[o] → Consider Preoperative Systemic Therapy Guideline (BINV-11)


Left Modified Radical Mastectomy
A Orientation
Incisions marked in upright position
B Intraoperative View
Medial incision
Skin retraction for tissue handling
Lateral incision
Dissection and bleeding control achieved with electrocautery
C Intraoperative View
Fatty lymph node tissue removed
Breast tissue removed in bulk
Skin retracted to expose axillary lymph nodes
Drain placed in axilla and sutured to skin
Skin reapproximated with staples
D Postoperative View
THESE IMAGES ARE COPYRIGHTED BY AMICUS VISUAL SOLUTIONS.
COPYRIGHT LAW ALLOWS A $150,000 PENALTY FOR UNAUTHORIZED USE.
CALL 1-877-303-1952 FOR LICENSE.


Methods / Techniques of Breast Cancer Surgery
Breast-Conserving Surgery
Breast Removal
Tumor
Excised area
Lumpectomy
Wide Excision
Quadrantectomy
Mastectomy
{ MediFee.com }


1
2
3
4


1
2
3
4


Sentinel Lymph Node Biopsy
Lymph nodes
Tumor
Radioactive substance or dye
Probe
Sentinel nodes
Tumor and sentinel nodes removed
© 2010 Terese Winslow
U.S. Govt. has certain rights