

# BI-RADS Update: The 6<sup>th</sup> Edition Mammography

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# Disclosures

- Public share holder:
  - Merck and Co. Inc,
  - Johnson and Johnson



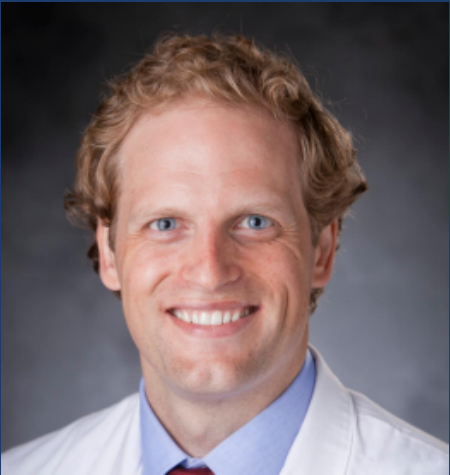
# Mammography BI-RADS Committee



Toula Destounis



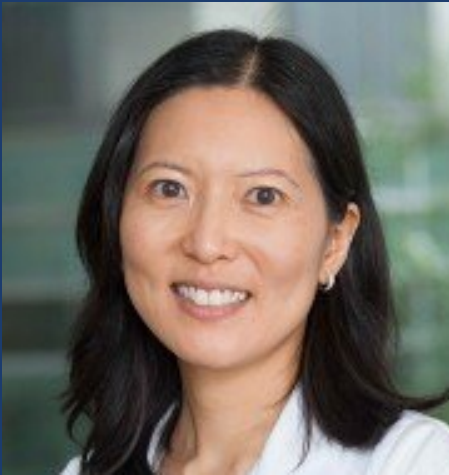
Sally Friedewald



Lars Grimm



Steven Poplack



Janice Sung



# Descriptor Changes

- Mass:
  - Definition: dense center, convex outward border, visible on 2 views → 1 view now acceptable
  - Shape: oval, lobular, round, irregular (lobular reinstated)
  - Margin: circumscribed, obscured, ~~microlobulated~~, indistinct, spiculated (microlobulated report as indistinct)



# Descriptor Changes

- Calcifications
  - Morphology: ~~popcorn like~~ → coarse (c/w indeterminate coarse heterogeneous typically benign coarse larger, smooth margins)
  - Morphology: ~~milk of calcium~~ → layering
  - Morphology: ~~punctate~~ → report as round
- ~~Developing~~ asymmetry (report as focal asymmetry - new/↑)
- Implant/augmentation - retro-glandular → prepectoral



# Other Lexicon Changes

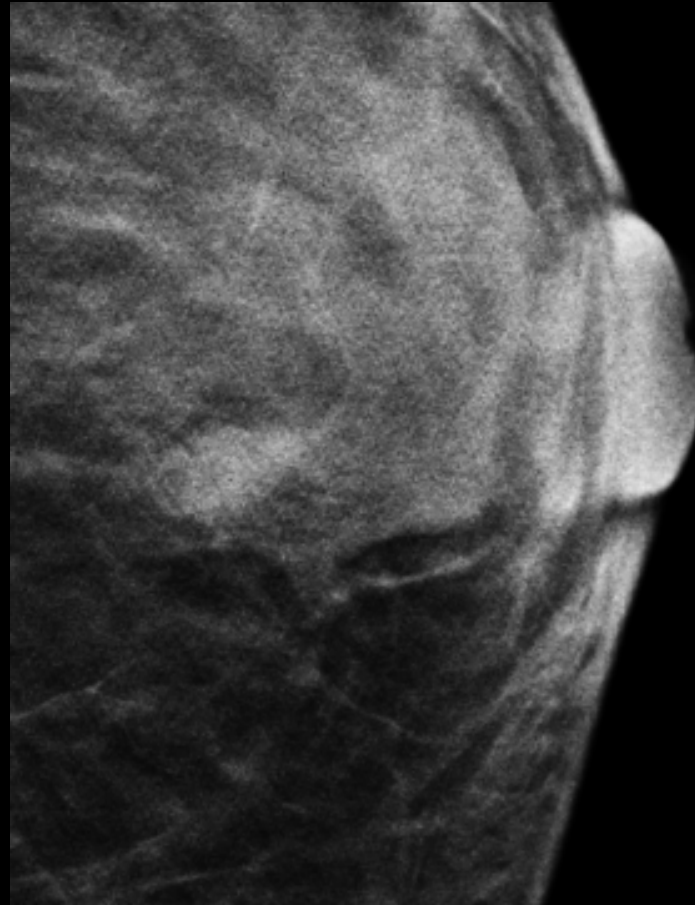
- New section - Lymph Nodes (IIE.): intramammary & axillary
- New section - Dilated Ducts (IIG.): multiple & SDD
- Associated Findings (IIH.)
  - primary finding – determines management
  - secondary findings (addtl finding type), associated features (related breast change)
- New section - Special Cases (Ili.)
  - Gynecomastia (sub-section 1.)
  - Implant / augmentation (sub-section 2)
  - Mastectomy (sub-section 3)
- Location of lesions (IIJ.) – greater flexibility



Finding type mass – 1 view only acceptable if satisfies mass criteria



Cellular FE lesion



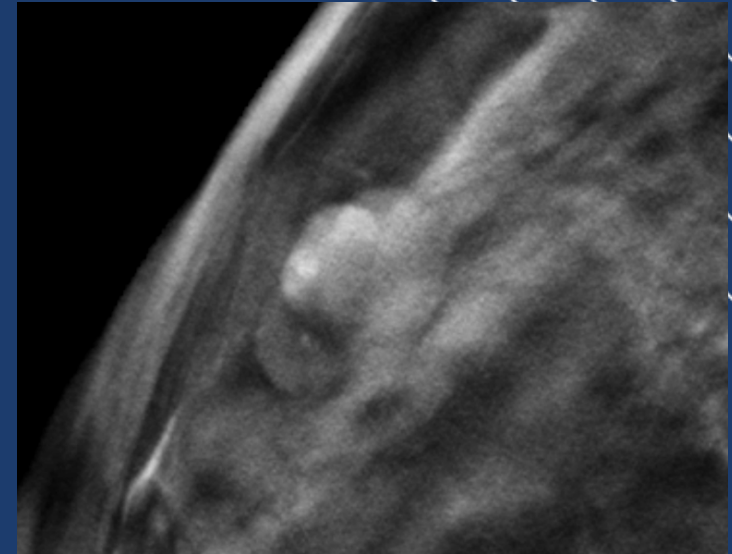
fibroadenoma



IDC

# Lobular (shape) reinstated for BI-RADS 6<sup>th</sup> Edition

- Lobular shape
  - One or more 'shallow / gentle undulations' - benign connotation
  - Incorporated to allow benign/probably benign shape descriptor for masses not truly oval
  - Differential diagnosis: fibroadenoma, clustered cysts, intramammary lymph node >> malignancy



Clustered cysts





# Developing asymmetry discontinued - Report as focal asymmetry and describe change

- Rationale:
  - consistency with remaining lexicon; 'change' not part of the descriptor
  - Temporal change is a suspicious feature of all indeterminate finding types
  - Avoid confusion of asymmetry type – initially reported<sup>1</sup> “focal asymmetric deposit”, i.e. focal asymmetry, but sometimes applied to asymmetry
- Clinical relevance:
  - Rare: scr. - .16% (292/180,801), diag. - .11% (32/27,330) <sup>1</sup>
  - Biopsy indicated (+/- US correlate): PPV: scr.=12.8% (36/281), diag.=26.7% (8/30) <sup>1</sup>, mix = 15.3% (31/202)<sup>2</sup>
  - Significance of no MRI correlate tbd.; MRI in 34.4% (63/183) including 10/31 malignancies, all 10 MRI correlate, no malignant lesions in cases without MRI correlate<sup>2</sup>

<sup>1</sup>Leung, Sickles AJR 2007; 188:667-675, <sup>2</sup>Chesebro et al Radiol 2016;279;385-394



# Axillary Lymph Nodes (IIE2.)

- Normal: “normal” cortical thickness, preserved fatty hilum, length (max diameter) non-contributory
- Abnormal: high density, non reniform shape, loss of fatty hilum, ↑ cortical thickness (3mm not validated for MG), calcifications,  $\Delta$
- Approach:
  - check for symmetry with contralateral axilla
  - review medical record for potential non-actionable etiology (e.g. vaccine induced, auto-immune disorder, etc.)
  - Targeted US for unexplained indeterminate abnormal lymph nodes



# SDD - Benign if asymptomatic / no addl. findings

- Definition – unilateral (branching) tubular density oriented towards nipple, > 3mm in diameter, (typically MG > US)
- Screen: Recall if new or increasing, Diagnostic: US, mag MG
- 5<sup>th</sup> Edition based on PPV 9.5% (2/21), 7.1% (1/14) neg US<sup>1</sup>
- 6<sup>th</sup> Edition based on two studies combined PPV 1.7% (3/173)<sup>2,3</sup>
- No malignancies in asymptomatic
  - all 3 malignant had lump or nipple discharge
  - All 3 had intraductal vascularity (+/- intraductal mass)
- Malignant ducts significantly larger mean diameter<sup>2,3</sup>



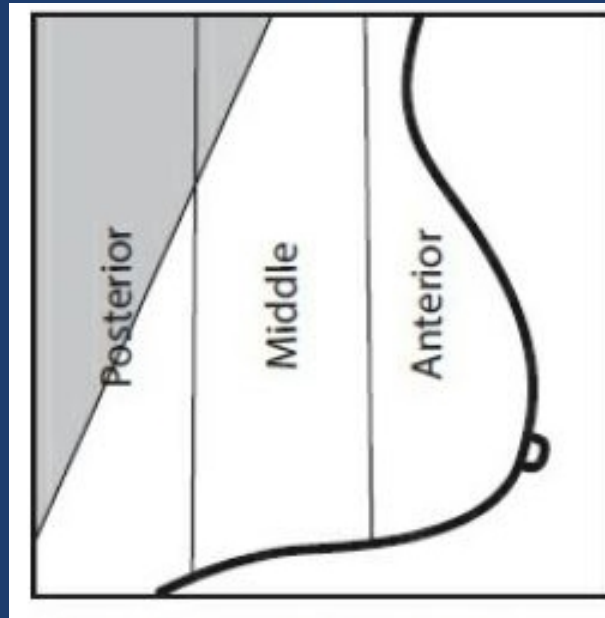
<sup>1</sup>Chang et al. AJR 2010;194, <sup>2</sup>Ayres et al. Clin Radiol 2020;75,

<sup>3</sup>Choudhery et al. Br J Radiol 2020;93

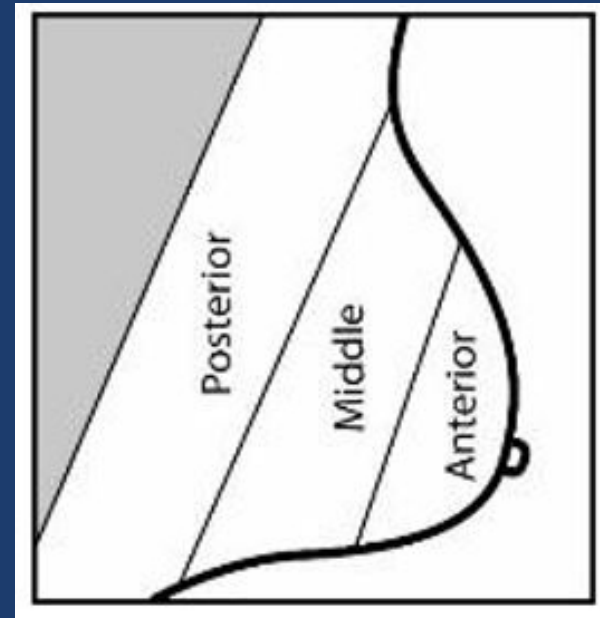
# Location descriptors (IJ) – greater flexibility

- Location – quadrant and/or clock face (previously clockface required, quadrant encouraged)
- Depth - tertiles and/or distance from nipple, (previously tertiles and distance from nipple), note tertiles parallel to pectoralis major

5<sup>th</sup> Ed.



6<sup>th</sup> Ed.



Thank you for your attention.



Jedediah Smith  
Redwoods State park  
Del Norte county, CA

