# BI-RADS 5th Edition

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<td>Milk of calcium</td>
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Changes

• Rim (*previously rim, “eggshell” and “lucent centered”*)
• Round and punctate clarified:
  – Round >0.5mm but <1mm
  – Punctate <0.5mm
• Amorphous (*no indistinct*)
• Elimination of the “Indeterminate” category

Distribution

• Diffuse
• Regional
• Clustered (*formerly “Grouped”*)
• Linear
• Segmental
Case 1

Question: What is the best BI-RADS description of these calcifications?

1. Coarse, diffuse
2. Round, diffuse
3. Dystrophic, diffuse
4. Coarse heterogenous, diffuse
Discussion: Coarse

- Coarse-- classically large (>2-3mm)
- Round – usually between 0.5-1mm
- Dystrophic – irregular in shape
- Coarse heterogenous – between 0.5-1mm

Case 2. Diagnostic

Mag CC  Mag ML
Question: What is the best BI-RADS description of these calcifications?

1. Fine linear, clustered
2. Milk of Calcium, clustered
3. Coarse heterogenous, clustered
4. Amorphous, clustered

Discussion: Milk of Calcium

- Milk of Calcium, clustered
  – Apparent change is the most important feature
Case 3. Baseline Screen

Question: What is the best BI-RADS assessment category?

1. BI-RADS 2
2. BI-RADS 3
3. BI-RADS 0
4. BI-RADS 1
Question: What is the best BI-RADS assessment category?

1. BI-RADS 2
2. BI-RADS 3
3. BI-RADS 0
4. BI-RADS 1

Discussion: Screening Mammogram Recommendations

– Options are BI-RADS 0, BI-RADS 2, or BI-RADS 1
– These calcifications are indeterminate without diagnostic evaluation
– No need to describe morphology on screen
– Sufficient to state that there are calcifications in the right breast at 2 to 3 o’clock
Question: What is the best BI-RADS assessment category?

1. Benign – BI-RADS 2
2. Short term follow up – BI-RADS 3
3. Biopsy – BI-RADS 4
4. Biopsy – BI-RADS 5
Question: What is the best BI-RADS assessment category?

1. Benign – BI-RADS 2
2. Short term follow up – BI-RADS 3
3. Biopsy – BI-RADS 4
4. Biopsy – BI-RADS 5

Discussion: Coarse Heterogenous

- Biopsy. BI-RADS 4
- Coarse heterogenous, clustered.
  - 13% likelihood of malignancy upon biopsy
- BI-RADS 5 reserved for fine pleomorphic/linear
  - 70% likelihood of malignancy upon biopsy

Case 4. Screening.

Question: What is the best BI-RADS assessment category?

1. BI-RADS 2
2. BI-RADS 1
3. BI-RADS 0
4. BI-RADS 3
Discussion

• BI-RADS 2 or B-RADS 1
  – Skin, diffuse
  – Inframammary fold (IMF), parasternal, axilla, and around the areola
  – Individual groups <5mm
  – If you mention them, BI-RADS 2

Skin Calcs - Atypical
Case 5. Diagnostic.  
55 year old with new calcifications

Each calcification is <0.5mm
Question: What is the best BI-RADS description of these calcifications?

1. Round, clustered
2. Punctate, clustered
3. Amorphous, clustered
4. Milk of calcium, clustered

Discussion: Punctate

- Round are >0.5mm but <1mm
- Margins are visible
- Do not layer
Question: What is the best BI-RADS assessment category?

1. BI-RADS 0
2. BI-RADS 2
3. BI-RADS 3
4. BI-RADS 4

Discussion

• If new clustered, linear, segmental, or adjacent to known cancer = must biopsy
• These were DCIS upon biopsy
Case 6. Diagnostic

ML Mag

Each calcification is <0.5mm

Question: What is the best BI-RADS description of these calcifications?

1. Coarse heterogenous, clustered
2. Fine pleomorphic, clustered
3. Round, clustered
4. Fine linear/branching, clustered
Discussion: Fine pleomorphic

- Fine pleomorphic, clustered
  - Each calcification usually less than 0.5mm
  - 29% of all biopsied positive
- Coarse heterogenous
  - Usually >0.5mm but <1mm
- Fine linear/branching
  - Contains a branch point


Case 7. Screening.
Case 7. Screening.

Case 7
Question: What is the best BI-RADS description of these calcifications?

1. Fine linear/branching, segmental
2. Vascular, segmental
3. Large, rod-like, segmental
4. Coarse heterogenous, segmental

Discussion: Large rod-like

• Large, rod-like calcifications
  – Associated with duct ectasia
  – Most are >0.5mm
  – Ductal distribution, radiating
  – Occasionally branching
  – Usually seen in women who are >60

• BI-RADS 2 or BI-RADS 1

Question: What is the best BI-RADS description of these calcifications?

1. Fine pleomorphic, regional
2. Fine linear/branching, regional
3. Milk of calcium, regional
4. Large, rod-like, regional
Discussion: Fine linear/branching

- <0.5mm versus large/rod-like >0.5mm
- Branching
- PPV of 70%
- Invasive carcinoma upon biopsy


Case 9. Screening.
Question: What is the best BI-RADS description of these calcifications?

1. Coarse heterogenous
2. Dystrophic
3. Coarse, popcorn
4. Rim

Discussion: Coarse popcorn

- Increasing but conforming to expected pattern
  - Large >2-3 mm
  - Associated with benign-appearing stable mass
- BI-RADS 2
Case 10. Screening.
73 year old with history of prior breast cancer, status post lumpectomy 10 years ago

Question: What is the best BI-RADS description of these calcifications?

1. Rim
2. Fine pleomorphic
3. Amorphous
4. Coarse heterogenous
Discussion: Rim

- Formerly “eggshell,” and “lucent centered”
- Calcium <1mm when viewed on edge
- Fat necrosis
- Calcifications in walls of cysts

Case 12. Diagnostic.
New Calcifications.

ML Mag

CC Mag
Question: What is the best BI-RADS description of these calcifications?

1. Fine pleomorphic, clustered
2. Round, clustered
3. Milk of calcium, clustered
4. Amorphous, clustered

Discussion: Amorphous

- Formerly “indistinct”
- Hazy
- Bilateral diffuse can be benign
- otherwise biopsy
- PPV is 20%
- These were benign
Case 12. Diagnostic after Baseline

Question: What is the best BI-RADS description of these calcifications?

1. Punctate, diffuse
2. Punctate, regional
3. Amorphous, diffuse
4. Round, regional
Discussion: Punctate, Regional

- Regional usually >2cm
- Punctate <0.5mm
- Regional PPV 26%
- OK to BI-RADS 3 since baseline. If not, biopsy.
- These were biopsied and were benign.