

ACR BI-RADS®–US Lexicon Classification Form

For each of the following categories, select the term that best describes the dominant lesion feature. Wherever possible, definitions and descriptors used in BI-RADS® for mammography will be applied to ultrasound.

A. Masses: A mass occupies space and should be seen in two different projections.

Shape (*select one*)

- Oval

- Round
- Irregular

Description

Elliptical or egg-shaped (may include 2 or 3 undulations, i.e. “gently lobulated” or “macrolobulated”)
 Spherical, ball-shaped, circular, or globular
 Neither round nor oval in shape

Orientation (*select one*)

- Parallel
- Not parallel

Description

Long axis of lesion parallels the skin line (“wider than tall” or horizontal)
 Long axis, not oriented along the skin line (“taller than wide” or vertical, includes round)

Margin (*select one*)

- Circumscribed

- Not circumscribed*
 - Indistinct
 - Angular
 - Microlobulated

 - Spiculated

Description

A margin that is well defined or sharp, with an abrupt transition between the lesion and surrounding tissue
 The mass has one or more of the following features: indistinct, angular, microlobulated or spiculated
 No clear demarcation between a mass and its surrounding tissue
 Some or all of the margin has sharp corners, often forming acute angles
 Short cycle undulations impart a scalloped appearance to the margin of the mass
 Margin is formed or characterized by sharp lines projecting from the mass

Lesion Boundary (*select one*)

- Abrupt interface

- Echogenic halo

Description

The sharp demarcation between the lesion and surrounding tissue can be imperceptible or a distinct well-defined echogenic rim of any thickness
 No sharp demarcation between the mass and surrounding tissue, which is bridged by an echogenic transition zone

Echo Pattern (*select one*)

- Anechoic
- Hyperechoic

- Complex
- Hypoechoic

- Isoechoic

Description

Without internal echoes
 Having increased echogenicity relative to fat or equal to fibroglandular tissue
 Mass contains both anechoic and echogenic components
 Defined relative to fat; masses are characterized by low-level echoes throughout (e.g. appearance of a complicated cyst or fibroadenoma)
 Having the same echogenicity as fat (a complicated cyst or fibroadenoma may be isoechoic or hypoechoic)

Posterior Acoustic Features (*select one*)

- No posterior acoustic features
- Enhancement
- Shadowing
- Combined pattern

Description

No posterior shadowing or enhancement
 Increased posterior echoes
 Decreased posterior echoes; edge shadows are excluded
 More than one pattern of posterior attenuation, both shadowing and enhancement

Surrounding Tissue

Identifiable effect (*select all that apply*)

- Duct changes
- Cooper’s ligament changes
- Edema

- Architectural distortion
- Skin thickening

- Skin retraction/irregularity

Description

Abnormal caliber and/or arborization
 Straightening or thickening of Cooper’s ligaments
 Increased echogenicity of surrounding tissue; reticulated pattern of angular, hypoechoic lines
 Disruption of normal anatomic planes
 Focal or diffuse skin thickening (Normal skin is 2 mm or less in thickness except in the periareolar area and lower breasts)
 Skin surface is concave or ill-defined, and appears pulled in

* Note: Irregular is used as descriptor of shape rather than margin

B. Calcifications: Calcifications are poorly characterized with ultrasound but can be recognized particularly in a mass.

Calcifications	Description
If present (<i>select all that apply</i>)	
<input type="checkbox"/> Macrocalcifications	Greater than or equal to 0.5 mm in size
<input type="checkbox"/> Microcalcifications out of mass	Echogenic foci that do not occupy the entire acoustic beam and do not shadow. Less than 0.5 mm in diameter
<input type="checkbox"/> Microcalcifications in mass	Embedded in a mass, microcalcifications are well depicted. The punctate, hyperechoic foci will be conspicuous in a hypoechoic mass

C. Special Cases: Special cases are those with a unique diagnosis or finding.

Special Cases (<i>select all that apply</i>)	Description
<input type="checkbox"/> Clustered microcysts	A cluster of tiny anechoic foci each smaller than 2-3 mm in diameter with thin (less than 0.5 mm) intervening septations and no discrete solid components
<input type="checkbox"/> Complicated cysts	Most commonly characterized by homogeneous low-level internal echoes Complicated cysts may also have fluid-fluid, or fluid-debris levels that may shift with changes in patient's position
<input type="checkbox"/> Mass in or on skin	These masses are clinically apparent and may include sebaceous or epidermal inclusion cysts, keloids, moles and neurofibromas
<input type="checkbox"/> Foreign body	May include marker clips, coil, wire, catheter sleeves, silicone, and metal or glass related to trauma
<input type="checkbox"/> Lymph nodes - intramammary	Lymph nodes resemble small kidneys with an echogenic hilus and hypoechoic surrounding cortex. Found in the breast, including axilla
<input type="checkbox"/> Lymph nodes - axillary	Lymph nodes resemble small kidneys with an echogenic hilus and hypoechoic surrounding cortex. Found in the breast, including axilla

D. Vascularity

Vascularity (<i>select one</i>)
<input type="checkbox"/> Not Present or not assessed
<input type="checkbox"/> Present in lesion
<input type="checkbox"/> Present immediately adjacent to lesion
<input type="checkbox"/> Diffusely increased vascularity in surrounding tissue

E. Assessment Category (*select one*)

Assessment Category (<i>select one</i>)	Description
<input type="checkbox"/> Category 0 – Incomplete	Additional imaging evaluation needed before final assessment
Final Assessment	
<input type="checkbox"/> Category 1 – Negative	No lesion found (routine follow-up)
<input type="checkbox"/> Category 2 – Benign finding	No malignant features; e.g. cyst (routine follow-up for age, clinical management)
<input type="checkbox"/> Category 3 – Probably benign finding	Malignancy is highly unlikely, e.g. fibroadenoma (initial short interval follow-up)
<input type="checkbox"/> Category 4 – Suspicious abnormality	Low to moderate probability of cancer, biopsy should be considered
<input type="checkbox"/> Category 5 – Highly suggestive of malignancy	Almost certainly cancer, appropriate action should be taken
<input type="checkbox"/> Category 6 – Known cancer	Biopsy proven malignancy, prior to institution of therapy

This US lexicon classification form is for data collection and does not constitute a written US report.