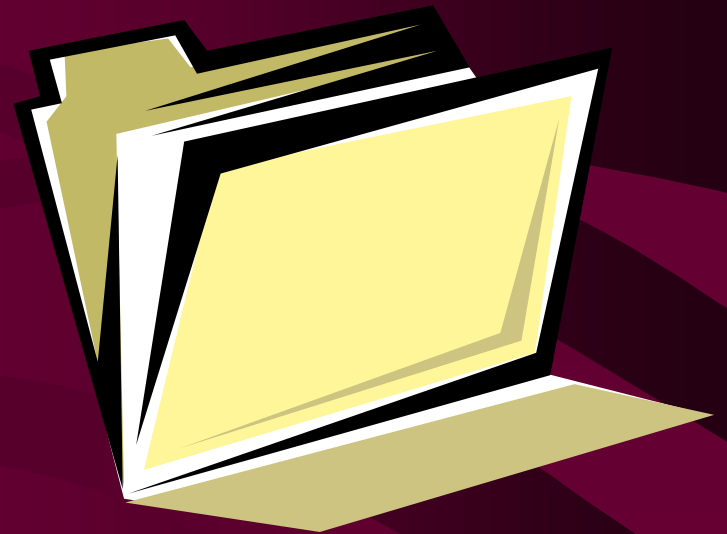


Sonographic Terminology

Grateful appreciation to Richard A. Lopchinsky,
MD, FACS and Nancy H. Van Name, RDMS,
RTR, and Marlene Kattaron, RDMS

Ultrasound Reports

- Documentation of exam
- Findings and impression
- Accepted terminology improves communication and expedites appropriate patient care



Report Features

Echogenicity

Characteristic

Texture

Pattern

Location

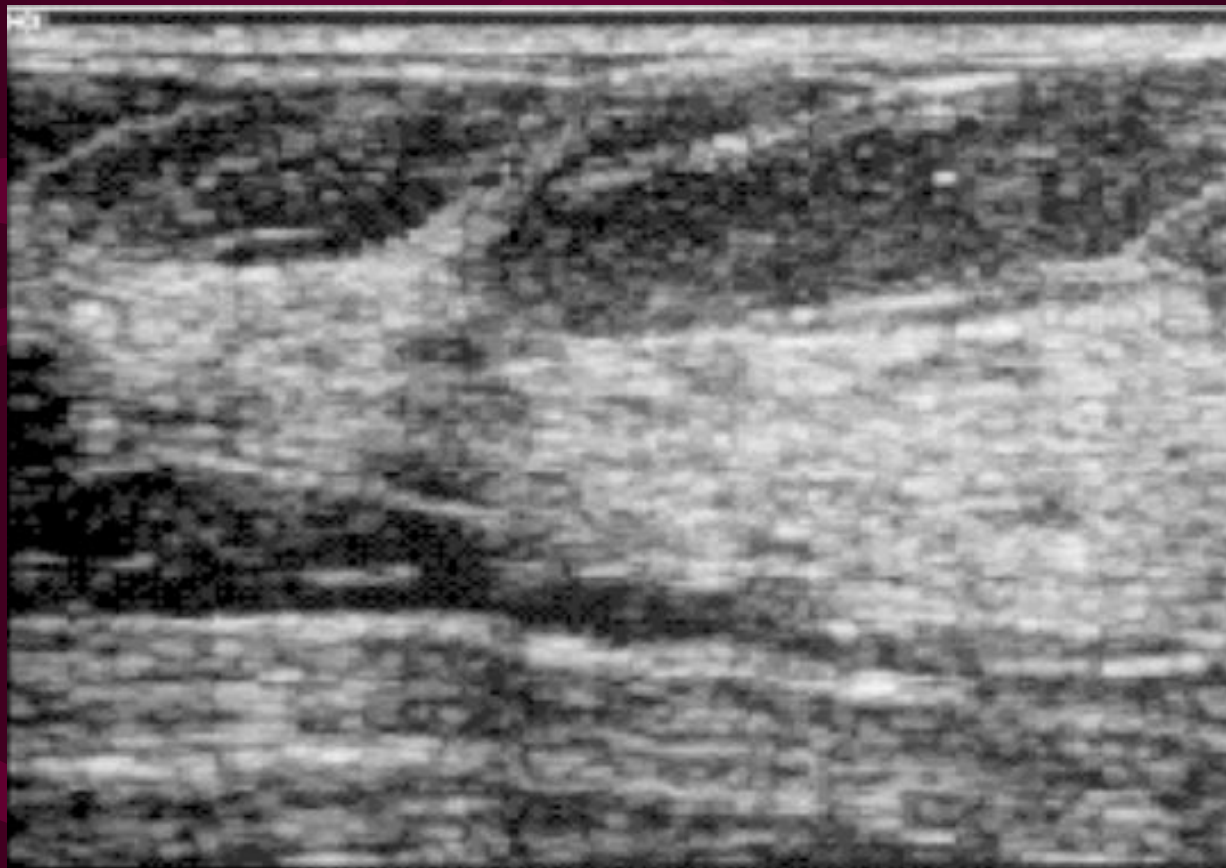
Size/Shape

Number

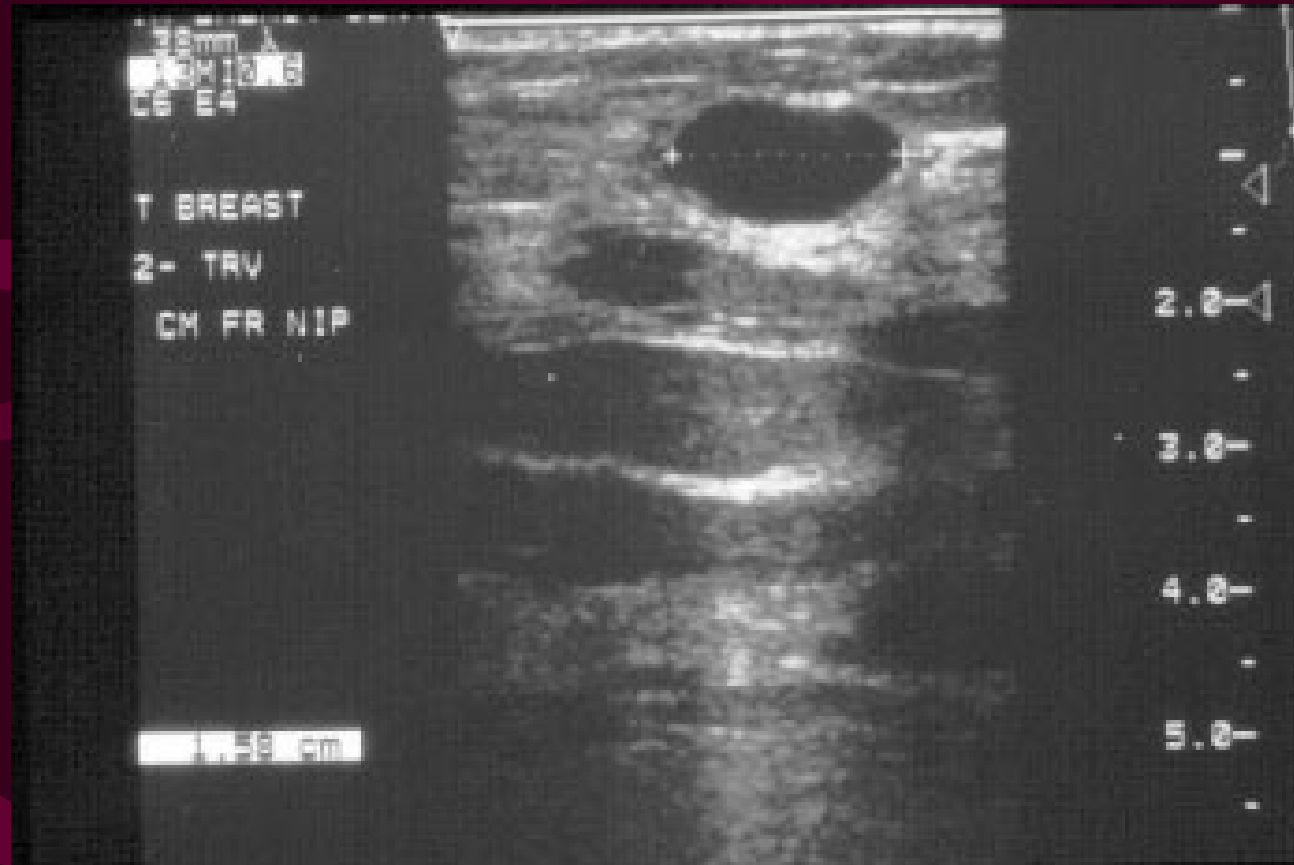
Echogenicity

- *refers to amplitude level of returning echo*
- echo “brightness” directly related to the type and density of the tissue
 - **echogenic or hyperechoic**
 - echo producing = bright
 - **echopenic or hypoechoic**
 - echo poor = low, dark
 - **anechoic**
 - non-echo producing = black

Cooper's ligaments are more echogenic than the normal glandular tissue; the retromammary fat is less echogenic than the dense fibroglandular tissue.



Anechoic breast mass



Characteristic

- *Refers to tissue composition*
 - **Cystic** = meets all criteria of a cyst
 - **Complex** = cystic and solid components
 - **Solid** = no cystic components

Criteria of a Cyst

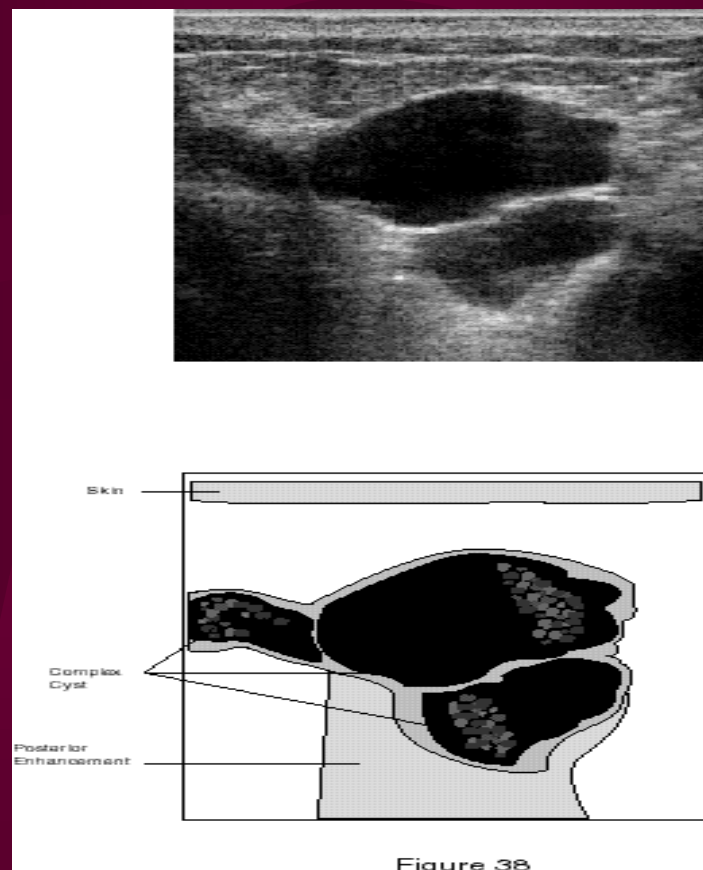
- no internal echoes
- rounded, smooth borders
- good through transmission (good backwall)
- posterior acoustic enhancement



Criteria of a Complex Structure

- *any mass that has both cystic and solid components*
- a cyst with septations or debris = complex mass
- a solid mass with a hemorrhagic or necrotic center = complex mass
- generally the more solid component seen in a complex mass the higher the suspicion for malignancy

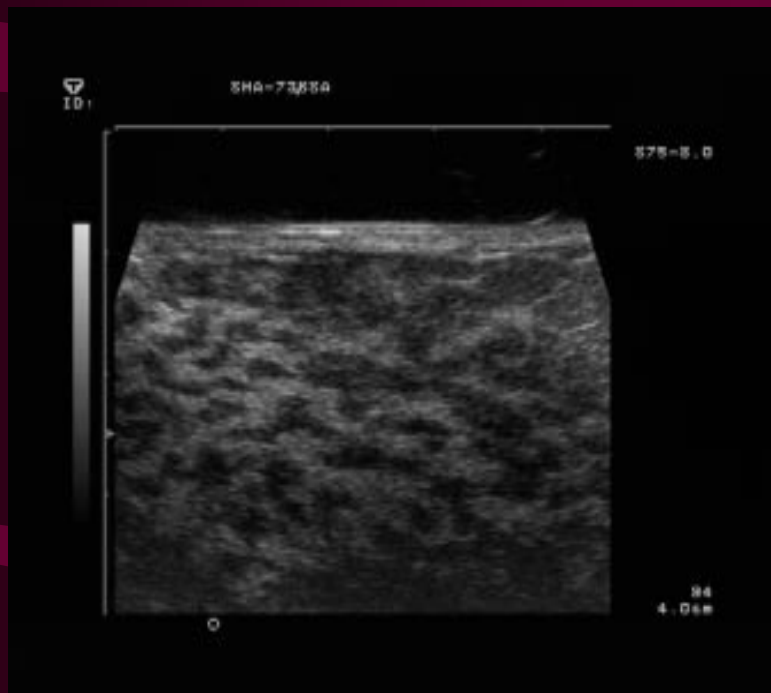
Complex Breast Cyst



Texture

- *Refers to tissue “graininess”*
 - **Fine** = tissue particles small, close together
 - **Coarse** = tissue particles large, spaced out

Breast: Coarse



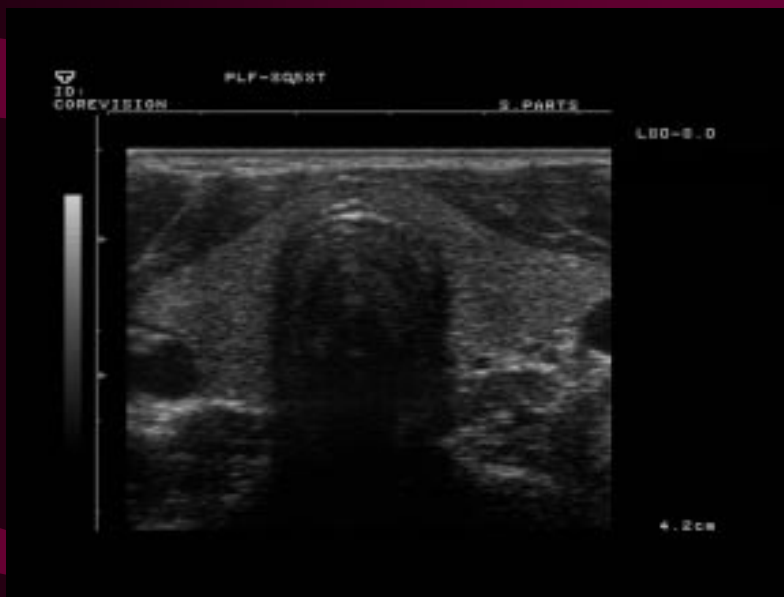
Thyroid: Fine



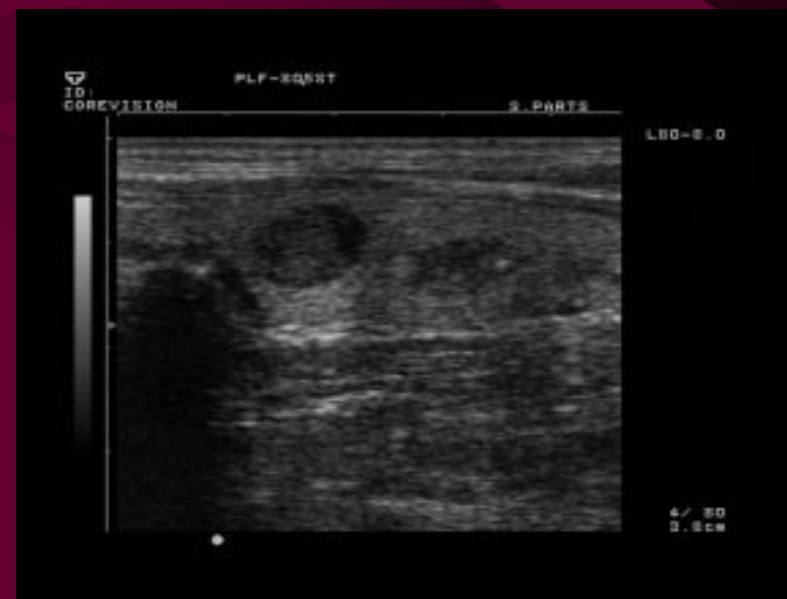
Pattern

- *Refers to uniformity of tissue*
 - **Homogeneous**
 - uniform echoes
 - echo level same throughout structure
 - **Heterogeneous**
 - non-uniform echoes
 - echo level varies in the structure

Thyroid:
Homogeneous



Thyroid:
Heterogeneous



Location

- *Refers to location of structure or mass relative to adjacent structures*

i.e., “Mass is in right posterior lobe of liver, adjacent to right renal superior pole.”

“Mass is at 3:00 position, right breast, adjacent to areolar region.”

Size, Shape, Number

- Measure abnormal masses with calipers
- Describe shape of mass/structure -- rounded, lobulated, irregular
- Document or state number of masses

Cysts vs. Solids

- cysts must meet all four criteria to be considered a “true” or “simple” cyst
- “simple” cysts contain clear serous fluid and are almost always benign
- solids have internal echoes throughout

Complex vs Heterogeneous

- Complex masses contain **fluid** areas and **internal echoes**
- Solid heterogeneous masses are *completely solid*, but may contain varying echogenicity levels

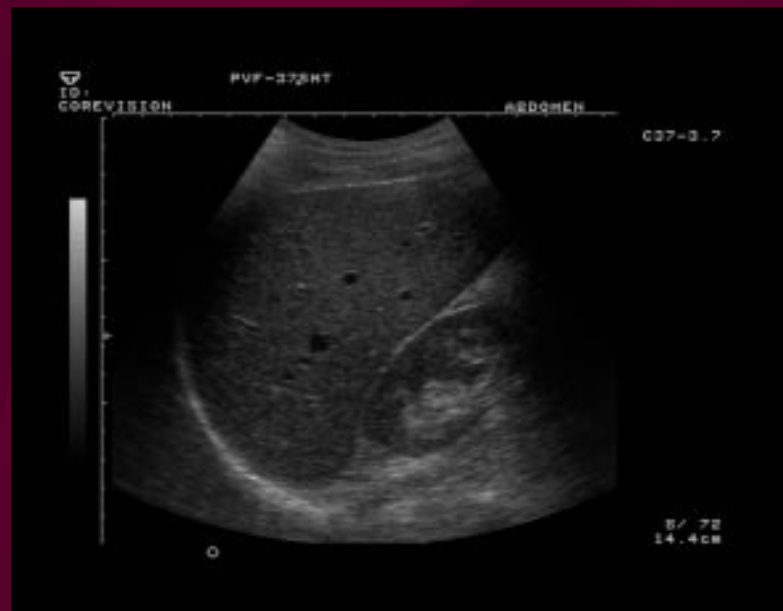
Scan Planes

- **Sagittal** -- divides body into right and left halves; vertical plane
- **Transverse** -- divides body into superior and inferior halves; horizontal plane

Sagittal Orientation

- **Sagittal** -- probe marker points toward patient's head

Superior is to the **LEFT** of the monitor.



Transverse Orientation

- **Transverse** -- probe marker points toward patient's right

Patient's left is at **RIGHT** of monitor.



Transducer Orientation

- Proper transducer orientation is achieved when the monitor image “appears” to move in the opposite direction from transducer movement!