Axillary Ultrasound
Breast Related

Updated 3/6/2025

Indications:
May include but not limited to investigating a palpable mass or axillary abnormality, call back or follow up of a mass, follow up to prior ultrasound or call back from breast imaging, evaluation of axilla with suspicious breast mass.

Patient Preparation:
There is no preparation for this exam

Equipment Selection and Settings:
The breast preset and a high frequency linear transducer of 10MHz or above should be used. A single focal zone at the are of interest must be used. Axillary subpreset should be utilized, as needed.

Patient Position:
The patient should be propped up on an angle using a wedge with the ipsilateral arm raised above the patient's head.

Imaging:

Patients with Focal Palpable Mass in the Axilla

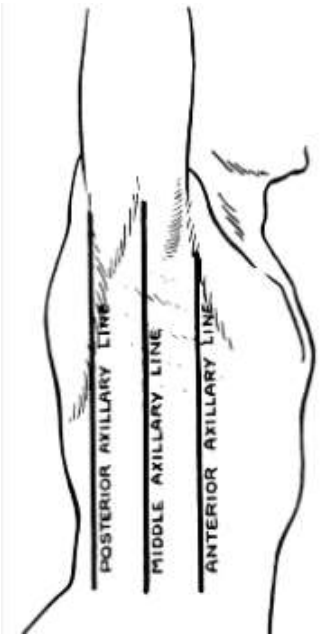
- Targeted scan over aera of concern in transverse and longitudinal planes
- Measure any abnormal findings in 3 orthogonal planes with and without calipers
- Color Doppler (Use low wall filter and low frequency settings. Color gain should be high enough to detect subtle flow without causing noise artifact)
- Annotate image as palp per patient/doctor

Patient with Suspicious Findings

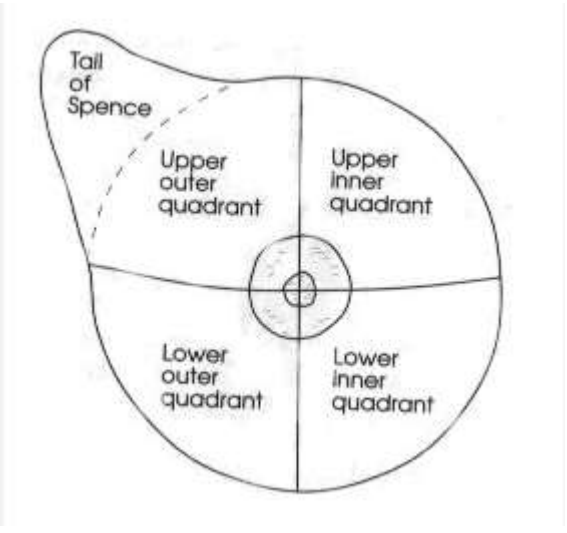
- Scanning must be performed broadly to include the entire extent of the axillary contents
- Level I lymph nodes of the axilla should be covered from lateral and inferior to the pectoralis minor muscle
- Scan through the axillary Tail/Tail of Spence as well as the Axillary Line lateral rib margin and inferior to the axilla to document abnormalities, if present. It is best to scan the Axillary Line starting inferior and scan superiorly due to the sentinel node location being the most inferior node that can be seen.

Abnormal Axillary Lymph Node Documentation

- If an abnormal lymph node is present, measure the cortical thickness in AP (in excess of 0.35cm is abnormal)
- Scan the entire axilla in order to identify the number of abnormal lymph nodes. Scan through the axillary Tail/Tail of Spence as well as the Axillary Line (lateral rib margin and inferior to the axilla) to document abnormalities, if present. For the Axillary Line, start inferior and scan superiorly due to the sentinel node location being the most inferior node that can be seen.
- If no other abnormal lymph nodes are present, take one image of the axilla to include a normal lymph node, if visible. Examination of this side is now complete. Comparison views of the contralateral side should also be done following the same scanning protocol.
- When multiple abnormal lymph nodes are present, number each abnormal lymph node starting with 1 being the most inferior and up to 5 abnormal lymph nodes moving toward the superior aspect of the axilla.
- Measure the cortical thickness of each abnormal lymph node (up to 5).
- Measure the largest abnormal lymph node in 3 orthogonal planes. (Pathologically enlarged is greater than 10mm in short axis dimension)
- Color Doppler image must be taken of abnormal lymph nodes using a low wall filter with color gain high enough to detect subtle flow without noise artifact (can show multiple in one image, whenever possible).
- If abnormal lymph nodes are seen at level II (posterior to the pectoralis minor) or level III (medial to the pectoralis minor), annotate the location, measure the cortical thickness and include a color Doppler image.
- Abnormal lymph nodes are characterized by round shape, effaced hilum or absence of fatty hilum, increased concentric or focal cortical thickening.

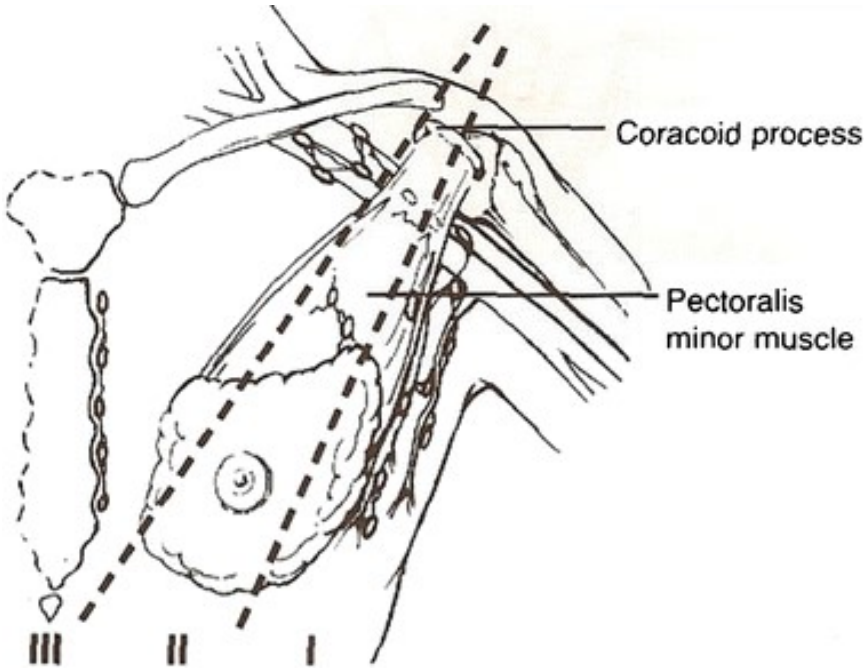


Axillary Line



Axillary Tail/Tail of Spence

Axillary Lymph Node Levels



The lymph node-bearing area is divided into three regions: Level I is lateral and inferior to the pectoralis minor muscle; Level II is posterior to the pectoralis minor muscle; Level III is deep and medial to the pectoralis minor muscle inferior to the clavicle.