

Back to the Basics

Angie Ogren RT(R)(M)(BD)(BS)
Piper Breast Center – Minneapolis
2-2-19

Objectives

- Refresh basic positioning skills
- What patients recommend to help them get better images

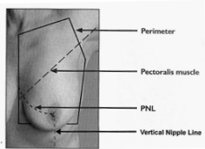
ACR Mammography Accreditation
Program Failure Rate

Imaging Category	Failure Rate (%)
Positioning	1250 (20)
Exposure	944 (15)
Compression	887 (14)
Sharpness	806 (13)
Contrast	785 (13)
Artifacts	703 (11)
Labeling	465 (8)
Noise	288 (5)
Total	6128 (100)

SBL

Positioning

- Bring the breast back to its true anatomical position or the position that will best visualize that body part.
- Use palpable and visible anatomical landmarks

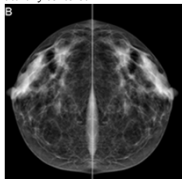


CC Projection

- The detector should be positioned at the level of the raised inframammary crease. This means that the posterior breast tissue must be lifted before positioning the detector.
- Drape the medial contralateral breast on the corner of the IP to avoid pulling away medial tissue of the breast.
- The patient's head should be turned away from the side being examined
- The patient should stand with feet slightly apart and with weight equally distributed for stability
- The arm closest to the breast being examined is positioned by the patient's side with the humerus externally rotated to keep the shoulder from the compression field and to avoid rotating the patient medially. The contralateral arm can be raised for support.
- Sternum flush with bucky
- Check for gap
- Nipple centered
 - Otherwise, nipple will point to missing tissue

Visualization of Breast on CC

- The nipple should be in profile and centered.
 - However, do not eliminate breast tissue to center the nipple if the nipple is not naturally centered. (Document)
- PNL should measure within 1 cm of MLO
 - Depends on a well positioned MLO
- Pectoral muscle can be seen in 30% of women
 - But don't compromise medial breast tissue to obtain this
- Pectoral muscle in central and medial breast
 - Improper positioning if central and lateral
- Retroglandular fat is visualized behind glandular breast tissue

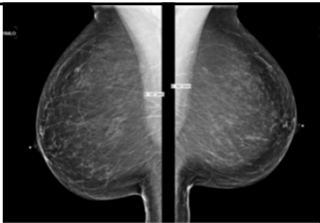


MLO Position

- The detector must be placed in the axilla with the arm draped over the top of the IP. If the IP is too high, the arm is raised too high and the pectoral muscle is not imaged entirely. Similarly, positioning the IP too low also results in poor imaging of the pectoral muscle. IR height should be at the level of the sternoclavicular joint
- The degree of the tube angulation varies between 30 – 70, depending on patient body habitus. Shorter, stockier patients require less angle and tall patients requiring more. Typically male patients require the steepest angulation. The main purpose of varying the tube rotation is to position the IP parallel to the pectoralis muscle.
- The anterior breast must be supported before compression to prevent sagging and distortion of the ductal architecture.
 - To prevent sagging – use the out and nipple-up maneuver
- Patient facing machine with feet, hips and shoulders forward
 - This will help visualize the IMF
- Relax the shoulder and chest muscle and have the shoulder forward and down

Visualization of Breast on MLO

- Optimal pectoral muscle
 - Length
 - To nipple line or below
 - Shape
 - Convex anterior border
 - Wider superiorly
 - Gradually narrows inferiorly
- Inframammary fold is visualized and open with no overlap on the breast or abdominal tissue.
- Retroglandular fat is visualized behind glandular breast tissue
- The anterior breast should be well compressed with adequate separation of the tissue and without drooping.



Tips and Tricks

- Tell your patient to slouch
- If the IMF is not horizontal put a slight angulation on the tube for the CC view
- For patients with protruding abdomens, on the CC view have the step back slightly from the detector and then lean in. On the MLO views reduce your angulation.
- Kyphotic patients, for the CC view you can try doing from below or having them sit in a chair and slouch. MLO view try doing a LMO

Compression

- Compress until the breast is taught
- Compression should not be applied to cause the patient severe pain. Patients have different sensitivity and the same force of compression should not be applied on all patients at all times.
- Communication
- Getting the patient to relax

Patients recommendations

- Don't run away
- Talk me thru it
- It's still connected
- Don't push me around.... guide
- Remind me to Relax
- Breath
- Do your homework

References

2016 ACR Slide presentation
Mammography Positioning Guidebook by Louise C Miller, RTRM
My amazing patients!

To Contact Me

Angie Ogren RT(R)(M)(BD)(BS)
Angela.ogren@allina.com
612-863-5953
