

Happy National RAD Tech Week

To every radiologic technologist who shows up with skill, care, and heart. . . **THANK YOU.**
Your expertise saves lives every day, and we're proud to celebrate you! ❤️



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M.E. at Sea 2025

TOP 10 TIPS FOR MAMMOGRAPHERS

Louise Miller, R.T.(R)(M)(ARRT), CRT(M), FSBI, FNCBC
Director of Education, Mammography Educators



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#10 – Changing the Compression Paddle Size



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Compression Paddle Sizes

- 18x24
- 24x30
- Half paddle/implant paddle



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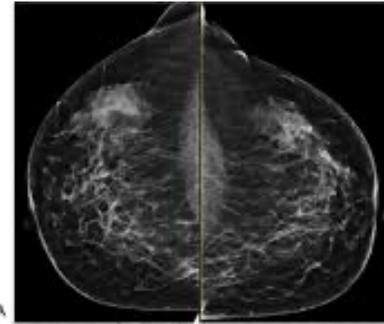
Compression Paddle Sizes



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18X24 vs 24x30 on CC



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Short Thorax



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Solution



24x30



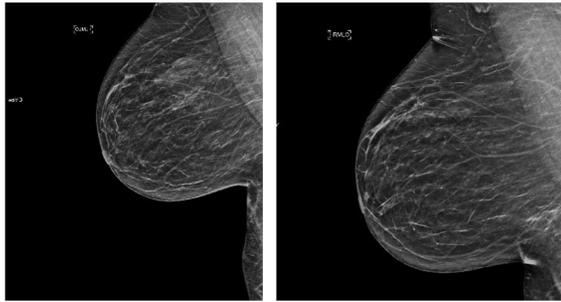
18x24



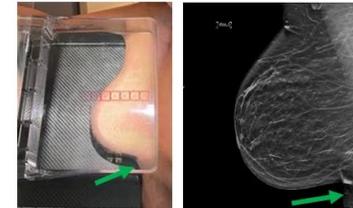
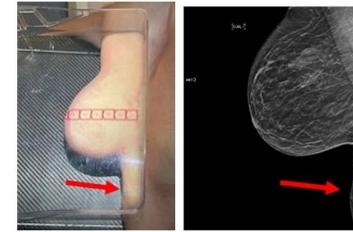
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Centering on IR – Changing Paddles



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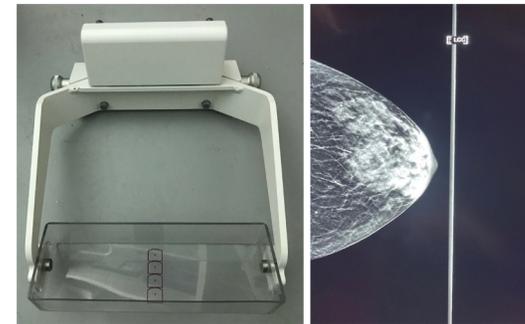
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Use the Half (Implant) Paddle



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Use the Half (Implant) Paddle



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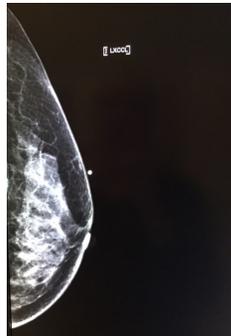
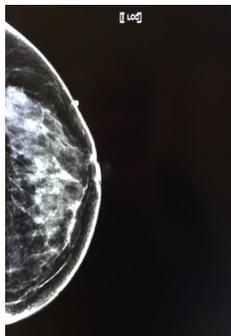
#9 – Use of the XCCL



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#9 – Use of the XCCL



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An XCCL is a Variation of the CC

- Should not be angled – Use 0 degrees
- Patient should not be angled or leaning back
- Patient's body should be at 45-degree angle to IR
- Nipple should be pointing towards the upper corner of the image receptor



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Use of the XCCL in Screening

- Used on a *baseline* mammogram when posterior breast tissue is not visualized on the CC.
- On subsequent screening mammograms, if glandular breast tissue is imaged back to the retromammary fat space, an XCCL *does not* need to be done.
- *There is no data that shows the use of XCCLs for screening find more breast cancers!*



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Use of the XCCL in Screening

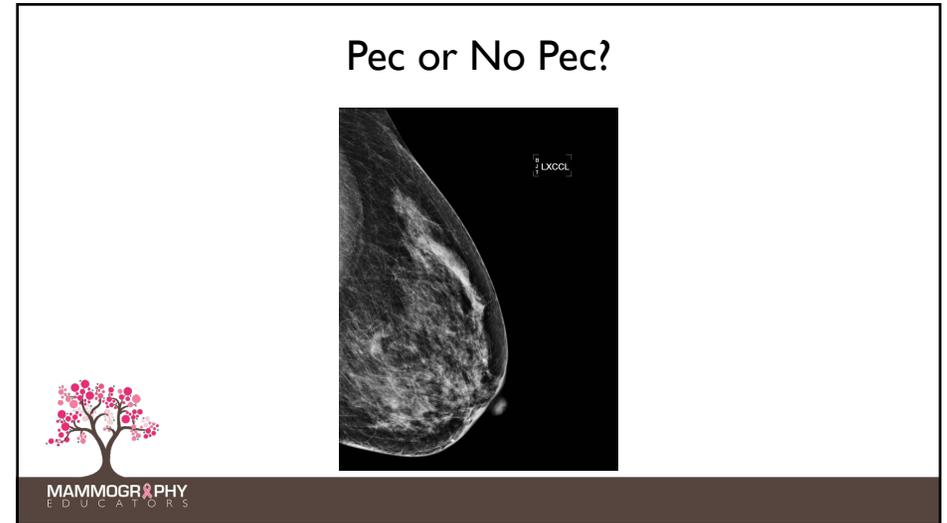
- The only published available data on the use of the XCCL in screening (Cardenosa, 1994) states that it is needed in less than 10% of all screening exams.
- Currently, expert breast imaging radiologists in the US, report that the XCCL is used/needed on less than 3% of all screening exams.



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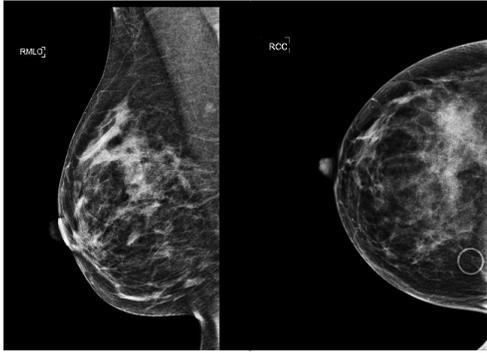
Pec on the XCCL

Visualization of pectoralis muscle may occasionally be seen but is not a requirement and not preferred as it may indicate the tube or patient is “angled”.



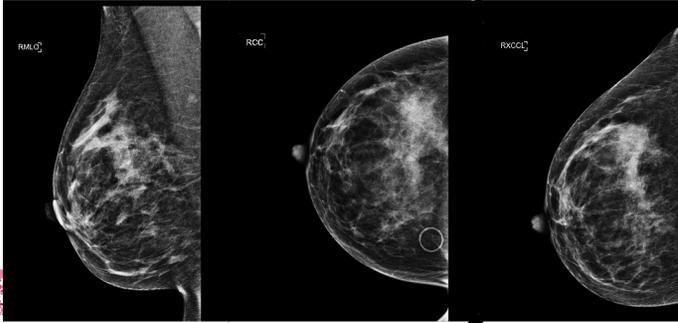
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The Use (and Misuse) of the XCCL



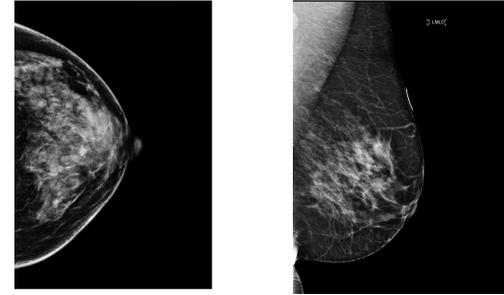
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Use of the XCCL

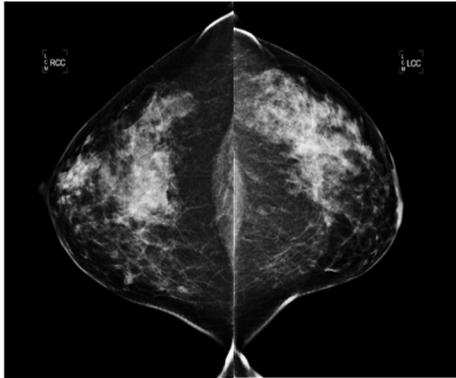


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Subsequent Screening Mammogram No XCCL Needed!

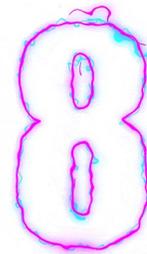


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#8 – Evaluation of the Pec on the MLO



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Criteria – All Related to Patient Position

Patient must be facing forward with both feet, hips and shoulders forward.



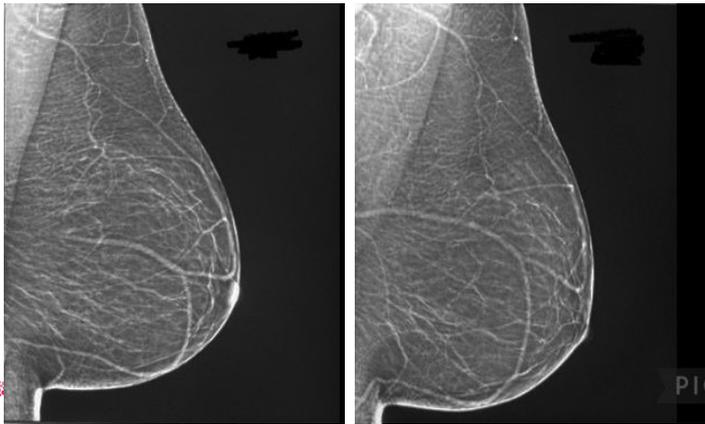
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Criteria – Equipment Related Factors

- Width – related to the placement of the IR in the axilla
- Length – Angle of the IR
- Shape – Height of the IR



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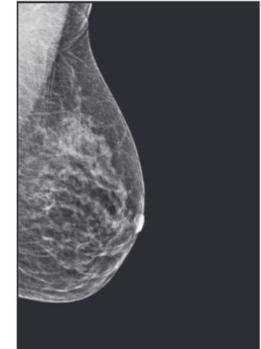


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Proper Degree of Angulation



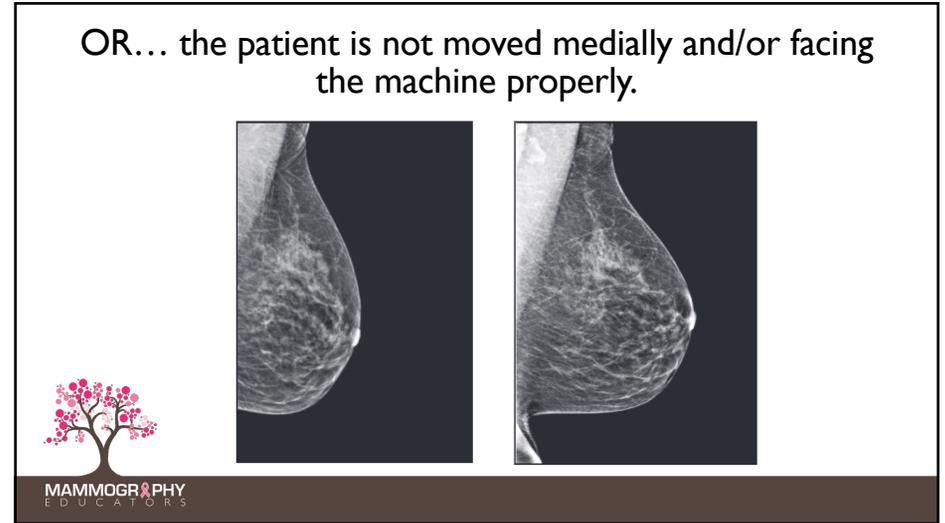
Angle Too Steep



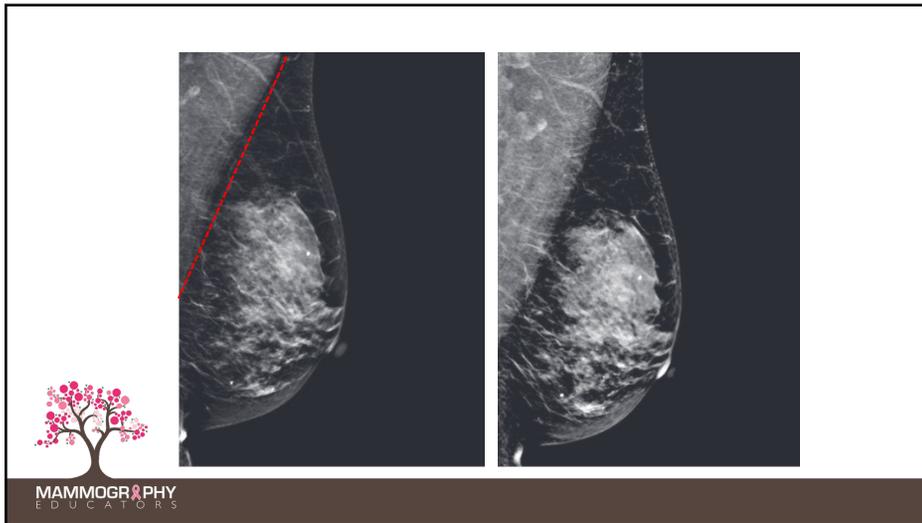
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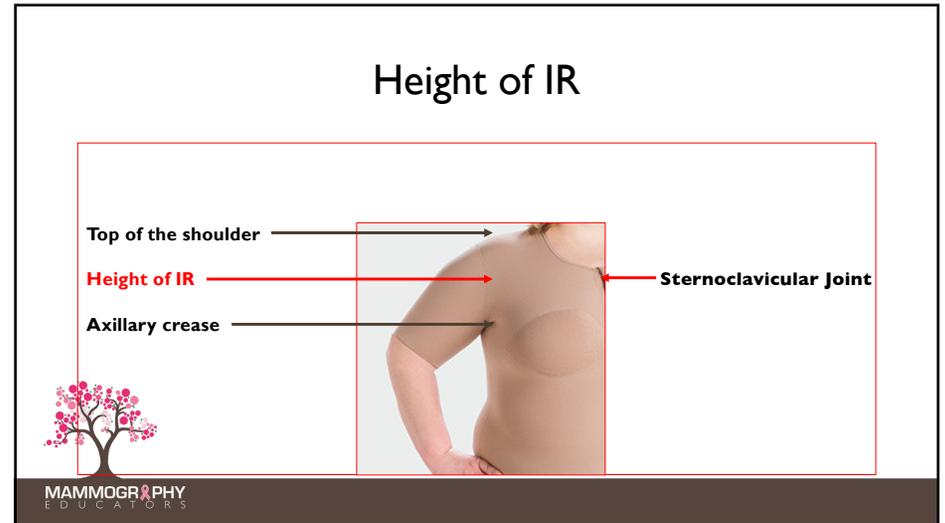
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#7 – Acknowledge Patient’s Feelings/Concerns



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“The last time I was here...”

- Acknowledge feelings
- Tell her how this is going to be different
- “We are going to do this together.”



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“They didn’t do this last time.”

Ask yourself: Would you rather be right... or happy?



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“What about the radiation?”

- Don’t use technical terms: Rads, MilliSV, AGD etc!
- Don’t use analogies



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“What about the radiation?”

I really appreciate your concerns, but I can assure you that the radiation doses are carefully monitored to make it very safe for you and me!



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#6 – Skin and Fat Folds... Repeat or Not to Repeat?



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What is a “Repeatable Offense”?



To be, or not to be, that is the question.

~ William Shakespeare

AZ QUOTES



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To repeat or not to repeat?
That is the question.

- Louise Miller

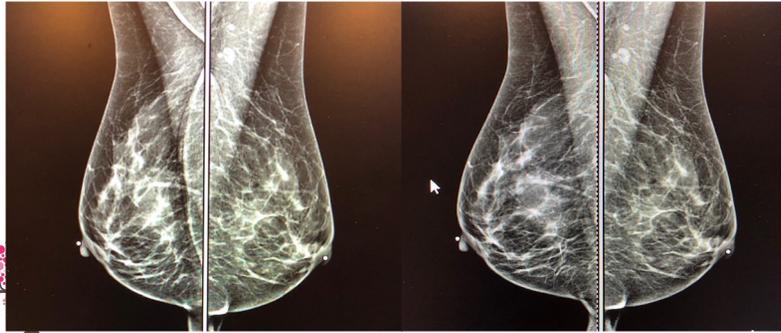
AZ QUOTES



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Folds

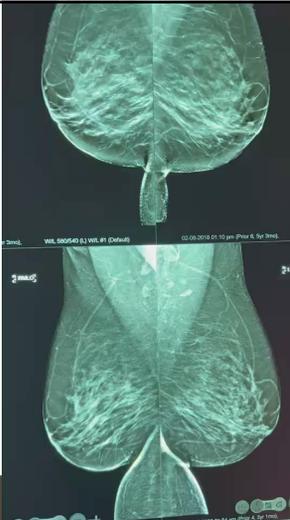


Solution

The technologist's hand must slide down the lateral side of the breast.



Never Pull
Back Tissue!



#5 – Visualization of the Pec Muscle on CC

5



Reasonable Expectations for the CC

	Positioning Criteria	FFDM	DBT	Bassett
CC View	Pec Muscle Visualized	48%	50%	32%
	No Motion	100%	98%	-
	Lateral Glandular Tissue Included	73%	81%	37%
	Nipple in Profile	83%	85%	89%
	Skin or fat folds	39%	47%	10%
	Medial Location	16%	23%	-
	Lateral Location	29%	32%	-
	Visualization of Cleavage	41%	34%	-
	Requires More Than One View	5%	7%	-

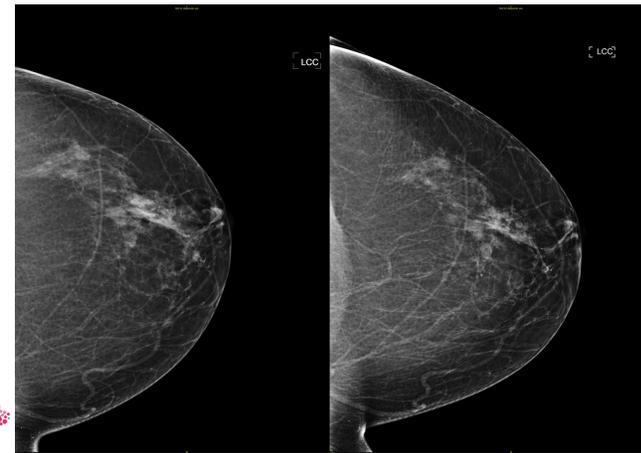


Standardized Method*

1. Elevate the breast to the correct height
2. Pull the breast on with both hands
3. Anchor the breast
4. Push the patient in with your elbow/arm
5. "Crawl" up on the chest wall to include more pec muscle



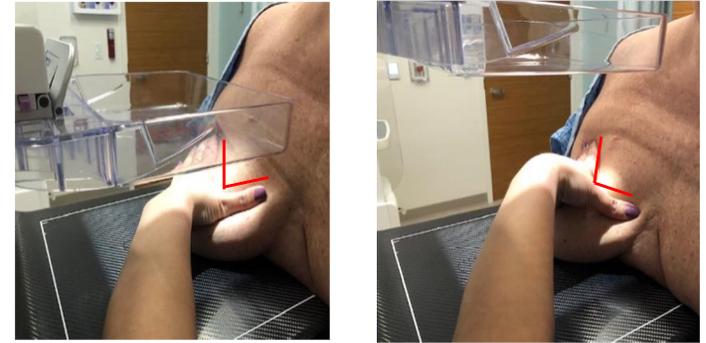
Elevate the breast so the PNL is perpendicular to the chest wall and *pull* the breast on with both hands.



Thumbs Up... Wrist Straight!



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#4 – Use of the Lateral (ML/LM)



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90 Degree Lateral – **ML** Mediolateral (Direction of Beam)

- Better visualization of lesions located in lateral breast
- Localization of lesion in a different projection
- Images area of breast missed on the MLO (IMF)
- Triangulate lesions seen on MLO but not CC
- Proves the existence of benign calcifications (milk of calcium)



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90 Degree Lateral – **LM** lateromedial (Direction of Beam)

- Better visualization of lesions located in medial breast
- Localization of lesion in a different projection
- Shows true orientation of an area of concern inferior or superior of the nipple (in the sagittal plane)
- Used for difficult body habitus when MLO is difficult
- Proves the existence of benign calcifications (milk of calcium)

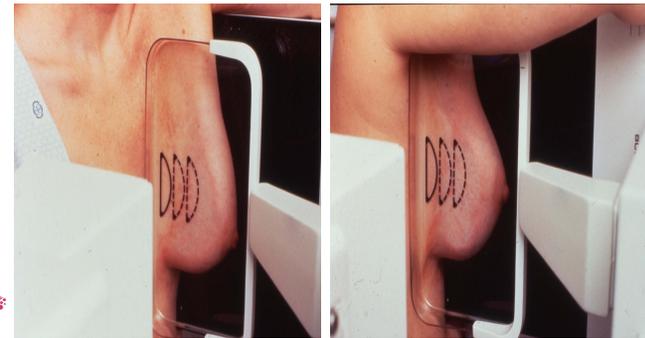


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Mediolateral

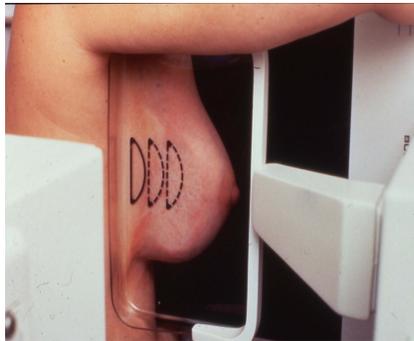
Lateromedial



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My Favorite Go-To View?!

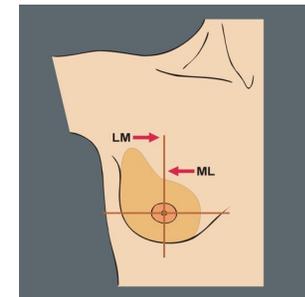


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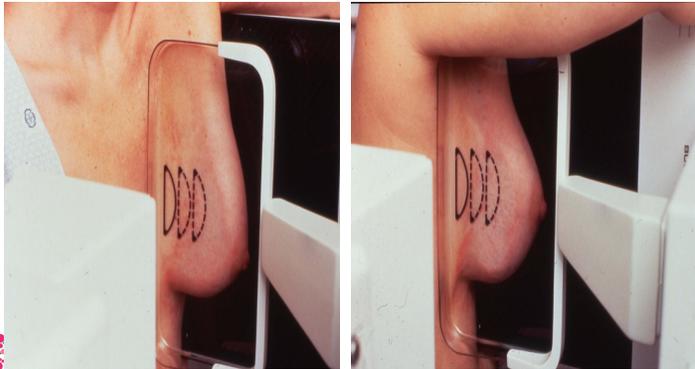
Superior or inferior orientation to the nipple:

LM or ML



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The Use of the Lateral

- Shows effects of gravity on air fluid levels (Milk of Calcium)
- Used as a “tie breaker” view (to overcome superimposition of structure)
- Visualizes the breast in the sagittal plane (demonstrates an area of concern superior or inferior to the nipple)



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Why do the LM?

- When you did the MLO, you showed the lateral breast in better detail. The LM shows the medial breast in better detail.
- The LM takes advantage of the lateral mobile border of the breast and thus facilitates positioning



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Why do the LM?

- The hardest part of the breast to image (and the area most often missed on the MLO) is the posterior medial breast.
- If done properly (off-setting the IR into the contralateral breast), you will be able to get deeper against the chest wall.



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Why do the LM?

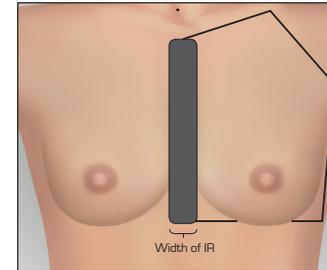
- There is no issue of the contralateral breast impeding the path of the compression paddle



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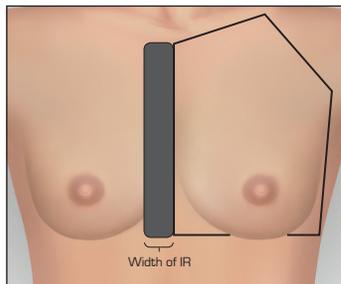
Improperly positioned LM with breasts separated so middle of the IR is centered on midsternal line thus excluding deep medial breast tissue on the side you are imaging.



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Properly positioned LM with breasts separated so *top edge of the IR* is centered on midsternal line and the width of the IR pressing against the contralateral breast.



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Lateromedial – LM (Front)



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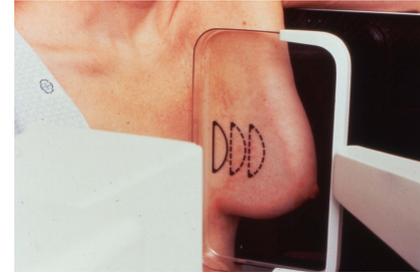
Lateromedial – LM (Back)



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ML – Mediolateral

Opposite breast must be pulled back to allow the compression paddle to pass and may therefore eliminate visualization of deep medial breast tissue.



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#3 – Seated Mammograms



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Seated Mammograms

- Unstable patients
- Patient who cannot stand
- Kyphotic patients



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Standing



Seated



Courtesy: Robyn Hadley



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Reduce Fall Risk



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Patients with Walkers

- Keep the walker next to the machine.
- Make sure there is a chair close by so she can sit down between views, if needed.
- Let them hang on to the bottom of the IR.



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Patients with Walkers

- Assess stability.
- When in doubt, sit her down!
- Get her to sit up as straight as possible in the chair.
- Have her sit as far forward in the chair as possible (use pillows to “bolster” her).
- Move foot pedals out of the way.



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Patients in Wheelchairs

- Remove the arms from the chair.
- Have the patient sit up as straight as possible in the chair.
- Have the patient sit as far forward as possible in the chair (use pillows to “bolster” them).
- For the MLO, turn the wheelchair 45 degrees away from IR.



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Wheelchair – CC View

Sit the patient forward in wheelchair.

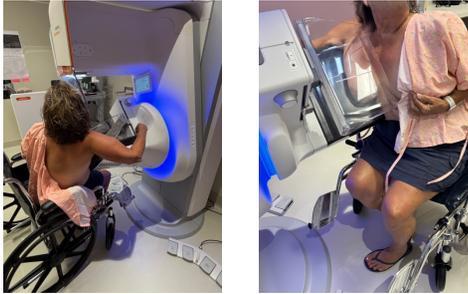


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Wheelchair – MLO View

Turn the wheelchair 45 degrees away from the IR.



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#2 – Extremely Large Breasts



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Extremely Large Breasts



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Extremely Large Breasts: Challenges

- Volume of breast tissue
- Weight of the breast
- Limited size of IR
- Increased probability of stretching/tearing of the skin (especially in IMF)
- Protruding abdomen



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Extremely Large Breasts: Tips

- Perform a high and low MLO, if needed
- Do an anterior compression view, if needed
- To help increase visibility of the IMF, have the patient lift and flatten her contralateral breast



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Extremely Large Breasts: Tips

- Hold the breast up higher than you think you need
- Make sure it is held up *and* out
- **Don't let go** until compression is complete



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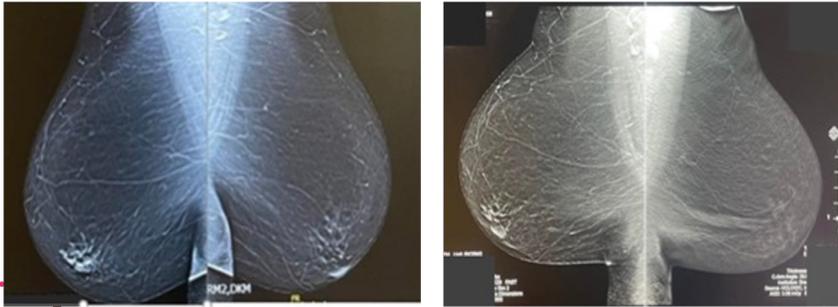
FIX IT! “Knuckle Table”



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Holding the Breast in the Up and Out Position Until Compression is Complete



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Extremely Large Breasts: Challenges

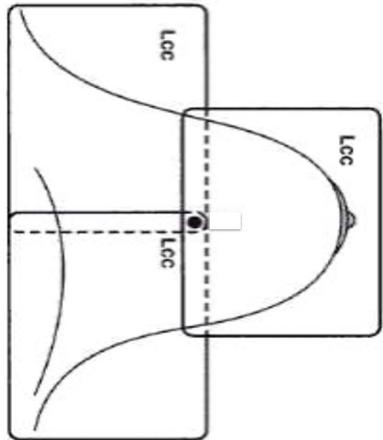
Biggest challenge is that multiple images have to be used and then “piece” them together, making sure that breast tissue was not “missed”.

- “Mosaic” or “tile” the breasts in segments.
- Use “market” to designate overlap.



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#1 – Empathy



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This is personal!

Each and every patient belongs to someone.

Take the time to see them as such.



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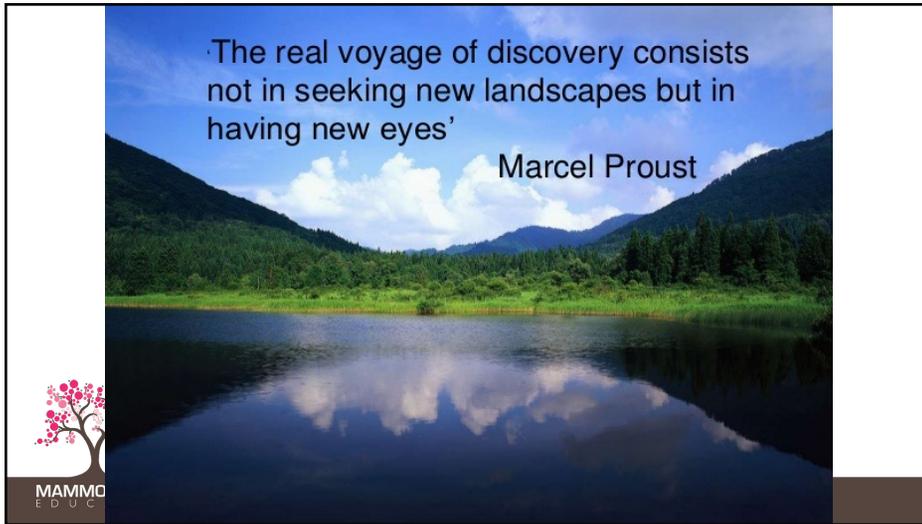
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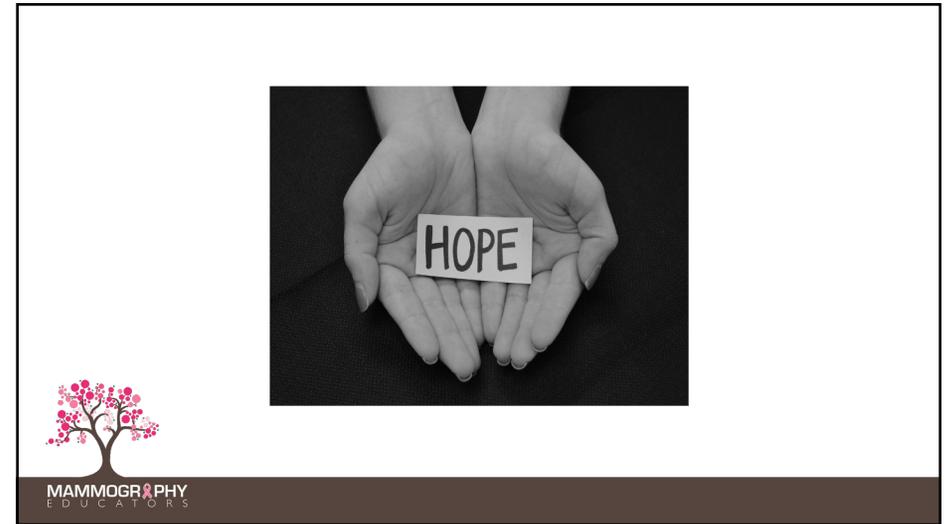


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mammographyeducators.com

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