

# TOP TEN TIPS FOR MAMMOGRAPHERS

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## Tips and Tricks

- Image Evaluation
- Ergonomics
- Communication




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## Tips and Tricks

- **Image Evaluation**
- Ergonomics
- Clear Communication




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## Image Evaluation



- Measuring the PNL



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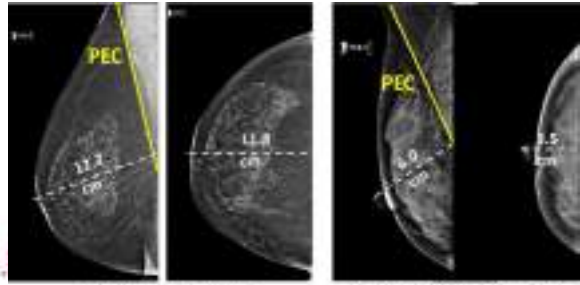
## How to Correctly Measure the PNL

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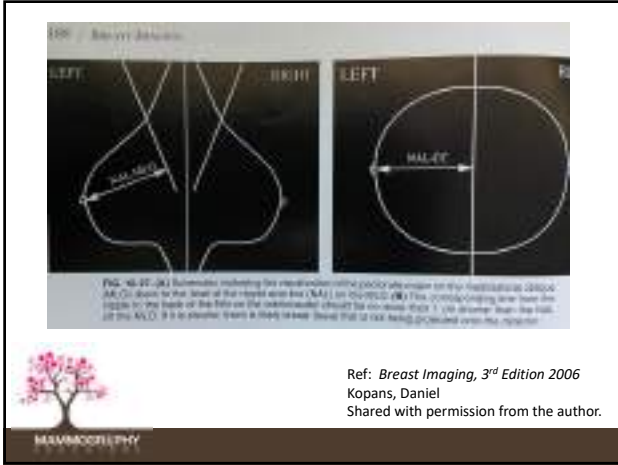
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## Example of BAD information found online

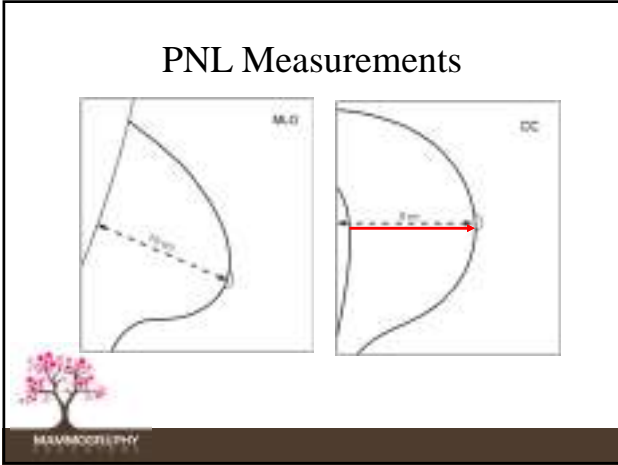


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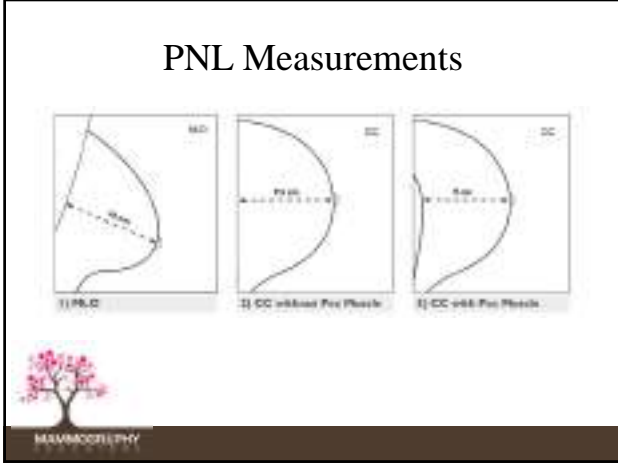
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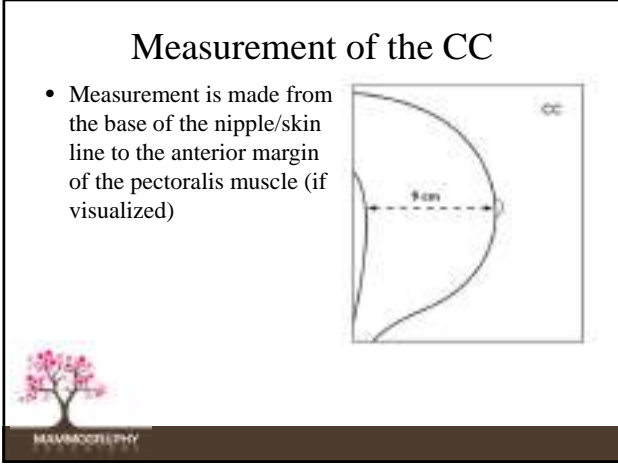
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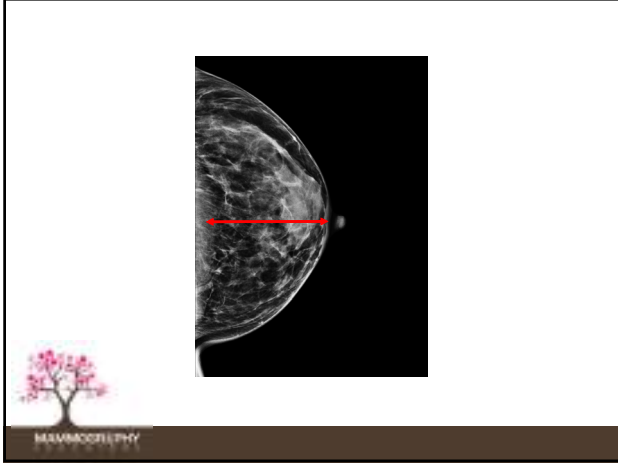
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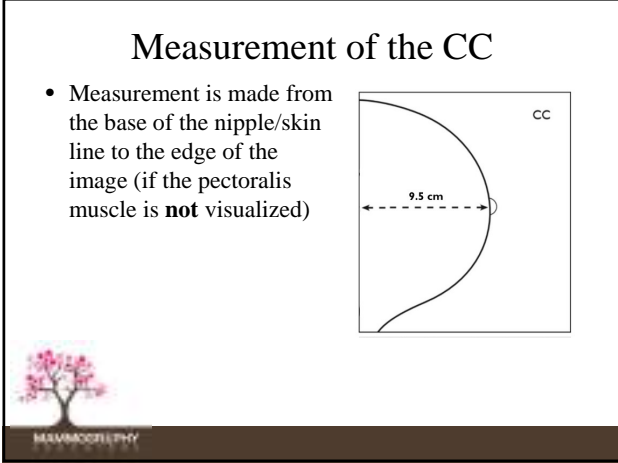
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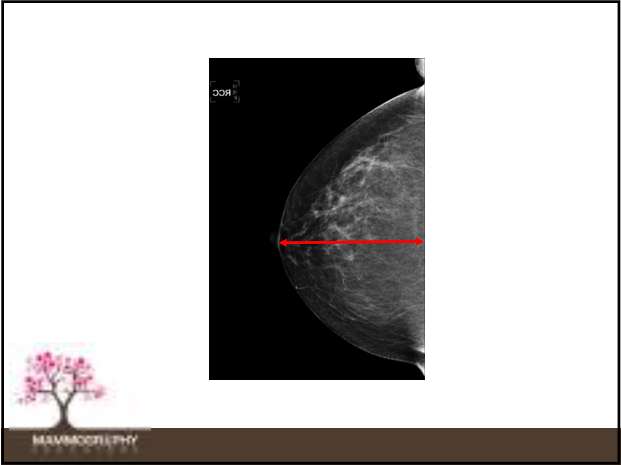
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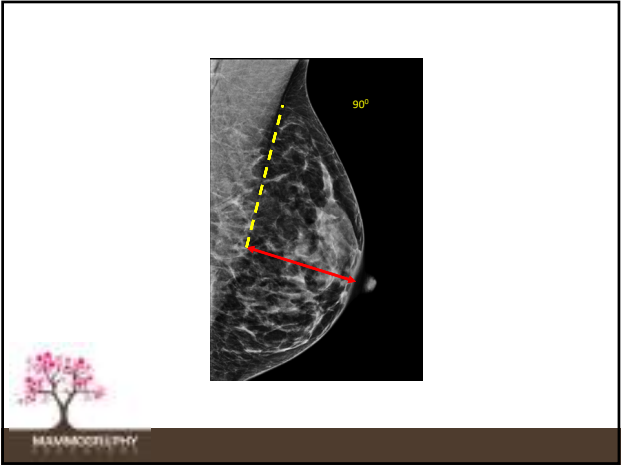
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### Measurement of the MLO

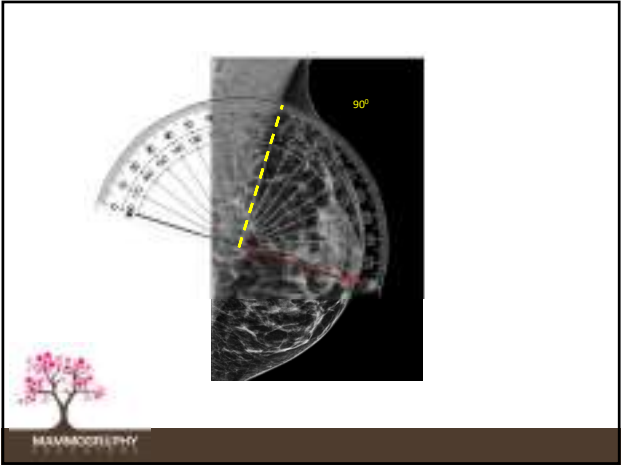
- Measure from the base of the nipple to the anterior margin of the pectoralis muscle where the intersection can be measured as a 90 degree angle.

 A schematic diagram of a breast. A dashed line extends from the base of the nipple to the anterior margin of the pectoralis muscle. A 90-degree angle is indicated between this dashed line and a vertical line. The diagram is labeled 'MLO' in the top right corner.

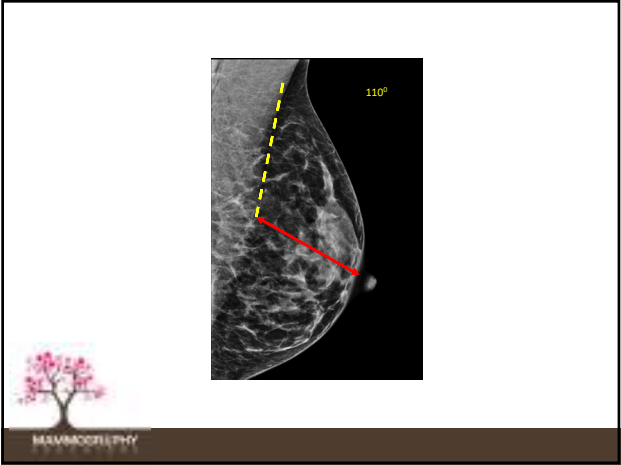
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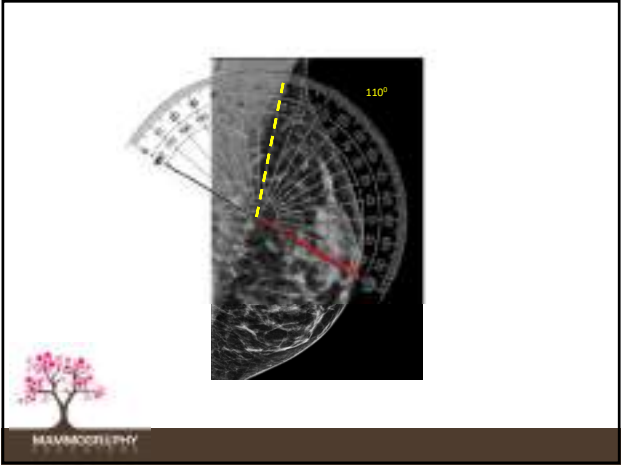
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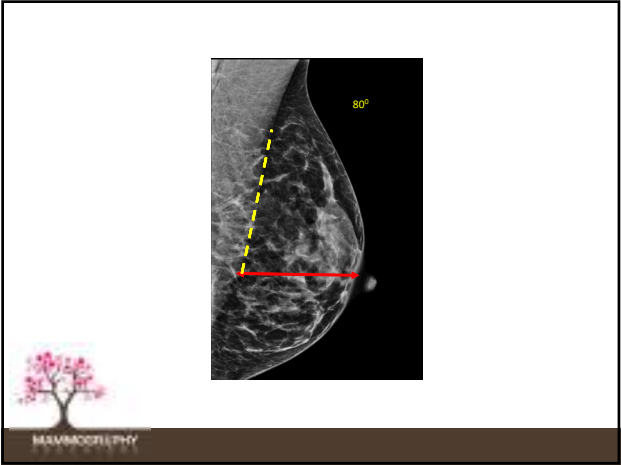
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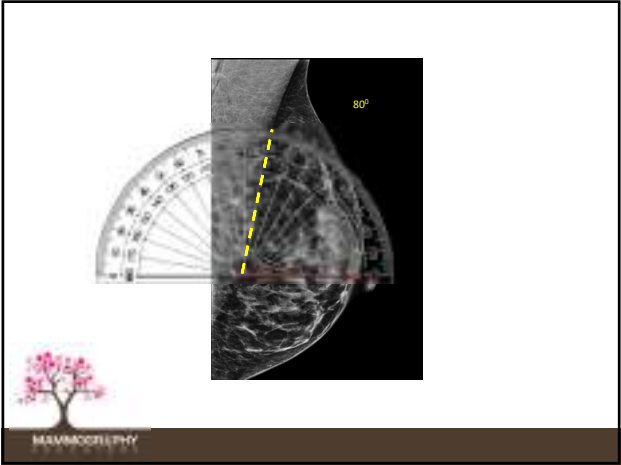
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### PNL Dilemmas

- What if the nipple is not centered?
- What if there is inadequate muscle is (short or concave) on the MLO?
- What if the nipple is not in profile?

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### PNL Dilemmas

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### Measurement of PNL if Nipple Not Centered

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### Nipple Not Centered

NO YES

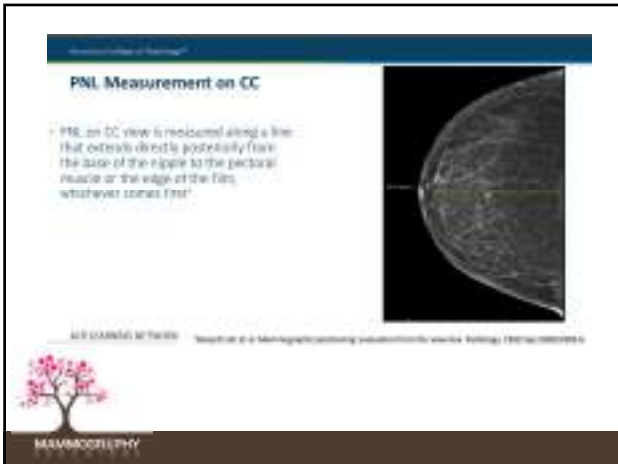
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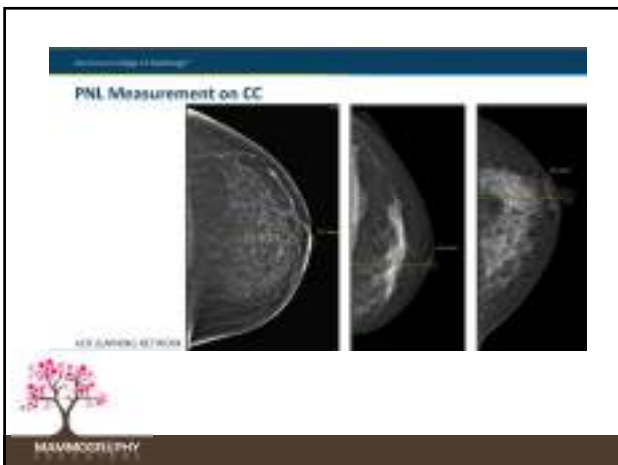
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**Option 1**

- Draw a line from the superior aspect of the pectoral muscle inferiorly along its anterior border to where the pectoral muscle meets at the edge of the image.
- Make a line from the base of the nipple back to the pectoral muscle OR the edge of the image if the pectoral muscle is there. You will note that your line up to the pectoral muscle line to ensure the angle is 90 degrees. Once you confirm it is 90 degrees, slide this same line down to the base of the nipple and see what the distance is.



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**Option 2**

- Draw a line from the superior aspect of the pectoral muscle inferiorly along its anterior border to where the pectoral muscle ends at the edge of the image.
- Slide this line down and anteriorly to the mid breast. Draw a line from the base of the nipple back to the edge of the image, intersecting the other line at a 90-degree angle.

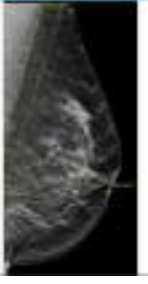


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**Option 3**

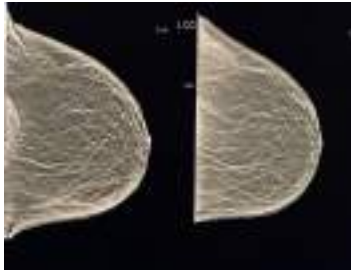
- Draw a line from the superior aspect of the pectoral muscle inferiorly along its anterior border to where the pectoral muscle meets at the edge of the image.
- Draw a line parallel and anterior to the first line and extend it down past the nipple line. Next, draw a line from the base of the nipple back to the edge of the image intersecting the second line at a 90-degree angle.



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### How to Increase Your PNL on CCs




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### Standardized Positioning Method

- Elevate the breast to the correct height
- Pull the breast on with *both* hands
- Anchor the breast
- Lift the opposite breast onto the image receptor
- Push the patient forward with your elbow/arm
- Use base of thumb to "crawl" up on the chest wall to include more pec muscle

For the complete Quick Steps, scan QR code or visit:  
[mammographyeducation.com/cc-mlo-quick-steps-and-image-checklists](http://mammographyeducation.com/cc-mlo-quick-steps-and-image-checklists)



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### FREE RESOURCES AND VIDEOS

[www.mammographyeducators.com](http://www.mammographyeducators.com)




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### Tips and Tricks

- Image Evaluation
- **Ergonomics**
- Communication



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### Stand Up Straight!




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### Sitting is NOT Recommended for MLO





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### Technologist Sitting for the MLO is NOT Recommended *Unless*:

- The patient is extremely short.
- The technologist has previous injuries or pain that prohibits standing.

Sitting is usually the cause of shoulder pain and injury and will actually exasperate the problem.



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### No "Lunging"!!



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### None of This Either!



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### Push the Face Shield Back



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### Rotate the Gantry (if possible)



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### Control the Patient With Your Body



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### Hand Position is Important for the CC and MLO



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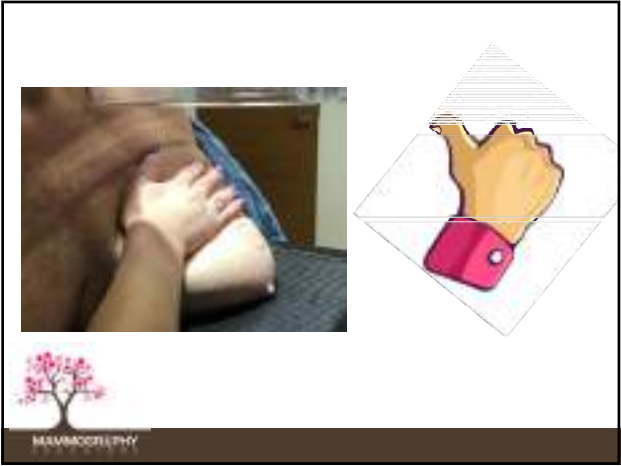




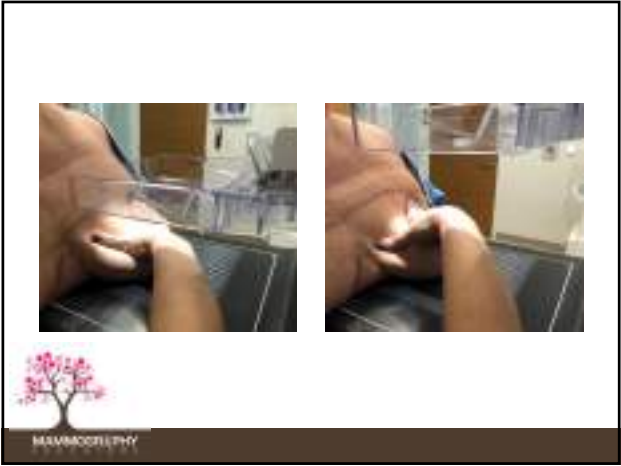
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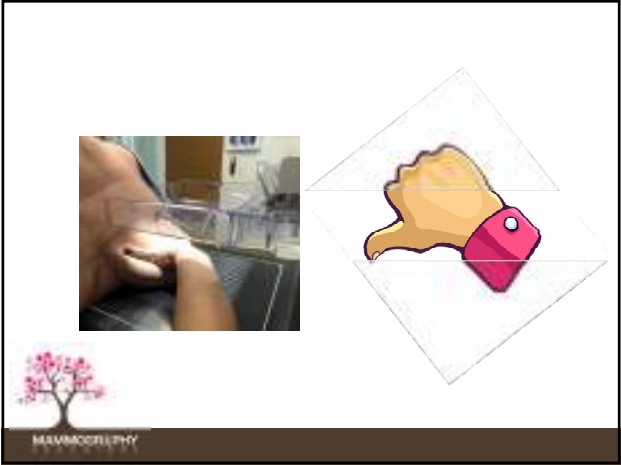
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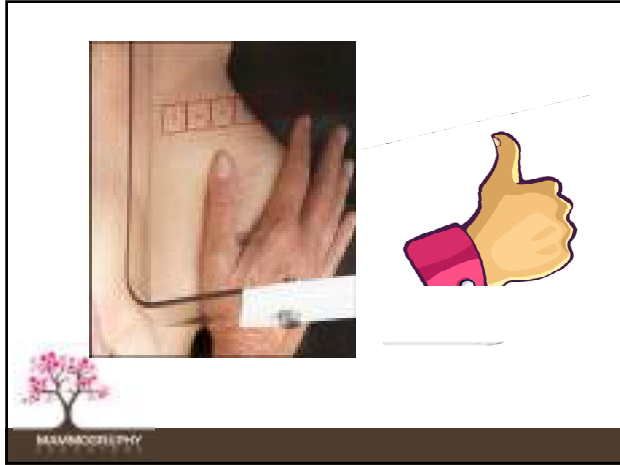
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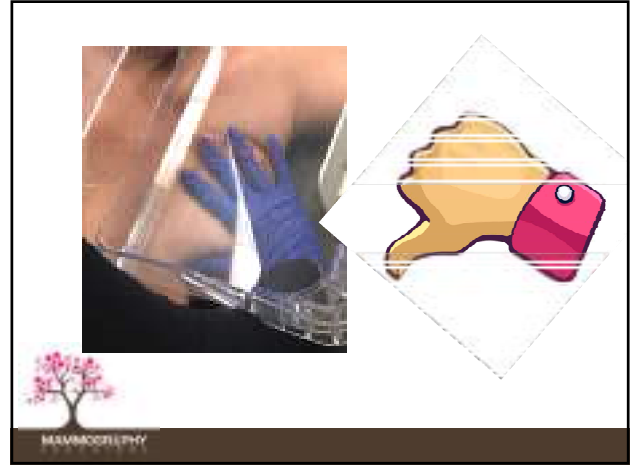
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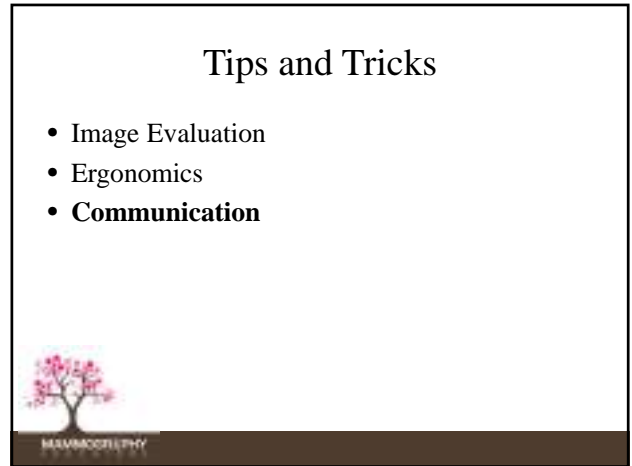
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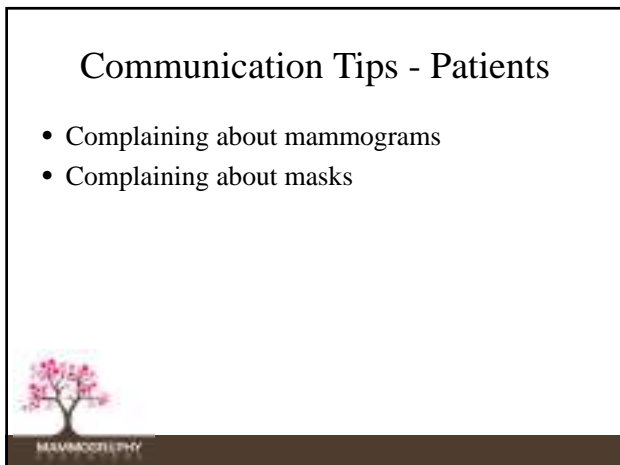
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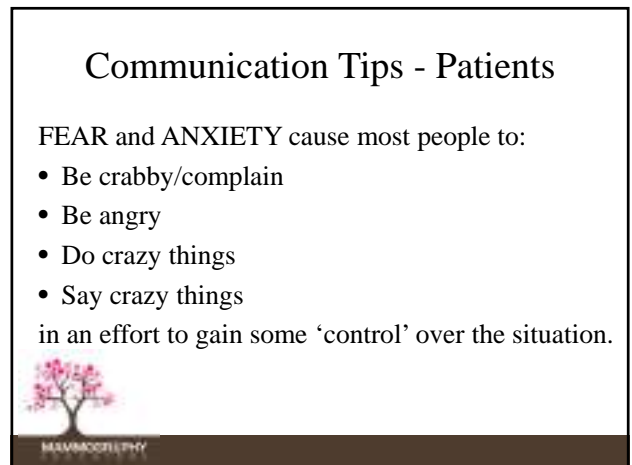
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***“I hate mammograms.”***

*“Thank you for coming in anyway.”*



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***“I hate wearing a mask.”***

- *“I know what you mean.”*
- *“It sure isn’t fun.”*



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***“Are you the nurse?”***

*“No, I’m an x-ray tech. It’s very different training.”*



63

***“Aren’t you afraid of the radiation?”***

*“An important part of my training is to make sure that the proper precautions have been put in place to make it safe for me and you.”*



64

***“What a disgusting job.”***

*“I’m proud to work in Women’s Health. ”*



65

***“Is this all you do all day long?”***

*“Yes it is. I’m proud to work in Women’s Health.”*



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## ***“Do you like touching breasts all day long?”***

*“No, of course not, I just want you to have the best mammogram possible.”*



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## Tips for Scripts

- Don't get defensive
- Remember, it's not personal
- Anxiety creates some “interesting” actions/reactions
- Do NOT make fun of your patients or their behavior
- How would you act in this same situation?



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## Act Don't React

- Offer the patients correct information and reassurance.
- Get her in.....and out quickly.
- Tell her what you are going to do *before* you do it.
- Invite her into a partnership.



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*“Would you rather be right.....  
or would you rather be happy??”*

- Dr. Phil



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## Communication Tips - Colleagues

- Complaining about images
- Complaining about patients
- Complaining about co-workers



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Some of the things patients do can really be annoying!



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## Letting Off Steam

- Appropriate
- Inappropriate



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## Letting Off Steam

### Appropriate

- Take a walk
- Exercise
- Listen to music
- Treat yourself to some retail therapy
- Treat yourself to some self care



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## Letting Off Steam

### Inappropriate

- Complaining
- Using social media as an outlet
- Over-doing
- Negative talk
- Self neglect or punitive behavior



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## Lead by Example


Would you rather be part of the problem....  
or part of the solution?



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Join our Facebook Group:  
**Quality Breast Imagers**



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## References

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- Miller, Louise C. (2015) *Mammography Positioning Guidebook*. San Diego, CA.
- Miller, Louise C., Lehmann, T.L..(2020) *Image Quality & Positioning Problem Solving for Breast Imagers: Meeting EQUIP Standards*. San Diego, CA.



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## Thank you!

For questions or more information, contact us at:

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619-663-8269  
[info@mammographyeducators.com](mailto:info@mammographyeducators.com)

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