

A Technologist's Perspective of the FDA Report "Poor Positioning Responsible for Most Clinical Image Deficiencies, Failures"

By Louise Miller, RT(R)(M)

Recently I received a call from a radiologist asking me to provide 8 hours of positioning training for his technologists. They had failed American College of Radiology (ACR) accreditation for positioning and needed to document the training in order to resubmit new images, which were due in a week. A side note here: if you fail, get help EARLY. When I met the radiologist in his office on the morning of the training, he began to tell me that his techs obviously didn't know how to position correctly. This is a common assumption that is not entirely untrue. I met with the techs, who were all experienced mammographers with varying years of experience. I presented a lecture on standardized positioning and correlational anatomy and then gave a hands-on demonstration with a model. Almost all were surprised by the way I positioned, which was based on the tenets of consistency, reproducibility, and sound ergonomics. I learned these principles way back in the 1990s and have modified them to accommodate the changes in technology over the years. They all laughed nervously because none of them positioned this way. In fact, their positioning techniques were all different from each other's. This is a scenario I see in hundreds of facilities throughout the country. I started asking myself, "What has changed? What did they miss that I did not?" These were all women who were proud of their work and were often embarrassed by their failure. They were doing the best they knew how. Fortunately, most technologists want to learn techniques, and they want to improve and do their best possible work for the patients. These technologists were lacking essential training updates for positioning or had insufficient initial training using a standardized method.



Louise Miller, RT(R)(M)

Back in the day (1980-2000), mammography technology came charging along and all the female techs in the department suddenly had to perform mammography. There were no application specialists, no mammography courses, and certainly no online classes because there was no "online." Fortunately, several pioneers of mammography, including Daniel B. Kopans, MD, FACR, FSBI; Edward A. Sickles, MD, FACR, FSBI; and Lawrence W. Bassett, MD, FACR, FSBI emphasized the importance of standardized positioning and supported the team approach to learning, where technologists and radiologists attend hands-on positioning courses together. One of my favorite memories is that of a middle-aged, bald male radiologist who, while positioning a "perfect" model, looked up nervously with his hands shaking and sweat dripping from the top of his head and said to me, "Wow, this is not that easy." But we all learned together. The ACR held positioning classes at their annual breast imaging conference, a positioning video was made, and we all understood that this was the way to

◀ ***A Technologist's Perspective of the FDA Report "Poor Positioning Responsible for Most Clinical Image Deficiencies, Failures," continued from previous page***

position. As standards changed, mostly because of the implementation of the Mammography Quality Standards Act (MQSA), technologists scrambled to get 40 hours of required education (not training) in mammography. Conferences were held throughout the country where equipment vendors would send machines for hands-on positioning training. We learned and we taught. The MQSA was an incredible step in improving the quality of mammograms.

Here are some interesting points that I think deserve consideration, given the positioning crisis as defined by the US Food and Drug Administration (FDA).

1. The MQSA does not specify that the 40 hours of mammography education must include hands-on positioning. (One can actually get all 40 hours of credit online!)
2. The MQSA does not require that hands-on training be included in the 15 continuing education units in mammography that techs must obtain every 3 years. Most credits are obtained online. Although the articles may be interesting and informative, they cannot correct positioning problems.
3. Images sent to the ACR for accreditation every 3 years for each mammography unit may represent the work of only 1 or 2 technologists in facilities where thousands of exams are performed by multiple technologists. This is the only real evaluation of positioning, and as the FDA report shows, it's not going so well.¹
4. Aside from the ACR images, the only feedback techs get on positioning is from our radiologists, who often have very little familiarity with the positioning process. Technologists may be informed of inadequacies in their positioning, such as insufficient pectoralis muscle or inframammary fold (IMF), but they may not know how to correct the problems. We need to be taught proper technique. A technologist who over-rotates a skull image knows exactly how to fix it. This is not necessarily the case with mammography. Our education needs to focus on problem-solving and include the principles of correlational anatomy and physiology.
5. The lack of current (stated) standardized methods of positioning makes it very difficult for students to learn these techniques. This is prevalent in most mammography facilities where bad habits are passed on to future generations of technologists.
6. The variability and inconsistency of proven positioning techniques in mammography is in clear contrast to techniques that technologists use for positioning other body parts. Every technologist worldwide performs a spine, wrist, ankle, and pelvis radiograph in the same way, using the same imaging sequences. Not so in mammography. The lack of consistency and reproducibility of positioning techniques affects everything about an imaging study when compared year to year. Are you able to easily tell which of your techs produced which mediolateral oblique image? You should not be able to see those individual differences.
7. Improper body ergonomics resulting in workplace injuries are a growing problem and affect

◀ ***A Technologist's Perspective of the FDA Report "Poor Positioning Responsible for Most Clinical Image Deficiencies, Failures," continued from previous page***

the overall morale and finances of a department. Look around your department. How many techs have back, wrist, and shoulder problems that have required surgeries? Many are a result of using poor positioning techniques. If your techs are sitting down to position their mediolateral oblique images, get ready for some rotator cuff issues. This can be avoided!

Technologists must understand correlational anatomy used for positioning and image analysis. For example, what should they do if they don't get the pectoralis muscle down to the posterior nipple line? If they are missing the IMF on the image, what specifically can they do to include it?

8. The last positioning study was published in 1993. Yes, 1993. The study conducted by Bassett et al followed 6 technologists who underwent standardized positioning training.² 68% of the examinations were improved after training!
9. Although positioning techniques are similar for digital and film screen mammography, my experience is that because of the marked increase in image receptor and face shield size, accommodations must be made when positioning patients on digital formats.

I believe most mammography technologists want to do excellent work. Unfortunately, many have not received the appropriate foundational education, which I believe should include mandatory hands-on positioning updates. When we know better, we do better. But with the rapid advances in breast imaging and the decline of hands-on positioning opportunities, we must work together to ensure that we have the knowledge we need to meet these important goals.

As the FDA has noted, "The consequences of poor positioning can be very significant not just for individuals but for mammography facilities as well....To achieve and maintain proper positioning, both training and communication are essential." Please support your technologists in the endeavor to provide the best in image quality and patient care. ❖

REFERENCES

1. US Food and Drug Administration. Poor positioning responsible for most clinical image deficiencies, failures. www.fda.gov/Radiation-EmittingProducts/MammographyQualityStandardsActandProgram/FacilityScorecard/ucm495378.htm. Updated April 11, 2016. Accessed July 8, 2016.
2. Bassett LW, Hirbawi IA, DeBruhl N, Hayes MK. [Mammographic positioning: evaluation from the view box](#). *Radiology*. 1993;188(3):803-806.