

---

# The Radiographer

A publication of the Missouri Society of Radiologic Technologists

Volume 72, Issue 3

September 2013

*Melissa Hart, MHA RT (R)(M), Editor*



The Missouri Society of Radiologic Technologists was founded in 1931, chartered as a professional and scientific society dedicated to education, communication and patient care.

As a not-for-profit corporation, the Missouri Society of Radiologic Technologists Inc. is a chartered affiliate of the American Society of Radiologic Technologists.

The MoSRT is nonsectarian, nonpartisan and noncommercial, and adheres to a policy of nondiscrimination regarding nationality, race, color, creed or age.

---

# From the President...



*It's* hard to believe that we are halfway through 2013, another year sure to feature significant changes in how we produce quality images and provide excellent patient care. If that sounds like a complaint, it's not. I actually find that quite exciting, and I hope you do too.

It's funny, but just about every imaging website, article and commentary written recently has prominently referenced the transformation of our industry and our craft. So, as I sat down to write this, it struck me that, instead of referencing that again, maybe we all just need to acknowledge that "change" is our new normal. "Transformation" isn't the word we should be using, since it implies an end point, a goal reached. It's "evolution" we're talking about, something constant and never-ending. And if there's a perfect group of people to help lead this evolution, it's the hundreds of imaging and therapy members of the Missouri Society of Radiologic Technologists.

Our committees continue to keep on top of issues, legislation and policy that impact your work (Legislative Activities Committee) and help you network (MoSRT Facebook page), and the Website and Publications team share and explore useful resources, news and events around the state. These are just some of what the MoSRT is doing for you.

For the first time in many years, our conference will be outside its normal lake corridor, as MoSRT 2014 moves to the Columbia Holiday Inn Executive Center, April, 2-5, 2014. We've heard from many members that they'd like to see the conference a little more affordable for attendees. While we understood that concern, we also wanted to keep it in a location where we could assure solid attendance, since the conference is the financial foundation for so many of the other services we provide. But I'm happy to say that we've reached a point where we can provide a savings to the conference attendees while also saving the society money, in Columbia. Unfortunately, our large group was not able to be accommodated for the cheaper price at the Lake. We enjoyed many wonderful conferences in that area and hope to someday be able to return.

Please help spread the word – the MoSRT is promoting our student internship program application! The American Society of Radiologic Technologists has graciously selected the MoSRT as one of its pilot affiliates to select two student interns for 2014. The application is now available on the website at [www.mosrt.org](http://www.mosrt.org) and the deadline for submission is November 15, 2013. Please encourage students to apply. This is a great way for them to travel, learn, network and gain experience serving our profession.

So, from myself and all our Board of Directors, thank you for your membership and continued support. We promise to keep evolving to serve you, no matter what the new normal brings in 2014.

Best regards,

*Kelley McDonald MS, RDMS, RVT, RT(R)*

---

# From the Student Interns



Taylor Dixon

As an intern so far, I have received a lot of feedback that has been essentially helpful in my journey to becoming a registered technologist. As of right now, I am starting to travel to different schools to spread the word about the Student Intern Program through the MoSRT! It has given me a great opportunity to network with potential employers and has given me more confidence than I ever imagined I could achieve.

The trip to Albuquerque [for the Student Leadership Development Program in June] will always be one to remember. On more of a national level, I got the opportunity to network with even more highly respected individuals as well as meet the other fantastic student interns from all over the United States! A big part of that trip for me was experiencing what goes on behind the scenes of the ASRT and how much work they put into their job to make our jobs easier. I couldn't be more proud of being a member of such a great organization!

More importantly, in Albuquerque, I found a university that I would have never known about to achieve my specialty in Radiation Therapy, thanks to all the vendors. I can't wait to see what this next year holds for me as a developing technologist and as a member of the MoSRT! I am still so honored to be chosen as a student intern.

Sincerely,

*Taylor Dixon*

Student Intern, Rolla Technical Center



Kelsey Fellows

Participating in the Student Leadership Development Program in Albuquerque, NM this past June was very rewarding. I was very nervous beforehand, mostly because of all of the classes and places we had to be, and the things we had to participate in, but it was a very enjoyable experience as a whole.

Some of my favorite parts of the leadership program included the pin exchange, the flag ceremony, and the induction of Barb Hente as a life member of the ASRT. The pin exchange allowed for all of the technologists and students to communicate with one another and mingle in order to meet people from all over the country. The pins are something I will always treasure because each one has a person and a story behind it.

The flag ceremony was also a fantastic opportunity in which I got to participate. It was amazing to see all of the students representing their own states in a room full of technologists, famous speakers, and board members. Seeing all of the flags reminded me once again that I was just one of sixty students that were selected to participate in such a great program. We came from all over the country, but we all had at least one thing in common: we share the goal of becoming Registered Radiologic Technologists. It was fun to spend almost an entire week with so many people that have the same interests.

Last, but not least, watching Missouri's own Barbara Hente become a life member of the ASRT was a moving experience. It was a moment that I will never forget and that I am grateful I was able to witness! I am beyond thankful for our MoSRT family and all of the experiences we have had together so far.

Sincerely,

*Kelsey Fellows*

Student Intern, Southeast Missouri Hospital of Nursing & Health Sciences

# Announcements!



## CORRECTION

The June 2013 edition of *The Radiographer* (Volume 72, Issue 2) had misprinted competition information for Aaron Beargie, RT (R).

Mr. Beargie is a graduate of Colorado Technical University and won first place in the Student Essay Competition for his essay entitled, "Patient Protection from Internally Generated Scatter."

Congratulations, Aaron, on your accomplishment!

## Upcoming District Events

### 1<sup>st</sup> District

Fall Conference Seminar

September 28, 2013

St. Luke's Hospital, Kansas City, MO

### 4<sup>th</sup> District

Seminar

October 19, 2013

St. Luke's Hospital, St. Louis, MO

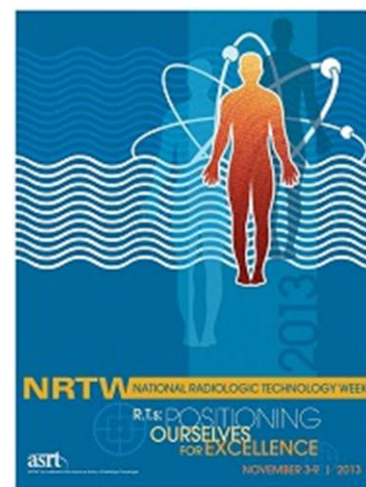
Visit <http://www.mosrt.org/calendar.html>

for more details!

## National Radiologic Technologist Week ®

**November 3-9, 2013**

The MoSRT Board of Directors would like to wish a Happy National Radiologic Technologist Week® to all medical imaging and radiation therapy professionals! The theme for this year's NRTW® is "R.T.'s: Positioning Ourselves for Excellence." This is the time of year when imaging professionals can join together to remember the anniversary of the discovery of x-rays by Wilhelm Conrad Roentgen on November 8, 1895. Don't forget to celebrate yourself, your profession and your medical imaging and radiation therapy colleagues! For more information on NRTW® and ideas for celebrating the week, visit [www.asrt.org](http://www.asrt.org).



Source: <http://www.asrt.org/events-and-conferences/national-radiologic-technology-week>

# Missouri Society of Radiologic Technologists Annual Conference

## A NEW DIRECTION



- earn CEUs
- student activities
- support your profession
- let your voice be heard

**April 2-5, 2014**  
**Holiday Inn Executive Center**  
**2200 I-70 Dr SW**  
**Columbia, MO 65203**

For more info visit [www.mosrt.org](http://www.mosrt.org)



Linked 

---

# LEGISLATIVE UPDATE



**Diane Hutton, BA RT (R), Legislative Activities Chair**

Casey Scott and I went to Jefferson City on August 20, 2013 for an extended visit to meet with Deanna Rhodes, Rep. Higdon's legislative assistant. Rep. Higdon introduced the most recent bill to the House last year; however, this bill died in the Professional Licensure committee. We were able to discuss at length the particulars of the proposed new bill, including Mrs. Rhoades' concerns with how small physicians' offices will continue to practice without paying for a registered technologist and how education would be provided. Overall, she seemed to be very receptive to the new bill and liked that our licensure board would be self-contained.

At the recommendation of Senator Schaaf, who introduced a similar bill in 2007, we also wanted to speak with physicians or medical personnel within the capital, thinking they would understand and promote the importance of the new bill. Rep. Frederick, a physician, was not available, but we were able to meet with his legislative assistant. During this extended conversation, the legislative assistants decided that if one would introduce the bill, the other would co-sponsor, and a deal was made!

Conversations will begin in earnest the week of September 16th, when I call the LAs back to set up appointments for this legislative session. Even though I felt we made significant progress with our presence in Jefferson City during the last session, my goal is to hit the ground running to begin the advocacy process for state licensure in the state of Missouri.

**Find us on Facebook and LinkedIn!**



[www.mosrt.org](http://www.mosrt.org)

---

# Student Internship Deadline November 15, 2013!

As part of the ASRT Student Leadership Development Program, the MoSRT will select **TWO** student interns this year! \* The recipients will shadow MoSRT board members during regular meetings of the MoSRT Board of Directors and during the MoSRT Annual Conference. The recipients will receive all privileges and financial compensation of an MSRT Board member, except the ability to vote.

**In addition, both MoSRT student interns will be fully sponsored to attend the 2014 ASRT Educational Symposium and Annual Governance and House of Delegates Meeting in Orlando, Fla., June 26-29, as well as a meet and greet the evening of June 25.**

Both first and second year students are eligible to apply during this pilot year. \*\*

*\*This year only.*

*\*\* Second year students who will graduate prior to June 25, 2014 are ineligible to apply.*

**Don't forget about another important deadline!**

**January 31, 2014**

Scientific Essay  
Scientific Display  
Student Scholarship  
Technologist Scholarship

See the website today for Rules & Application Forms!

*Student Bowl Rules coming soon!*

Students must apply through the MoSRT Henry Cashion Internship program no later than November 15, 2013! Details are available on our website ([www.mosrt.org](http://www.mosrt.org)).

*What attendees receive during the 2014 ASRT Educational Symposium and Annual Governance and House of Delegates Meeting in Orlando:*

- *Airfare, housing, stipend for meals and other travel expenses.*
- *An educational program designed just for students.*
- *A professional mentor assigned for the meeting.*
- *An insider's look into the largest association for medical imaging and radiation therapy professionals.*

***Encourage  
Students to Apply  
Today!***





## Volunteer spotlight: Q & A with a MoSRT Volunteer

Find out why volunteers choose to dedicate their time to the MoSRT...and perhaps become inspired to do the same! This edition features Janet Akers, BS RT (R)(M).

**Q.** *How long have you been involved with the MoSRT?*

**A.** I have been with the MoSRT since 2007. I took some time off from board duties at one point to pursue my Bachelor's degree, but remained an active member during that time.

**Q.** *How did you become involved as a volunteer?*

**A.** It's actually a funny story! At an annual conference, someone out of the blue nominated me for President – to take effect immediately! I accepted the nomination, but did not get elected; that would have been a big jump for me. However, that prompted members of the board to invite me to sit on a committee. The student activities chair was open, so I took that spot, and off I went!

**Q.** *What positions have you held on the MoSRT?*

**A.** I have been the chairperson for the student scholarship committee as well as Vice President. I am currently the President-Elect and Student Activities Chair.

**Q.** *What do you enjoy most about volunteering for the MoSRT?*

**A.** I love attending the meetings and board retreat, where I get to know technologists from all over the state. I love having a voice and being a part of what happens in our state and national societies. I can count on my fellow board members to always be supportive and give advice when I need it, both professionally and personally.

**Q.** *How do you encourage others to become involved with the MoSRT?*

**A.** If you don't go to the annual conference...GO! It's a great place to connect with technologists from across the state and get to know the board of directors. It's also a great opportunity to ask questions and find out what we do. If you can't go to the annual conference, go to your local district meetings. Most of the districts are active and really need the support of local technologists. I am involved at the district level and know technologists that want to get involved, but they don't know how or are intimidated by what they may be responsible for as a volunteer. YOU can choose what you want to do and how much you do as a volunteer.

**Q.** *What has volunteering done for you personally?*

**A.** I have been so fortunate to make new friends on this board. They have helped me grow as a person, technologist and educator. Without being involved with the MoSRT, I would not have had the opportunities to do a lot of the things I have done for my profession and my personal career.



### CALLING ALL VOLUNTEERS!!!

Interested in *enhancing* your career? Want to *give back* to your profession? **Consider volunteering on the MSRT Board of Directors!**

Contact [Kelley.Mcdonald@mosrt.org](mailto:Kelley.Mcdonald@mosrt.org).

[www.mosrt.org](http://www.mosrt.org)



---

## MoSRT Affiliate Delegates reflect on the 28<sup>th</sup> session of the ASRT House of Delegates, Albuquerque, N.M., June 14-16, 2013

The House of Delegates (HOD) approved the revised Practice Standards for Radiography, Nuclear Medicine, Cardiovascular Interventional, Computed Tomography, and Limited X-Ray Machine Operator. The quality of our practice standards are very important because numerous individuals and organizations refer to them for guidance in determining what practices are appropriate for a technologist.

The HOD also approved bylaws changes which included a dues increase, the first such since 2005. I would encourage all ASRT members to renew their membership before the new dues take effect in October. You can save a considerable amount of money by renewing for 3 years before the new fees go into effect.

In personal discussion with CEO Sal Martino, I was particularly impressed with the plans to increase support for the affiliates. This includes helping affiliates to host RT Days in their respective state capitols. Legislation at the affiliate level continues to be critical to the success of our efforts in the US Congress. As part of the Affiliate Development program, new efforts are being extended to affiliate Boards of Directors to help them develop their own Strategic Planning.

I was very impressed with the results of the Student Leadership Program, which resulted in two of our own students, Kelsey Fellows and Taylor Dixon, attending this annual conference. The exposure of students to the activities of the ASRT provides a huge learning experience about everything that the ASRT stands for and is working on. The ASRT has already continued the program for this year and we will once more have the opportunity to send two students to the Annual Conference in Orlando, Florida in June of 2014.

~ Norman Hente, MSRT (R) FASRT  
Senior Affiliate Delegate

MoSRT Members,

Thank you for the opportunity to serve you as a Junior Delegate to the ASRT House of Delegates. It was an honor to represent you in this role. As this was my first year, I have to admit, I learned a great deal about how the House of Delegates operates, how they work in conjunction with the ARRT, and what the ASRT House of Delegates can do for us as Medical Imaging Professionals. I attended chapter meetings for Quality Management and Management in addition to the business meetings and open forums.

The chapters are truly looking out for your best interest. I encourage each one of you to join your chapters, get involved, and help drive your profession to the place we all want to see it go. Help us drive our profession so we are perceived as the professionals we are. It takes every one of us standing together with one voice leading the charge.

Thank you for this special opportunity,

~ Tammy Roman, MSRS, RT (R)(M)(CT)  
Junior Affiliate Delegate

---

*The following essay is the second place winner under the MoSRT student essay category for 2013. It is reprinted with permission from the author, Mary Winters.*

## **Improving Breast Cancer Screening and Diagnostics**

**by Mary Winters**

If a breast cancer is diagnosed early when localized (confined to a primary site), the 5 year relative survival is 98.4% (Howlander, Noone, Krapcho, Aminou, Altekruse, Kosary & Cronin, 2011). When it spreads to regional lymph nodes, the 5 year rate drops to 83.9% and once metastasized, the 5 year relative survival drops to just 23.8% (Howlander et al., 2011). Advances in screening techniques to detect more cancers earlier and to prevent both false negatives and false positives are vital. On October, 27, 1992, Congress enacted the Mammography Quality Standards Act (MQSA) ("Radiation-emitting products," 2011). This act ensures that all women will have access to quality mammograms so that cancers can be detected at their earliest stages when they are most treatable and therefore the survival rate is much higher.

According to the CDC, in 2008, 210,203 women were diagnosed with breast cancer, and 40,589 died from the disease ("Breast cancer," 2012). This means that out of 100,000 women, 124.3 received the dreaded diagnosis and 23.0 per this 100,000 lost their battle ("Breast cancer," 2012). It is estimated that in 2012, 226,870 women will be diagnosed while 39,510 will succumb (Howlander et al., 2011). Breast cancer is a disease that affects far too many, both young and old, but with early diagnosis and intervention the survival rate can be improved upon.

This paper will look at a history of diagnostic screening techniques used, advancements in these techniques, and survival rates over the years in comparison to these advancements. Since the 1950s, advances in mammography have raised the 5 year survival rate for localized breast cancer from 80% to 98%. Screening mammograms began in the 1980s and were recommended for all women over the age of 40 years. Before this time, mammography was used only as a follow up to identified anomalies.

Standard analog mammography was one of the earliest modalities and proved a success for reducing mortality from breast cancer. Full-field digital mammography (FFDM) provides better sensitivity; however, the accuracy of both analog and digital is low, with sensitivities reported at 36%-70% depending on breast tissue density (Baker & Lo, 2011). This causes many patients to be recalled and subjected to additional exposures. Many cancers are also missed. A main reason for missed cancer is overlapping breast tissue which can lead to false positives (Baker & Lo, 2011). A new technique, which will be the focus of this paper, is designed to eliminate this issue of overlapping tissue. This technique, breast tomosynthesis, has been undergoing extensive clinical testing and its use was approved by the FDA on February, 11, 2011.

Screening mammography is used as an early detection method along with breast self-examination through palpation. When a woman has a positive screening mammogram or other symptoms that might indicate a possible breast cancer, diagnostic mammography is undertaken which includes more views than basic screening. Between January 15, 1995, and September 30, 2000, a study was undertaken to determine the performance of screening mammography, ultrasonography (US), and physical examination (Gold, Klein, Carr, Kessler & Sullivan, 2012). A total of 11,130 asymptomatic women underwent 27,825 screening sessions (Gold et al., 2012).

---

Through an analysis of age, breast density and hormonal status, it was found that the most significant predictor of sensitivity of mammography was breast density.

Density is based on the amount of fibroglandular versus fatty tissue in the breast. The sensitivity for women with fatty breasts was 98% compared with just 48% for women in the highest density category (Gold et al., 2012). On a mammogram, dense tissue appears as a solid white area, much the same as tumors which are also dense making it hard to distinguish certain lesions. Fatty tissue appears as a dark area. Therefore, the search remains for better detection methods. Ultrasound tends to be significantly more sensitive than palpation in women of all ages with dense breasts. It is not used however as a screening test on its own, but rather in conjunction with other screening tests and as a follow up to an abnormality seen on mammography or palpated during a physical exam. Unlike mammography, US does not expose the patient to additional radiation. According to L.S.Gold et al. however, US has a number of limitations compared to mammography, including lower detection of micro-calcifications, inability to differentiate benign from malignant solid lesions, and poor imaging of masses smaller than 1 cm in diameter (p.16).

Another form of diagnostic testing, MRI, was first reportedly used for examining malignant breast tissue in 1973 by R. Damadian and colleagues, but did not find favor however, until contrast agents were used to enhance tumors compared with normal tissue in 1986 (Gold et al., 2012). It was not until 1991 that MRI was classified for use as an addition to mammography to diagnose breast cancer (Gold et al., 2012). It is used to clarify suspicious findings and to help more accurately size tumors found through mammography and ultrasound. Multiple studies have evaluated the role of MRI in high-risk patients and concluded that diagnosis of breast cancer in this group is improved by use of MRI, with a sensitivity of 79-98% (Singh, Saunders, Wylie & Bourke, 2008). MRI is also able to identify lesions missed by other screening modalities, which is leading to its increased use as a complement to them.

The use of radionuclide imaging techniques (PET) uses a substrate that is rapidly used by malignant cells that display a higher metabolic rate as compared with normal tissues (Singh et al., 2008). Although PET is unable to detect lesions smaller than 1 cm, it is unaffected by breast density which makes it beneficial to this higher risk group. It also does not seem to have a role in detection of primary breast cancer, but does appear to be a valuable tool in monitoring response to certain treatments such as chemotherapy and in detecting metastasis and breast cancer recurrence. According to Singh et al., a study for detecting suspected breast cancer recurrence by PET scan reported sensitivity of 84% as compared with 63% for conventional imaging (Singh et al., 2008).

One of the newest technologies in use is digital breast tomosynthesis (DBT). Conventional or full field digital mammography (FFDM) images are 2-D, while the recently FDA approved DBT takes what amounts to a 3-D image of the breast. It uses conventional x-rays and tomography to create thin slices of the breast, usually 1 mm thick, which are then reconstructed into a 3-D image using algorithms similar to those used with CT (Baker & Lo, 2011). This technology reduces or eliminates overlapping tissue, making clearer the shape and margins of masses. Since a fundamental reason for missed cancers seems to be overlapping breast tissue as well as dense breasts, it stands to reason that DBT will better enhance the radiologist's ability to detect possible cancers.

Both conventional and DBT exams can be done using the same orientations of cranio-caudal and medio-lateral oblique views. DBT examinations are performed on a compressed breast just as with conventional digital, although some studies have indicated that less compression can be used with the same results as full compression, thus decreasing patient discomfort. A series of 7-9 low-dose projection images are recorded as the mammography unit moves in an arc over the breast with total dose being similar to a single view of a conventional breast exam (Yang, 2011).

---

Images from DBT can be read in slices with better conspicuity of masses. A subjective reader study involving 9 readers and using 30 mixed diagnostic cases rated DBT better in up to 67% of cases (Yang, 2011).

There are however possibilities for reduced sensitivities when looking at micro-calcifications, due to the “thin slice effect” (only some calcifications are seen on each slice and not all calcifications of a cluster as with conventional mammography) (Skaane, Gullien, Bjorndal, Eben, Ekseth, Haakenaasen, . . . Krager, 2012). According to Skaane, et al. “If breast tomosynthesis is going to improve the cancer detection rate, two conditions must be fulfilled: the cancer conspicuity for DBT must be higher for malignancies identifiable on both imaging techniques: and/or tomosynthesis must detect cancers missed or overlooked on conventional FFDM” ( p. 525). Comparison of DBT to FFDM has been the purpose of several studies that have been done recently. In the majority of the studies conducted to date, the women included as test subjects were all first examined with conventional digital mammograms followed by exams using digital tomosynthesis. Most examinations were then interpreted by radiologists without access to both studies.

One such study was done to subjectively compare DBT to additional mammographic spot views. Four experienced readers reviewed images of 25 women with known masses from FFDM, DBT and spot views (Hakim, Chough, Ganott, Sumkin, Zuley & Gur, 2010). Fifty percent were rated as being better diagnostically when FFDM and DBT were combined, compared to FFDM with additional spot views (Hakim et al., 2010). A second study of 67 women was conducted to determine if DBT performed comparably to spot views in masses characterized as either benign or malignant (Noroozian, Hadjiiski, Rahnema-Moghadam, Klein, Jeffries, ... & Roubidoux, 2012). Again four readers were used to evaluate the images rating them for visibility, likelihood of malignancy and BI-RADS classification. DBT rated slightly better regarding visibility ratings. Overall findings rated the methods similarly, suggesting that spot views might not be necessary for mass characterization when performing DBT, thus reducing radiation dose (Noroozian et al., 2012). Since DBT is such a new technology, its value will be decided over time. Comments from an experienced radiologist in reading breast images will add some perspective to this subject for me. I look forward to hearing an expert’s view on DBT.

Dr. Ruby Meierotto is a radiologist at Saint Luke’s East hospital (SLE) in Lee’s Summit, MO. I was fortunate to get time with her to discuss digital breast tomosynthesis (DBT) or 3-D breast exams which became available at SLE in February 2012. DBT is still such a new technology that insurances do not cover it, and there is no billing code for medicare purposes. It is up to breast centers and hospitals offering this service to determine their own charge and billing structure. SLE offers the addition of 3-D along with 2-D imaging for screening at a cost of just \$45, which includes the procedure as well as the radiologist’s reading of the images. Many of SLE’s patients have not heard of 3-D imaging as of yet, but awareness is slowly increasing (Meierotto, 2012).

As stated earlier in this paper, dense breast tissue increases not only cancer risk but also the possibility of missed cancers at their earlier stages when they are most treatable. Dr. Meierotto was able to show me side by side 2-D and 3-D images in which the 2-D image looked unremarkable, but masses could clearly be seen on the 3-D image. The 3-D image allows breast tissue to be seen in slices, thus eliminating overlap of dense tissue which can obscure findings. She feels that DBT does indeed improve readings for dense breast tissue. Also, when reading the 3-D image, the radiologist has a directional indicator on their screen which indicates whether the mass is more medial or lateral as well as caudal or cephalic. This helps to more accurately locate masses for biopsy. Concerning microcalcifications, she finds 2-D imaging to be just as good as 3-D.

I questioned her regarding the learning curve when reading images done with 3-D versus 2-D. She stated that there is a definite learning curve. To be qualified to read 3-D images, an 8-10 hour course is required. More time is required to read images as well due to the number of images provided with tomography.

---

Her call back rate increased briefly, but as she has become more experienced with the system, this rate has dropped again. There are also two other radiologists in the Saint Luke's Health System able to read the 3-D images, so coverage is always available.

There is a slight increase in dose received by the patient, but total dose is equal to that delivered by analog detection, so still well within safe and acceptable limits. Currently only 30% of patients offered 3-D along with their 2-D exams are taking advantage of it. Part of the reason for this is probably the insurance piece, but lack of awareness of the procedure and its possible benefits is also predominant. I feel that as women become educated about its advantages, DBT will be more widely accepted and used as a screening tool. I was able to observe an exam during my interview, of a patient in for an annual exam who had not previously heard of DBT, but was more than willing to pay for the added detection. As a child who lost her mother to breast cancer, I too, will be willing to accept the added cost and peace of mind during my next exam.

## References

1. Breast cancer. (2012, August 31). Retrieved from <http://www.cdc.gov/cancer/breast/>
2. Howlander, N., Noone, A., Krapcho, M., Aminou, R., Altekruse, S., Kosary, C., & Cronin, K. A. (2011, November). Surveillance epidemiology and end results. Retrieved from <http://seer.cancer.gov/statfacts/html/breast.html>
3. Radiation-emitting products. (2011, June 21). Retrieved from <http://www.fda.gov/radiation-emittingproductsmammographyqualitystandardsactandprogram/default.htm>
4. Baker, J., & Lo, J. (2011). Breast tomosynthesis: state-of-the-art and review of the literature. *Academic Radiology*, 18(10), 1298-1310. doi: 10.1016/j.acra.2011.06.011
5. Gold, L., Klein, G., Carr, L., Kessler, L., & Sullivan, S. (2012). The emergence of diagnostic imaging technologies in breast cancer: discovery, regulatory approval, reimbursement, and adoption in clinical guidelines. *Cancer imaging*, 12, 13-24. doi: 10.1102/1470-7330.2012.0003
6. Singh, V., Saunders, C., Wylie, L., & Bourke, A. (2008). New diagnostic techniques for breast cancer detection. *Future oncology*, 4(4), 501-513. doi: 10.2217/14796694.4.4.501
7. Skaane, P., Gullien, R., Bjorndal, H., Eben, E., Ekseth, U., Haakenaasen, U., . . . Krager, M. (2012). Digital breast tomosynthesis (dbt): Initial experience in a clinical setting. *Acta Radiologica*, 53, 524-529. doi: 10.1258/ar.2012.120062
8. Yang, W. (2011). Emerging techniques and molecular imaging in breast cancer. Elsevier, Inc, 3(003), 288-299. doi: 10.1053/j.sult.2011.03.003
9. Hakim, C., Chough, D., Ganott, M., Sumkin, J., Zuley, M., & Gur, D. (2010). Digital breast tomosynthesis in the diagnostic environment: a subjective side-by-side review. *AJR, Women's Imaging*, (195), 172-176. doi: 10.2214/AJR.09.3244
10. Noroozian, M., Hadjiiski, L., Rahnama-Moghadam, S., Klein, K., Jeffries, D, . . . Roubidoux, M. (2012). Digital breast tomosynthesis is comparable to mammographic spot views for mass characterization. *Radiology*, 262(1), 61-68.
11. Meierotto, R. (2012, November 15). Interview by M. Winters [Personal Interview]. Digital breast tomosynthesis versus digital imaging.