PINK Breast Center Improves Accuracy and Enhances Patient Care with iCAD's ProFound AI™ for Digital Breast Tomosynthesis

Challenges:

- Radiologists found digital breast tomosynthesis (DBT) provided more information, but took longer to read, making it a challenge for radiologists to provide results to patients in a timely manner.
- Radiologists experienced reader fatigue analyzing extensive DBT datasets.
- Desire to reduce the rate of false positives and recalls.

Solution:

- iCAD's ProFound AI™ for Digital Breast Tomosynthesis (DBT)

Results:

- ProFound AI reduced the rate of false positives and recalls, and increased the likelihood that biopsies were found to be malignant.
- Reduced reading time for DBT, empowering practice to provide results for patients in a more timely manner.

"As soon as we implemented ProFound AI, we started using it on all of our DBT breast cancer screenings. It greatly improved our workflow and enabled us to get back to rapid reads and offered the opportunity to provide results for patients in real-time."

"This technology has made a tremendous impact on patient care at PINK Breast Center. It helped to ensure that the biopsies we perform are more likely to be cancer, and we also now have fewer false positives and callbacks."

-- Lisa Sheppard, MD, Radiologist, PINK Breast Center

The Story of PINK Breast Center

PINK Breast Center is a privately-owned imaging center specializing in breast care and ultrasound studies. Led by Lisa Sheppard, MD, PINK Breast Center has two locations in Flemington, NJ and Paterson, NJ; both locations are certified Breast Imaging Centers of Excellence.

"Philosophically, at PINK Breast Center, we believe all women are entitled to quality healthcare, and we take pride in our ability to offer quality service to a diverse patient population," said Dr. Sheppard. "We have always adopted the latest in cutting-edge technology so we can continue to offer the best possible patient care to all women, regardless of economic status."

The practice can see up to 70 patients per day across both locations. For routine breast cancer screening, PINK Breast Center strives to offer rapid reads for patients, meaning results may be provided that same day, while the patient is still in the imaging center.

-- PINK Breast Center

Early Adopters of the Latest in Technology

"PINK Breast Center is always striving to adopt the latest in cutting-edge technology," according to Dr. Sheppard. "We were among the first in our communities to adopt digital breast tomosynthesis (DBT), or 3D mammography."

Dr. Sheppard found the new DBT system, which PINK Breast Center adopted in 2014, offered more data and better-quality images than ever, but the larger datasets took radiologists longer to read.

"When we adopted DBT, the sheer number of images to review slowed us down," she commented. "We knew we needed to find a solution to address this workflow challenge."

Dr. Sheppard had previously used iCAD's computer-aided detection technology at PINK Breast Center and was intrigued when ProFound AI for Digital Breast Tomosynthesis (DBT) became the first software of its kind to be FDA-cleared in December 2018. Featuring the latest in deep-learning artificial intelligence capabilities, ProFound AI rapidly and accurately analyzes each individual image, or slice, and identifies potentially malignant lesions.

"It was very exciting when I learned that ProFound AI for DBT was FDA-cleared. I couldn't wait to jump on the bandwagon to start using it," Dr. Sheppard added. "We were the first in Northern and Central New Jersey to adopt this technology – it was just another example of our practice striving to bring the best possible technology to enhance our patient care."

ProFound AI for DBT was clinically proven in a large reader study to increase sensitivity by 8 percent, minimize the rate of false positives and unnecessary recalls by 7 percent, and reduce reading time for radiologists by 52.7 percent.[1] Positive clinical results from this study were published in Radiology: Artificial Intelligence.

-- Lisa Sheppard, MD,
Radiologist,
PINK Breast Center

The Bottom Line

Soon after adopting ProFound AI, Dr. Sheppard and her team noticed it made a positive impact on workflow and reading accuracy, offering benefits to both clinicians at the practice and her patients.

Ultimately, Dr. Sheppard discovered ProFound AI not only allowed the team to read cases faster, it helped to improve accuracy and reduce callbacks.

"This technology has made a tremendous impact on patient care at PINK Breast Center. It helped to ensure that the biopsies we perform are more likely to be cancer, and we also now have fewer false positives and callbacks," Dr. Sheppard added. "It also helps to improve our confidence while reading DBT, even with complicated cases. For example, when you have a case that's extra dense or has a lot of nodules or calcifications, ProFound AI allows us to read it with a higher level of confidence and make better decisions for the patients."

The team at PINK also found the technology offered crucial information, such a unique Certainty of Finding Lesion and Case Scores, which assists in clinical decision-making and prioritizing caseloads. After using the technology for some time, the PINK team found ProFound AI to be a solution they can trust.

"When ProFound AI highlights an area, we know it's something to investigate. It's much more selective than other CAD technologies and offers a remarkable improvement in terms of the focus," she added. "We know it works because we're seeing more of our biopsies actually turn out to be cancer. This technology is fabulous, and it really makes a difference."

Looking towards the future, Dr. Sheppard predicts AI will continue to be an invaluable tool for clinicians in the years ahead.

"AI coupled with the physician is where medicine is going to go. I don't think AI could ever replace a physician, but it certainly enhances the physician and ensures a more accurate read for the patient," according to Dr. Sheppard.

She also noted that ProFound AI was a worthwhile investment for her practice based on the value it offered in terms of workflow, accuracy, and overall patient care.

"The initial investment in this technology was insignificant compared to the benefits it offers to our patients," she added. "There is tremendous value in being able to confidently tell my patients, 'I read your mammogram today and it is negative, but I also want to reassure you, ProFound AI agrees and found you are negative.' This technology really helps to put both me and my patients at ease."

1. Conant, E. et al. (2019). Improving Accuracy and Efficiency with Concurrent Use of Artificial Intelligence for Digital Breast Tomosynthesis. Radiology: Artificial Intelligence. 1 (4). Accessed via https://pubs.rsna.org/doi/10.1148/ryai.2019180096

About iCAD, Inc.

Headquartered in Nashua, NH, iCAD is a global leader in medical technology providing innovative cancer detection and therapy solutions. For more information, visit www.icadmed.com.