

# Why ProFound AI Prevailed as the Premier AI Solution in a Competitive Trial at Wake Radiology

## Challenge:

- When Wake Radiology upgraded to 3D mammography, the organization soon realized that the substantial increase in the volume of images compared to 2D mammography resulted in workload challenges for its radiologists.
- The organization sought an AI solution that would offer the flexibility and scalability to work with different PACS across 21 gantries and a variety of viewing environments.

## Solution:

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

## Results:

- ProFound AI was seamlessly integrated into the mixed reading environment at Wake Radiology, and the radiologists found it enhanced their performance and improved their confidence in making clinical decisions.
- Adopting ProFound AI helped to differentiate the facility as a leader in breast care and improve patient care.

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— Matt Dewey, Chief Information Officer (CIO) at Wake Radiology

*"Having the latest in AI at our fingertips shows that we are on the leading edge of advances in breast imaging. It inspires confidence in our patients that we are committed to the deployment of state-of-the-art technologies that are clinically proven to enhance patient care."*  
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## The Story of Wake Radiology

With 14 imaging locations in the Raleigh-Durham metropolitan area, also known as "the Triangle," Wake Radiology offers a wide array of imaging exams in the outpatient setting, including both screening and diagnostic mammography. Renowned for state-of-the-art care, in August 2013, Wake Radiology began to upgrade to 3D mammography, or DBT, and now exclusively offers DBT at all 14 locations, all of which are designated as American College of Radiology Breast Imaging Centers of Excellence (BICOE).

"We pride ourselves on being on the cutting edge of technology as a way to distinguish ourselves from other providers of imaging service in the area, which led to our decision to upgrade to 3D mammography systems," said Matt Dewey, Chief Information Officer (CIO) at Wake Radiology. "But with the transition to 3D mammography, the radiologists found it difficult to keep up with the volume of studies being performed. The number of images to review increased so much with 3D compared to 2D mammography, our mammographers kept lamenting that they simply couldn't keep up."

"Radiologists can experience a lot of fatigue when reading DBT," agreed William G. Way Jr., MD, a Diagnostic Radiologist at Wake Radiology. "An enormous amount of diagnostic information is depicted in 3D mammography datasets in comparison with 2D mammography."

In an effort to manage the challenges posed by this increase in workload, the team at Wake Radiology decided to explore all available AI solutions for mammography, including ProFound AI for DBT.

"We were already early adopters of AI in diagnostic radiology and had worked with several different AI vendors," added Dr. Way. "As a consequence, we were very optimistic about the potential for ProFound AI and were convinced from the outset that it was worth testing."



— Wake Radiology, Cary Offices

## The Proof of Concept

In order to make an informed decision on which AI solution to adopt, the team first launched a proof-of-concept process that evaluated ProFound AI and compared it to other available breast AI solutions.

"We launched a trial of ProFound AI in October of 2020; we also compared ProFound AI to a number of other breast AI technologies from January to April in 2021," said Dewey. "After comparing all available options, we felt that iCAD's technology was simply the best."

"I was a proponent of ProFound AI because breast imaging AI is iCAD's core business, in comparison with other vendors in this same technological space," said Dr. Way.

With Wake Radiology being equipped with a full fleet of Hologic systems and Intelrad PACS, both Dr. Way and Dewey also noted that ProFound AI's multivendor flexibility was a key point of differentiation.

"We needed an AI solution that would allow us to read mammograms from either the Hologic workstation or from Intelrad PACS and ProFound AI, which supports multiple output formats, was able to provide that flexibility," said Dewey. "Additionally, some of the other AI products display the CAD marks on a separate monitor rather than directly on the tomographic images in the primary viewer. The radiologists felt it was better to highlight the areas of concern detected by AI as overlays on the diagnostic monitors, rather than forcing the radiologists to take their eye off the images to view the CAD marks on a separate monitor."

"I prefer reading mammography from PACS with the standard set of tools available in my PACS interface rather than reading mammograms from a separate, independent workstation," said Dr. Way. "Other breast AI solutions require that you read mammograms from their proprietary workstations. From an economic standpoint, it was important to me that the ProFound AI output is compatible with multiple PACS vendors that would allow us to read mammograms from the viewer of our choosing rather than force us to be locked into using a single dedicated mammography workstation in perpetuity."

The team first began using ProFound AI for screening mammograms, but in June 2021 they also began using it for diagnostic mammograms.

"As a diagnostic radiologist, I'm not reading nearly as many mammograms as someone reading screening mammograms, but I have still grown to rely on the technology. I see a fair number of screening callbacks, and when I review the diagnostic images, I rely heavily on the areas of concern detected by ProFound AI on the original screening mammogram," said Dr. Way. "When my findings at the time of the diagnostic workup are concordant with ProFound AI from the original screening examination, I feel much better about signing off on the case as a BIRADS 2 or 3. I have come to appreciate that when ProFound AI indicates the risk of malignancy is low, you can almost always trust it. And for my colleagues who do large volume screening mammography, ProFound AI serves as a reliable 'second reader' that helps them avoid making errors in interpretation."

## Ongoing Improvements Make for Continued Satisfaction

After a year of implementing the technology, the team at Wake Radiology reports continued satisfaction with ProFound AI, particularly as it improves over time with ongoing updates and new versions.

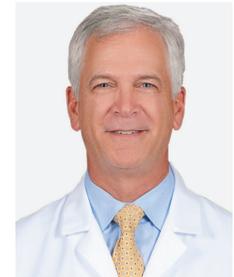
"iCAD is definitely continuing to put resources into improving their technology. Over the last year of using ProFound AI in our clinical practice, we've seen the technology advance over time, with noticeable improvements for the latest versions compared to its predecessor," said Dewey. "Not only has the algorithm itself improved since we adopted it, the formatting has also improved, making it even better for our radiologists," said Dewey.

Ultimately, the team at Wake Radiology found ProFound AI gives them a competitive edge and positions their practice as a leader in breast care in the Triangle.

"Having the latest in AI at our fingertips shows that we are on the leading edge of advances in breast imaging," added Dr. Way. "It inspires confidence in our patients that we are committed to the deployment of state-of-the-art technologies that are clinically proven to enhance patient care."



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