Customer Case Study: 3D Automated Breast Ultrasound

Improving the Standard of Care in Breast Imaging With 3D Automated Breast Ultrasound

White Plains Hospital Imaging Center in New Rochelle, N.Y., is a diagnostic radiology center that provides full-service diagnostic imaging. Both Dr. Pamela Weber (left) and Dr. Stephanie Sims (right) are convinced that 3D automated breast ultrasound is an important tool when imaging women with dense breast tissue.

White Plains Imaging Center, located in the heart of New Rochelle, NY, offers the latest technology in women’s imaging, including 3D automated breast ultrasound, CT, X-ray and bone density scanning. Dr. Pamela Weber was instrumental in transforming the center into a leading imaging provider for the community. With the support of Dr. Stephanie Sims she was able to build White Plains’ reputation as a center of excellence for breast imaging, both nationally and internationally. Dedicated to offering state-of-the-art medical care for their patients, both physicians decided to integrate 3D automated breast ultrasound into the imaging portfolio of their practice.

Challenges:
• Meeting the growing patient volume in response to the new dense breast notification law
• Offering consistent, comprehensive and personalized care for each woman
• Differentiating their patient care offer from other local imaging centers

Solution:
Complement White Plains’ mammography offerings with automated volumetric breast ultrasound to deliver comprehensive and consistent care resulting in improved patient satisfaction and increased patient retention.
Automated and Hand-Held Ultrasound in One System

White Plains Imaging Center serves a multitude of patients with different imaging needs. The center was actively looking for a solution that could help them handle the special circumstances relating to the new breast density laws and to ensure patient satisfaction and retention as well as offering the highest quality of care. Today White Plains Imaging Center is at the leading edge, incorporating the latest technology on a daily basis with its use of automated breast volume ultrasound.

Their breast ultrasound imaging needs are covered by the ACUSON S2000™ Automated Breast Volume Scanner (ABVS) system. In addition to 3D automated breast ultrasound, the system also offers 2D imaging capabilities using hand-held transducers, featuring advanced clinical applications, including shear wave elastography imaging.

The decisive factor in White Plains’ purchasing decision was the system’s hands-free, operator-independent acquisition capability. This ensures consistent and reproducible results, independent of the operator skill set.

The ability to perform an additional hand-held ultrasound exam right after the 3D acquisition allows the instant assessment of abnormalities. This reduces patient anxiety due to call-backs and waiting times.
Breasts which are (C) Heterogeneously dense; or (D) Extremely dense are considered "dense breasts".

According to the American College of Radiology (ACR), dense breast tissue makes it more difficult to identify cancer on a mammogram. In addition, breast density may also be associated with an increased risk of breast cancer.

To help women with dense breast tissue make more informed decisions about further follow-up and treatment was the intent of the new breast density notification laws. They require healthcare providers to notify and inform women with heterogeneously or extremely dense breast tissue about the implications of breast density and offer them alternative options for follow-up.

Meanwhile, these laws have been put into effect in a majority of states across the United States. They are intended to motivate women with dense breasts to discuss the possible increased risk of breast cancer and the difficulty that mammography may have in detecting tumors with their healthcare providers.

The new law resulted in a surge of patients referred for breast ultrasound all over the country. As a result, breast imaging centers have to address the challenge of providing the best patient care, while accommodating the rapid increase of breast ultrasound patients.

While many women with dense breast tissue welcome the new law, there is also criticism in the medical community that this information may lead to increased anxiety among patients and that it may lead to additional, unnecessary medical procedures.
“We have successfully implemented this new technology and it has positively impacted our practice. Patient satisfaction has gone up. Our patient demographic is highly educated and progressive and having the most advanced technologies helps us stay competitive.”

Dr. Stephanie Sims, MD, White Plains Imaging Center, New Rochelle, N.Y.

“When I was able to catch a small cancer on ABVS, I became a true believer in the technology. The ability to get a complete view of the breast in ultrasound and read it beside the mammogram workstation allows for a confident diagnosis based on multi-modality imaging.”

Dr. Pamela Weber, MD, White Plains Imaging Center, New Rochelle, N.Y.
Adoption and Workflow

The facility performs approximately 150 mammograms each month. Almost half of the patients require further evaluation with ultrasound. Depending on the operator, a bilateral hand-held ultrasound takes approximately 30 minutes, occasionally a little longer. Being new to 3D automated breast ultrasound, Dr. Weber wanted to be confident that she and her staff were fully comfortable with the technology, so in the first few months, she decided to have both techniques, hand-held ultrasound and automated 3D ultrasound, performed on each patient. After a detailed review, the results achieved with the 3D automated breast ultrasound solution were impressive, with the coronal view in particular delivering extremely valuable complimentary information to 2D imaging. The coronal view – a view visualizing the breast from the skin line to the chest wall and previously not available with ultrasound – frequently indicated distortion and other subtle changes in the breast architecture that helped to better assess the patient’s condition.

Hybrid Imaging for Dense Breast Tissue

Following mammography, a patient’s breast density is evaluated. Patients with density BIRADS C (heterogeneously dense) or BIRADS D (extremely dense) are referred to a 3D automated breast exam during which typically three views are acquired – AP, medial and lateral. Depending on the patient, additional views are obtained. If necessary, any area of concern can be immediately examined in more detail using a high-resolution linear transducer while the patient is still on the examination table. To provide a comprehensive breast ultrasound exam, 2D views of the retroareolar region and axilla are included in the breast ultrasound protocol established by Dr. Weber and Dr. Sims. According to Dr. Weber, this ‘hybrid model’ approach provides the best care for their patients. With the introduction of 3D automated breast scanning into the workflow, the average time for a breast study ranges between 25 and 35 minutes for a complete bilateral breast exam. Using 3D ultrasound to complement mammography and conventional ultrasound, the center provides cutting-edge technology for their patients. White Plains is the only center in Westchester and one of the few nationwide to offer that type of comprehensive breast imaging protocol placing them ahead of the curve in breast imaging.

The syngo® Ultrasound Breast Analysis software is designed for reviewing and reporting. It offers a wide variety of functionalities to simplify workflow, reduce reading time and enhance the user experience.
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Standalone clinical images may have been cropped to better visualize pathology.

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