



The Future of Ultrasound

Exploring the impact breakthrough ultrasound technology has on patient management

When seeking out a new ultrasound system for her breast center, Stacy Smith-Foley, MD, wanted a solution that provided clear images that were consistently reproducible with a high level of accuracy. She found that — and so much more — with the Supersonic™ MACH 30 breast ultrasound system.



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For more information, contact your Hologic representative

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A New Set of Tools

When Dr. Smith-Foley and her colleagues at The Breast Center at CARTI in Little Rock, AR, were first introduced to the MACH 30 breast ultrasound system, they were “blown away” by the technology.

“You could look at a cyst and it was perfectly black with the margins circumscribed; it looked like the textbook. Once we had the equipment in the center, there was no turning back,” said Dr. Smith-Foley. “Due to the underlying technology that borrows processing capacity from the video gaming industry, there is exceptionally fast refresh time. There is no lag, which optimizes grayscale imaging — the foundation of any type of breast ultrasound imaging tool,” explained Dr. Smith-Foley.

The MACH 30 system not only delivers exceptional B-mode image quality, but it also offers the added benefits of ShearWave™ PLUS elastography and enhanced visualization of blood flow with the Angio PLUS imaging.

“The ShearWave™ elastography improves specificity and helps me to determine whether the lesion I am seeing on B-mode is suspicious. I can also layer on the Angio PLUS, which helps me see with a high level of sensitivity whether or not there is any vascular flow in the lesion,” said Dr. Smith-Foley. “Then you’re able to overlay these tools with the B-mode images in the TriVu™ mode, and that really helps you decide whether or not a lesion needs to be biopsied.”

Optimized Efficiency

Optimizing efficiency and throughput was a priority for Dr. Smith-Foley, and the MACH 30 system delivered. She attributes this to the system’s “consistent and reproducible” image quality — something that was sorely lacking from other technologies she trialed.

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“With our old technology, the shear wave elastography lagged and the reproducibility was not there. I often had to go behind my technologist to retake the images, which killed the efficiency of our day. I regretted purchasing that system from the day we installed it. On the other hand, the MACH 30 system is very consistent across users; the ShearWave™ maps that my technologist obtains are nearly identical to the ones I obtain.”

The system offers an intuitive touchpad control, large adjustable touchscreen display and enhanced ergonomics designed to increase usability.

"I find in my practice that I'm able to interact with the patient more because I'm not fiddling with knobs and buttons nearly as much due to the ergonomics and the efficiency of the touchpad. I find that I don't have to look down at the unit as much, so I'm able to focus on the screen and visualizing the finding," said Dr. Smith-Foley. "The technologists also see a huge difference with this system. They love the touchpad and the ease of having just one button to take you through the different imaging modes."

Another workflow benefit comes from the system's TriVu technology, which allows simultaneous display of morphologic, stiffness and blood flow information all in the same image on the screen for more confidence in diagnosis.

"It puts all that information together for you right on one screen. You're able to put everything together quickly and efficiently for your report," said Dr. Smith-Foley.



that does not need to be biopsied. It meets all the criteria for a very low risk of malignancy, and we can follow it with surveillance for six months."

She attributes much of this confidence to the added insights provided by ShearWave™ PLUS elastography, an additional tool Dr. Smith-Foley can layer onto her ultrasound imaging in order to visualize, analyze and quantify tissue stiffness in real-time.

"ShearWave™ elastography increases your specificity, and it can help you both upgrade and downgrade lesions. If you are seeing a lesion where the ShearWave™ elastography pattern is homogenous and soft, and it meets all the other criteria, you have complete confidence in telling the patient that this lesion is very unlikely to be breast cancer and that it is completely safe to do a follow-up exam in a few months," said Dr. Smith-Foley. "Patients don't like to be in the follow-up category, and some will insist on a biopsy. The more confident you can be in your assessment, the more likely they are to comply to your recommendation."

Dr. Smith-Foley explained the added imaging modes offered by the MACH 30 system not only help her with patient management, but they have also helped her make cancer diagnoses by unveiling suspicious components of lesions, prompting biopsy.

"We have found the technology to be a game changer in several cases where we wouldn't have otherwise biopsied," said Dr. Smith-Foley. "I had a patient being followed for a lesion classified as 'probably benign.' By definition, it had a less than two percent risk of being breast cancer. We reassessed and remeasured it, and it had not changed in size significantly on the mammogram. However, in doing our ultrasound, we used the Angio PLUS and ShearWave™ elastography. Having those extra tools increased my level of suspicion in this particular case, yielding a cancer diagnosis, which is lifechanging for the patient."

According to Dr. Smith-Foley, the MACH 30 is now the standard-of-care at CARTI. Not only does she have complete confidence in her new technology, but also with her technology partners.

"Most of us already have a high level of confidence in Hologic when it comes to mammography — there is a reason they're the leader in the field. When I learned Hologic had combined forces with Supersonic Imagine on ultrasound, that increased my confidence in Supersonic Imagine and my comfort with Hologic. They're really seeking to fulfill all the needs a breast imager might have by putting together a suite of tools that complement each other and help us care for our patients on a day-to-day basis."

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Increased Confidence

The SuperSonic MACH 30 ultrasound system's exceptional image quality and innovative imaging modes are designed to help increase diagnostic confidence for breast imagers — something Dr. Smith-Foley has experienced firsthand.

"What patients probably notice the most [about the MACH 30 system] is our confidence," said Dr. Smith-Foley. "When we discuss what we found with them, we are very confident in saying, 'This is a benign lesion