Breakthrough Breast Ultrasound Technology

Applying ShearWave™ PLUS elastography to breast ultrasound screening

When Kathy Schilling, MD, was looking for a screening breast ultrasound solution to help identify cancers that are difficult to find on mammography because of dense breast tissue, she wanted to ensure it also would not increase her facility's benign breast biopsy rate. The ideal solution came in the form of the Supersonic™ MACH™ 30 breast ultrasound system with ShearWave™ PLUS elastography.

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For more information, contact your Hologic representative

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Confidently Tackle Benign Breast Biopsies and False Negatives

Since Dr. Schilling and her colleagues at Boca Raton Regional Hospital in Florida acquired the MACH 30 ultrasound system, they have reported a notable decrease in the number of patients undergoing benign breast biopsy at their facility.

"When we looked at the period of time prior to using ShearWave elastography and the period of time after, we saw an approximately 50% drop in benign breast biopsies at our center, during which cancer yield was maintained. We attributed this to the implementation of ShearWave elastography," said Dr. Schilling.

According to Dr. Schilling, the key to this success has been her ability to confidently downgrade lesions thanks to the additional diagnostic information that ShearWave elastography provides.

"With the additional information provided by ShearWave elastography, you can potentially downgrade a patient who previously would have needed a biopsy. They may go from a BI-RADS 4a to a 3 or a 2, where they simply require follow-up," said Dr. Schilling.

In Dr. Schilling's experience, she has found that ShearWave elastography can be helpful in reducing false negatives for very high-risk patients, which can influence the number of interval cancers.

"Certain groups of patients, like those with BRCA, have a higher likelihood of developing cancers that tend to develop rapidly and may also have a benign appearance. If you have a very high-risk patient with a benign lesion and you use ShearWave elastography, you may learn that it is stiff, which could lead you to upgrade the lesion from BI-RADS 2 to 4, thus necessitating a biopsy. This could potentially help decrease the number of false negative results," said Dr. Schilling.

> "With the additional information provided by ShearWave elastography, you can potentially downgrade a patient who previously would have needed a biopsy."

These characteristics have helped increase Dr. Schilling's overall confidence when it comes to breast ultrasound.

"I've seen many cases where a patient has multiple benign-appearing solid masses, but there's one mass that appears suspicious – and not by morphology, but by its stiffness. ShearWave elastography gives you more confidence that you're not missing things that need to be biopsied," said Dr. Schilling.

No Compromise, No Comparison

Notably, Dr. Schilling and her colleagues do not have to compromise on speed or efficiency to acquire these additional diagnostic details.

"We perform approximately 50 screening ultrasounds per day and many patients have

multiple lesions, but we still use ShearWave elastography on every lesion," said Dr. Schilling. "It's very fast, so it doesn't hold us back, and it does not extend the time required to do a screening breast ultrasound. Plus, getting that added information is so important."

Bringing the MACH 30 breast ultrasound system to Boca Raton Regional Hospital was ultimately the right decision for Dr. Schilling and her patients.

"It helped us feel confident that offering screening breast ultrasound was the right thing to do and that we were not going to harm our patients by recommending unnecessary benign breast biopsies as a result," said Dr. Schilling. "We've become believers that ShearWave elastography could help differentiate benign from malignant lesions."

> "Our technologists love the ergonomics. After doing 50 procedures per day, your wrists can get a workout."

"In addition, the MACH 30 system has beautiful and exquisite grayscale imaging. We can see all the anatomic breast structures exceptionally well. That's why we went with this system 100% across the board in our department," said Dr. Schilling.

The high-resolution B-mode image quality and the real-time imaging modes enabled on the MACH 30 system are made possible by UltraFast™ Imaging, the MACH 30 system's intelligent signal processing, which has an image capture capacity of up to 20,000 frames per second.

Easy to Use, Easy to Implement

The appeal of the MACH 30 system goes beyond outcomes and efficiencies to include intuitive features, enhanced ergonomics and ease of implementation.

"Our technologists love the ergonomics. After doing 50 procedures per day, your wrists can get a workout," said Dr. Schilling.

The system's SonicPad™ touchpad is designed to reduce examination time and operator overuse fatigue and injury. In addition, the MACH 30 system is supported by a comprehensive family of breast transducers, which were all designed to be lightweight and ergonomic for users. Together, these tools contribute to an intuitive user experience.

"They've also commented on the ease of use of the workstation. It's so reproducible and user independent," said Dr. Schilling. "Plus, it has a very small footprint, which is nice. It also looks modern, as opposed to medicinal."

According to Dr. Schilling, "People should be empowered to use this technology to improve the outcomes of their department. It's so easy to implement into your practice. It doesn't take a lot of practice or time to get used to it."

A Breast Ultrasound System to Meet Today's Challenges

In the wake of COVID-19, Dr Schilling has expressed gratitude for the MACH 30 breast ultrasound system and the increased confidence she has thanks to ShearWave elastography.

"As patients get back to screenings that were put off due to the pandemic, we're finding many more cancers. With ShearWave elastography, we're able to identify those we can safely follow up with, thus freeing up biopsy space to take care of those patients who really need the procedure," said Dr. Schilling. "To have the pressure of a large volume of patients that need a biopsy and to be able to prioritize those who really need it, is a huge value to me. We're not delaying diagnosis for those who really need it, and we're doing less unnecessary benign biopsies."