Duke Sports Medicine

Use of Pocket-Sized Ultrasound Device in the Diagnosis of Shoulder Pathology

Can Portable Ultrasounds Still Spot Shoulder Injuries as Well as Hospital-Grade Ultrasounds

What We Wanted to Know

Ultrasounds are very useful for finding shoulder problems. This is because they are quick, don't use radiation, and show pictures in real-time. However, they are very expensive and bulky. We wanted to see if pocket-sized ultrasound machines could still find shoulder injuries accurately.

How We Did This Study

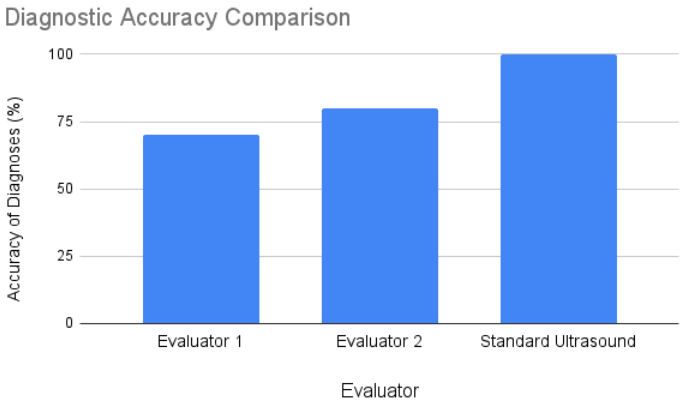
While at UCSF, Dr. Lau studied 10 adults with shoulder pain who were sent to get an ultrasound. First, they got their shoulder scanned by the pocket-sized ultrasound. Two doctors would diagnose the shoulder issue based on these results. Then the patient's shoulders were scanned again using the hospital-grade ultrasound. These results were compared to see how accurate the the pocket-sized ultrasound was.

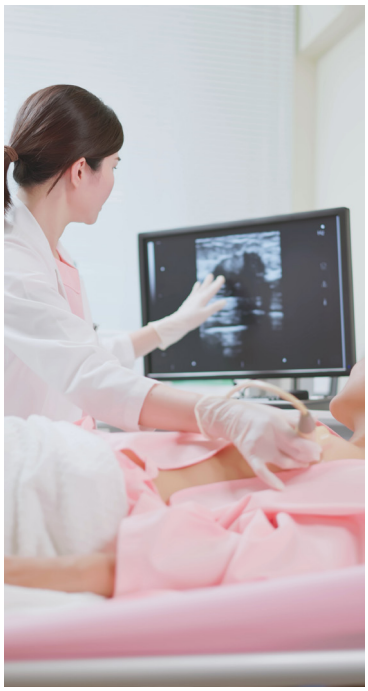
Questions? Contact us at sportsmed_research@dm.dukeedu

	Pros	Cons
Hospital-Grade Ultrasound	• Extremely accurate • Highly researched • Useful for a wide range of injuries	• Very costly • Not portable • May require hospital appointment
Pocket-Sized Ultrasound	• Portable and lightweight • Affordable • Convenient	• Less clear image quality • Less researched

Results

The pocket-sized ultrasound did a good job of finding shoulder problems. The doctors were able to use it well. They rated the image quality a 3.7/4. They were confident in finding the shoulder problems, with a rating of 4.2/5. Even though the machine missed some issues, it worked well for most of the injuries.





What Does This Mean

Pocket-sized ultrasounds can be a good tool for finding shoulder problems. They are small, easy to move around, and less expensive than regular machines. Doctors can use them to quickly decide the next course of action for patients. Even though the devices are not as accurate as the hospital ones, they can still help make important decisions. They could be especially useful in clinics or remote areas where the standard machines aren't available.

You can learn more about this study in the Clinical Journal of Sport Medicine