
Ultrasound Can Accurately Diagnose Common Hand Injuries



A new study in *Ultrasound in Medicine and Biology* shows that ultrasound can accurately diagnose hand injuries, specifically tendon tears, further proving its use as a fast and indispensable tool.

Researchers from Ain Shams University in Egypt aimed to validate the diagnostic accuracy of ultrasound (US) scans in pre-operative evaluation of flexor tendon injuries in the hand and to determine its value in the management of such injuries. They conducted a cross-sectional prospective study which included 35 patients presenting at ASU between September 2018 and January 2020. All of the patients, aged 18-58, the majority (24) of which were male, presented with penetrating trauma to the volar aspect of the hand or wrist with questionable clinical findings, making them candidates for exploratory surgery. Patients then underwent pre-operative ultrasound to guide their management, with results subsequently compared with findings from the operations.

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Sonographic exams identified complete tears in 21 of the 50 injured tendons and 10 tendons were reported to be partially torn. The most common cause of injury was cut wounds by sharp objects, with injury by a knife as the highest incidence. The results showed that ultrasounds had 100% accuracy, sensitivity, and specificity, in diagnosing full-thickness tears as well as tenosynovitis of hand flexor tendons.

"Ultrasound should be a fundamental part of the management of patients with tendon injuries," says study authors, led by Dr Chris Nabil Hanna Bekhet. "It provides data on the extent of injury that effectively helps both set up an appropriate operative plan and predict the patient's functional outcome post-operatively, which in turn will have a direct impact on the patient's rehabilitation plan and lifestyle."

Hand and wrist injuries are a common problem, accounting for up to 30% of ailments treated in the emergency department. Tendon injuries are the second most common of these injuries, with injury to flexor tendons having debilitating consequences and high rates of re-operation. Clinical examinations can often overlook these tendon injuries, and explorative surgical methods are the current gold standard to detect them. This study demonstrates that ultrasound may offer a less invasive, faster option for accurately assessing these injuries.

"Our study also helps anchor the notion that musculoskeletal ultrasound could be widely employed for soft tissue structures, with their well-recognised advantages compared with other imaging techniques," concludes the researchers.

Source: [Ultrasound in Medicine and Biology](#)

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