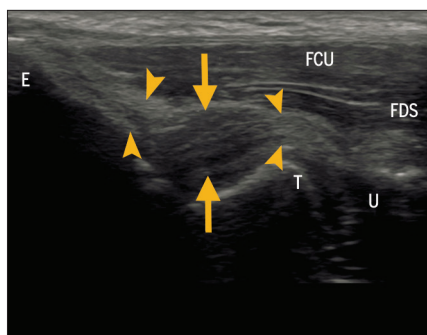
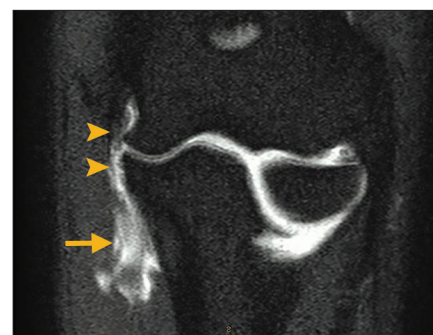


**FIGURE 1.** Preinjury long-axis ultrasound image of the UCL. The anterior band of the UCL exhibits a normal hyperechoic appearance (arrowheads), but a mild hypoechoic area is present deep to the UCL (arrow), which is suggestive of fluid. Positioning of the ultrasound probe is seen in the bottom left-hand corner of the image. Abbreviations: E, medial epicondyle; FCU, flexor carpi ulnaris; FDS, flexor digitorum superficialis; T, trochlea; U, ulna; UCL, ulnar collateral ligament.



**FIGURE 2.** Postinjury long-axis ultrasound image of the UCL. Disruption of the ligamentous fibers of the UCL anterior band can be visualized (arrowheads). A large hypoechoic gap in the UCL is present, denoting the presence of significant fluid (arrows). Abbreviations: E, medial epicondyle; FCU, flexor carpi ulnaris; FDS, flexor digitorum superficialis; T, trochlea; U, ulna; UCL, ulnar collateral ligament.



**FIGURE 3.** Postinjury magnetic resonance arthrogram showing complete ulnar collateral ligament (UCL) tear with 2-mm retraction. Contrast fluid was dissecting into medial subtaneous tissues near the humeroulnar joint (arrow), as a secondary sign of complete tearing. Arrowheads denote the UCL.

## Ultrasound Imaging of Ulnar Collateral Ligament Injury

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**T**HE PATIENT WAS AN 18-YEAR-OLD collegiate baseball pitcher who injured his right throwing elbow during an overhead slider pitch. He felt immediate sharp medial elbow pain, and upon examination presented with tenderness to palpation at the medial elbow, moderate swelling at the anteromedial elbow, and a positive valgus stress test, suggesting possible ulnar collateral ligament (UCL) disruption.

Leading up to and including the time of injury, the patient was participating in a research study evaluating the reliability of UCL thickness measurement via ultrasound imaging. As a part of the reliabil-

ity study, preinjury ultrasound images of the throwing arm, specifically evaluating the UCL's anterior band, were obtained 2 weeks prior to the injury (**FIGURE 1**). One day postinjury, repeat ultrasound imaging of the medial elbow was performed, specifically focusing on the UCL (**FIGURE 2**). The images were obtained with a 5- to 12-MHz linear transducer in the long axis.<sup>1</sup> The attending team physician ordered a magnetic resonance arthrogram 2 days after injury, which confirmed the presence of a complete tear of the UCL (**FIGURE 3**). Subsequently, the patient underwent a surgical reconstruction of the UCL 16 days after in-

jury, started the Thrower's Ten program<sup>3</sup> 6 weeks after surgery, and returned to his prior competitive level of pitching the following season.

Hypoechoic foci suggestive of a small amount of fluid were present on the preinjury ultrasound imaging. These foci and ligament thickening can be present as part of the chronic adaptive process in throwing athletes.<sup>2</sup> Future research is needed to identify ultrasound imaging findings that may be predictive of significant ligament injury. *J Orthop Sports Phys Ther* 2016;46(12):1086. doi:10.2519/jospt.2016.0420

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