

### Article Summary

Belanger, V., Dupuis, F., Leblond, J., & Roy, J. S. Accuracy of examination of the long head of the biceps tendon in the clinical setting: A systematic review. *Journal of Rehabilitation Medicine*; 51, 479 – 491. doi: 10.2340/16501977-2563.

Traditionally, diagnosis of shoulder and upper extremity pathologies involving the biceps tendon has been done with MRI or arthroscopy, which has been considered the gold standard. However, with the growing availability of ultrasound and benefits concerning cost effectiveness, non-invasiveness, and time required to complete the study, it is becoming more common as the diagnostic study of choice.

I chose to explore this question because I was surprised to find that we would use ultrasound to diagnose a potential biceps tendon pathology, especially since this method is so dependent on the technique and skill.

This systematic review examined the accuracy of high-resolution ultrasound and orthopedic special tests in the diagnosis of pathologies of the long head of the biceps tendon. In doing the literature review, the researchers included prospective cohort studies, cross sectional studies, and case control studies in any setting. They did not include any limitations regarding age, race, or sex. They did, however, exclude any studies that included patients with rheumatological or neurological comorbidities.

The researchers specifically targeted studies that investigated the diagnosis of SLAP lesions, tendinopathy, dislocations, ruptures, and effusions of the long head of the biceps tendon. They included studies that compared high resolution ultrasound to MRI or MR arthrography and orthopedic special tests to any type of imaging, ultrasound, or surgery.

Initially, 777 articles resulted, and from those 42 were deemed eligible. After scrutinizing these articles, 30 were ultimately included.

Results:

HRUS:

Tendinopathy

Sensitivity: 22-100% sensitive  
Specificity: 88-100%

Dislocation

Sensitivity: 76%  
Specificity: 98%

Effusion

Sensitivity: 79%  
Specificity: 73%

Partial rupture

Sensitivity: 27-100%  
Specificity: 100%

Complete rupture:

Sensitivity: 71%  
Specificity: 98%

The takeaway from this study is that HRUS has been shown to be effective as a diagnostic tool for ruling in pathologies of the biceps tendon, but not necessarily for ruling them out, as shown by the high specificities, but lower sensitivities. The evidence is not strong enough to adopt individual OSTs as a replacement for US or other imaging in the diagnosis of these pathologies.

One strength of this article is that it was published in 2019, so it theoretically has the most up-to-date information on the topic. Additionally, it includes many studies and therefore has representation from a great number of participants, which lends a lot of power to the results. Unfortunately, the study was conducted and published in Canada, which makes the generalizability to the local population questionable.