

Editorial Commentary: Look More Closely at those Coronal Magnetic Resonance Imaging Cuts Before Concluding a Rotator Cuff Tendon Tear Is Irreparable—Don't Let an L-Shaped Tear Fool You



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Abstract: Modification of the Patte rotator cuff tear classification by using 2 coronal cuts to judge severity of retraction can help differentiate repairable from irreparable rotator cuff tears and allow for more accurate tear pattern identification.

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Options for the massive, retracted, and so-called irreparable rotator cuff tear abound. Disappointment with failed repairs has spurred on the use of a variety of alternative treatments including tendon transfers, reverse shoulder arthroplasty, superior capsular reconstruction, and balloon spacers, to name a few.

Although magnetic resonance imaging (MRI) evaluation is an accurate study that allows for determination of several prognostic factors such as rotator cuff fatty infiltration, atrophy, and tendon retraction, one has to remember that this is still a 2-dimensional study, and not all shoulder pathology is easily interpreted in 2 dimensions. Although most rotator cuff tears retract in a medial to lateral direction, this is not always the case: sometimes tears can retract in an anterior to posterior direction. The classic example of this kind of retracted tear pattern is the L-shaped tear.

The L-shaped tear can appear to be irreparable if one puts too much stock in coronal MRI cuts that appear to be retracted to the glenoid. Interpretation of rotator cuff tear reparability using 2-dimensional MRI has been characterized quite well. For an L-shaped tear, however, the anterior tear will make it appear that the tendon is retracted to the level of the glenoid. So, while at a superficial glance the tear may appear irreparable on the

anterior cut, if one scrolls more posteriorly to the level of the scapular spine, the tear may be retracted much less.

Drs. Guo, Zhu, Song, and Jiang, in their article "Assessment of Tendon Retraction in Large to Massive Rotator Cuff Tears: A Modified Patte's Classification Based on 2 Coronal Sections on Preoperative Magnetic Resonance Imaging With Higher Specificity on Predicting Reparability,"¹ recognized this problem with the existing method of classification and set out to modify the Patte classification from a large cohort of their rotator cuff repair patients. Patte's classification is simple but unfortunately does not account for anterior to posterior retraction. The modified classification evaluates severity of tendon retraction using 2 coronal cuts, anterior and posterior. If tendon retraction is severe at both cuts, reparability is low. The authors looked at several other characteristics and found that an acromial humeral interval (AHI) of <4 mm combined with severe retraction in both coronal cuts accurately predicted irreparability of the tear.

At first glance this research seems intuitive, but the classification helps identify L-shaped tears or asymmetrically retracted tears and alerts the surgeon to be prepared for how to tackle the repair. The classification is simple and easy to use and, best of all, helps to guide treatment, which is often lacking with orthopaedic classification systems.

Reference

1. Guo S, Zhu Y, Song G, Jiang C. Assessment of tendon retraction in large to massive rotator cuff tears: A modified Patte's classification based on 2 coronal sections on preoperative MRI with higher specificity on predicting reparability. *Arthroscopy* 2020;36:2822-2830.

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