

decubitus to optimally position it are unlikely to confer an important clinical advantage with respect to the length of tendon that could be visualized using standard arthroscopic techniques.⁶

In closing, we feel that although the use of a 70° scope may confer some advantages, its major limitation is likely to be a high false negative rate because of inability to visualize most of zones B and C. For that reason, we feel that biceps tenoscopy represents a potentially more useful strategy but we accept that clinical results are needed, and multicenter prospective evaluation of this technique is planned in order to determine its role in the diagnosis and management of LHB pathology.

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Authors' Reply



Our thanks to Drs. Saithna, Old, and MacDonald for their letter,¹ which gives us the opportunity to clarify the main point of our article,² which is

The improved visualization of the bicipital groove, medial sling, and subscapularis that is afforded by the 70° arthroscope confers a great advantage in diagnosing and surgically addressing subscapularis tears and associated long head of the biceps lesions and instability.

A recent study has shown that 90% of patients with subscapularis tears have associated instability of the long head of the biceps or partial tears of the biceps tendon within the bicipital groove.³ This association of significant pathologic processes at the top of the bicipital groove highlights the utility of the 70° arthroscope in making that diagnosis and affording the visualization that is necessary to surgically fix the problem.

Drs. Saithna, Old, and MacDonald suggest that biceps tenoscopy would be a better tool for visualizing the entire biceps tendon.^{4,5} However, neither of their articles that they referenced is currently accessible online, so we were not able to learn anything about their technique or results. This is obviously an unproven procedure at this point in time, so we cannot recommend discarding a proven technique (use of the 70° arthroscope) for an unproven technique (biceps tenoscopy). However, the concept is intriguing, and we look forward to further reports by the authors on their results.

Finally, the relative importance of the location of biceps pathology remains controversial. We have long held the opinion that tenodesis in the proximal portion of the bicipital groove is effective at relieving pain generated at any point in the tendon of the long head of the biceps. Our logic is that tenodesis at the top of the

groove will eliminate relative motion between the tendon and the groove, as the tendon itself does not contain any contractile elements. Without relative motion between the tendon and the bicipital groove, pain generation by that mechanism would be eliminated.⁶

Our recent publication on arthroscopic biceps tenodesis at the top of the bicipital groove supports the concept that tenodesis in that area usually eliminates biceps pain. In that series of 1,083 arthroscopic biceps tenodesis performed at the top of the bicipital groove (the largest series ever), revision surgery for biceps-related issues was performed in only 4 patients (0.4%).⁷ If tenodesis at the top of the groove relieves pain from biceps lesions distal to the tenodesis by eliminating relative motion, then the direct visualization of distal tendon lesions (e.g., by biceps tenoscopy), though interesting, would not offer any therapeutic advantages.

Unfortunately, our article must not have adequately emphasized the importance of the 70° arthroscope in diagnosing subscapularis tears, including occult subscapularis tears that occur distal to the medial sling⁸⁻¹⁰; otherwise the letter by Saithna et al. would not have focused so intensely on the biceps tendon. We firmly believe that undiagnosed subscapularis tears are the primary generators of residual pain around the bicipital groove after failed biceps tenodesis, and that routine use of the 70° arthroscope would dramatically reduce the incidence of residual pain from undiagnosed subscapularis tears.

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