All-Arthroscopic Suprapectoral Biceps Tenodesis

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Background

Biceps tendinopathy may result in substantial clinical manifestations in active patients. Failure to achieve resolution of symptoms via nonsurgical management often results in surgical management. The two most common surgical treatment options for tendinopathy of the long head of the biceps tendon are tenotomy and tenodesis. Both modalities have shown efficacy in the literature; however, tenodesis of the long head of the biceps tendon is associated with many advantages over tenotomy.

Indications

Sub-groove tenodesis eliminates potential pain generation within the bicipital groove. Despite recent proof of clinical equivalence of open versus arthroscopic tenodesis, interest in all-arthroscopic biceps tenodesis techniques has been increasing in hopes of minimizing surgical exposure, decreasing the rate of potential neurovascular compromise, and decreasing the time to recovery.

Technique

This video demonstrates an all-arthroscopic technique for sub-groove biceps tenodesis with the use of a unicortical tensionable button. The proximal biceps anchor is held in place at its insertion site with the use of a spinal needle to prevent retraction. The lateral portal is redirected into the subdeltoid space. A novel suprapectoral biceps portal, called the Willingboro portal, is placed percutaneously 2 cm above the pectoralis tendon. Onlay fixation of the long head of the biceps tendon is performed proximal to the pectoralis major muscle insertion with the use of a unicortical button. The postoperative protocol is similar to that of other fixation constructs.

Results

Numerous arthroscopic biceps tenodesis techniques have been described with good success; however, all-arthroscopic suprapectoral tenodesis is a good treatment option for many reasons. A unicortical button construct has similar load-to-failure strength as a bicortical button construct, both of which are greater than all other constructs described in the literature.

Discussion/Conclusion

Arthroscopic sub-groove biceps tenodesis with the use of a unicortical button is a viable treatment option that avoids the complications associated with an open axillary incision and persistent groove pain. Anchoring the biceps tendon before tenotomy allows for preservation of tendon length, limiting the complications associated with tendon retraction, with anticipated improvement in patient-reported outcomes. A unicortical button has a strength profile similar to a bicortical button, which is greater than other techniques described in the literature. Future studies should assess long-term patient-reported outcomes.