KEY PROCEDURES

ACROMIOCLAVICULAR AND CORACOCCLAVICULAR LIGAMENT RECONSTRUCTION FOR ACROMIOCLAVICULAR JOINT INSTABILITY

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Abstract

Numerous operative techniques have been described for acromioclavicular and coracoclavicular ligament reconstruction for the treatment of acromioclavicular joint instability. Injuries of this nature are commonly sustained by contact-sport athletes in high-impact collisions or falls. Traumatic injury to the acromioclavicular joint and ligamentous structures can range in severity, as can the degree of subsequent joint instability. Injuries classified between Type I and Type III are generally treated nonoperatively, whereas Type-IV injuries may be treated similarly to the treatment described in this article for Type-V injuries. The use of free tendon grafts in conjunction with suspensory devices has demonstrated reliable postoperative outcomes and low rates of unplanned reoperation. We present a surgical technique involving harvest of a semitendinosus autograft from the hamstrings, in addition to allograft augmentation. These free tendon grafts reestablish acromioclavicular joint stability following Rockwood Type-V or VI injuries to the joint. Note that there are differences in the outcomes of free tendon graft, suspensory devices, and modified Weaver-Dunn techniques commonly used to treat acromioclavicular joint instability. Although comparable outcomes have been reported for these modalities, treatment with hook plates and Kirschner wires has demonstrated the highest complication rates when used with this procedure. The Weaver-Dunn technique has been found to yield the lowest postoperative American Shoulder and Elbow Surgeons scores among the aforementioned techniques. Additionally, although other procedures may be less invasive, this technique is beneficial because it reinforces horizontal stability in addition to the vertical stability provided by other procedures, resulting in optimal overall shoulder stability. The procedure is performed as follows: (1) harvest the semitendinosus hamstring autograft, (2) dissect the acromioclavicular joint and prepare the acromion by passing

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sutures through a drilled tunnel, (3) prepare the coracoid in a fashion similar to that of the acromion, (4) prepare the clavicle and establish the trapezoid-clavicular attachment using an AC TightRope (Arthrex), (5) reduce the clavicle via contraction of the AC TightRope, (6) pass grafts and perform fixation of the trapezoid, (7) perform fixation of the acromioclavicular and conoid ligaments, and (8) skin closure with sutures. We acknowledge the inherent potential for complications when performing this procedure, and this is addressed at the appropriate points of concern throughout the video.

Acknowledgment

NOTE: Illustrations showing suspensory device, ligament transfer, free graft, and hook-plate in Video 12 have been reprinted from: Moatshe G, Kruckeberg BM, Chahla J, Godin JA, Cinque ME, Provencher MT, LaPrade RF. Acromioclavicular and Coracoclavicular Ligament Reconstruction for Acromioclavicular Joint Instability: A Systematic Review of Clinical and Radiographic Outcomes. *Arthroscopy*. 2018;34(6):1979-95. With permission from Elsevier

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