

Continuous Loop Double Endobutton Reconstruction for AC Joint Dislocation

Steven Struhl, M.D., Theodore Wolfson, M.D.

SS-17Thursday, May 1, 3:10 PM

Altmetric 0

DOI: <http://dx.doi.org/10.1016/j.arthro.2014.04.025>

Article Info

Abstract

Full Text

Article Outline

- I. [Introduction](#)
- II. [Methods](#)
- III. [Results](#)
- IV. [Conclusion](#)

Introduction

[Jump to Section](#) ⇅

Complete dislocation of the AC joint is a common clinical problem with an incidence of approximately 40,000 cases per year nationally. Despite the introduction of more anatomically based approaches, issues with construct slippage and failure remain a problem. This study presents the results of a procedure that was developed using a continuous loop double endobutton design anatomically placed using only a small (4.5mm) single drill hole in each bone and utilizing an open deltoid splitting approach. It was hypothesized that by combining a fixation construct that was strong, stiff and durable with a complete soft tissue repair in acute cases and an augmented repair in chronic cases the goal of consistent excellent outcomes could be achieved.

Methods

[Jump to Section](#) ⇅

Between 2003 and 2012, 30 patients (27 men, 3 women) were surgically treated for a Type 3 or greater AC joint dislocation with the described method (25 chronic and 5 acute). Mean age was 42.6 (range 25-66). Imbrication of the AC joint capsule was done in all cases and the fixation construct was augmented with a CA ligament transfer to the anterior edge of the clavicle in 26 cases and repair of the coracoclavicular ligament in 4 cases. The distal clavicle was excised in 7 cases and left intact in 23 cases. 27 patients were available for follow-up at an average of 4.0 years (range 1-10.5). All patients underwent a complete interview, physical exam, and had bilateral radiographs taken. Final outcome scores were obtained using validated scoring methods.

Results

[Jump to Section](#) ⇅

The construct remained stable in all cases, with no cases of gross failure and a mean CC interval difference of 1.1 mm (range -1.0 to 3.5). 91 % of all cases had a CC interval difference of 2 mm or less. The mean Constant score was 98 (range 94-100), the UCLA score was 33.7 (range 27-35) and the mean ASES score was 98 (range 88-100). Removal of the distal clavicle did not affect final results. There were no complications with regard to fixation failure, fractures, or infection.

Conclusion

[Jump to Section](#) ⇅

Uniformly excellent long-term results were obtained using this technique. A systematic approach to stabilizing the joint in two planes (horizontal and vertical) appears to be critical to successful results. By utilizing an open surgical approach, reconstruction of the torn and/or stretched AC joint capsule was possible. For vertical stability, a continuous loop device optimizes the outcome by eliminating the possibility of knot slippage or breakage and also allows for uniform loading of the suture material. Finally, it is essential to augment the construct with a biologic component either by augmenting with a graft or by meticulously repairing the torn CC ligaments. Using an open approach and keeping drill holes to a minimum in both size and number avoids complications that are common in arthroscopic techniques. The final outcome for both acute and chronic dislocations in this study is significantly superior to nonsurgical treatment. This technique can be recommended as the preferred treatment for patients with acute Type 3 and above AC joint dislocations.