

## Clinical Results Following Non-operative Management for Grade III Acromioclavicular Joint Injuries: Does Eventual Surgery Affect Overall Outcomes?

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**Objectives:** The management of grade III acromioclavicular (AC) joint injuries remains controversial. Good to excellent results have been reported with nonsurgical management; however, some patients report persistent pain related to the AC joint following non-operative treatment and may eventually seek surgical management. The purpose of this study was to compare the clinical outcomes in patients who completed non-operative (non-op) therapy to those who failed non-operative therapy and proceeded to AC reconstruction.

**Methods:** This is a level 3 study. Institutional Review Board approval was obtained prior to initiation of this study. 38 patients were initially treated non-op for acute grade III AC joint injuries with physical therapy. Demographic and surgical data along with pre- and post-treatment clinical outcomes scores including ASES, SF-12 PCS, QuickDASH, and SANE scores were collected a minimum of two years after initial presentation. Non-op failure occurred when a patient underwent AC reconstruction before final follow-up.

**Results:** 38 patients with a mean age of 38 years (range, 22-79 years) were included. 28/38 (74%) successfully completed non-op treatment whereas 10/38 (26%) failed after a median of 44 days (range, 6 days-17 months) from the initiation of physical therapy. Of the 10 patients who failed, 9 (90%) sought treatment >30 days after the injury. Two of these patients had a subsequent surgery before final follow-up and were therefore not included in outcomes analysis. Follow-up was available for the remaining 7/8 patients (87.5%) who failed non-op treatment and for 22/28 patients (78%) who were successfully treated non-op. Mean follow up was 3.3 years (range, 2.0-5.9). There were no significant differences in all outcomes scores between groups ( $p>0.05$ ): Mean SF-12 PCS was 56.1 (range, 52.4-61.4) in those who successfully completed non-op treatment compared to 56.2 points (range, 53.1-58.0) in those who finally underwent surgery ( $p=0.680$ ). Mean SANE score was 96 points (range, 65-100) in those who successfully completed non-op treatment compared to 95 points (range, 24-98) in those who finally underwent surgery ( $p=0.175$ ). Mean ASES score was 95.5 points (range, 51-100) in patients with successful non-op treatment and 97.1 points (range, 91.6-100) in patients with eventual surgery ( $p=0.348$ ). The mean QuickDASH score was 2.2 points in both groups with a range of 0-41 for those with successful non-op treatment and a range of 0-14 for those with eventual surgery ( $p=0.756$ ). Patients who sought treatment >30 days after injury demonstrated decreased postoperative SANE scores ( $p = 0.002$ ) and had 13.8 fold greater relative risk for failure of non-op treatment.

**Conclusion:** Surgical decision making for patients with acute grade III AC joint injuries is evolving. According to our results, (1) a trial of non-op treatment is warranted as successful outcomes can be expected even in those that eventually opt for surgery, and (2) patients who present >30 days after their injury are much less likely to complete nonoperative treatment successfully.

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