

Post Surgical Treatment Following Scapular Muscle Reattachment

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Study Design: Case Series

Objectives: To summarize a new surgical technique and describe the post-surgical rehabilitation protocol for a cohort of patients that have been identified with a syndrome of scapular dysfunction associated with severe pain along the medial border of the scapula following traumatic injury to the shoulder.

Background: This study describes the clinical presentation, treatment, and outcomes in a case series of 8 patients found to have detachment of the medial scapular stabilizing muscles.

Methods: 8 patients (age 31 ± 17 years) were included, with clinical follow up of 12 weeks. The 8 patients are part of a larger cohort of patients [93 patients (age 35.5 ± 11 years)] who had a history of trauma, tensile load or previous surgery to the area along the medial scapular border, localized pain at the superior medial and/or medial scapular border, scapular dyskinesis, decreased rotator cuff strength, and increased pain/decreased function with arm forward elevation. The localized pain was a common problem which averaged 8.1/10 (± 1.3) on a visual analogue scale (VAS). Average time from initial injury to surgical treatment was 6.8 years (range 5 months to 30 years) and was accomplished by reattaching the lower trapezius and/or rhomboids to the body and the spine of the scapula through trans-scapular drill holes. All patients were immobilized for no less than 4 weeks following surgery at which time a rehabilitation protocol utilizing closed kinetic chain scapular strengthening exercises was implemented. After 8-12 weeks, the patient was progressed to an open chain program which included traditional rotator cuff and global shoulder strengthening exercises.

Results: Significant relief of preoperative pain was noted in all patients by 6 weeks – VAS score was 1.9/10 (± 1.4). Increased shoulder function, measured by the ASES patient self-assessment tool, improved from 6.7 prior to surgery to 38.3 at 12 weeks following surgery. Patients attended formal supervised physical therapy for 4-9 months. 4 patients were discharged from physical therapy at 16 weeks while the other 4 patients were discharged between 20-36 weeks. Reasons for additional physical therapy included muscle spasm/guarding, glenohumeral stiffness, poor motor control, and initial non-compliance with the physical therapy protocol.

Conclusion: Operative reattachment of detached scapular muscles provided predictable pain relief and resulted in improved function in the reported case series. Post-operative therapeutic regimens following a progressive closed chain exercise approach for the first 12 weeks allowed shoulder function to improve rapidly however, functional results varied when higher demand open chain exercises were introduced to the patient or if the patient was non-compliant with the rehabilitation protocol.

Level of Evidence: Level IV, Case Series