

## Outcomes Following Arthroscopic Pancapsular Shift for the Treatment of Multidirectional Instability

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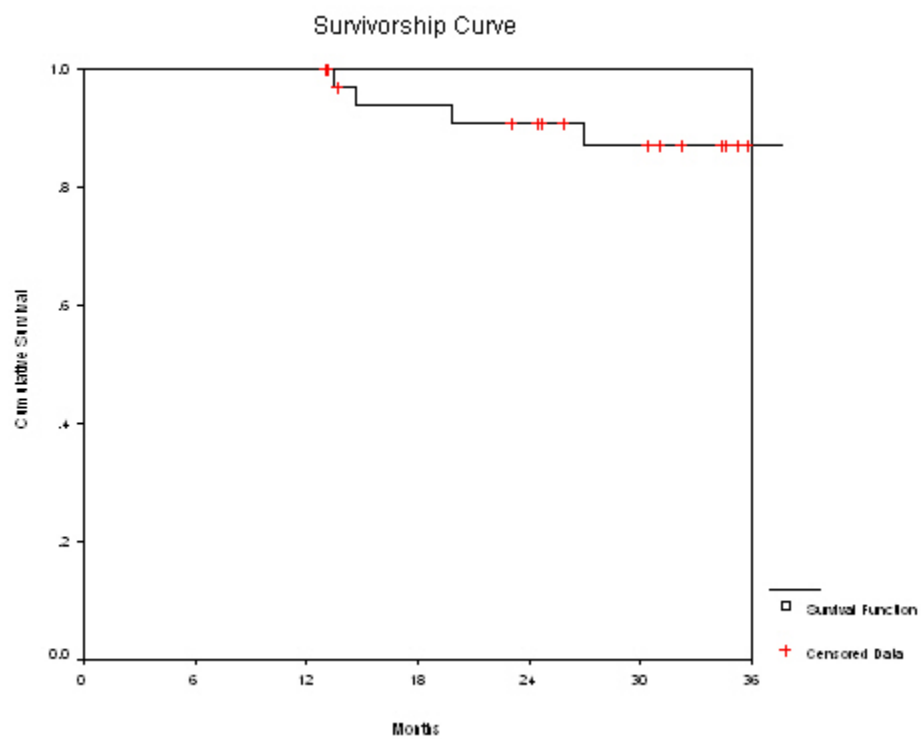
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**Objectives:** Multidirectional instability of the shoulder (MDI) is a clinical diagnosis that can be difficult to both diagnose and treat. Arthroscopic management of MDI has been used to treat patients with MDI and has the advantage of being able to treat the anterior, posterior, and inferior parts of the capsule. Few studies have presented outcomes with this approach. The purpose of this study is to examine mid-term outcomes after arthroscopic management of multidirectional glenohumeral instability.

**Methods:** In this IRB approved study, patients who underwent arthroscopic stabilization for MDI and were at least 2 years out from surgery were included. MDI was defined by symptomatic glenohumeral instability in 2 or more directions, one of which was inferior. Patients were excluded if they were treated with open surgery or if they had a previous stabilization procedure performed on that shoulder. All patients underwent a pancapsular shift that included tightening posteriorly, inferiorly, and anteriorly with multiple suture anchors and high strength sutures. Patient-reported subjective data was prospectively collected and retrospectively reviewed and included patient satisfaction, instability symptoms, American Shoulder and Elbow Society shoulder index, Single Assessment Numeric Evaluation (SANE), quick Disabilities of the Arm, Shoulder, and Hand score (Quick-DASH), and Short-Form 12 (SF-12) scores. Additional patient-reported information regarding shoulder instability was also collected in the same fashion. Kaplan-Meier survivorship analysis was performed with self-reported postoperative dislocation status. Level of significance was set at  $p < .05$ .

**Results:** Forty-one patients (45 shoulders) with MDI were treated with arthroscopic stabilization and were at least 2 years out from surgery. Of these patients, 32/39 (82%) reported a preoperative instability event while participating in a recreational or competitive sport. There were 25 men and 16 women with a mean age at the time of surgery of 26 (range, 16-65 years) with an average subjective follow-up of 2.9 years. Men were significantly older than women at time of surgery (mean age 28 vs 20:  $p = .001$ ) but no differences were seen in outcome scores between genders. Four patients (4/45) progressed to another instability surgery at a mean of 25 months (range, 13-68 months). Kaplan Meier survivorship analysis at 1 year was 100% and 90.7% at 2 years (Figure 1). Feelings of subluxation significantly improved postoperatively from pre-op levels ( $p = .017$ ). Overall, all patient-derived subjective outcomes scores improved significantly from preoperative levels. In a subgroup analysis, outcomes scores of patients with a traumatic onset of instability all improved from preoperative levels ( $p < .05$ ). However, patients with atraumatic onset of instability had ASES scores that significantly improved from preoperative levels, while their QuickDASH, SANE and SF-12 Physical Component scores did not. At final follow-up, patients with traumatic onset of instability were significantly more satisfied with outcomes (10 vs 9:  $p = .028$ ) than those with an atraumatic onset.

**Conclusion:** Even though MDI has historically been difficult to diagnose and treat, arthroscopic surgery in our cohort showed promising results. Improvement in outcomes was more predictable in those patients with traumatic onsets of instability, while those with atraumatic onsets benefited from surgery but had less predictable outcomes.



The Orthopaedic Journal of Sports Medicine, 3(7)(suppl 2)  
DOI: 10.1177/2325967115S00052  
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