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### **Posterior Inferior Capsulotomy for Glenohumeral Internal Rotation Deficit in Baseball Pitchers (SS-19)**

Glenohumeral internal rotation deficit (GIRD), which is caused by a posterior inferior capsular contracture, has been shown to alter throwing kinematics and glenohumeral translation which predisposes the throwing shoulder to labral pathology and an inability to pitch. Materials and Methods: 11 baseball pitchers (8 professional, 3 college) with severe GIRD (avg. 56°, range 35°-67°) unresponsive to a stretching program, prospectively underwent arthroscopic posterior inferior capsulotomy and were followed for 2 years or more (range 2-5 years). Results: Postoperatively, all patients resumed pitching at their preinjury level or better without symptoms by 6 months and at final follow-up. Immediately following surgery, an average increase of 62° (range 50°-67°) in internal rotation was noted. At final follow-up, GIRD was improved to an average of 16° (range 8°-20°) which represented an average increase of 40° of internal rotation. There were no complications. Conclusions: Posterior inferior selective capsulotomy is highly successful in restoring glenohumeral internal rotation in patients with severe throwing acquired posterior inferior capsular contracture.

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### **Arthroscopic Debridement in the Management of Glenohumeral Osteoarthritis: Long-term Results (SS-20)**

Arthroscopic debridement for osteoarthritis has shown optimistic results in several recent studies with short-term follow-up. Long-term results and the effect of debridement on progression of disease remains unknown. Seventy-five patients presented to the senior author over a 12 year period with osteoarthritis treated with arthroscopic debridement. Thirty-five patients were available for follow-up greater than five years with radiographs and clinical examination and formed the basis of this study. Mean age was 45.8 years, mean follow-up 7.3 years. While good initial response to debridement was noted at the six month point in 92% of patients based on UCLA and ASES scores, only 28% of patients showed good or excellent results at long-term follow-up. All patients showed significant radiographic progression of disease. 15 patients converted to total shoulder replacement over the course of the study. Survivorship analysis showed a 62% five year survivorship using arthroplasty

as an endpoint. While arthroscopic debridement provides short-term relief in many patients, long-term relief is not common, and interval progression is nearly universal, often requiring shoulder replacement at an age where arthroplasty is not desirable despite debridement. The long-term outcome of arthroplasty is not ideal in the younger patient, and arthroscopic debridement remains a viable option for the younger patient with glenohumeral arthritis. It however shows minimal long-term relief of symptoms, and does not significantly alter progression of disease. Patients with glenohumeral arthritis should be cautioned that short-term relief with arthroscopic debridement is the norm, and progression of disease is not commonly affected by arthroscopic debridement. Arthroscopic debridement does not routinely provide sufficient long-term relief to allow delay of shoulder arthroplasty to an appropriate age in most young patients.

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### **Arthroscopic Debridement and Capsular Release for Glenohumeral Osteoarthritis (SS-21)**

Purpose: The purpose of this study was to determine the efficacy of arthroscopic debridement and capsular release in the treatment of glenohumeral osteoarthritis. Methods: Patients that had been diagnosed with glenohumeral osteoarthritis and had a subsequent arthroscopic debridement and capsular release were assessed using American Shoulder and Elbow Surgeons (AS&E), Constant, Rowe, UCLA, and Walch-Duplay. Preoperative radiographs and arthroscopic findings were assessed and patients were classified into one of four osteoarthritis groups. Each osteoarthritic group was compared statistically, as well as the patient's pre- and postoperative range of motion. Statistical analysis of our data was done using a Student *t* test. Results: The average follow-up for the eight patients (9 shoulders) was 13.7 ± 4.9 months. This study demonstrated that arthroscopic debridement and capsular release provided relief of pain for 9.3 ± 4.6 months. The average range of forward elevation preoperative was 131.9 ± 47.6 ° and improved to 153.3 ± 34.6° postoperatively. The average external rotation prior to surgery was 42.8 ± 23.3° and increased to 59.4 ± 23.0° after surgery. Internal rotation improved after surgical intervention from 17.2 ± 5.7° to 48.3 ± 22.2°. Four patients were classified as having moderate osteoarthritis and four patients (5 shoulders) were determined to have severe osteoarthritic changes. A statistical analysis using a Student *t* test demonstrated that the AS&E score, the Walch-Duplay score, and the UCLA score were significantly better in those patients with moderate glenohumeral osteoarthritis compared to those