

recalcitrant lateral epicondylitis and compare them to each other. **Methods:** 316 Patients were treated operatively over a 5 year period for recalcitrant lateral epicondylitis by two surgeons. All patients failed an aggressive course of non-operative treatment consisting of NSAIDs, bracing, physical therapy, and steroid injections. Of those 316 patients, 76 were treated with percutaneous release performed in the office, 94 patients were treated with arthroscopic release, and 125 patients were treated with open lateral epicondylectomy. The follow-up averaged 2.2 years. Patient outcomes were evaluated with the Andrews Carson rating scale. Additionally patients' ability to return to previous level of vocation, activities, and the need for additional intervention was noted. **Results:** Satisfactory results were 93% in the percutaneous group, 95% in the arthroscopic group, and 97% in the open group. There were no significant statistical differences comparing the Andrews Carson scale, participation in vocation and recreational activities postoperatively, and need for further treatment. **Conclusions:** The most frequent treatment for recalcitrant lateral epicondylitis has been open release; however, percutaneous as well as arthroscopic techniques are equally efficacious treatment options.

Felix H. Savoie III, M.D., Larry D. Field, M.D., S. Joshua Szabo, M.D.

#### **Arthroscopic Ulnohumeral Arthroplasty for Elbow Arthritis in Patients Under the Age of 50 Years (SS-39)**

Degenerative arthritis of the elbow in patients under age 50 can cause disabling pain, severely restricted range of motion (ROM), and functional limitations. Open ulnohumeral arthroplasty has been demonstrated to produce satisfactory pain relief and ROM gains. We report the results of an all-arthroscopic ulnohumeral arthroplasty for degenerative arthritis of the elbow in young patients. **Materials and Methods:** Eleven consecutive patients under age 50 with radiographically documented degenerative elbow arthritis underwent an all-arthroscopic ulnohumeral arthroplasty as described by Savoie. Indication for surgery was pain and limited ROM refractory to 12 months of conservative treatment. Mean age at time of surgery was 36 years (range 23 to 47 years). Mean postoperative follow-up was 15 months (range 12-18 months). **Results:** Mean preoperative flexion was 100° (range 70°-140°), and extension (short of neutral) was 40° (range 10°-60°). Mean postoperative flexion was 140° (range 130°-150°;  $P < .01$ ) and extension was 7° (range 0°-20°;  $P < .01$ ). Total arc of motion averaged 60° preoperatively and 133° postoperatively (improvement of 73°;  $P < .01$ ). Mean subjective pain level

improved from 9.2 to 1.7 (10 = worst pain; 0 = no pain). Mean subjective patient satisfaction improved from 1.8 to 9.0 (0 = unsatisfied; 10 = completely satisfied). **Discussion:** All-arthroscopic ulnohumeral arthroplasty provides significant short-term pain relief and restoration of elbow ROM and function in patients under age 50 with degenerative arthritis of the elbow. Long-term durability of this procedure with regard to preservation of ROM and radiographic progression of arthritis remains unknown.

Sumant G. Krishnan, M.D., Wayne Z. Burkhead, M.D.

#### **An Adenosine-2A Receptor Agonist Reduces Joint Inflammation and Joint Destruction Following Septic Arthritis (SS-40)**

Infectious arthritis can cause long-term joint morbidity regardless of appropriate early treatment. In addition to the bacteria, the inflammatory response appears to contribute to joint degradation through the production of cytokines (such as IL-8), superoxides, and metalloproteases. We have shown that an adenosine-2A receptor agonist (ATL146e) could be chondroprotective following joint infection with *Staphylococcus aureus*. The purpose of this study was to determine whether an adenosine agonist might augment the current treatment regimen to prevent the arthritic effects associated with joint sepsis. **Methods:** An infectious arthritis model was created in rabbit knees. *S aureus* bacteria were injected into both knees of each rabbit. Sixteen hours following infection (time zero), treatment or no treatment was begun. The 48 rabbits were divided into 4 treatment groups: no treatment (control), ATL146e only, antibiotics only, or antibiotics plus ATL146e (12 rabbits per group). At time zero, mini-osmotic pumps filled with saline (control) or ATL146e were implanted in each rabbit based on the treatment group. Rabbits in the antibiotic treatment groups were given 7 days of intramuscular ceftriaxone, and those in the ATL146e group were given the drug for 72 hours. Analysis at days 1, 3, and 7 consisted of gross appearance, synovial fluid analysis (WBC counts, culture, and interleukin-8 (IL-8) assay), serum WBC count and culture, histologic analysis, and biochemical analysis for glycosaminoglycan (GAG). Results were determined and compared among treatment groups and analyzed statistically by analysis of variance (ANOVA). **Results:** Serum WBC counts were within normal range for rabbits in all treatment groups. Blood cultures taken prior to euthanasia were negative in all groups despite bilateral knee infections. Synovial fluid cultures at day 7 were positive in 83% of the untreated knees and 100% of the ATL146e only treated knees, but negative in all antibi-