Introduction: Arthroscopic stabilization of primary, recurrent anterior instability has become the procedure of choice with some infrequent exceptions. Failures of stabilization, both open and arthroscopic, can and do occur. Our experience with revision arthroscopic Bankart repair is detailed in this study.

Methods: This is a Level IV retrospective analysis of surgical intervention. 15 patients (12 men; 3 women) with a minimum 18 month follow up form the basis for this study. 21 patients underwent revision Bankart surgery, and 15 were available for follow up (71%). The average follow up was 22 months ranging from 18 to 70 months. The average age was 27, ranging from 17 to 44 years. 4 of the 15 were our arthroscopic failures while 10 were referred for treatment. 5 patients were felt to have significant bone loss and 4 were contact/collision athletes. Of the 15 failures, 11 were arthroscopic and 4 were following an open procedure.

Results: At the time of surgery, 10 recurrent Bankart lesions were noted and 8 were felt to have a poorly tensioned capsule. Hardware was present in 6 cases, but the ability to place anchors was not significantly hampered. An average of 2.5 anchors were implanted. Of the 15 revisions, four failures were recorded (27% failure rate). Two patients sustained a recurrent dislocation following trauma while 2 experienced atraumatic subluxations. Two patients underwent further surgery to stabilize the shoulder. One of the five with significant bone loss experienced recurrent instability while one of the four contact athletes also sustained recurrent subluxation following revision surgery. Range of motion analysis revealed a 15-20 degree combined motion loss in the abducted, externally rotated position in those with significant bone loss.

Conclusion: Revision arthroscopic Bankart repair is a viable alternative to open revision surgery in cases of failed stabilization. The 27% failure rate in this revision group is consistent with results reported for open revision surgery. Although significant bone loss is considered a contraindication to a soft tissue repair, stability can be achieved with concomitant motion loss. The small number of patients in this study make exclusion criteria, such as contact sports, age, gender or bone loss, difficult to ascertain.

Results of Arthroscopic Repair of Type II SLAP Repairs in Throwers: Assessment of Return to Pre-Injury Throwing Level and Satisfaction (SS-18) *Steven B. Cohen, M.D., Brian Reiter, M.D., Brian Neuman, M.D., Michael G. Ciccotti, M.D.*

Introduction: It has been a decade since the last dedicated report on the results of SLAP tears on overhead athletes. Since then, techniques and approaches to repairs have evolved. Returning high level throwers back to pre-injury level can be variable after repair. The purpose of this study was to evaluate the mid-term results of arthroscopic repair of SLAP lesions in throwing athletes.

Methods: A retrospective review of 31 patients with symptomatic type II SLAP tears who underwent arthroscopic repair of the superior labrum between 2003 and 2007 was performed. Patients were operated on by two surgeons at the same institution following the same rehabilitation protocol. Patients with other pathologic shoulder findings were excluded. The outcome of treatment was evaluated using the American Shoulder and Elbow Society (ASES) scoring system and the Kerlan-Jobe Orthopaedic Clinic (KJOC) Shoulder and elbow score. Also, the length of time to return and how successfully the athletes returned to play was evaluated. There were 23 male patients and 8 female patients with a mean age of 28.6. Twenty-one patients participated in baseball or softball at a high school level or above and the remainder of patients was involved in football, javelin, or tennis. The average follow-up was 4.3 years (minimum 12 months). All arthroscopic repairs were performed with suture anchors numbering ranging from one to three anchors (average = 2.2).

Results: Repairs resulted in validated ASES scores comparable to prior studies (ASES = 88). The KJOC score in the throwing population averaged at 77. On average, throwers perception was they returned to about 85% of their pre-injury level of function with a mean time to return to play of 10 months. Patients reported an overall satisfaction rate of 94% with the procedure with the majority being very satisfied.

Conclusion: Arthroscopic SLAP repairs show excellent results with worse outcome in throwers. Our study found throwers have a successful outcome with a high rate of satisfaction and return to pre-injury level.

SLAP Lesions of the Shoulder: Incidence Rates, Complications, and Outcomes as Reported by ABOS Part II Candidates (SS-19) *Stephen C. Weber, M.D., Soheil Payvandi, D.O., David F. Martin, M.D., John J. Harrast, M.S.*

Introduction: SLAP lesions of the shoulder are rare injuries. Snyder reported that SLAP lesions made up 3% of shoulder cases in a large subspecialty surgical referral practice. It is the authors' impression that the percentage of young orthopedists cases that are SLAP lesion repairs is far higher and that complications with this increased rate of repair are not insignificant.

Methods: As a part of the certification process, Part II candidates submit a six-month case list to the American Board of Orthopaedic Surgery. In the present study, we

searched the American Board of Orthopaedic Surgery Part II database to evaluate changes in treatment over time and to identify available outcomes and associated complications arthroscopic repair of SLAP lesions. The ABOS Part II database was searched for all SLAP lesions (ICD-9 codes 840.7) and SLAP repairs (CPT codes 29807) for the years 2003 through 2008. Utilization was analyzed by geographic region, and compared with regard to complications and outcomes as self-reported by candidates during the online application process. Incidence rates were also obtained based on applicant subspecialty declaration.

Results: There were 4,975 SLAP repairs, representing 9.4% of all applicants shoulder cases. Mean follow-up was 8.9 weeks due to the time-limited case collection period. 78.4% were male and 21.6% of patients were female. The rate of repair increased over the study period to 10.1% by 2008. Mean age of male patients was 36.4 years (S.D.=13.0) with a maximum of 85 years of age. Mean age of female patients was 40.9 (S.D.=14.0), with a maximum of 88 years of age. Pain was reported as absent in only 26.3% of patients at follow-up, and function as normal in only 13.1%. 40.1% of applicants self-reported their patients to have an excellent result. The self-reported complication rate was 4.4%. Declared sports medicine specialists had a higher percentage of SLAP repairs than general orthopedists, 12.4% versus 9.2%.

Conclusions: The percentage of Part II Candidates cases that are SLAP repairs is three times the published incidence supported by the current literature for subspecialty referral practice. It might be anticipated that this rate should be even lower for general orthopedists. Especially worrisome is the rate of repair in middle-aged and elderly patients. This incidence of repair is associated with a significant rate of complications and poor outcomes. Focusing on educating young orthopedists to recognize pathologic SLAP lesions from incidental degeneration of the labrum may bring the rate of SLAP repair down to the incidence rates reflected in the literature, and hopefully decrease the complication rate and improve the outcome of arthroscopic SLAP repair.

Glenohumeral Joint Pathology Associated with High-Grade Acromioclavicular Joint Separations (SS-20) *Evan Lederman, M.D., Matthew Nugent, M.D., Thomas Carter, M.D., Anikar Chhabra, M.D.*

Introduction: Arthroscopy of the shoulder is not routinely preformed during reconstruction of the acromioclavicular joint (ACJ). During an open ACJ reconstructive procedure, failure to recognize and address glenohumeral joint (GHJ) pathology can adversely affect outcomes. There is no consensus in the literature regarding the need for concomitant GHJ arthroscopy during the time of ACJ reconstruction. The objective is to determine the need for routine GHJ arthroscopy with open ACJ reconstruction procedures by retrospectively identifying the incidence and type of GHJ pathology in patients undergoing ACJ reconstruction and to determine if pre-operative MRI's are sufficient to preclude routine GHJ arthroscopy during these procedures.

Methods: 61 consecutive patients had arthroscopic evaluation of the GHJ concomitant with ACJ reconstruction surgery. ACJ injuries were graded using Rockwood's classification. Preoperative MRI's were reviewed when available. Diagnostic arthroscopy of the GHJ was performed in the beach chair position prior to open surgical treatment. If additional pathology was found, it was addressed surgically at that time.

Results: Of the 61 patients, there were 37 type III injuries, 16 type IV injuries and 7 type V injuries. There was also one type II with an associated distal clavicle fracture, and three isolated distal clavicle fractures. There were 55 males and 6 females. Average age at the time of surgery was 37.7 years. Time to surgery from date of injury was 8 days to 51 months (average 9.9 months). 17 patients had early surgery (within 6 weeks) and 44 were delayed (after 6 weeks). 11 of the patients had pre-operative MRI scans. 46% (28 patients) had GHJ pathology. There were 22 labral tears (36%) and eight rotator cuff tears (13%). There were 11 SLAP I lesions, 7 SLAP II lesions and 4 other labral tears. Two patients (3%) had instability requiring capsulolabral repair. 46% of patients with Type III ACJ injuries, 31% with Type IV lesions, and 86% of Type V injuries had associated GHJ pathology. 100% of the rotator cuff tears and 43% of the labral tears with pre-operative MRI's were detected.

Conclusion: In patients requiring ACJ reconstruction surgery for traumatic ACJ separations, diagnostic arthroscopy of the GHJ may be warranted due to the high incidence of associated pathology. Pre-operative MRI's do not preclude concomitant GHJ arthroscopy.

Subcoracoid Impingement: Factors associated with the size and location of the Coracohumeral Interval (SS-21) *R. Timothy Greene, M.D., Marilee P Horan, M.P.H., Peter J. Millett, M.D. M.Sc.*

Introduction: A narrowing of the subcoracoid space may lead to mechanical conflicts that result in injury to the rotator cuff, biceps, and biceps pulley. The coracohumeral interval (CHI) is associated with age and gender but has not been standardized to size and anatomic location. The purpose of this study therefore was to determine clinical and anatomic factors associated with the size and location of the CHI.