

specific cartilage sequences and high concordance in the grading of osteochondral lesions. MRI presents poor precision to evaluate the surface of osteochondral lesions.

**Arthroscopic Management of Femoro-Acetabular Impingement: Early Outcomes Measures (SS-16).**  
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**Summary:** There is little in the literature regarding outcomes measures after arthroscopic management of femoro-acetabular impingement. This study presents the early results (up to 2 years) of arthroscopic management of femoro-acetabular impingement. Treatment included proximal femoral osteoplasty and or acetabular rim trimming in conjunction with labral debridement or repair. Outcomes measures used included the “impingement” sign, modified Harris Hip scoring, SF-12 scoring, and visual analog pain scoring.

**Purpose:** Femoro-acetabular Impingement (FAI) is an increasingly recognized disorder resulting in hip pain and development of osteoarthritis in young and middle aged individuals. Treatment of this disorder has traditionally been managed with open dislocation and decompression of the femoral head neck junction and or acetabulum. More recently arthroscopic management has been described, but little with respect to valid outcomes measures is reported.

**Methods:** Between 2004 and 2006, 45 patients (46 hips) with radiographically documented FAI were treated with hip arthroscopy, management of intra-articular pathology, labral debridement vs repair, proximal femoral osteoplasty and or acetabular rim trimming. Ninety-five percent of patients had temporary pain relief after preoperative intra-articular anesthetic injection. Outcomes were measured with evaluation of the “Impingement” sign, Modified Harris Hip (HSS), SF-12, and visual analog pain scoring (VAS) preoperatively, and at 6 weeks, 3 months, 6 months, and yearly thereafter.

**Results:** There were 37 males and 8 females with up to 2 year follow-up. The mean age was 38 years. 100% had associated labral tears, 96% had chondral pathology, 17% had ligamentum teres lesions, 13% had loose bodies. Cam impingement was identified in 33 patients, pincer impingement in 29 patients, and both types were noted in 17 patients. Full thickness chondral defects requiring microfracture were identified on the acetabulum in 28% and femoral head in 2%. Modified HSS ( $p<0.001$ ), SF-12 ( $p=0.015$ ), and VAS ( $p<0.001$ ) scores were significantly improved at most recent follow up. The “impingement” sign was positive in all patients preoperatively. Resolution or improvement of the “im-

pingement” sign was noted in 85% of patients ( $p<0.001$ ). Complications included heterotopic bone formation (1), lateral femoral cutaneous nerve neuropraxia (1), and partial sciatic nerve neuropraxia (1) which resolved. No patient went on to repeat arthroscopy or total hip arthroplasty at early follow-up.

**Conclusions:** Arthroscopic management of patients with FAI results in significant improvement in outcomes measures and the “impingement” sign at early term follow-up. Alteration in the natural progression to osteoarthritis and sustained pain relief as a result of arthroscopic management of FAI remains to be seen.

**Early Results of Labral Repair (SS-17).** *Sophia L. Hines, BS, Marc J. Philippon, MD, David Kuppersmith, MD, R. Brian Maxwell, MD*

**Summary:** The purpose of this study is to report early results of function and patient satisfaction in labral repair patients. Patients experienced improvement in function at least 6 months postoperatively. Early results demonstrate that arthroscopic labral repair for the treatment of labral tears lead to improved level of function and high patient satisfaction. This reveals the potential of labral repair in pain management and joint preservation. This may be important when developing a standard of surgical labral tear treatment.

**Introduction:** Previous arthroscopic intervention has included labral debridement, excision and repair. Studies suggest that debridement and excision, while alleviating immediate pain, compromise labral structure and function, leading to narrowed joint space and early arthrosis. It is believed that arthroscopic labral repair restores proper labral structure therefore preserving its physiological function. Little has been reported on labral repair postoperatively. The purpose of this study is to report early results of function and patient satisfaction in labral repair patients.

**Methods:** 52 patients underwent arthroscopic labral repair (26 male, 26 female). Patients completed subjective questionnaires preoperatively and at least 6 months post-operatively. Data was collected from the Hip Outcome Score (HOS), the Non-Arthritic Hip Score (NAH), and the Modified Harris Hip Score (MHH). Patient Satisfaction was also collected (1=unsatisfied, 10=very satisfied).

**Results:** The average postoperative follow-up was 9 months (range 6 to 15). Average age at follow-up was 34 (range 13 to 50). Postoperatively, the HOS (ADL and SPORT), NAH, and MHH all experienced significant improvement ( $p<0.05$ ). HOS (SPORT) had the greatest improvement of 31 points increasing to 74. HOS (ADL)

increased from 69 to 88. NAH score improved 20 points to 85. MHH score improved 21 points to 82. Patient Satisfaction was 8.5 (range 1 to 10). 11 of the 52 patients were at least one year post-op. The average age within this subgroup was 34 (range 17 to 45). There was a significant improvement in all scores ( $p < 0.05$ ) compared to preoperative values and patient satisfaction was 8.8. At one year, HOS (SPORT) increased from 34 to 80 points, HOS (ADL) improved 22 points to 86, NAH improved 31 points to 89 and MHH score increased from 58 to 83 points.

**Conclusions:** Patients experienced improvement in function at least 6 months postoperatively. Patients continue to experience improvement at one year or more. Early results demonstrate that arthroscopic labral repair for the treatment of labral tears lead to improved level of function and high patient satisfaction. This reveals the potential of labral repair in pain management and joint preservation. This may be important when developing a standard of surgical labral tear treatment.

**Arthroscopic Bursectomy for Recalcitrant Trochanteric Bursitis (SS-18).** *Champ L. Baker, MD, Vaughn Massie, MD*

**Summary:** We evaluated the results of arthroscopic treatment for patients with chronic recalcitrant trochanteric bursitis who had not responded to nonoperative interventions. Arthroscopic bursectomy appears to be effective and a viable alternative to open bursectomy in these patients. In this prospective study, patients experienced good pain relief and improved function after surgery. Patients' improvements were usually evident by 1 to 3 months after surgery and appear to be lasting because patients maintained their improved scores throughout the follow-up period.

**Methods:** Thirty patients were enrolled in this prospective study to evaluate the results of arthroscopic bursectomy. Outcomes were assessed using the Short Form-36 (SF-36), Harris Hip Score, visual analog pain (VAS) scale, and additional specific hip function questions. Five patients were lost to follow-up. Twenty-five patients were available for follow up at an average of 26.1 months (range, 13.8-41 months).

**Results:** Improvements were noted in the physical and mental component summary scores of the SF-36. Mean physical function preoperative score improved from 33.6 preoperatively to 54 at last follow up, and in the pain category, the mean score improved from 28.7 to 51.5. Mean Harris Hip scores improved from a preoperative score of 51 to a follow-up score of 77. VAS pain scale scores also improved from the preoperative mean

of 7.2 (0 = no pain; 10 = worst pain) to 3.1. One postoperative complication occurred, a seroma that required repeat surgery. One patient subsequently underwent open bursectomy with resolution of symptoms.

**Conclusions:** Arthroscopic bursectomy appears to be effective and a viable alternative to open bursectomy for patients who do not respond to nonoperative treatment. In this prospective study, patients experienced good pain relief and improved function after surgery. Patients' improvements were usually evident by 1 to 3 months after surgery and appear to be lasting because patients maintained their improved scores throughout the follow-up period.

**The Reliability and Validity of Clinical Tests Used to Assess Individuals with Potential Labral Tears of the Hip (SS-20).** *RobRoy L. Martin, PhD, PT, CSCS, Jon K. Sekiya, MD*

**Purpose:** The purpose of this study was to determine the reproducibility and diagnostic accuracy of clinical tests used to examine individuals with potential labral tears of the hip. Specifically, the inter-tester reliability of the FABER, flexion-internal rotation impingement, and log roll tests as well as an assessment for greater trochanteric tenderness was examined. The diagnostic accuracy of the FABER, flexion-internal rotation impingement, flexion-external rotation tests in identifying individuals with a labral tear was also examined. We hypothesized that the four clinical tests would demonstrate moderate agreement (kappa coefficient  $> .40$ ) in inter-tester reliability assessment. Additionally, we hypothesized that the clinical tests would demonstrate sensitivity and specificity values  $> .5$  with likelihood ratio for a positive test  $> 1$  for diagnosing a labral tear.

**Methods:** All patients evaluated by an orthopaedic surgeon specializing in hip arthroscopy for a musculoskeletal hip problem were included in the study. These 85 subjects had a mean age of 41 (range 15-76 SD 14.9) with 40 females and 45 males. 41% of the subjects reported their symptom duration to be 1 year or less while 59% reported their symptom duration to be greater than 1 year. The results of the clinical tests performed by the orthopaedic surgeon were compared to the results obtained by a physical therapist with 15 years experience. Kappa coefficients were calculated to assess inter-tester reliability. As previously documented, the strength of agreement for kappa ( $\kappa$ ) was interpreted as follows:  $\leq 0$ =poor, .01-.2=slight, .21-.40 fair, .41-.60=moderate, .61-.80=substantial, .81-.1=almost perfect. The results of the clinical tests were compared to magnetic resonance arthrogram (MRA) results in identifying individ-