

had the lowest post-op outcome scores of all groups. This highlights the possibility that nutritional balance for patients is more than their BMI.

Arthroscopic Acetabular Labral Repair in Patients over the Age of 60: A Matched Case-Control Study

SS-33

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Introduction: The purpose of this study is to report the results of labral restoration among patients over age 60 compared to a cohort of younger adults.

Methods: 23 consecutive patients over age 60 undergoing labral repair with minimum one-year follow-up were compared (modified Harris hip Score) to a contemporaneous group of 23 patients age 18-55 matched for gender, degree of chondral damage, and associated FAI or dysplasia.

Results: Follow-up averaged 17.5 months (12 - 24 months). The study group consisted of 13 males and 10 females, average age 63 years (61 - 71); with 21 FAI and one dysplasia. 20 had acetabular articular damage (2 grade IV, 12 grade III, 5 grade II, 1 grade I) and 7 had femoral changes (1 grade IV, 6 grade 3). The exactly matched control group averaged 36 years (20 - 54). Study group improvement averaged 21 points (-19 - 46 points) with 20 (87%) improved. The average improvement in the control group was 19 points (-9 - 34) with 20 (87%) improved. There was no statistically significant difference between the two groups and the amount of improvement with statistically ($p < 0.01$) and clinically (> 5 points) significant in both. Two study group patients underwent THA at average 10 months with one control group THA at 11 months. All three converted to THA had combined grade IV acetabular and grade III femoral damage. There were no repeat arthroscopies and no complications in either group.

Conclusion: Patients over age 60 can benefit from arthroscopic labral repair with improved outcomes, modest rates of conversion to THA, and small risk of complication. Results are comparable to younger adults. Combined bipolar grade IV and grade III articular damage is a harbinger of conversion to THA, regardless of age.

Correlation of PROMIS CAT with Validated Hip Outcome Scores in Patients Undergoing Hip Arthroscopy

SS-34

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Introduction: The Patient Reported Outcomes Measurement Information System (PROMIS) tool was developed

by the National Institute of Health to provide efficient, precise and valid patient-reported outcome data. The purpose of this study was to determine whether the PROMIS Computer Adaptive Testing (CAT) tool demonstrates validity against commonly used legacy PRO measures among a population of patients undergoing arthroscopic hip surgery.

Methods: Eligible patients undergoing elective arthroscopic hip surgery completed a series of outcome questionnaires including the visual analog pain scale (VAS), a hip outcome score (HOS; ADL and Sports Subscales), modified harris hip (mHHS), and non-arthritic hip score (NAHS) as well as the PROMIS CAT for pain, physical function and emotional distress (depression). Patients completed all questionnaires at their preoperative evaluation and at regular postoperative intervals.

Results: A total of 77 patients elected to be included in this study, 28 (36.8%) were male and 49 (64.5%) were female. With regards to questionnaire completion, data from all patient reported outcome measures were gathered from 77 patients at their preoperative clinical visit, 71 during their first postoperative follow up, 69 at 6 weeks and 58 at 3 months postoperatively. Pearson correlations between PROMIS Physical Function T scores and the HOS ADL, HOS Sports, NAHS and mHHS were found to be 0.858, 0.799, 0.773 and 0.830 respectively. With regards to pain, the Pearson correlation between the PROMIS Pain T score and the VAS for pain was found to be 0.599.

Conclusion: The PROMIS tool was found to correlate well with current standards for patient reported outcome measures for individuals undergoing arthroscopic hip surgery. PROMIS Physical Function demonstrated high correlation with validated PRO. PROMIS Pain had moderate correlation with VAS Pain scores. With this information, the PROMIS tool can be used as a highly efficient and generalizable tool to collect pre- and post-operative data during clinical patient encounters.

The Relationship Between Arthroscopically Defined Acetabular Cartilage Defects and Preoperative dGEMRIC Indices: Refining the use of dGEMRIC

SS-35

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Introduction: dGEMRIC is an advanced imaging technique that may detect early chondral damage. Although dGEMRIC may be useful in diagnosing early arthritis, there is a paucity of literature correlating local chondral damage with dGEMRIC indices. The purpose of this study was to report associations between dGEMRIC indices and intraoperatively defined acetabular cartilage damage in non-arthritic hips with femoro-acetabular impingement and/or labral tears, and to evaluate a new dGEMRIC index

that may improve utility in predicting the aforementioned chondral defects.

Methods: Between April 2010 and August 2015, 195 hips (183 patients) underwent hip arthroscopy after undergoing dGEMRIC. Exclusion criteria were previous hip conditions or surgeries, arthritis of >1 Tönnis grade, >180 days between MRI and surgery, and missing sagittal superior dGEMRIC index. dGEMRIC indices measured using four methods, one of which was newly formulated to potentially detect coronal anterolateral (CAL) acetabular damage, were compared to arthroscopically-defined cartilage damage (ALAD and Outerbridge classifications). dGEMRIC indices were compared between non-arthritic hips with no/mild (grades 0 and 1) and those with moderate/severe localized chondral damage (grades 2, 3, and 4).

Results: The three established dGEMRIC indices (sagittal superior, coronal superior, and sagittal anterosuperior) were not significantly different when comparing no/mild to moderate/severe localized chondral damage and demonstrated weak correlations to acetabular cartilage damage. The CAL indices demonstrated a significant difference between no/mild and moderate/severe localized chondral damage, according to both ALAD ($p < 0.0001$) and Outerbridge ($p < 0.0001$) groups, and was moderately correlated to ALAD ($\rho = -0.403$; $p < 0.0001$) and Outerbridge ($\rho = -0.454$; $p < 0.0001$) grades.

Conclusion: The three established dGEMRIC indices did not accurately predict the intraoperative acetabular localized chondral damage in non-arthritic hips. The CAL index was the only method able to differentiate between local non/mildly and moderately/severely chondral damage in non-arthritic hips, and was also moderately correlated with these findings.

The Iliofemoral Line: A Radiographic Sign of Acetabular Dysplasia in the Adult Hip

SS-36

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Introduction: Several radiographic parameters utilized for the diagnosis of acetabular dysplasia in adults suffer poor reproducibility and reliability. The purpose of this study was to define and validate a novel radiographic parameter (the 'iliofemoral line') for discrimination of hip dysplasia.

Methods: A consecutive cohort of 172 adult patients undergoing hip preservation surgery were included. The iliofemoral line was defined as the continuous line extending from the lateral femoral neck through the femoral head-neck junction to the inner cortical lip of the iliac crest. Percent lateralization of the iliofemoral line was calculated as the horizontal distance of the femoral head

lying outside of the iliofemoral line relative to the total length of the horizontal femoral head diameter.

Results: Percent lateralization of the iliofemoral line was strongly correlated to the lateral center edge angle (LCEA, $p < 0.001$). Values of percent lateralization ranging from 14.5-20.2 predicted the presence of borderline hip dysplasia with a sensitivity of 44.7% and specificity of 94.0%, while values exceeding 20.2 predicted presence of frank acetabular dysplasia with a sensitivity of 81.8% and specificity of 88.5%. By comparison, abnormality of the Shenton line demonstrated a sensitivity of 2.6% and specificity of 94.8% for detection of borderline dysplasia, and a sensitivity of 21.2% and specificity of 99.3% for detection of frank acetabular dysplasia. Compared to the Shenton line, percent lateralization of the iliofemoral line was significantly more sensitive for detection of both borderline and frank acetabular dysplasia ($p = 0.004$ and 0.001 , respectively).

Conclusion: Percent lateralization of the iliofemoral line is a reliable and accurate radiographic marker of frank acetabular dysplasia, and to a lesser extent, borderline dysplasia. Use of this novel radiographic marker may enable earlier detection of borderline and frank hip dysplasia in young adults presenting with hip pain.

Endoscopic Repair of Partial Thickness Undersurface Tears of the Abductor Tendon (PUSTA): Clinical Outcomes with Minimum Two-Year Follow-Up

SS-37

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Introduction: The undersurface of the abductor tendon is a common location for tears. Endoscopic trans-tendinous repair has been previously described as a technique to both identify and treat these tears. There are currently no two-year outcome studies of this technique. The purpose of this study was to report the minimum two-year outcomes of trans-tendinous repairs of Partial thickness UnderSurface Tears of the Abductor (PUSTA) tendon using patient reported outcomes (PROs), visual analog scale (VAS), and patient satisfaction scores.

Methods: All patients who underwent endoscopic trans-tendinous gluteus medius repair between October 2009 and May 20, 2017 at one institution were prospectively evaluated. Exclusion criteria consisted of less than two-year follow-up, previous hip surgery, inflammatory arthritis, open surgery, full thickness abductor tear, and worker's compensation patients. All patients had a documented pre-operative physical exam with strength testing (0-5) and observation of their gait. Patient satisfaction and PRO scores were recorded preoperatively, at 3 months postoperatively, and annually thereafter. The PRO scores collected were mHHS, HOS-ADL, HOS-SSS, NAHS, and

