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
May 19, 2017, 2:45 PM
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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, 201713 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

VAS. Preoperative strength and gait were compared to latest follow-up.
Results: There were 25 patients that fit our criteria. Significant improvement in PRO scores were demonstrated for mHHS, HOS-ADL, HOS-SSS, NAHS, and VAS from 54.9-76.2, 50.2-80.6, 30.1-67.3, 51.9-82.4, and 7.1-2.7 respectively ($p<0.001$). There were 11 patients with appreciable weakness prior to surgery; seven of these patients moved up at least one strength grade by final follow-up. There were 14 patients who had a Trendelenburg gait pre-operatively, 12 of them had a normal gait at latest follow-up (p-<0.001). Average patient satisfaction was 7.5. There were no revision surgeries, and no complications noted.
Conclusion: PUSTA lesions can be treated successfully with endoscopic trans-tendinous repair preserving the intact attachment of superficial fibers of the gluteus medius. We recommend this treatment for partial undersurface tears recalcitrant to non-operative treatment.

The Effect of Platelet-Rich Fibrin Matrix at the Time of Gluteus Medius Repair: A Case-Control Study

SS-38

May 19, 2017, 2:55 PM

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Introduction: The purpose of this study was to evaluate the effect of Platelet-Rich Fibrin Matrix (PRFM) on outcomes after surgical repair of gluteus medius tendons.
Methods: This is a retrospective review of prospectively-collected data comparing a single surgeon's case patients who underwent gluteus medius repair with PRFM to control patients without PRFM. Preoperative characteristics (gender, age, laterality, surgical history, duration and mechanism of symptoms, gait/limp, presence of femoroacetabular impingement, tear grade/size, presence of atrophy, and PROs), intraoperative characteristics (surgical approach, repair technique, concomitant surgery), and postoperative outcomes at a minimum 2-years (retear, PROs) were recorded. A multivariate analysis of variance (MANOVA) was used to test for differences in continuous demographic variables and postoperative-only scores between cohorts, chi-squared-tests for categorical variables, and a repeated measures-ANOVA was performed to test for the effects of PRFM. We also assessed for inter-observer variation for grading adductor tendon tears.
Results: In total, the gluteus medius repair without PRFM [(-)PRFM] cohort included 29 patients (25F/4M; 15R/4L) with a mean age of 63.09±12.0 years. The gluteus medius repair with PRFM [(+)PRFM] cohort included 18 patients (16 female, 2 male; 6 right, 12 left) with a mean age of 60.26±8.8 years. There were no differences in patient preoperative variables or intraoperative characteristics. While there was a significant effect of surgical intervention on VAS-Pain, HOS-ADL, HOS-SS, and mHHS, the utilization of PRFM had no significant effect on outcome. Linear models showed a significant positive effect of PRFM only on postoperative SF-12 Physical and IHOT-12 scores.
Conclusion: PRFM augmentation does not appear to have an effect on gluteus medius tendon repair in terms of pain or retear, but may have a role in improving subjective outcomes of overall and hip-specific physical functioning. Future longer-term evaluations with prospective, randomized protocols are necessary to further delineate any significant efficacy with PRFM use in this setting.

Continuous Passive Motion after Hip Arthroscopy for Femoroacetabular Impingement: A Prospective, Comparative Trial

SS-39

May 19, 2017, 3:00 PM

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Introduction: Though continuous passive motion (CPM) devices are often used in post-operative rehabilitation protocols after surgical treatment of symptomatic femoroacetabular impingement (FAI), no prospective, controlled data currently exists about whether or not these devices provide measureable benefit to patients after hip arthroscopy. The aim of this prospective, comparative study is to investigate whether or not CPM devices objectively benefit patients in the early post-operative period.
Methods: In this IRB-approved study at a tertiary care academic medical center, surgical and post-operative medications and rehabilitation protocols between 2 surgeons were standardized. One surgeon used CPM in his rehabilitation protocol while the other surgeon did not. Consented subjects answered questions regarding pre-operative pain, function, and psychological status included the International Hip Outcome Tool (iHOT-12), visual analog scale (VAS) pain, pain medication usage, Patient Health Questionnaire (PHQ-8), and Pain Catastrophizing Scale (PCS). At the two-week and six-week post-operative visits, patients recorded average pain felt over the preceding 2 weeks. At the 6-week visit, patients also completed the iHOT-12. Pre-operative predictors with univariate p-values less than 0.15 were incorporated into multivariable linear regression models.
Results: In a complete case analysis of 40 and 29 patients having reached the 2-week and 6-week post-operative marks, respectively, patients prescribed CPM devices had statistically significantly greater pain reduction at 6 weeks (normalized pain reduction of 76% vs. 33%, $p=0.0048$) and greater improvement in hip function score at 6 weeks (normalized iHOT-12 score increase of 143% vs. 50%, $p=0.0088$). No factors achieved significance at 2 weeks post-operative.
Conclusion: This is the first study to investigate the impact of CPM inclusion in short-term post-operative rehabilitation outcomes after hip arthroscopy for symptomatic FAI. Including CPM in post-operative