performance rate of 100% without recurrences. Conclusion: This pilot case series indicates that both operative and non-operative treatment for proximal hamstring tendon avulsions can result in return to play and return to performance in elite athletes following shared decision-making. Non-operative treatment might result in return to play and return to performance quicker, but larger samples sizes are required, as well as long-term outcomes to determine whether operative treatment is an investment in superior long-term outcome.

Category: Hip/Groin/Thigh

Improved and Sustained Clinical Outcomes are Observed in the Majority of Patients with Symptomatic Non-arthritic Hip Pain Undergoing a Formal Non-operative Management Program Combining a Hip Injection and Structured Exercise Rehabilitation Program

Abstract ID# 22272
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Summary:
Although 30% of patients progressed toward arthroscopic hip surgery, a significant improvement in hip pain, symptoms and physical function is observed, combined with a high rate of overall satisfaction, in the majority of patients with non-arthritic hip pain undergoing a targeted non-operative management pathway consisting of an intra-articular injection and a structured exercise program.

Data:
Introduction: The initial treatment recommendations for non-arthritic hip pain often include non-surgical therapies such as injections and rehabilitation, though evidence is lacking and many patients undergo isolated injections or a rudimentary exercise regime. This study sought to investigate the benefit of a combined intra-articular hip injection and concomitant structured exercise rehabilitation program in patients with non-arthritic hip pain =6 months.

Methods: This study prospectively recruited 54 patients with a mean age of 33.2 years (range 16-56) and symptoms =6 months in duration (range 6-250 months) associated with femoroacetabular impingement syndrome (FAIS), borderline dysplasia and/or labral pathology. Pathology was confirmed in all patients via magnetic resonance imaging (MRI) and x-ray. Patients underwent a guided intra-articular injection of corticosteroid and local anaesthetic, followed by a structured and progressive 12-week rehabilitation program. Patients were assessed pre- and post-injection (8 weeks, 4, 6, 12 and 24 months) with a range of patient-reported outcome measures (PROMs), range of motion (ROM), peak isometric hip strength and hop tests. Absolute scores and Limb Symmetry Indices (LSIs) were calculated. The percentage of patients transitioning toward surgery over the 24-month period was evaluated.

Results: Overall, 50 patients underwent the injection and completed the initial 8-week rehabilitation component, of which 15 (30%) progressed toward surgical intervention over the 24-month post-injection period due to dissatisfaction and/or symptom recurrence. Patients that progressed toward surgery, compared to those that did not, reported significantly worse (p<0.05) PROMs pre-surgery and more pain within the first 4 weeks post-injection. A significant improvement (p<0.05) in all PROMs was observed and, of the 34 patients that had not progressed toward surgery and were available for final 24-month clinical review, 94% were satisfied. A significant increase (p<0.05) in all hip ROM and most isometric strength measures were observed to 8 weeks, maintained over 24 months. Bilateral improvements in hop capacity were observed, with all hop test LSIs significantly improving (p<0.05). Conclusions: A significant improvement in hip pain, symptoms and physical function was observed in the majority of patients with non-arthritic hip pain as a result of a targeted non-operative management pathway that consisted of an intra-articular injection and a structured exercise program. Overall, 30% of patients progressed toward surgery.

Category: Hip/Groin/Thigh

Minimum 5-Year Follow-Up Survivorship and Outcomes, In and Risk Factors for Total Hip Arthroplasty Conversion in the Obese Patient Population Following Revision Hip Arthroscopy

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Summary:
The purpose is to report minimum 5-year follow-up survivorship, patient-reported outcome scores (PROs), clinical benefit, and risk factors for conversion to total hip arthroplasty (THA) in the obese patient population following revision hip arthroscopy.

Data:
Background: There is a paucity of literature reporting outcomes following revision hip arthroscopy in the obese patients. Purpose: To report minimum 5-year follow-up survivorship, patient-reported outcome scores (PROs), clinical benefit, and risk factors for conversion to total hip arthroplasty (THA) in the obese patient population following revision hip arthroscopy. Study Design: Case-series; Level of evidence, 4. Methods: Data were prospectively collected and retrospectively reviewed for patients who underwent revision hip arthroscopy between April 2010 and August 2016. Inclusion criteria were having a body mass index = 30, baseline and minimum 5-year scores for the modified Harris Hip Score (mHHS), Non-Arthritic Hip Score (NAHS), Hip Outcome Score-Sports Specific Subscale (HOS-SSS), and Visual Analog Scale (VAS) for pain. Exclusion criteria were a Tönnis grade ≥ 1, hip dysplasia, or were unwilling to participate. Survivorship was defined as non-conversion to THA. Clinical benefit was measured with the minimal clinically important difference (MCID). Survivors and non-survivors underwent further bivariate and regression analysis to determine predictors of conversion to THA. Results: Twenty-four hips (80%) had minimum 5-year follow-up. The average follow-up was 83.9 ± 26.5 months and the average age was 39.3 ± 12.7 years. Survivorship was 75% and patients demonstrated significant improvement in all PROs (P < 0.01). Patients achieved rates of MCID for the mHHS, NAHS, HOS-SSS, and VAS at 70.6%, 94.1%, 86.7%, and 64.7, respectively. Age, ligamentum teres percentile, and acetabuloplasty were significant in the bivariate analysis for THA conversion. Age was identified as a significant variable for THA conversion in the regression analysis (P = 0.018, Odds Ratio: 1.297, 95% Confidence Interval [1.045 – 1.690]). Conclusion: In this single surgeon case series study, obese patients who underwent revision hip arthroscopy reported a survivorship of 75% with significant improvement in all PROs and achieved MCID rates for the mHHS, NAHS, HOS-SSS, and VAS at 70.6%, 94.1%, 86.7%, and 64.7, respectively, at a minimum 5-year follow-up. Age was identified as a significant predictor in the regression and every additional year before surgery was identified as a 29.7% greater risk of conversion to THA.

Category: Hip/Groin/Thigh

Primary Acetabular Labral Reconstruction In Adolescents, In The Rare Scenario of Irreparable Labral Tears, Resulted In Comparable Improvement, Clinical Benefit, and Revision Surgeries Rate to a Primary Labral Repair Benchmark Group

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Summary:
This study reports a benchmark minimum 2-year follow-up patient-reported outcome scores (PROs) and clinical benefit on adolescents following primary labral reconstruction to a propensity-matched (PM) control labral repair group in the primary scenario. Data:
Purpose: To benchmark minimum 2-year follow-up patient-reported outcome scores (PROs) and clinical benefit on adolescents following primary labral reconstruction to a propensity-matched (PM) control labral repair group in the primary scenario. Methods: Data were prospectively collected and retrospectively reviewed on adolescent patients who underwent primary hip arthroscopy between November 2008 and June 2019. Patients were included if they underwent labral reconstruction and had baseline and minimum 2-year follow-up PROs. Patients were excluded if they were unwilling to participate, had Tönnis
Abstracts

Labral Tear Management in Patients Aged 40 Years And Older Undergoing Primary Hip Arthroscopy: A Propensity-Matched Case-Control Study Comparing Labral Reconstruction to Labral Repair With Minimum Two-Year Follow-Up

Abstract ID# 23570
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Summary:
The purpose is to report minimum two-year patient-reported outcome (PRO) scores, survivorship, and secondary surgeries, in patients aged ≥ 40 years who underwent primary hip arthroscopy with labral reconstruction compared to a propensity-matched primary labral repair group.

Data:
Background: Previous literature has suggested that primary acetalubar labral reconstruction leads to lower secondary surgeries rates than that of labral repair for patients aged ≥ 40 years. Purpose: To report minimum two-year patient-reported outcome (PRO) scores, survivorship, and secondary surgeries, in patients aged ≥ 40 years who underwent primary hip arthroscopy with labral reconstruction compared to a propensity-matched primary labral repair group. Study Design: Case-Control study; Level of evidence, 3. Methods: Data were prospectively collected and retrospectively reviewed for patients who underwent a primary hip arthroscopy for femoroacetabular impingement syndrome from January 2014 to June 2018. Patients aged ≥ 40 years who underwent a labral reconstruction or a labral repair and had preoperative and minimum two-year PROs for the modified Harris Hip Score (mHHS), Non-arthritic Hip Score (NAHS), and visual analog scale (VAS) for pain were included. Patients with prior ipsilateral hip conditions and surgery, Tonnis grade > 1, hip dysplasia, or worker’s compensation status were excluded. Patients in the reconstruction group were propensity-matched 1:2 to patients in the repair group based on age, sex, and body mass index. Secondary surgeries and the achievement of the minimal clinically importance difference (MCID), patient acceptable symptomatic state (PASS), and maximum outcome improvement (MOI) were recorded. Results: Fifty-three and 106 hips were included in the labral reconstruction and repair groups, respectively. The average follow-up time was 37.6 months. The average age for the reconstruction and repair groups were 48.01 ± 6.0 years and 48.61 ± 6.0 years, respectively. Both groups achieved significant improvements in all PROs at minimum two-years with similar achievements of MCID, PASS, and MOI. Both groups showed comparable secondary surgeries rates. Conclusion: Patients aged 40 years and older who received primary labral repair and primary labral reconstruction, achieved similar significant improvements in all PROs, VAS pain, and patient satisfaction at minimum two-year follow-up, with comparable rates of secondary surgeries and achieving MCID, PASS, and MOI. Based on these findings, labral repair remains the gold standard treatment for viable labrum in this population group, while reconstruction is a useful alternative for irreparable labrum. Keywords: hip arthroscopy; outcomes; labral reconstruction.

Category: Hip/Groin/Thigh

Traction Force During Postless Hip Arthroscopy is Determined by Hip Range of Motion, Generalized Joint Hypermobility, Body Mass Index, and Sex

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Summary:
Males, patients with reduced preoperative hip ROM, patients with a lack of joint hypermobility, and males with an elevated BMI require higher initial traction force during postless hip arthroscopy.

Data:
Background: Higher traction force during hip arthroscopy has been associated with various complications. Previous studies have sought to determine the effects of age, body mass index (BMI), and hip osteoarthritis on traction force during hip arthroscopy. The purpose of this study was to determine the effects of demographic and anatomic factors on traction force required during postless hip arthroscopy. Methods: A prospective database was used to analyze data on patients undergoing hip arthroscopy by the senior author, including patient sex, age, BMI, Beighton Hypermobility Score (BHS), hip range of motion (ROM) in clinic and under anesthesia, hip dysplasia, acetabular version, and femoral version. All patients underwent postless hip arthroscopy with or without periacetabular osteotomy (PAO). At the initiation of hip arthroscopy, the traction force required to distract the hip joint was measured prior and following inter-portal capsulotomy. Multiple regression analysis was performed to determine the effects of demographic and anatomic factors on measured distraction force. Results: In total, 352 hips (114 male, 238 female) were included with a mean age of 32.6 years and a mean BMI of 24.1 kg/m2. Mean initial traction force was 109 lbs and decreased to 94.3 lbs following capsulotomy (p<0.0001). The starting traction force was significantly higher in males (p<0.05), patients with a lack of hypermobility (BHS score of 0-2) (p<0.05), and in patients with lower abduction (p<0.05), lower internal rotation (p<0.05), and lower external rotation (p<0.05) on multiple regression analysis. When performing a sub-analysis divided by sex, male patients with elevated BMI required significantly higher starting traction force (p<0.05). Lateral center edge angle, sourcil angle, and the presence of hip dysplasia did not demonstrate a significant correlation with traction force. Conclusion: Males, patients with reduced preoperative hip ROM, patients with a lack of joint hypermobility, and males with an elevated BMI require higher initial traction force during postless hip arthroscopy. Surgeons should put emphasis on patients’ preoperative ROM and can use this information to discuss the possibility of traction-related complications with patients prior to surgery.

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