articular pathology. Rotational correction of proximal femur can be stabilised with either plates or intramedullary nails. We reviewed these two methods of proximal femoral rotational correction when combined with hip arthroscopy. Methods. We reviewed patients that underwent concurrent ipsilateral hip arthroscopy and proximal femoral derotation osteotomy (PFDO) for proximal femoral retroversion. PFDO was either stabilised with a plate (PS) or intramedullary nail (IMS). We analysed operative time, blood loss, time-to-union (radiologic), pain and functional outcomes. Results. Each group consisted of 7 patients, average follow-up 45 months (20-65). Average age at operation – 22 and 27 years in PS and IMS groups, respectively. All patients had associated intra-articular bony pathomorphology (CAM/pincer lesions and labral tears) treated during hip arthroscopy as the first step. Average proximal femoral retroversion was 50° (3-13) and 7° (2-15) in PS and IMS groups, respectively. Subsequent PFDO operative time was 118 (105-130) and 95 (80-105) mins in PS and IMS groups, respectively. Blood loss was 450 and 280 ml/s in PS and IMS groups, respectively. Average time-to-union was 8 and 7.6 months in PS and IMS groups, respectively. Average score improvements from pre-op to 12 months post-op were – pain >8 to 1.2 and 7.9 to 0.9 in PS and IMS groups, respectively; – WOMAC >31.8 to 91.6 and 26.7 to 94 in PS and IMS groups, respectively; – NAHS – 52.9 to 93 and 45 to 95.1 in PS and IMS groups, respectively; – UCLA – 2.8 to 6.4 and 2.6 to 7 in PS and IMS groups, respectively. Conclusion. The outcomes of PFDO stabilised with IM nail were superior to the plate. We feel that in the presence of combined intra- and extra-articular pathomorphology contributing to the FAI phenomenon that failed to be resolved non-operatively, both aspects need to be addressed. Although the outcomes of concurrent hip arthroscopy and PFDO are encouraging, the question of timing of the two steps persists.

Category: Hip/Groin/Thigh

Accelerated Staged Bilateral Hip Arthroscopy for Athletes Results in Similar Improvements in Outcomes Compared to Delayed Staged Procedures and Case-control Matched Unilateral Arthroscopy

Abstract ID# 22710
All Authors: Patrick Cartoon MD FRC(S)Orth(F) FFSEM IRELAND
Karen Mullins PhD IRELAND
David Filan MSc IRELAND

Summary: Accelerated (within 7 days) staged bilateral hip arthroscopic surgery in athletes symptomatic for femoroacetabular impingement results in comparable clinical outcomes to delayed staged procedures and matched unilateral arthroscopy.

Data: Introduction: Athletes are at increased risk of presenting with symptomatic femoroacetabular impingement (FAI) bilaterally. Staged hip arthroscopy (HA), where conservative management has been unsuccessful, is an option however the optimal timing of the second procedure is unknown. Previous literature reports the timeframe for staged procedures to range from 2-4 weeks to 6-16 weeks. Delaying contralateral surgery in cases of bilateral symptoms may result in increased progression of chondral/arthropathy. Purpose: To compare minimum 2-year outcomes for patients undergoing accelerated staged arthroscopy against 1) those undergoing delayed staged arthroscopy, and 2) those undergoing unilateral arthroscopy. Methods: Our prospective institutional HA registry was retrospectively reviewed for patients undergoing bilateral primary HA for FAI between 2009-2022. Inclusion criteria were competitive athletes with concurrent bilateral symptoms at initial presentation and minimum 2-year post-operative follow-up, excluding bilateral athletes. All three groups demonstrated significant improvement from baseline across all PROs (p < 0.001 for all). Acquired change in outcomes was similar and not statistically significantly different between groups. Satisfaction with relief from pain was achieved by 85.9% Accelerated group, compared to 83.1% Delayed group (p = 0.053) and 87.3% Unilateral group (0.933). MCID for mHHS was achieved by 85% Accelerated group, compared to 91.5% Delayed group (p = 0.212) and 87.6% Unilateral group (p = 0.456). At 2 years post-op 73.2% Accelerated group returned to their main sport compared to 78.8% Delayed group (p = 0.631) and 72.9% Unilateral group (p = 0.948). Conclusion: Staged bilateral hip arthroscopy separated by 1 week apart is a safe and effective treatment option for bilateral symptomatic athletes. Improvement in PROs and RTS rates are comparable with a delayed duration between procedures and with those case-control matched athletes undergoing unilateral arthroscopy.

Category: Hip/Groin/Thigh

Outcomes of Hip Arthroscopy in Patients with Hip-Spine Syndrome: A Matched Control Study with Minimum 2-Year Follow-Up

Abstract ID# 23088
All Authors: Kaveh Alexander Torabian MS UNITED STATES
Nathan J Cherian MD UNITED STATES
Christopher T Eberlin BS UNITED STATES
Kieran Sinclair Dowley BA UNITED STATES
Michael C Dean BA UNITED STATES
Zachary Logan LaPorte BA UNITED STATES
Michael Peter Kucharik BS UNITED STATES
Scott Martin MD UNITED STATES

Summary: Although it may take > 2 years, patients with hip-spine syndrome can attain clinically meaningful improvement in hip pain following hip arthroscopy for FAI.

Data:
INTRODUCTION: The overlapping biomechanical relationship between the lumbosacral spine and pelvis poses a unique challenge to patients with abnormalities that limit range of motion through the hip. We aim to assess the influence of concomitant lumbosacral spine pathology on patient-reported outcome measures (PROMs) and rates of achieving clinical thresholds (e.g., minimal clinically important difference [MCID] and patient-acceptable symptom states [PASS]) following hip arthroscopy for the treatment of symptomatic lumbal tears in patients with femoroacetabular impingement (FAI). METHODS: A retrospective review of a prospectively collected, single-surgeon database was performed to identify patients ≥18 years of age with minimum 2-year follow-up, who underwent primary hip arthroscopy for the treatment of lumbal tears secondary to FAI. No patients had previous ipsilateral hip or spine surgery. Patients were stratified into cohorts based on the presence (hip-spine [HS]) or absence (matched-control [MC]) of lumbosacral spine disease, and cohorts were coarsened exact matched on age, sex, and body mass index. Inclusion within the HS cohort required lower back pain plus a diagnosis of lumbosacral spine disease verified radiologically. PROMs and frequency of achieving MCID/PASS thresholds were compared between groups. Outcomes included modified Hip Harris Score (mHHS), Hip Outcome Score-Activities of Daily Living (HOS-ADL), Hip Outcome Score-Sports Subscale (HOS-SS), International Hip Outcome Tool-33 (IHOT-33), Non-Arthritic Hip Score (NAHS), visual analogue scale (VAS) pain, rates of revision arthroscopy, and conversion to total hip arthroplasty (THA). RESULTS: 70 patients with lumbosacral disease were matched to 87 controls. Preoperative scores were significantly worse in the HS cohort for all but one outcome (P < 0.05 for all, except HOS-ADL). Subsequent follow-ups at 3-, 6-, 12-, and 24-months displayed similar trends, with the HS cohort demonstrating significantly worse scores for nearly every PROM. However, HS and MC patients exhibited statistically similar magnitudes of improvement in all outcomes at every time point (P > 0.05). Thus, by 3- and 5-year follow-up, the HS cohort achieved statistically similar outcome scores across all PROMs (P > 0.05). Achievement of MCID thresholds occurred at similar rates across nearly all PROMs at 12-month, 24-month, and 5-year follow-up. PASS analysis revealed significantly lower frequencies among the HS cohort for nearly all PROMs at 12- and 24-months; however, available 5-year data trended towards similar rates (P > 0.05 for all). No significant differences in the rates of revision or conversion to total hip arthroplasty were identified between cohorts (P > 0.05 for both). CONCLUSION: Following hip arthroscopy to address lumbal tears in the setting of FAI, patients with diagnosed lumbosacral pathologies and no prior history of spine surgery experienced statistically similar clinical benefit and rates of functional improvement at 2-year follow-up relative to matched controls with isolated hip disease. Our results suggest that patients with concurrent lumbosacral pathologies can experience improvement beyond 24-month follow-up, and medium- to long-term follow-up may be necessary to define clinically meaningful outcomes most accurately in the setting of arthroscopic hip preservation surgery.
Overall, our data provide evidence that coexisting hip and spine disorders are not a contraindication for arthroscopic hip preservation surgery.

Category: Hip/Groin/Thigh

Primary Labral Reconstruction Versus Labral Repair In Patients With Femoroacetabular Impingement: An Inverse Propensity Score Weighted Analysis of Patient Reported Outcomes and Subsequent Surgery Risk

Abstract ID# 23334
All Authors:
Grant J Dornan MS UNITED STATES
Marc J. Philippin MD UNITED STATES
Spencer M Comfort BS UNITED STATES
Karen K. Briggs MPH, MBS UNITED STATES
Justin Ernat MD UNITED STATES
Maitland Martin BS UNITED STATES
Joseph J. Ruzbarsky MD UNITED STATES

Summary:
A causal inference analysis comparing the postoperative outcomes of femoroacetabular impingement patients treated with primary hip labral reconstruction versus labral repair.

Data:
Introduction: Since its creation, labral repair has become the preferred method among surgeons for the arthroscopic treatment of acetabular labral tears resulting in pain and dysfunction for patients. Labral reconstruction is performed mainly in revision hip arthroscopy but can be used in the primary setting for irreparable or calcified labra. The purpose of this study was to compare minimum 2-year patient reported outcomes (PROs) and risk for revision or arthroplasty between primary labral reconstruction and labral repair. Methods: Patients who underwent primary hip labral repair or reconstruction with the senior author between 2005-2018 were identified from a prospectively enrolled patient outcomes registry. Exclusion criteria included patients not between 18-65 at the time of surgery, confounding injuries (Legg-Calves-Perthes, avascular necrosis, femoral head fracture, etc.), prior ipsilateral hip surgery, or minimum joint space less than 2mm. Labral repairs were performed when adequate tissue was available for repair and labral reconstruction was performed when tissue was absent, ossified or torn beyond repair. Inverse propensity score weighted multiple linear (or logistic) regression (IPSW + MLR) was conducted to estimate the causal average treatment effect (ATT) of choosing labral reconstruction versus labral repair upon postoperative PROs and likelihood for subsequent surgery. PRO endpoints included HOS-ADL, WOMAC, SF-12 PCS and patient satisfaction. Covariates included in the IPSW + MLR models included age, sex, baseline PRO score, BMI, year of surgery, joint space, center edge angle, alpha angle, Sharp angle, Tönnis angle, microfracture or grade 3/4 cartilage lesions of the acetabulum or femoral head, hypoplastic labrum, ossified labrum, labral cyst, labral flattening, and labral tear size. Results: 151 primary labral reconstruction and 1000 primary labral repair cases met inclusion criteria. Median follow-up time was 5.4 and 5.8 years for the reconstruction and repair cohorts, respectively. Compared to labral repair, labral reconstruction was associated with a significantly elevated crude (X2-test OR=3.4, 95%CI=[2.0,5.6], p=0.001) and adjusted risk for THA conversion (IPSW + MLR, OR=3.2, 95%CI=[1.2,8.7], p=0.025). The risk for revision arthroscopy was not statistically significantly elevated for labral reconstruction (crude X2-test OR=1.7, 95%CI=[0.9,3.2], p=0.123; IPSW + MLR, OR=1.4, 95%CI=[0.5,3.9], p=0.538). Among patients that did not undergo subsequent surgery, IPSW + MLR estimated a causal effect of choosing labral reconstruction vs labral repair that was significantly negative for for HOS-ATT=−3.6, 95%CI=[−1.1,−6.1], p=0.005 and WOMAC (ATT=−3.1, 95%CI=[−0.5,5.6], p=0.015), while the causal effect for HHS (ATT=−0.2, 95%CI=[−0.3,0.2], p=0.870), SF-12 PCS (ATT=−0.5, 95%CI=[−1.9,1.0], p=0.519) and patient satisfaction (ATT=−0.2, 95%CI=[−0.3,0.6], p=0.398) were not statistically significant. Conclusion: In conclusion, primary labral reconstruction resulted in worse PRO and increased conversion to THA when compared to primary labral repair when using a multivariable causal modeling approach. These data support the use of labral repair in the primary setting of labral tears and reserves the labral reconstruction for more advanced labral pathology or in revisions cases.

Category: Hip/Groin/Thigh

Plication For Intra-Operatively Confirmed Microinstability: How Well Does It Work?

Abstract ID# 23575
All Authors:
Catherine J. Bacon PhD, MSc, BSc, BPhed(Hons) NEW ZEALAND
Rowan Aucterlonie NEW ZEALAND
Man Lu MD PhD NEW ZEALAND
A格力 C. Lissaman NEW ZEALAND
Gen Lin Foo MD SINGAPORE
Rebecca Woodward MBChB, FRANZCR NEW ZEALAND
Matthew J. Brick MBChB, FRACS NEW ZEALAND

Summary:
In a consecutive sample of hip arthroscopy patients with intra-operatively confirmed microinstability, those treated with plication showed reduced symptoms and improved quality-of-life compared to no plication.

Data:
BACKGROUND: There is growing consensus that intra-operative confirmation of hip microinstability is the gold standard diagnosis. Surgical treatment entails plication to reduce compliance of hip capsular ligaments, but few studies have analysed longer term outcomes. PURPOSE: To compare outcomes of arthroscopy patients with hip microinstability who received capsular plication with those who did not, using consecutive sampling of a large single-surgeon cohort. METHODS: We reviewed our prospective database for primary hip arthroscopies undertaken between 2009 and 2020 with intra-operative indications of hip microinstability. Criteria included either ease of distraction of the hip, an isolated straight anterior labral tear, inside-out chondral lesion, or a lateral labral tear in the absence of cam or pincer morphology, with any one of these confirming diagnosis. Those who received plication were compared with those who did not. Patient-reported outcomes included International Hip Outcome Tool (iHOT12), Hip Disability and Osteoarthritis Scores (HOOS) and patient satisfaction with minimum 2-year follow-up. Surgical outcomes were 2-year rates of subsequent ipsilateral hip joint surgery, with incidence of conversion to arthroplasty obtained from a national register. RESULTS: A total of 271 hips (240 patients) aged 31.5±10.9 years (mean±SD), 253 (93%) female, were included in this analysis, of which 207 (76%) received plication. Though pre-operative to follow-up change in iHOT12 did not differ statistically between treatment groups (plication increased from 29±15 to 67±26 versus non-plication from 31±14 to 63±29), both HOOS-symptoms and -quality-of-life subscores improved more in those undergoing plication compared to non-plication (HOOS-symptoms from 53±18 to 75±19 versus 56±17 to 71±19, p=0.03; and HOOS-quality-of-life from 27±16 to 63±24 versus 31±16 to 56±27, p=0.02). Of those who had the plication procedure, 87% of patients indicated that they definitely (47%) or probably (40%) would have the surgery again, compared with 80% (53% definitely and 28% probably) of those with no plication, though group differences were not statistically significant. The overall 2-year rate of revision surgery (1.8%) and arthroplasty conversion (1.1%) was not different between groups. CONCLUSION: Data from this large sample confirm that hip microinstability can be successfully treated with plication, particularly in reducing unwanted symptoms and improving overall quality of life.

Category: Hip/Groin/Thigh

Dancers Following Primary Hip Arthroscopy For Demonstrate Favorable Outcomes and High Rate Of Return To Dance At Minimum 5-Year Follow-Up

Abstract ID# 21498
All Authors:
Benjamin G. Domb MD UNITED STATES
David R. Maldonado MD UNITED STATES
Michael Lee BA UNITED STATES

Summary:
This study reported a minimum 5-year follow up of patient reported outcome measurement scores, clinical benefit, and return to dance in dancers who underwent primary hip arthroscopy.

Data:
Background: There is a paucity of literature surrounding the mid-term outcomes in dancers following primary hip arthroscopy. Purpose: To report a minimum 5-year follow-up patient-reported outcome measurement scores (PROMS), clinical benefit, and return to dance in dancers who underwent primary hip arthroscopy. Methods: All primary hip arthroscopy data was prospectively collected and retrospectively reviewed for dancers who were recorded between May 2010 and June 2016. Patients were eligible if they indicated they participated in dance one year prior to surgery at the professional, college, high school, organized amateur, or recreational level and had preoperative and minimum 5-year postoperative scores for the modified Harris Hip Score (mHHS), Nonarthritic Hip Score (NAHS), Hip Outcome Score – Sports Specific Subscale (HOS-SSS), and Visual Analog Scale for