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Summary: The purpose of this study is to report minimum 2-year follow-up patient-reported outcome scores (PROs) and rates of achieving the minimal clinically important difference (MCID), the patient acceptable symptomatic state (PASS), and the maximal outcome improvement (MOI) on adolescents following primary hip arthroscopy for femoroacetabular impingement syndrome (FAIS).

Data: To report minimum 2-year follow-up patient-reported outcome scores (PROs) and rates of achieving the minimal clinically important difference (MCID), the patient acceptable symptomatic state (PASS), and the maximal outcome improvement (MOI) on adolescents following primary hip arthroscopy for femoroacetabular impingement syndrome (FAIS). Secondly, to determine risk factors for revision surgery. Methods: Prospectively collected data from two high-volume hip arthroscopy centers were retrospectively reviewed on adolescents (19 years old) who underwent primary hip arthroscopy between November 2008 and February 2019. Adolescents with a minimum 2-year follow-up for the modified Harris Hip Score (mHHS), Non-Arthritic Hip Score (NAHS), Hip Outcome Score-Sports Specific Subscale (HOS-SSS), International Hip Outcome Tool-12 (iHOT-12), and visual analog scale (VAS) for pain were included regardless of their growth plate status. Exclusion criteria were: Tonnis grade >1, lateral center edge-angle <18°, previous ipsilateral hip surgery or conditions. Pre and postoperative radiographic data, mHHS, PASS, MOIST, secondary surgeries and complications were reported. A multivariable survival analysis for risk factors for secondary surgery was conducted. Results: A total of 287 hips (249 patients) were included (74.9% females). The mean values for age, body mass index, and follow-up were 16.3±1.3 years, 22.3±3.5, and 26.6±9.4 months respectively. Further, 88.9% underwent labral repair, 81.5% femoroplasty, and 85.4% capsular closure. Improvement for all PROs was reported (P<0.001) with high patient satisfaction (8.8±1.5). Achievement for the MCID was 71.7%, 83.0%, 68.1%, and 79.5% for the mHHS, NAHS, HOS-SSS, and iHOT-12 respectively. Achievement for the PASS was 68.3% for the mHHS and 73.2% for the NAHS. The MOI for mHHS, NAHS, and VAS was 58.3%, 77.0%, and 59.6% respectively. Rates of revision hip arthroscopy, cam recurrence and heterotopic ossification were 5.8%, 1.7%, and 5.5% respectively. Acetabular retroversion was found to be a risk factor for revision surgery (P=0.03). Conclusion: The results of this multi-center study demonstrated that adolescents who underwent primary hip arthroscopy for FAIS reported significant improvement in all PROs, with satisfactory achievement rates for the MCID, PASS, MOI, and high patient satisfaction at a minimum 2-year follow-up. Level of Evidence: IV; Retrospective Multi-center Study.

High-Level Athletes With Borderline Hip Dysplasia Achieve Favorable Outcomes and Return to Sport Rates Following Primary Hip Arthroscopy: Minimum 5-Year Outcomes Comparison to a Propensity-Matched Control Group

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Summary: This study reports on minimum 5-year patient-reported outcomes (PROs) and return to sport (RTS) rates in high-level athletes with borderline hip dysplasia (BHD) following primary hip arthroscopy for labral pathology and femoroacetabular impingement syndrome (FAIS).

Data: The purpose is to report minimum 5-year patient-reported outcomes (PROs) and return to sport (RTS) rates in high-level athletes with borderline hip dysplasia (BHD) following primary hip arthroscopy for labral pathology and femoroacetabular impingement syndrome (FAIS) and to compare results to a propensity-matched control group of athletes with normal acetabular coverage.

Methods: Data were reviewed for surgeries performed between February 2009 and February 2016. Patients were eligible if they underwent primary hip arthroscopy in the setting of BHD [LCEA 18-25°] and competed in professional, collegiate, or high school sports. Inclusion criteria were preoperative and minimum 5-year follow-up scores for the modified Harris Hip Score (mHHS), Non-Arthritic Hip Score (NAHS), Hip Outcome Score-Sport Specific Subscale (HOS-SSS), and Visual Analog Scale (VAS) for pain. Rates of achieving the minimal clinically important difference (MCID), patient acceptable symptomatic state (PASS), and maximum outcome improvement satisfaction threshold (MOIST) were recorded in addition to RTS. BHD athletes were matched by age at the time of surgery, sex, BMI, Tonnis grade, follow-up time, sport, type, and competition level to a control group of 58 athletes with normal acetabular coverage (LCEA 25°-40°). Results: A total of 34 BHD athletes were included with a mean follow-up of 73.6±10.7 months. BHD athletes showed significant improvements in all PROs, demonstrated high RTS rates (90.0%), and achieved PASS/MCID/MOIST for mHHS (MCID: 80.0%, PASS: 93.3%, MOIST: 80.0%) and HOS-SSS (MCID: 76.7%, PASS: 73.3%) at high rates. When compared to a propensity-matched group with normal acetabular coverage, BHD athletes demonstrated similar postoperative PROs, rates of achieving psychometric thresholds, and RTS rates (P>0.05). Conclusion: High-level athletes with BHD undergoing primary hip arthroscopy for labral pathology and femoroacetabular impingement syndrome may expect favorable midterm outcomes and high RTS rates. These results were comparable to a control group of athletes with normal coverage.

Category: Hip/Groin/Thigh

Return To Performance In Elite Athletes With Proximal Hamstring Tendon Avulsion Following Operative And Non-Operative Treatment

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Summary: 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.

Data: Introduction: Proximal hamstring tendon avulsions are rare but severe hamstring injuries, that have the potential to end an athlete’s career. Operative treatment is the most described choice of treatment for these injuries in current literature. Non-operative treatment is scarcely reported, even more so in elite athletes. Therefore, the objective of this case series was to describe the outcome of both operative and non-operative treatment in terms of return to play and return to performance in sports for elite athletes. Methods: we included elite athletes with MRI-confirmed proximal hamstring tendon avulsions of the conjoint tendon and/or the semimembranosus tendon. Operative or non-operative treatment was selected by shared decision-making. For operative treatment reattachment with suture anchors was performed followed by a phased criteria-based rehabilitation program. Non-operative treatment consisted of a phased criteria-based rehabilitation program. The primary outcome was time to return to performance (in days). Secondary outcomes were time to and rate of return to play, return to performance rate, and recurrence rate. Results: In total we have included nine proximal hamstring tendon avulsions in eight elite athletes with a median age of 27 years (IQR: 23–29 years). Five athletes were treated operatively and three athletes were treated non-operatively. One non-operatively treated athlete sustained a proximal hamstring tendon avulsion in different legs on different occasions. Operative patients included three full-thickness avulsions of both conjoint and semimembranosus tendon and two full-thickness avulsions of the conjoint tendon. In the non-operatively treated cases there were two full-thickness avulsions of both conjoint and semimembranosus tendon and two full-thickness avulsions of the conjoint tendon. The median retraction of the affected tendons in the operative group was 51 mm (IQR: 24–78 mm) and the median retraction in of the affected tendons in the non-operative group was 39 mm (IQR: 25–46 mm). The median return to performance in days of the operative group was 395 days (IQR: 240–472 days) and in the non-operative group 120 days (IQR: 74–235 days). The median return to play time in days of the operative group was 304 days (IQR: 159–351 days) and in the non-operative group 63 days (IQR: 50–95 days). Both groups had a return to play and return to