The Impact of Sports Participation on Outcomes after Femoroacetabular Impingement Surgery: A Propensity-Matched Analysis

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INTRODUCTION:
Femoroacetabular impingement (FAI) is a well-recognized source of hip pain and dysfunction in athletes. The purpose of the present study was to evaluate the efficacy of FAI correction in an athletic population, collected across multiple centers as part of a prospective cohort study.
METHODS:
Patients with FAI who failed nonsurgical management were prospectively enrolled in a multicenter cohort. Preoperative and postoperative (average 4.3 years) patient-reported outcome measures (PROMs) were obtained with a follow-up rate of 81.6% (621 of 761 hips). Athlete status, demographics, radiographic parameters, intraoperative disease severity, and operative procedures were analyzed. Competitive athletes (professional, collegiate, and high school) and recreational athletes were propensity matched using linear regression to control for confounding variables to to non-athlete controls.
RESULTS:
During the study period 146 athletes were identified; There were 84 competitive athletes and 62 recreational athletes. Competitive athletes were matched (1:3) to 255 controls accounting for confounding variables. Competitive athletes had superior scores in all HOOS subscales ($p = 0.001 – 0.01$) and mHHS ($p=0.0004$). These differences met MCID in HOOS Pain (86.2 vs. 78.8), HOOS Sports (79.9 versus 70.7), and HOOS QOL (75.9 versus 61.4). Composite failure (revision surgery+THA+inability to reach MCID) was greater in non-athletes compared to competitive athletes (14% versus 25%, $p=0.013$). The 62 recreational athletes were matched to 186 controls and demonstrated statistically superior scores compared to non athletes in HOOS subscales and mHHS ($p<0.05$); these numbers did not meet MCID and failure rates were not different between recreational athletes and non-athletes.
DISCUSSION AND CONCLUSION:
Competitive athletes have superior outcomes to non-athletes (after controlling for important covariates) in all outcomes measured; they also experienced lower failure rates overall. Recreational athletes have superior outcomes compared to non-athletes. Sport participation and perhaps mindset is an important determinant of outcome in FAI surgery not previously quantified by previous studies.