Return to Play Following Hip Arthroscopy

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KEYWORDS

• Hip • Hip arthroscopy • Femoroacetabular impingement • Labral tear • Sport • Return to play

KEY POINTS

- Femoroacetabular impingement (FAI) may be particularly disabling to the high-demand athlete, especially those with significant cutting and pivoting requirements.
- Awareness of varying demographics among different groups of athletes are important to identify the individual needs of patients when considering preventive, nonoperative, or surgical management options.
- Return to play is high with professional, amateur, adolescent athletes, as well as athletes undergoing concomitant microfracture and labral reconstruction techniques.
- Important considerations include the ability to achieve the diagnosis in a timely manner and to exercise caution in older athletes with presence of preexisting osteoarthritis or diminished joint space, as the literature demonstrates suboptimal outcomes in these populations.

INTRODUCTION

Improvements in diagnostic tools and our awareness has led to a significant increase in the recognition and treatment of symptomatic pathologies in the young, nonarthritic hip. Femoroacetabular impingement (FAI) is the most common cause of prearthritic pain and secondary chondro-labral pathology in the nondysplastic hip. The structural deformities of FAI most commonly reflect a loss of femoral head-neck offset (cam-type lesion), as well as focal or global acetabular over coverage (pincer-type lesion). Most

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presentations commonly occur as a combination of the 2 pathomorphologies (combined-type lesion). Although the concept of FAI was first described by Smith-Peterson in 1936,[1] it was Ganz and colleagues[2] who pioneered much of the modern modalities used for the diagnosis and treatment of the disorder, elucidating the pathophysiology that creates abnormal loading mechanics and results in secondary degenerative changes within the hip joint.[3,4]

Mechanical impingement at the terminal range of hip motion resultant from this pathology often causes tearing or detachment of the acetabular labrum from the articular cartilage.[5] During dynamic cyclic hip motion, repetitive impaction and abnormal regional loading of the femoral head-neck junction against the acetabular rim may cause microtrauma and chondral delamination.[3,6–10] Localization of these injuries reflect the topography of the deformity, and are typically at the anterosuperior region of the acetabular rim with concomitant disruption at the adjacent transition zone of the articular cartilage. Early diagnosis and management of these injuries are critical, as their severity often correlates with the severity of the pathomorphology and the time between symptom onset and treatment.[11–15] FAI may be particularly disabling to the high-demand athlete with significant cutting and pivoting requirements, therefore a clear understanding of the etiology, diagnosis, management, and outcomes is essential for clinicians to optimally help patients to return to play.[16]

FEMOROACETABULAR IMPINGEMENT IN ATHLETES

Etiology

A significant number of athletes present with hip pain and functional disability due to FAI.[17–19] Symptomatic hip pain related to FAI is commonly diagnosed with athletic activities that may require end ranges of motion. Examples include cutting motions and repeated changes of direction as seen in soccer, increased hip flexion/abduction/internal rotation as seen in ice hockey, and supraphysiological ranges of motion as seen in dance.[20] These athletes often push their hips to extreme ranges of motion, particularly with internal rotation. The full spectrum of competition levels is represented, from recreational weekend warriors to elite professional athletes.[21,22] In addition, symptomatic FAI has been demonstrated to be more common in certain types of athletes as compared with the general population.[23–26]

Increased prevalence of femoroacetabular impingement in athletes

Gerhardt and colleagues[25] showed that the prevalence of FAI among 95 elite male and female soccer players was high, with 70% cam-type and 50% pincer-type lesions observed on radiographs. In a comparative study evaluating 22 asymptomatic male semiprofessional and 22 amateur male soccer players (median age: 23.3; range: 18–30 years), Lahner and colleagues[27] demonstrated that the mean kicking leg alpha angle in the semiprofessional group ($57.3 \pm 8.2^{\circ}$) was significantly higher as compared with the amateur group ($51.7 \pm 4.8^{\circ}$, $P = .008$). In a sample of 123 hips with a history of hip or groin pain obtained from athletes at the National Football League Combine, Nepple and colleagues[28] determined that 94.3% demonstrated radiographic evidence for FAI (cam-type: 98%; pincer-type: 22.8%; combined-type: 61.8%). Larson and colleagues[19] corroborated these findings with another study evaluating a mixed cohort of 238 symptomatic and asymptomatic hips from the National Football League Combine, noting that 87% exhibited at least one radiographic sign consistent with FAI and determining that increasing alpha angle was an independent predictor for the development of groin pain.

Mariconda and colleagues[29] examined radiographs from 24 experienced capoeira players (a Brazilian martial art that requires extreme movements of the hip to perform

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