Femoroacetabular impingement (FAI) of the hip is still a relatively unrecognized entity by many physicians, but has become well known in the sports medicine arena. It occurs intra-articularly when there is abnormal contact between the head/neck junction of the proximal femur and the rim of the acetabular socket. This can lead to acetabular labral tearing and chondral injuries, possibly resulting in early arthrosis of the hip joint. Labral tears can occur independently with isolated trauma or in conjunction with FAI.

There are two main types of FAI — Cam impingement (on the femoral side) and Pincer impingement (on the acetabular side), but more commonly (86%) a combination of the two exists. Labral tears, chondral injuries, and loose bodies are typical findings associated with FAI and these can also cause debilitating symptoms, particularly in the younger, active patient.

Cam impingement exists when an abnormal "bump" is found at the femoral head/neck junction or angular deformities of the proximal femur that create shear stresses at the chondrolabral complex with acetabular chondral injury and labral tearing. Cam impingement is more common in the younger, active male.

Pincer impingement is due to abnormal overhang or "over coverage" of the acetabular rim that pinches the labrum between the rim and the femoral head/neck, leading to degeneration of the labrum, chondral injury on the acetabular side of the joint, and potential loose bodies. This type is more common in middle-aged women and can be related to developmental hip dysplasia.

Symptoms of FAI and associated conditions include anterior groin pain, "deep" hip pain, catching or pinching in the groin, lateral or posterior hip pain, pain with activity — particularly with high hip flexion and internal rotation. Signs include a positive "impingement" test, which is performed with the patient supine. Flexing the hip while adducting and internally rotating will reproduce symptoms. Also, a decrease in the amount of internal rotation can be seen.

The diagnosis of FAI is made with a thorough history, physical examination, and diagnostic imaging including plain radiography with specific views of the pelvis and hip, as well as MRI scanning with intra-articular contrast, and diagnostic joint injections. Imaging findings can be rather subtle and often not reported, especially if the radiologist is not familiar with FAI or is unaware of the symptoms of the patient and abnormalities being sought.

Initial treatment of FAI is conservative — stressing education and counseling, NSAIDs, activity modification, and sometimes intra-articular corticosteroid injections. However, because this condition is caused by abnormal anatomy, surgery is often indicated in this patient population. Surgical treatment consists of open procedures, arthroscopic procedures, or a combination of the two. Open procedures require fairly large incisions, more blood loss, and the need to dislocate the hip with the risk of iatrogenic avascular necrosis (AVN) of the femoral head. Arthroscopic procedures are performed through a few portal incisions, utilizing a specialized traction table to distract the femoral head out of the acetabulum with little risk of AVN nor significant blood loss.

Using either technique, the goals are the same — to restore normal hip anatomy. Pincer and Cam lesions are removed. The labrum is partially excised or repaired back to the acetabular rim, loose bodies are removed, and any articular cartilage lesions are addressed with debridement or micro-fracture techniques.

Recovery is variable depending on the extent of the injury and/or procedure performed, but return to play can be as early as 3 months, although 6 months is not uncommon.

Hip pain in the athlete can be a challenging problem, but with a more complete understanding of the hip, superior imaging modalities, and the evolution of hip arthroscopy, we are much better able to recognize and treat a large array of injuries and conditions about the hip — particularly in the younger, active patient.


This article was written by one of GENEX’s CHOICE Network Providers.