Managing Hip Pain in the Athlete

Heidi Prather, DO*, Berdale Colorado, DO, MPH, Devyani Hunt, MD

KEYWORDS

• Hip • Pain • Athlete • Groin

KEY POINTS

- Hip and groin pain is commonly experienced by athletes.
- The differential diagnosis is extensive and should include both intra-articular and extra-articular sources for pain and dysfunction.
- Evaluation for the underlying disorder can be complicated.
- A comprehensive history and physical examination can guide the evaluation of hip pain and the potential need for further diagnostics such as imaging or diagnostic hip injection.
- Treatment of athletes with hip disorders includes education, addressing activities of daily living, pain-modulating medications or modalities, exercise and sports modification, and therapeutic exercise.

INTRODUCTION

Hip and groin pain is commonly experienced by athletes of all ages and activity levels. Groin pain accounts for 10% of all visits to sports medicine centers and groin injuries account for up to 6% of all athletic injuries.[1,2] Hip and groin injuries occur in 5% to 9% of high school athletes.[3] Sports involving increased amounts of acceleration and deceleration, as well as cutting movements, seem to have increased incidences. A study of high school soccer injuries reported that 13.3% of all injuries sustained by girls involved the hip and thigh.[4] Causes of hip and groin pain can often be complicated by the overlapping signs and symptoms of other disorders, as well as the complex anatomy and biomechanics of the hip. Furthermore, many hip and groin injuries have multiple components or coexisting injuries.[5] This article reviews the causes of hip pain in athletes, provides a clinical approach for accurate diagnosis, and discusses treatment options for common hip disorders.

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Department of Orthopaedic Surgery, Washington University School of Medicine, 660 South Euclid Avenue, Campus Box 8233, St Louis, MO 63110, USA
* Corresponding author.
E-mail address: pratherh@wudosis.wustl.edu

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DIFFERENTIAL DIAGNOSIS

The differential diagnosis for athletes presenting with hip pain is extensive and can span multiple medical specialties and disciplines. For example, an athlete whose technique of running has altered because of a hip injury may begin to experience pain in other areas, including the pelvic girdle, lumbar spine, and knee. Both musculoskeletal and nonmusculoskeletal sources of hip pain must be considered (**Box 1**). These nonmusculoskeletal sources may include visceral structures of the abdomen and pelvis.

It is important for the sports medicine provider to distinguish between intra-articular versus extra-articular sources of hip pain (see **Box 1**), which is accomplished through a complete evaluation, including a thorough history and physical examination, along with appropriate diagnostic testing.

History

The medical history for a patient presenting with hip pain should include age, onset (and mechanism of injury, if applicable), distribution, quality, severity, progression, exacerbating factors, alleviating factors, and other associated signs/symptoms.

The differential diagnosis for hip pain can vary based on the age of the athlete. In the pediatric and adolescent athlete presenting with hip and groin pain, consideration should be given to apophyseal injuries, Legg-Calve-Perthes disease, and slipped capital femoral epiphysis. In contrast, older athletes are often affected by osteoarthritis (OA) of the hip.

Hip pain with acute onset has a distinct differential diagnosis from hip pain that is chronic or of insidious onset. A detailed mechanism of injury should be elicited with hip pain of acute onset. For example, sudden forceful muscle contractions (particularly eccentric) often result in muscle strains or tears in adults and apophyseal avulsions in adolescents. The adductor muscles are often involved, particularly in soccer, football, and hockey athletes. Adductor strain is the most common cause of groin pain in athletes.[6] Further, fracture should be considered in athletes with sudden onset of pain associated with a specific event. The event may not have seemed to be significant enough to cause a bony fracture, but athletes with an underlying bone mineralization deficit may become symptomatic with a seemingly benign event.

The distribution of hip pain is wide and variable but should be assessed by the health care provider to assist in making a diagnosis and to reassess following treatment. Anterior groin pain is often associated with intra-articular hip disorders. These disorders include femoral or acetabular fracture, avascular necrosis, OA, synovitis, ligamentum teres tear, and prearthritic hip disorders (isolated acetabular labral tears, developmental hip dysplasia [DDH], and femoroacetabular impingement [FAI] with and without acetabular labral tears). Extra-articular sources associated with anterior groin pain include the pubic rami, iliopsoas, adductor group, and abdominal muscles. Sports hernia typically involves injury to the abdominal muscles, particularly the external oblique muscle and aponeurosis, with possible injury to the adductors. In addition to the muscles and surrounding soft tissues, higher lumbar radiculopathy should also be considered as a source of an athlete's groin pain.

Lateral hip pain can be associated with intra-articular hip disorders, including all of those listed for anterior distribution of pain. In isolation, lateral hip pain is often associated with extra-articular disorders, including greater trochanteric bursitis or greater trochanteric pain syndrome, which may include gluteus medius or minimus tendinopathy, or pain related to tensor fascia lata/iliotibial band dysfunction. Lumbar spine disorders, particularly those involving the L4 to L5 distribution, can present with lateral hip pain.