

# PHYSIOTHERAPY ADVICE HIP, PELVIS AND GROIN INJURIES IN ATHLETES

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The hip and pelvis are one of the strongest and stable joints in the body. The pelvis is made up of three joints, the hip joint (ball and socket), sacroiliac joint (sacrum and Ilium meet), and the pubic symphysis (bottom of Ilium meets). These all work together to support the upper body.

Of these three joints, the hip joint is really the only one that moves. It is moveable in all ranges of motion and is strengthened by the articular capsule and three strong ligaments: iliofemoral, pubofemoral, and ischiofemoral.

The pelvic girdle forms the base of the trunk and provides a connection between lumbar spine and lower limbs. It is made up of the ilium, pubis and ischium that fuse together normally through puberty. Very little movement occurs between these joints (symphysis pubis and sacroiliac) because they are mainly for stabilisation.

Strength, stability and mobility occur through the hip and pelvis because of strong support from muscles of the trunk and muscles of the lower limbs, allowing forces to transfer between upper and lower extremities. These muscles around this area therefore play an important role in movement and postural stability and, if a muscle injury occurs, weight-bearing is normally affected.

Below is an outline of what I feel are the most common HIP, PELVIS and GROIN injuries that can occur in athletics. Remember that this is not a definite and conclusive list and different signs and symptoms may occur as everyone has a different physiological and biomechanical setup. I have written them purely as a guide for informative purposes. If in doubt, call me on 07979 504596.

## ACUTE INJURIES:

As mentioned, the pelvic area is strong and stable, and therefore injuries to this region are less common than the knee and ankle. However, when injuries do occur, even small injuries can be painful and debilitating because this is the main area that is involved with weight bearing.

### SPRAIN to Sacroiliac joint (SIJ)

These mostly result from a sharp fast jarring movement – for example in long jumping if you take off unbalanced with the leg straight and back extended. This can result massive forces going through the SIJ causing joint bruising or ligament damage. This can cause pain in the lower back on one side, or pain into the buttocks and thigh. Sometimes the SIJ can “upslip”. Injury to this area requires physiotherapy assessment and normally manipulation to correct the problem. If you have a regular, vague, one sided back pain or groin pain, there is probably something wrong with your SIJ.

### SPRAIN to Hip Joint

Forces that cause excessive rotation (twisting) or abduction (leg moves away from the body to the side), can damage the ligaments of the hip joint. For example – excessive rotation of the hip when the foot is planted into the ground. Signs and symptoms are a pain deep in the joint and pain weight-bearing. NB: hip joint pain is normally felt deep in the groin area NOT on the side of the hip which is where clothing measurements are taken.

This needs to be assessed correctly and sometimes an MRI scan is needed to find out the true extent of the damage.

## STRAINS

Muscular strains around the hip are quite common, resulting from overstretching. Explosive starts and slipping of the foot are common for adductor (groin – the muscles that pull your leg into the other leg) and hip flexor (the muscles that lift your hip upwards). Improper warm up, muscle tiredness and muscle weakness can increase this risk. Signs and symptoms include pain and sometimes burning at the site and sometimes a “pop” can be heard. Treatment includes RICE physiotherapy and rehabilitation back to full fitness. It is important to note that other conditions can refer pain to the groin and mimic the same signs and symptoms of a muscular strain.

## **CHRONIC INJURIES:**

Chronic injuries caused by muscle tightness and inflammation are seen more often than acute injuries because of the repetitive stresses placed on the hip and pelvis during running, twisting and jumping.

### Bursitis and snapping hip syndrome

There are numerous bursas in the hip and pelvis between tendons and other joint structures to prevent friction during movement. The most common chronic bursitis involves the Trochanteric, Iliopsoas and Ischial.

- The *trochanteric bursa* sits between the iliotibial band (ITB) which runs up the side of your leg and the greater trochanter (the bony prominence you can feel about 1/5 of the way down your leg on the outside). Inflammation of this bursa can be caused by tightness in the ITB, leg length discrepancy, running on a slanted street. Signs and symptoms include pain and aching on the outside of the hip and sometimes a “snapping” feeling when moving the hip up and down. Treatment includes loosening and stretching the ITB, strengthening surrounding muscles and changing training techniques.
- The *iliopsoas bursa* is deep in the adductor muscles and therefore difficult to palpate. Bursitis here is caused mainly from overuse where pain occurs in the front of the groin when flexing the hip. It can be mistaken for muscular strain. In chronic cases the groin may have a “snapping” feeling as the muscle passes over the inflamed bursa. Treatment includes rest, stretching and strengthening and preventing overuse in the future.
- The *ischial bursa* lies under your buttocks on the bony prominence (Ischial tuberosity). It is also the area that bears our weight when we sit. This can be inflamed with excessive friction from repetitive hip flexion and extension. It causes pain when sitting and will be tender to palpate. Ischial bursitis is difficult to differentiate from hamstring tendonitis. Treatment is the same for other bursa injuries.

### Piriformis Syndrome

The piriformis muscle is an external hip rotator that is deep in the buttocks. The sciatic nerve usually passes under the piriformis but sometimes some of the nerve can run through the muscle. Problems here can cause deep pain in the buttock and nerve pain into the leg. Hip range of movement can also be limited. Treatment includes loosening the piriformis by massage and stretching.

There are many other injuries and complications that can occur in the hip, groin and pelvis such as fractures, dislocation, nerve and vascular injuries. Injuries to this area can be difficult to accurately diagnose and pain in the groin, hip, and pelvis can be inter related. If in doubt see a physiotherapist or your GP and get it checked.

Phil Sadler © (23/08/07)

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