UPMC | SSC
SPORTS SURGERY CLINIC

The Hip

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INTRODUCTION

THE HIP

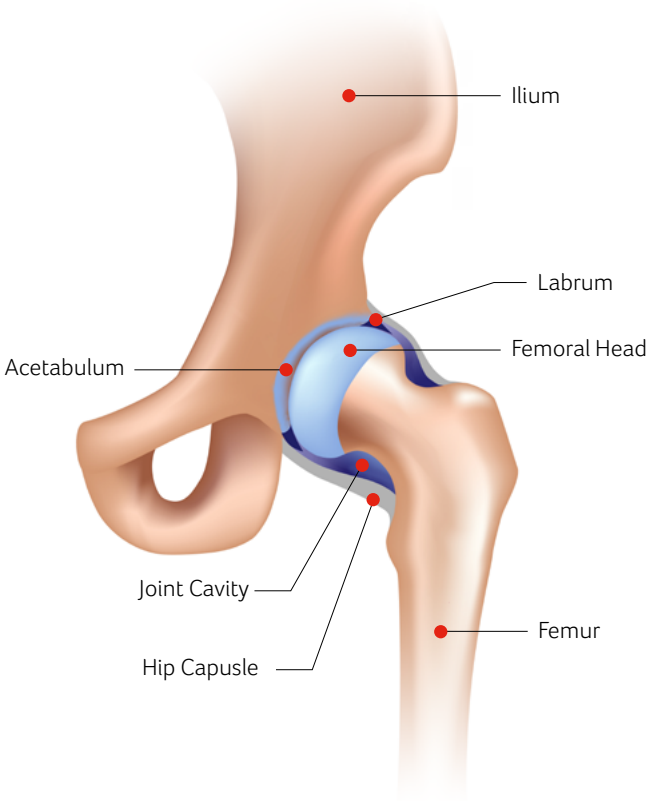
The hip is a ball-and-socket joint. The socket is formed by the acetabulum, which is part of the pelvic bone. The ball is the femoral head, which is the upper end of the femur (thighbone).

A lubricated tissue called articular cartilage covers the surface of the ball and the socket. It creates a smooth, low friction surface that helps the bones glide easily across each other.

The outer rim of the acetabulum is encased by a rubbery ring of tissue called the labrum.

The labrum is similar to the meniscus in the knee that patients often refer to as the cartilage.

The entire joint is surrounded by a tough fibrous capsule and special thickenings in this, called ligaments, help resist specific forces and provide extra stability.

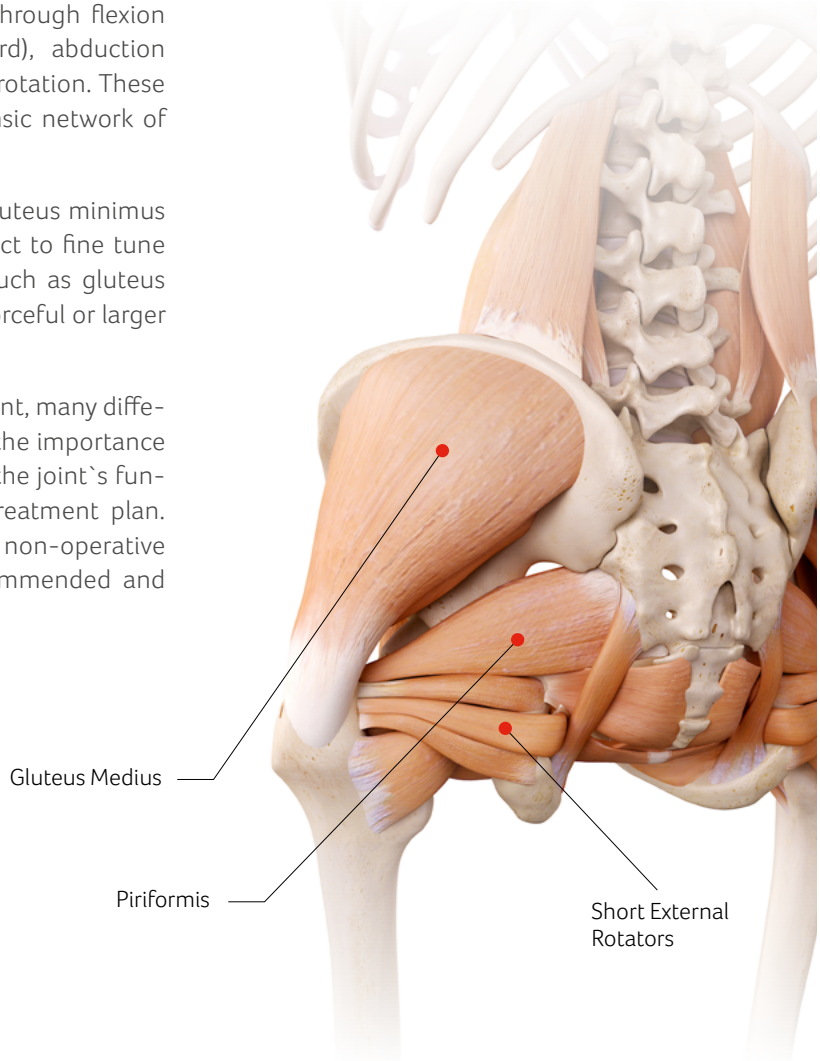


INTRODUCTION

The hip is a ball-and-socket joint, which allows motion in three planes. It can move through flexion and extension (forward and backward), abduction and adduction (side to side), as well as rotation. These movements are controlled by an intrinsic network of muscles surrounding the joint.

The deeper, smaller muscles such as gluteus minimus and piriformis mobilise the joint and act to fine tune the movement while larger muscles such as gluteus maximus provide the power for more forceful or larger movements.

Due to the complex nature of the hip joint, many different issues present and this highlights the importance of a full and systematic assessment of the joint`s function prior to deciding on the best treatment plan. Depending on the nature of the problem, non-operative methods of treatment are often recommended and trialled prior to surgery.



SOME COMMON CAUSES OF PAIN AT THE HIP JOINT

FEMOROACETABULAR IMPINGEMENT (FAI)

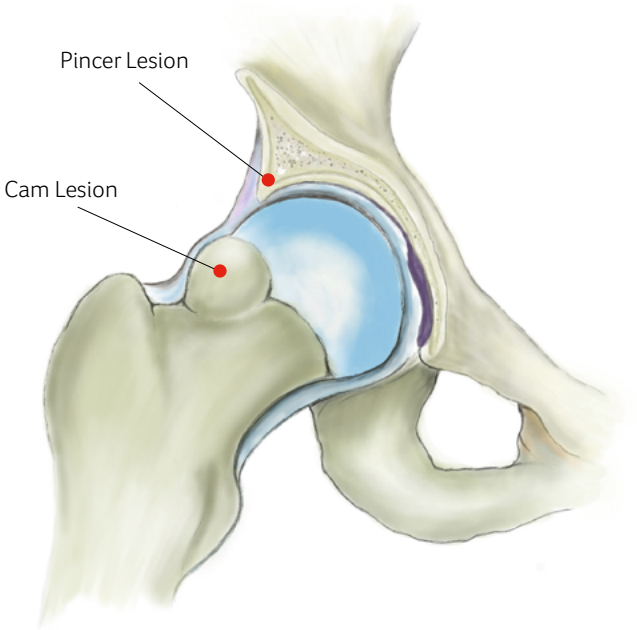
There are many variations of the 'normal' hip joint and these often come under the umbrella term of femoracetabular impingement.

A **Cam Lesion** affects the femur and essentially refers to an extra bony prominence on the front of the femoral neck. As the hip is bent up, this bump can impact the front of the acetabulum and limit movement.

Likewise on the acetabular side, a **Pincer Lesion** refers to extra bone on the edge of the socket that again can limit movement.

Often patients have a combination of both lesions.

FAI in itself is not a pathology, it is simply an anatomical variation of the hip joint. Of the estimated 20% of the population with FAI, only 23% of this cohort complain of hip pain. Often, this issue can be successfully treated with an appropriate rehabilitation programme.



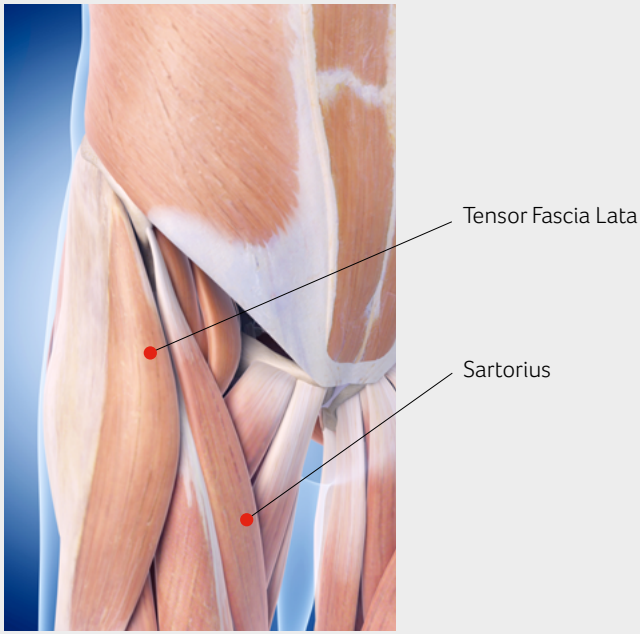
ASSESSMENT

LABRAL TEARS

The labrum refers to a ring of cartilage which lines the outer rim of the socket of the hip joint. The labrum has a role in maintenance of lubrication, shock absorption and stability of the ball within the socket. Tears of the acetabular labrum are a common cause of pain around the hip joint and often occur in tandem with other abnormalities such as FAI and shallow sockets (developmental dysplasia of the hip). Patients often experience symptoms such as clicking, catching, locking and giving way. Often, the pain associated with a labral tear will present at the front of the hip and may radiate into the groin. Labral tears can be diagnosed by MRI or an enhanced MRA scan where special dye is injected into the joint (MR Arthogram).

SNAPPING HIP / TROCHANTERIC BURSITIS

Snapping Hip Syndrome is a condition where an affected individual hears or feels a snapping type sensation, when walking, running or for example rising from a chair. Although snapping hip is usually painless and harmless, the sensation can be irritating. In some cases, snapping hip leads to bursitis, a painful swelling of the fluid-filled sacs that cushion the hip joint. The most common reason for this snapping type sensation is when a band of connective tissue or muscle, flicks over a bony protrusion in the hip joint. This “snapping” usually occurs either at the front of the hip, where the powerful hip flexor, the iliopsoas can catch on a bony prominence or on the outside of the hip where the iliotibial band (ITB) can catch on the greater trochanter.



These conditions can often be managed conservatively with a rehabilitation programme. This should focus on restoring normal hip joint mechanics and function via strength and control exercises for both the hip flexor and gluteal muscle groups. Re-education of optimal movement patterns when performing daily activities can also significantly help.

ASSESSMENT

GLUTEUS MEDIUS TENDINOPATHY

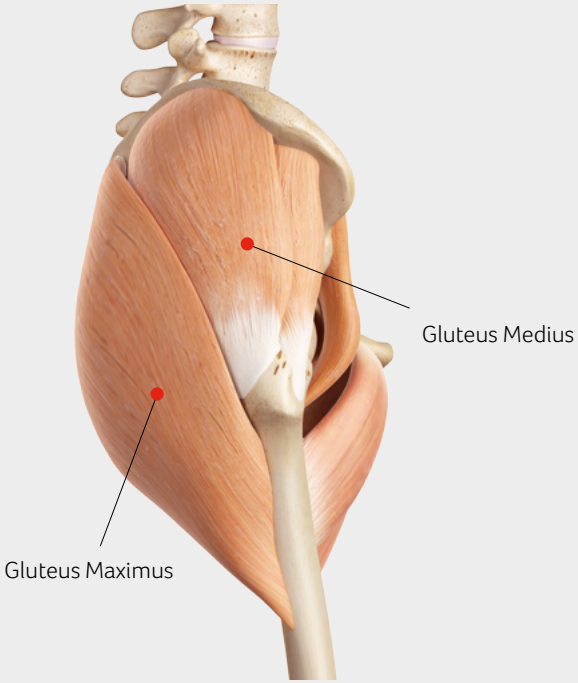
The gluteus medius muscle arises from the back of the pelvis deep to gluteus maximus. It inserts via its tendon into a bony prominence on the femur called the greater trochanter. This bony prominence is palpable on the outside of the hip.

When walking or running, large forces are generated in the gluteus medius muscle to stabilise and counterbalance the pelvis. Tendons are designed to resist high loads but when the load applied is too great or too repetitive, small micro tears can occur within the tendon. Most of the time these heal quickly and do not cause an issue. Occasionally however, the tears occur at a faster rate than the body can heal. The damage progressively worsens causing pain and dysfunction, known as a tendinopathy. Patients who engage in repetitive activities through either work or sport are more prone to tendon overload.

The main symptom of gluteus medius tendinopathy is pain on the outside of the buttock or upper thigh area. Pain is often exacerbated by activities such as walking, running and going up / down the stairs. It also frequently causes pain at night when lying on the affected side can directly compress the painful area and lying on the opposite side can stretch the tendon, also causing discomfort.

Traditionally, patients were advised to stretch to alleviate the pain. However, stretching frequently just causes further damage to the already injured tendon. Modern treatment focuses on avoiding irritating the affected area day to day alongside a targeted strength programme. This intentional and specific loading initiates remodelling within the tendon, allowing it to heal.

Less commonly, a sudden forceful load on the gluteus medius can result in a complete tear of the tendon. Such tears may require surgical re-attachment.



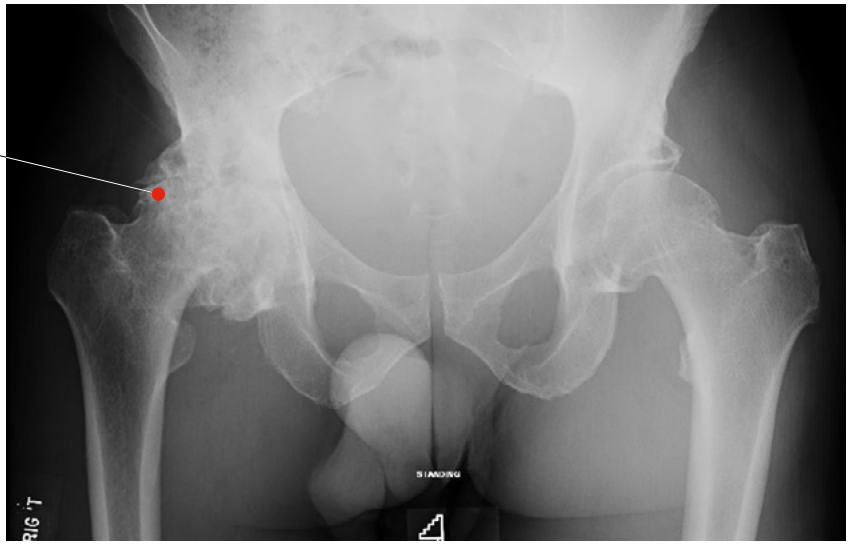
HIP OSTEOARTHRITIS

Hip osteoarthritis is a common condition. Around 8% of adults over the age of 45 have sought treatment for osteoarthritis of the hip (Arthritis Research UK 2013). Osteoarthritis can affect any joint in the body but most frequently affects weight bearing joints such as the hip and knee. It is more common in females and rates also increase with advancing age and with increasing levels of obesity.

In osteoarthritis, the cartilage over the surface of the joint gradually wears away. This eventually results in exposure of the underlying bone. In addition, the joint in response attempts to heal by forming additional bony spurs known as osteophytes.

Common symptoms of hip osteoarthritis include:

- Pain in the groin and / or buttock area
- Pain that worsens with activity or after prolonged sitting
- Stiffness in the joint leading to difficulties that involve hip flexion such as putting on your shoes and socks
- Painful limp
- Pain at night and sleep disturbance



TREATMENT

TREATMENT OF HIP PAIN AT SSC

At SSC we have a multidisciplinary team of orthopaedic surgeons, sports physicians, radiologists and physiotherapists who all work together to offer the most appropriate and effective treatment and best outcome for your hip pain.

At your first appointment, we will perform a comprehensive assessment of your hip and provide you with an accurate diagnosis. If necessary, appropriate imaging or further investigations will also be arranged. Following this, a treatment plan is put in place and may include a rehabilitation programme, medication or injection therapy or surgery or even a combination of treatment modalities.

REHABILITATION

At SSC, we model our rehabilitation programmes on the most up-to-date, research-proven principles. These programmes are generally a multi-stage process and the stages vary between individuals and the level of activity they wish to return to. In general, after your assessment, we will initially focus on optimising your hip mobility, alongside the control and activation of the deep hip stabiliser muscles such as the hip flexors, gluteus medius and gluteus minimus. These muscle play a huge role in the biomechanics of the hip joint and by ensuring adequate strength and control of them, we can maximize the pain-free range of movement about the hip.

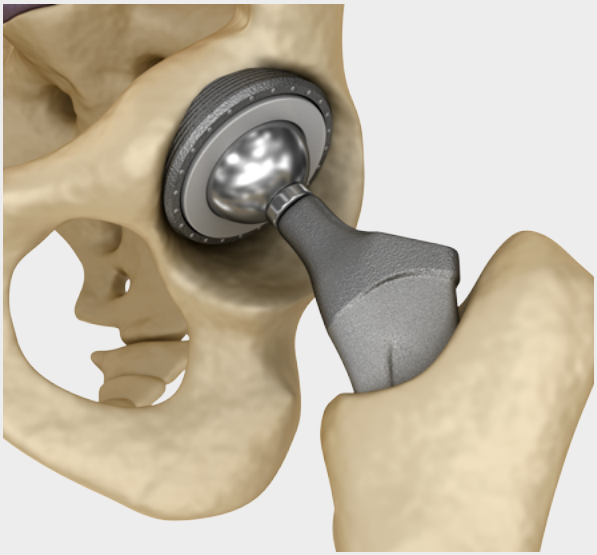
Another key component of the programme is correction of inefficient movement patterns and postures. Compound exercises such as squats, deadlifts and lunges performed with meticulous technique are often utilised to re-train the body into more effective movement patterns.

A final stage of rehabilitation focuses on your own specific needs and goals. For some, this may mean getting back to day to day pain free function or being able to walk the dog without pain, while others may wish to get back running, golfing or other more strenuous pursuits. Through video analysis, we have the means to assess your golf swing, your running style or your footwork on the tennis court. We can then prescribe individual need-specific rehabilitation to optimise your function in your leisure pursuits, keeping you healthy and active for longer.

TOTAL HIP REPLACEMENT (THR)

When the hip joint is quite worn and other measures have failed to improve pain or restore quality of life, surgery may be considered. Hip replacements have been in common use since the 1960s and represent one of the major achievements in healthcare in the 20th century.

A total hip replacement or arthroplasty involves the insertion of a new ball and socket into the arthritic hip joint. The procedure is usually performed under a spinal anaesthetic (needle in your back similar to an epidural) but it can be combined with some sedation so that you are effectively asleep.



An incision is made over the side of the hip bone and the joint is accessed by releasing a small portion of the muscles around the joint. Once the joint capsule has been opened, the hip is popped out of the socket and the worn head of the femur is removed. The acetabulum or socket is then prepared with special instruments that scrape off any remaining cartilage. The new cup is inserted and this can be either pressed in, secured with screws or cemented in place.

The space down the femur bone is then enlarged to accept the new femoral component and it can also be pressed in or cemented into place. The new head fits on to the femoral component and the hip is reduced back into the socket. Final checks for length and stability are made (whether or not it is likely to pop out of the socket with various manoeuvres) and any muscles that were released are then repaired and the wound closed.

Patients are usually genuinely quite surprised at how quickly they begin to recover following a hip replacement. This may well mean taking your first few steps the day of the operation! Crutches are used for most activities for approximately 6 weeks depending on surgeon preference but these are mainly to help with balance and minimise the risk of a fall. During your hospital stay (usually 2 to 4 days after your surgery), our physiotherapy team supervise your exercises and mobilisation until you are independently mobile.

TREATMENT

INJECTION THERAPY

Quite often, our Orthopaedic Specialists and Sports Medicine Physicians will use injection therapy as an adjunct to your rehabilitation. Cortisone injections are low risk and can be very effective forms of pain relief for certain forms of hip pathology. Other substances such as hyaluronic acid can also be injected to help with lubrication in the hip joint. In cases of tendinopathy or muscle tears, injections of Platlet Rich Plasma (PRP) can help the healing process. These injections are normally performed in combination with a rehabilitation programme.

HIP ARTHROSCOPY

While the majority of hip related pathology and pain can be successfully addressed via conservative means such as rehabilitation and injections, a small proportion do not respond to these measures. In these cases, your orthopaedic surgeon may consider surgical intervention in the form of a hip arthroscopy.

A hip arthroscopy involves the Orthopaedic surgeon inserting a small camera, called an arthroscope, into the hip joint. The camera displays pictures on a television screen, and your surgeon uses these images to guide the surgical instruments when performing the operation. The exact surgery performed will depend largely on the Surgeon's findings on MRI and on assessing the hip joint during the arthroscopy.

Common hip arthroscopy sub groups include labral repairs, microfracture procedures and FAI debridement.

Labral repair surgeries will often be performed if the labral tear in question is still quite acute and if there is significant damage to the labrum, with severe pain or instability. The surgery itself involves the Surgeon stitching the labrum back together.

TREATMENT

Microfracture procedures may be appropriate for those with significant but localised chondral wear in the hip who have failed with conservative treatment. It involves the surgeon drilling tiny holes in the affected bone to stimulate growth of new bone cells from deeper layers. This procedure normally requires a period of 4 weeks on crutches, taking minimal weight through the affected limb.

FAI debridement refers to surgical debridement and removal of the excess bony CAM or PINCER protrusions. This can be effective in alleviating pinch-type symptoms during repetitive hip flexion related tasks.

Recovery after arthroscopies can take anywhere in the region of 3 – 6 months, depending on the nature of your individual intervention and also your desired level of activity. Often you will be required to use crutches when mobilizing for the first 4 weeks after the surgery and the amount of weight you can take through your operated leg will be dictated by the significance of the surgical technique performed. It is important to note that rehabilitation following the surgery is extremely important in order to address muscular strength and control deficits alongside optimizing biomechanics and movement competency.

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