Hip Arthroscopy
An information guide
Hip Arthroscopy

This is a generalised information booklet to provide you and your relatives with some basic information about the procedure and what can be expected on the day of your operation and beyond. Specific questions regarding your underlying condition should be discussed directly with your surgeon.

This procedure is a relatively recent way to investigate and treat a multitude of hip conditions. It is especially useful for younger patients with chronic hip symptoms or sporting injuries. It is a minimally invasive technique or “keyhole surgery” which uses a fibre optic telescope to view inside the joint.

Arthroscopic surgery became popular in the late 1970s and 80s, but mainly for the treatment of sports injuries of the shoulder and knee. It allows surgeons to look inside a joint to confirm a diagnosis to treat certain diseases, which may be either of the bone or soft tissues.

Hip arthroscopy is less commonly performed and is more invasive than a knee arthroscopy taking longer to recover from post operatively. This is due to the anatomy of the hip and the difficulty in gaining access. However, it is still performed as a day case procedure.
Anatomy of the hip (Figures 1 & 2)

The hip is a ball and socket joint which is the largest weight bearing joint in the body. The round head of the femur (thigh bone) forms the ball that fits into the socket of the acetabulum (pelvis). Both the surface of the ball and socket are covered by cartilage which is a smooth, resistant material which cushions the bone and allows for gliding movement.

To reduce frictional forces, a small amount of viscous fluid stays within the joint (synovial fluid). The rim of the bony socket is lined by another type of cartilage, the labrum (Figure 2), which makes the socket deeper and providing a suction seal for the femoral head. The joint is supported by ligaments which connects the ball to the socket and to keep the hip from dislocating.

On x-ray imaging an elliptical head rather than spherical one suggests a Cam lesion (Figure 1). While too much coverage by the acetabulum over the femoral head creates a Pincer lesion.
Fig.1 - Normal Hip anatomy & Cam Lesion (FAI)

Fig.2 - Hip anatomy soft tissues
**Indications for hip arthroscopy**

The majority of conditions treated are listed below, but as this type of surgery is developing at a rapid pace this list is by no means exhaustive and therefore may not necessarily include your condition.

1) **Torn labrum** - at present this is the main reason to perform a hip arthroscopy, as it is the indication in around 60% of cases. This is a tear in the cartilage that lines the rim of the socket. It can be the result of injury or due to simple age-related degeneration. The main symptoms associated are a sharp groin pain, giving way, or the sensation of locking or catching. Confirmation of the condition is done with magnetic resonance imaging using a contrast injection. During arthroscopy a tear can be treated by either trimming or repairing the cartilage. However not all labral tears need surgery.

2) **Femoroacetabular impingement (FAI)** - this condition is caused by an abnormal shape to the head/neck junction of the thigh bone, it may also be called a “bump” or cam lesion (Figure 1). FAI may also be caused by an abnormal socket or pincer lesion. This creates a lack of room during hip movements leading to the cartilage or bone pinching each other resulting in early joint wear. The main symptoms are pain felt in the groin and/or hip area (worst when the hip is flexed and rotated inwards). It is more common in athletic men and aggravated by activity. It may also be aggravated by long periods of being seated upright. The main investigation is computerised tomography (CT) scanning with three-dimensional reconstruction of the images. The arthroscopic treatment is to re-contour the surfaces, mainly by trimming the bony bumps. In the past this condition was treated by open surgery.
3) **Loose bodies** - similar to when these are noted in other joints, arthroscopy may be used to remove loose bodies. These are usually fragments of cartilage or bone which are a direct result of trauma. The main symptom is a sharp pain due to the loose bodies getting trapped but they may also limit the range of movement. These are usually identifiable on plain x-ray but sometimes a CT (Computerised Tomography) or MR (Magnetic Resonance) which are more detailed scans can be ordered. Unfortunately, despite a surgeon’s best efforts, some loose bodies are never found during surgery.

4) **Articular cartilage injuries (osteochondral defects)** - the cartilage lining either the femoral head or the acetabular socket can be torn or damaged by an injury. It is usually caused by a high impact from either a sport which involves running or jumping or trauma such as motor vehicle collision. The torn fragment can intermittently protrude into the joint which causes pain and is most symptomatic when the hip is flexed as the underlying bone is left unprotected. Before proceeding to surgery this is normally investigated with a MRI scan with contrast medium. Arthroscopic surgery tries to either re-attach the cartilage or to stimulate new cartilage growth through a variety of techniques.

5) **Ligamentum teres injury** - the central ligament (Figure 2) that connects the pelvis with the femoral head can be torn and become a source for hip or groin pain. Symptoms are usually due to the mechanical block it causes in the joint. Through keyhole surgery the ligament can be either trimmed or repaired.

6) **Release of snapping hips** - “coxa sultans” or snapping hips is a painful condition where one of two tendons can flick across bony prominences around the hip joint, producing the characteristic
“snap” sound. The noise is usually accompanied by pain of varying intensity.

7) **Biopsy** - arthroscopy can be used to take samples of tissue from the hip joint in a less invasive manner than if performed by open surgery.

8) **Infection** - when infection exists in the hip, whether it is a patient’s own hip or an artificial one, an arthroscopic approach can help to drain it in a less invasive way than opening the joint in the traditional fashion. This causes less damage to the healthy tissues as well as reducing the possibility of introducing a new infective organism into the joint.

9) **Abnormalities of the synovium** - there are certain conditions of the joint lining such as pigmented villonodular synovitis (PVNS) or primary synovial chondromatosis, which cause thickening and can benefit from being trimmed.

10) **Trochanteric Bursitis** - the bursa is a pillow-like structure that protects the bony prominences (greater and lesser trochanters, Figure 1) of the proximal thigh bone. These can become inflamed and painful. Arthroscopic surgery can be used in certain cases that are resistant to more conventional and less invasive treatments.

**Options for treatment**

As with all conditions seen by orthopaedic surgeons, the first option is usually to avoid surgery, this is referred to as conservative treatment. When this approach fails or the damage identified to the hip joint during investigation is thought unlikely to improve with conservative treatment, your surgeon may suggest surgery.
Conservative treatment will usually include: (1) activity modification (which may include weight loss), (2) painkillers and/or anti-inflammatory drugs (NSAIDS), and (3) physiotherapy - your physiotherapist will determine an exercise program to treat muscle imbalances, stretch out the tendons and to strengthen the muscles and ligaments around the hip joint. In certain cases (4) a steroid injection mixed with local anaesthetic is indicated.

Surgical treatment will usually be discussed after all conservative methods have been tried and symptoms have not settled or have progressed. In certain cases the aim is to restore the anatomy which will help to prevent or slow the progression of arthritis in the joint. In other cases the goal is to reduce pain and/or improve the range of movement. Outcomes from the procedure will very much depend on the type and extent of pre-existent damage in the joint.

When do I need surgery
Surgery is usually only discussed when symptoms are not controlled by activity modification and the other types of conservative management have been exhausted.

Before the operation
Once referred by your GP, an initial clinic visit will be organised. At this time your surgeon will ask you questions about your medical history, including any operations you may have had in the past. They will also want to know what medications you take and if you have any allergies. A physical examination will also be performed so it is strongly recommended that you wear light and loose clothing. An x-ray of the pelvis is likely to be performed. Changes on the x-ray may be subtle though and frequently initial x-rays can be interpreted as normal.
If further imaging is deemed necessary by your surgeon it is likely that either a CT or MR scan will be ordered on an outpatient basis at a later date. If physiotherapy has not been tried previously it may be arranged. When a decision is made for surgery and you are given a date, you will need to prepare an overnight bag to bring in with you. The night before surgery, take no food or drink from 3am (medicines and painkillers may be taken at regular times though with a small sip of water).

Please remove all nail polish before coming into hospital, and if absolutely necessary light make-up only is recommended. Contact lenses, jewellery and dentures will be removed for surgery so try to avoid bringing them if possible. Please do bring your hearing aids and eyeglasses so that you are able to answer questions and read any documentation.

**What risks of surgery should I be aware of?**

As with any medical procedure, hip arthroscopy has its own risks. Complications occur globally in around 4 to 7% of patients. These effects may be temporary or, in a few cases, they may be permanent. Fortunately though, permanent complications are rare. The rate of major complications is between 0.3 - 0.58% (i.e. less than 1 in 172 cases) while minor complications occur more frequently. The most common temporary complication is nerve injury (2% or 1 in 50, but has been reported in one case series as being diagnosed in almost half of cases), and usually resolves over 3-6 weeks but may take up to 6 months or longer.

Re-operations occur 6.3% of the time by 16 months from arthroscopy. The most common of these operations (just under half) are total hip replacements. In less than 2% of cases one of the cartilage surfaces may be damaged by the surgeon as they introduce their instruments into the hip joint.
Similar to other orthopaedic surgeries of the hip the same general risks are present which include bleeding, infection (<1:1000), damage to nerves, blood vessels or nearby structures, blood clots such as a deep vein thrombosis (DVT) or pulmonary embolism (PE) (<0.5%), and pain (often worst immediately postoperatively).

More specific risks of hip arthroscopy include the chance of experiencing recurrent/ongoing pain or symptoms, stiffness, avascular necrosis of the femoral head (which will cause collapse of the hip joint due to interruption of the blood supply - fortunately rare) and long term it may increase the risk of needing a total hip replacement. Occasionally the postoperative recovery may be very slow (greater than 3 months).

There is an additional risk from the traction used, as this may cause injuries to nerves or the skin. Most frequently this would manifest itself as bruising or numbness/altered sensation between the legs.

Nerve damage can also present itself anywhere along the legs including the feet. The traction can also cause pressure sores, blistering, fracture, or impotence rarely.

Sometimes it is impossible to get the instruments into the hip joint due to stiffness and the procedure has to be abandoned.

**On the day of surgery**

You will need to arrive in the early morning (i.e. 7:30 am) at the hospital to be admitted by nursing staff who will go through a preoperative checklist with you. Once there you will be asked to change into a gown, and vital signs (such as blood pressure, pulse and temperature) will be measured.
You will be seen by your surgeon to confirm your consent for surgery. They will also confirm the correct surgical site and mark it with a marker pen.

You will also be seen by your anaesthetist and the type of anaesthetic discussed. In most cases you will be asleep under a general anaesthetic but sometimes this may also incorporate a nerve block as well.

Once you arrive in the anaesthetic room, a further checklist will be performed and an intravenous line (cannula) will be inserted. Your hip and the surrounding region will be scrubbed and shaved if required.

You will usually be anaesthetised for between 1 and 3 hours. The first step is to distract the hip with a traction apparatus attached to a special radiolucent (x-ray friendly) table. This allows access to the central part of the hip joint. Traction is applied through foam padded boots and perineal (groin) post to protect the skin (Figure 3 over the page). The joint is identified under x-ray guidance by inserting either air or a contrast medium. Small skin incisions, approximately 5-10mm, are made with the scalpel, and then the telescope is inserted (usually up to 3 incisions).

Once inside, large volumes of fluid are pumped through the joint. The procedure itself will usually take between 30 - 120 minutes, depending on the complexity of what needs to be done.
Figure 3 - Boot for traction

During the procedure 3 things will be assessed/repaired:
1) the articular cartilage,
2) acetabular rim/labrum, and;
3) femoral head/neck.

Further x-ray imaging may be required during the operation.
During an operation for hip impingement your surgeon will attempt to reshape the junction between head and neck of the femur using a small mechanical resection device called a burr. Any excessive portion of acetabulum will be trimmed as well. Before and after surgery your surgeon will check the range of hip movement.

For labral tears, the torn edges will be smoothed using a shaver or radio-frequency (RF) emitting device that uses sound waves to remove damaged tissue. Sometimes the tear can be repaired with suture anchors in the bone.

For articular cartilage injuries the damaged tissue may be removed or smoothed down with a shaver or RF device. Certain types of defects are amenable to trying to regrow the cartilage using a technique known as micro-fracture. This treatment consists of making multiple small holes in the bone which will stimulate bleeding, clotting and formation of a fibro-cartilage scar to fill the defect.

A local anaesthetic or other medications may be introduced into the joint before closure to help control postoperative pain. Closure is usually performed with a few sutures and covered with simple sticky dressings. A larger bulky dressing is probably what you will see when you wake up however. Some thigh swelling will be noted postoperatively.

You will wake up in the recovery room where your vital signs and pain levels will be checked regularly and stabilised, before transfer back to the ward. When back on the ward, physiotherapists will review you and try to mobilise you out of bed. When you are safe on your feet and recovered from anaesthetic you will probably be
safe for discharge, this will usually be on the same day as your surgery.

**Postoperative period and follow-up**
Depending on your operation, for the first 2-6 weeks it is likely that you will be advised to mobilise with 2 crutches. Then a single crutch can be used until your follow-up appointment in the outpatient clinic. The pain felt is variable but will usually be controlled with paracetamol +/- codeine and ibuprofen. The discomfort or pain will most commonly be felt in your groin but may also be felt in your lower back, buttock, knee or even ankle. Swelling may also be present in the groin, buttock or thigh although this usually resolves within a few days. A small area of numbness is common around the incisions and is generally not a concern to most patients.

A formal wound check will be arranged at 2 weeks when the stitches will be removed and until that appointment it is recommended that you monitor your leg for any signs of early infection (i.e. redness, swelling, heat, and/or pain). It is normal for a small amount of fluid or blood to leak from the wound during the first few days.

At the 6 week appointment you will meet up with your surgeon again, at this time they will go through the findings and treatments provided during your procedure. Any non-urgent questions you may have can be addressed at this time. Further appointments will vary in their timing and number.

Outpatient physiotherapy will continue with a personalised rehabilitation program. They will monitor your progress and gradually advance the exercises. It is normal that low impact activities only will be advised during the first 2 - 3 months. The main goals for rehabilitation are to regain early range of movement and
joint stability, followed by strength and endurance. Most patients will be walking relatively pain free by the 8-12 week mark. Return to competitive sport can be attempted in 4-6 months (but may take up to a year).

Activities to avoid or limit in the first 6 weeks include: prolonged standing or walking on hard surfaces, heavy lifting or squatting. Your sitting position in chairs should be altered to achieve an upright position and prevent deep flexion of the hip (i.e. more than 90 degree angle of your hip). Try sleeping on your back or on the non-operated side with a pillow between your legs.

If the left hip was operated on, it is best to avoid driving a manual car during the first few weeks post procedure.

**Checklist of questions for your surgeon:**

What conditions will be treated?

How long will I be in hospital?
If English is not your first language and you need help, please contact the Ethnic Health Team on 0161 627 8770

For general enquiries please contact the Patient Advice and Liaison Service (PALS) on 0161 604 5897

For enquiries regarding clinic appointments, clinical care and treatment please contact 0161 624 0420 and the Switchboard Operator will put you through to the correct department / service

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