

Corin

Connected Orthopaedic Insight



Your Hip

A guide for patients



IMPORTANT: Please be aware that the information and guidance provided within this booklet is general in nature and should not be considered as medical advice in any way. You should always seek detailed advice from a qualified medical practitioner.

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Your hip

Hip pain can become a debilitating condition – not just physically but also psychologically. The restrictions or limitations it can place on your levels of activity not only take a physical toll, making it difficult to walk or sit down without pain, but the day-to-day effects of arthritis can also get you down mentally.

There are many treatments available to help alleviate the causes of hip pain. The information within this booklet is intended to act as a general guide to take you through the steps you can take to address your condition.

At Corin, in partnership with your surgeon, we strive to get you back on your feet and enjoying an active lifestyle as soon as possible. With our wide range of hip, knee and ankle implants, – our aim is to help restore your quality of life through our commitment to Responsible Innovation.

Your anatomy

The hip is one of the largest weightbearing joints in the body and consists of two main parts:

- *The ball (femoral head) at the top of your thigh bone (femur)*
- *The rounded socket (acetabulum) in your pelvis*

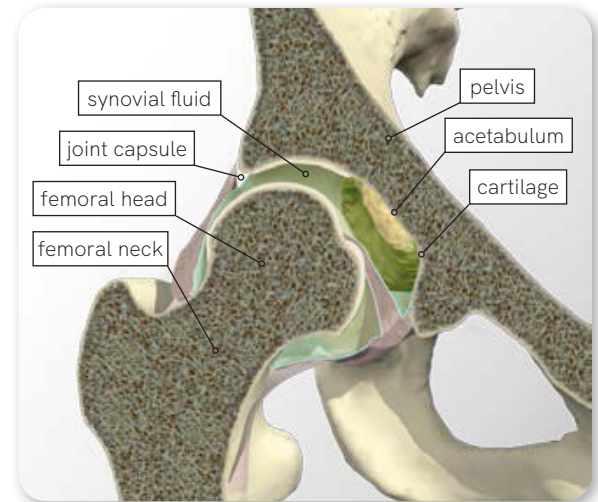
In a healthy joint, the hip allows rotation and movement of the upper leg from side to side and back to front, enabling a high level of pain-free mobility – walking, sitting, bending, turning, etc. Comprised of bones, muscles, ligaments, cartilage and tendons, each component must work harmoniously within a complex structural relationship in order to support the smooth and painless functioning of the joint.

The hip is a very stable joint – with the ball fitting into the rounded socket or cup-like cavity. Ligaments (tough chords of tissue) form a capsule connecting the ball to the socket, keeping the bones in position and helping to stabilise and control motion.

The surfaces of the ball and socket are covered by a smooth, tough material called articular cartilage, which cushions the bones and helps them to rotate more easily within the socket. Bursae, fluid-filled sacs, cushion the area where muscles or tendons glide across bone.

The rest of the surfaces of the hip joint are covered by a thin, smooth tissue liner called synovial membrane. This secretes a small amount of synovial fluid which lubricates the joint, further reducing friction and facilitating movement.

Normal body movements rely on joints working smoothly and without pain – maintaining maximum joint function allows us to enjoy an active and fulfilling life.



Understanding arthritis

The hip is one of the most stressed joints in our body (although one which we often take for granted). It is in constant use in everyday movements such as walking, sitting, turning and even driving a car. As soon as the joint starts to stiffen or to cause pain, it becomes evident just how much we rely on it. The pain can become worse if you try to avoid using the joint, as the muscles become weak, making movement more difficult.

Injury or disease can damage your hip in several ways, resulting in a broken or deteriorated bone, irritated bursae or worn cartilage. The most common type of joint pain is arthritis, although there are other conditions which can also cause pain or discomfort in this area.

Arthritis of the hip

The most prominent symptom of hip arthritis is pain. Most patients think that their hip is in the region of the buttocks and are surprised to learn that true hip pain is most commonly experienced in the groin. The pain can radiate down the front of the thigh for a few inches as well. Occasionally it goes all the way down the thigh to the knee – this is because the hip and knee have an overlapping nerve supply.

Most patients with significant hip disease have a limp and one leg may feel shorter than the other. Bone-on-bone contact means that you may occasionally feel or hear the hip creaking during walking. As the disease progresses, the hip becomes stiff and less movement is possible – eventually you may have to take a break after walking only a short distance. The distance you can walk may gradually decrease until you can only take one or two steps at a time.





Osteoarthritis (OA)

Osteoarthritis is the wearing-out or erosion of a joint arising from the wearing away of cartilage. Without this protection, the bones rub together causing severe pain and stiffness.

Patients who have early-stage osteoarthritis often notice pain at the beginning of a movement or during the first few minutes of exercise before the joints are given a chance to warm up. Once activity gets underway, the pain usually diminishes, although it is likely to increase again after resting for several minutes. As the condition worsens, pain may be present even at rest. Symptoms are generally aggravated even further in cold or wet weather conditions. Approximately 50 percent of people over the age of 35 display early signs of the disease.

Rheumatoid arthritis (RA)

Rheumatoid arthritis is a condition where the body's immune system attacks the joints causing inflammation and pain. The synovium (lining of the joints) swells and joints become stiff and harder to move, especially early in the morning.

Sometimes lumps can appear under the skin near the joints (called rheumatoid nodules). Over time, muscles around the joint waste away, as well as cartilage and bone, leaving only fibrous scar tissue. There is no known cure for RA, although various treatments can help ease symptoms.

Post-traumatic arthritis

Post-traumatic arthritis can occur after an injury to the joint, such as a fracture, causing damage to the articular cartilage.

Sometimes the damaged cartilage needs to be surgically removed or it wears away naturally. Once it is removed, it is replaced by scar tissue which is not as effective in carrying weight or allowing the joint to function smoothly. Symptoms can include swelling, pain, tenderness, joint instability and internal bleeding.

Other causes of hip pain

There are a range of other conditions which can also be responsible for causing pain in the hip joint.

Developmental dysplasia of the hip (DDH)

DDH is a congenital (present at birth) condition of the hip joint, occurring once in every 1,000 births. The hip joint is created as a ball and socket. In DDH the hip socket may be shallow, letting the ball of the thigh bone slip in and either partially or completely out of the socket.

Slipped upper femoral epiphysis

This is a condition involving the end of the femur (thigh bone), where the epiphyseal plate (growth plate) weakens and the head of the femur (ball) slips downwards and backwards.

Perthes disease

Perthes disease is a degenerative disease of the hip joint which affects the head of the femur during childhood; it affects around 1 in every 20,000 children. The blood supply to the growth plate of the bone becomes inadequate and results in the bone softening and breaking down, a process called necrosis. This can lead to the head of the femur being deformed or flattened. The effects of the disease can continue into adulthood and cause osteoarthritis.

Avascular necrosis (AVN)

Avascular necrosis is a disease where there is cellular death (necrosis) of bone components due to interruption of the blood supply. Without blood, the bone tissue dies and the bone collapses. If avascular necrosis involves the bones of a joint, it often leads to destruction of the joint articular surfaces.

Soft tissue injury

This can be caused by direct or indirect trauma. Direct trauma can occur from a sporting or other type of accident; indirect trauma can arise from overuse of the tissue. Soft tissue injuries include ligament sprains, tendon strains, repetitive stress injury and carpal tunnel syndrome.

Bursitis

This is the inflammation of one or more bursae (small sacs of synovial fluid) inside the joint. Healthy bursae cushion the area where muscles or tendons glide across bone. When they become inflamed, movement becomes painful and difficult. Movement of tendons and muscles over the inflamed bursae causes further aggravation, perpetuating the problem.

Hip sprain

Such problems can occur where the ligaments supporting the hip joint have been stretched or torn, causing pain and restricting movement. If a muscle is overstretched or suffers a hard blow, this can cause the muscle's tissue to tear. Old age, prior injury and failing to warm-up properly before exercise can increase the risk. Swelling and bruising are common symptoms, although there are many degrees of severity.

Femoroacetabular impingement (FAI)

FAI affects the hip joint in young and middle-aged adults. It can occur when the ball shaped femoral head is misshapen and doesn't have full range of motion inside the acetabular socket, causing damage to the cartilage inside the joint.

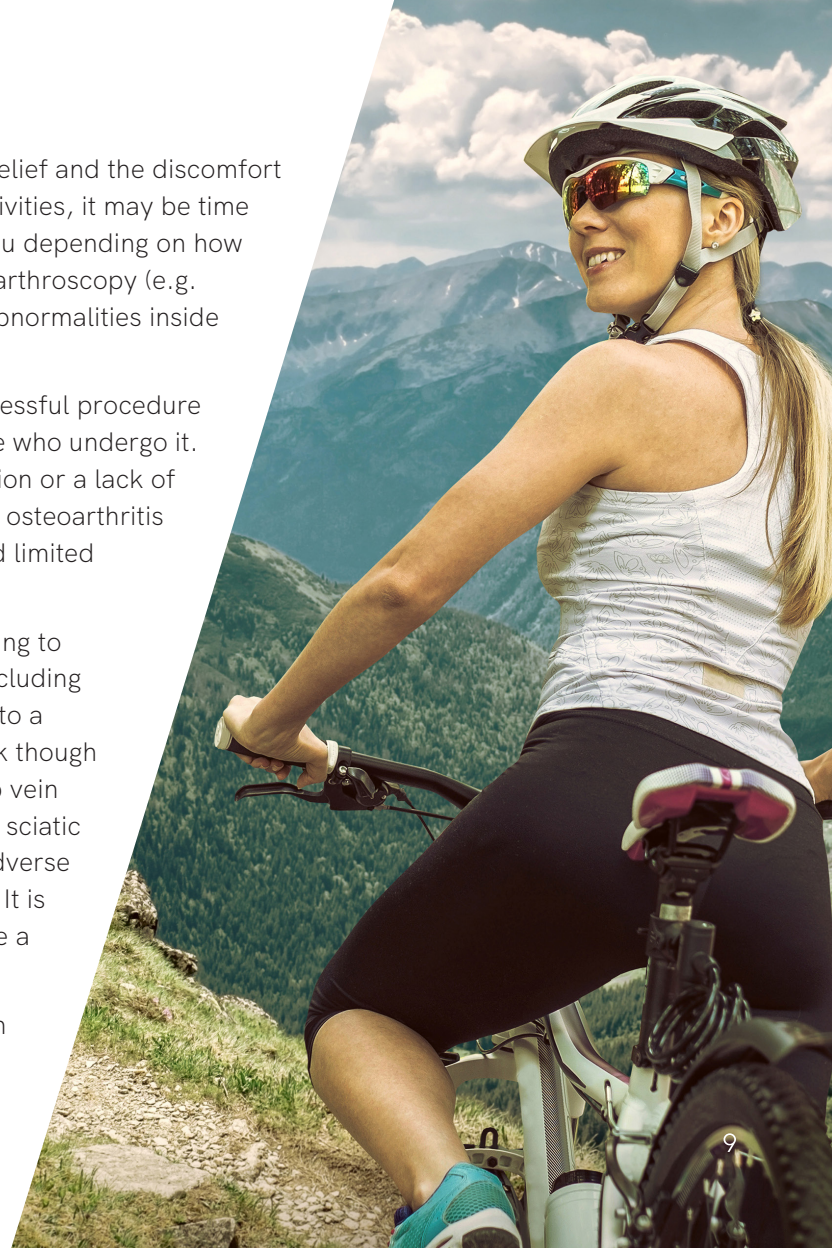
Surgical treatments

When non-surgical treatments no longer offer sufficient pain relief and the discomfort and disability are having very serious effects on your daily activities, it may be time to consider surgery. Alternative operations are available to you depending on how badly your hip joint is damaged or worn. Treatments include arthroscopy (e.g. keyhole surgery to clear away loose tissue or resculpt bone abnormalities inside the joint) or traditional hip replacement.

Hip replacement surgery has been demonstrated to be a successful procedure for many patients and may bring long-term benefits for people who undergo it. Some people delay surgery however due to fear, misinformation or a lack of awareness about their treatment options. There is no cure for osteoarthritis though and it is also degenerative - meaning that any pain and limited mobility are likely to get worse over time.

It is important to weigh up the risks and benefits before deciding to proceed with surgery. Potential benefits may be significant, including the removal of pain, an improvement in mobility and a return to a more active lifestyle. All surgery involves some element of risk though and complications can occur, e.g. pulmonary embolism, deep vein thrombosis (DVT), infection, leg length discrepancy, fractures, sciatic nerve injury, vascular injury, dislocation, bony in-growth or adverse reactions to debris caused from implant wear inside the joint. It is important to discuss these with your surgeon before you make a decision.

Always remember that you, the patient, have the final decision on whether to go ahead if hip surgery is offered.





Hip replacement

Total hip replacement (THR) consists of a surgical procedure in which parts of an arthritic or damaged joint are removed and replaced. The resultant artificial joint is designed to move just like a healthy hip.

In a THR, the head of the femur (thigh bone) and the acetabulum (hip socket) are both replaced. The metal stem of the new hip is implanted into the damaged portion of the femur. The femoral head is replaced with an artificial ball (typically made of metal or ceramic) at the top of the femur, attached to the metal stem. The hip socket (into which the ball fits) is covered with an artificial liner made of ceramic or polyethylene (a durable, wear-resistant plastic), backed with a metal shell. These surfaces are known as 'bearings'. The liner allows for smooth and painless movement of the ball in the socket.

The artificial joint may be cemented in position or press-fit securely in place without cement. The length of stem used in THR can also vary from traditional, longer stems to the shorter, more bone conserving stems which we are also seeing today.

THR has been demonstrated to be a successful procedure. It is commonplace in terms of the numbers of operations carried out and as reported by the National Joint Registry (NJR)¹, around 65,000 hip replacements are conducted in the UK each year - around 200 every working day.

Before your operation

Organising surgery

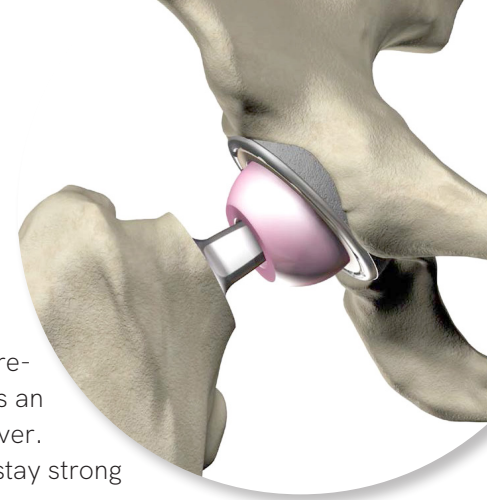
It is important to understand what to expect at your operation and what you need to do beforehand to ensure that you are prepared when the time comes. You will initially be referred to an orthopaedic surgeon who will assess you and discuss whether surgery is an appropriate treatment option. If so, you will also discuss which implant is the most suitable. Once your operation is scheduled, you will probably be asked to attend the hospital for a pre-operative assessment some weeks before. Remaining active while waiting for your surgery is an important key to success – the stronger and more flexible you are, the quicker you will recover. Gentle movements such as walking, range of motion exercises and swimming can help you stay strong and flexible. Seek your doctor’s advice before beginning any exercise.

If you are a smoker, you should try and give up at least six weeks before to help reduce the risk of complications. All infections should be cleared up prior to surgery to prevent infection from spreading and affecting your new joint. You must say if you suspect you have an infection, as your surgery may need to be rescheduled. Finally, commit to the success of your surgery – you, your physician, the physiotherapist and your family must work together as a team, adopting a positive attitude and gaining a clear understanding of the common goals and expectations of the procedure.

Two weeks before

You may be invited to attend a preassessment clinic so that your surgeon can determine your suitability for surgery. A detailed assessment will be carried out and full medical history taken. Various physical examinations will be undertaken such as heart monitoring, X-rays and blood and urine samples to ensure that you are sufficiently healthy. You may be asked to bring details of any medications you are taking to this meeting – take along a list or the packaging.

You will be given advice on anything you can do to prepare for surgery and will be asked about your home circumstances so that your discharge from hospital may be planned. If you live alone, have a caregiver or feel you need extra support, tell the team so that help can be arranged before you go into hospital. For patients in the UK, you may also be asked if you are willing for details of your operation to be entered into the National Joint Registry (NJR) database. The NJR collects data on hip and knee replacements in order to monitor the performance of joint implants. Use this session to discuss any further concerns you may have about your surgery, preparations beforehand or recovery afterwards.



Preparing for your operation

There are a number of things you can do beforehand to prepare for your operation to make your stay in hospital and your return home go as smoothly as possible:

- *Take responsibility for finding out as much as you can about what your operation involves – there is a wealth of information on the internet (see 'Further resources' at the end of this booklet) or ask your hospital what leaflets or videos they may have that you could look at.*
- *Ensure you arrange transport back from the hospital as you will not be allowed to drive yourself home; line up a friend or relative to help you at home for a week or two.*
- *Make simple preparations around the home to make the transition as easy as possible – before you leave, put your TV remote control, radio, telephone, medications, tissues, address book and a glass on a table next to where you will spend most of your time when you come out of hospital.*
- *Stock up on food that is easy to prepare such as frozen meals, cans and staples such as rice and pasta.*
- *Before leaving home, have a long bath or shower, cut your nails (remove any nail polish), wash your hair and put on freshly washed clothes. This helps prevent unwanted bacteria coming into hospital with you and complicating your care.*

The day before

You will normally be admitted to hospital the day prior to surgery. This gives you the chance to familiarise yourself with your surroundings and allows the professional team to settle you in. At this time you may expect the following to happen:

- *A member of the nursing staff will show you around the ward.*
- *You will be given an ID bracelet and should be asked if you have any known allergies. If this is the case, you will be given an additional red bracelet which alerts the rest of the team to this.*

- *Blood will be taken to confirm your blood type for cross-match purposes if necessary, and to ensure your haemoglobin levels are satisfactory.*
- *You may be measured for a pair of surgical stockings to wear after the operation (these will be put on by the nursing staff) to help reduce the risk of blood clots.*
- *The physiotherapist may visit and discuss a post-operative exercise programme to mobilise you as soon as possible after surgery.*
- *The anaesthetist will visit you to discuss the anaesthetic. He/she will enquire about your general health, whether or not you are a smoker, whether you currently have any prostheses, wear contact lenses or have any dental crowns.*
- *A member of the nursing staff will talk you through the operation and what to expect before and after. He/she will advise you not to eat anything for six hours prior to surgery; however, you may be permitted water and certain clear fluids.*
- *You will be given a consent form to sign. This shows you understand the procedure and are in full agreement for the consultant to proceed.*
- *A member of the operating team may visit to mark up the leg which is to be operated on.*





The anaesthetic

The procedure you will undergo will consist of the anaesthetic and the actual operation. You will not be permitted anything to eat or drink for approximately six hours before your operation.

Ward staff will help you to take a bath or shower and put on a surgical gown. You will also have to remove make-up, nail polish or jewellery (it is advisable to leave valuables at home). If you wear glasses or false teeth, these can be removed in the anaesthesia room if you wish.

Your anaesthetist will already have been to see you to go through the process, probably the day before. You will be taken from the ward to the operating theatre and, before going into theatre, you will be taken into the anaesthesia room, accompanied by a theatre nurse. You will be asked a number of questions from a checklist which you will already have answered – this procedure is therefore purely a double-check.

Three sticky patches are applied to the chest area which allow the heart to be monitored during surgery. A small plastic tube is inserted into a vein, usually at the back of the hand. This is taped in place and is the route through which all necessary drugs will be injected.

You will be given either a general anaesthetic where you will be sent to sleep, or a local anaesthetic. With the latter kind you will remain conscious throughout the procedure although a screen will be erected so that you won't be able to see the actual operation. Which type of anaesthesia you receive depends on your situation as well as your surgeon's and anaesthetist's recommendations – discuss this with them beforehand if you have any concerns regarding this.

With a general anaesthetic, once the sedative is injected, which normally feels slightly cold, you will begin to feel drowsy. You may be asked to count backwards from ten – invariably you will be asleep well before you reach the number one. You may also be given a local anaesthetic to supplement the main general anaesthetic, for additional pain relief.

Once asleep, the anaesthetic team begin their work. You may be intubated – whereby a tube will be passed down your throat, allowing oxygen and other gases to be pumped into the lungs. You may also be catheterised, enabling kidney function to be monitored during surgery. The catheter may be left in place for approximately 24 hours after surgery, removing the need to get up and empty the bladder. Once these processes have been completed satisfactorily, you are ready for surgery.

The operation

The length of surgery may vary. It is purely surgeon preference regarding the surgical approach used, but you will be placed either on your side or on your back during the operation.

The leg being operated on will be scrubbed with an antiseptic solution and your whole body covered in sterile drapes. Once ready to start, the surgeon will make an initial cut along the hip. Once he/she has full sight of the hip joint, the leg is rotated until the femoral head is dislocated from the socket of the pelvis.

The upper part of the thigh bone (femur) is removed and the natural socket for the head of the femur (the acetabulum) is hollowed out. The replacement socket is fitted into the hollow in the pelvis. A short, angled metal shaft, with a smooth ball on its upper end (which fits into the socket) is placed into the hollow of the femur. The cup and the artificial bone head may be pressed into place or fixed with bone cement. Finally, the layers of tissue are stitched or clipped back together and dressings are applied to the wound.

Recovery and rehabilitation

Immediately after your operation

To manage your own expectations about how quickly you will be 'back on your feet', it is important to understand what will happen both immediately after your surgery and in the months that follow. When you leave the operating theatre, you will usually have an intravenous drip in your arm for fluids and any necessary drugs. You may also have two suction drains coming from your hip – plastic tubes inserted into the area where the operation was carried out, to drain away fluids produced as the body heals.

You will be taken to a recovery room where you will remain until you are fully awake and the doctors are happy that your condition is stable. At this point you will be taken back to the ward where you will receive painkillers as the anaesthetic starts to wear off. The drip and drains are usually removed within 24-48 hours, after which time you may be able to start walking again – initially with a frame and then with crutches or a stick.

Physiotherapy and occupational therapy

You will see the physiotherapist during your hospital stay and he/she will help you to get moving again, also advising on exercises to strengthen your muscles. You will receive guidance on the standard 'dos and don'ts' following hip surgery – for example, how to get in and out of bed, climb stairs, use the shower, etc. It is very important that you follow this advice to minimise the potential of dislocating your new hip.

The exercises recommended by your physiotherapist are a crucial part of your recovery, so it is essential that you continue to do them. There are certain movements that you should not do during early recovery (such as bending your hip more than a right angle) – your physiotherapist will give you further advice and tips to protect your new joint.

The occupational therapist will provide information on whether you need any help at home and offer advice on how to maintain independence in your daily life. He/she will assess how physically capable you are and assess your circumstances at home when you are about to leave hospital – they may also be able to provide specialised devices to help around the home.

The first few weeks

Leaving the hospital

It is quite natural to feel apprehensive after your surgery and you should make sure that you have been given full instructions about post-operative recovery. The postoperative regime, including whether you should use walking aids or how soon you can fully bear weight on the operated hip varies from surgeon to surgeon. How quickly you return to 'normal' will depend on the individual - your age, overall state of health, muscle strength, etc.

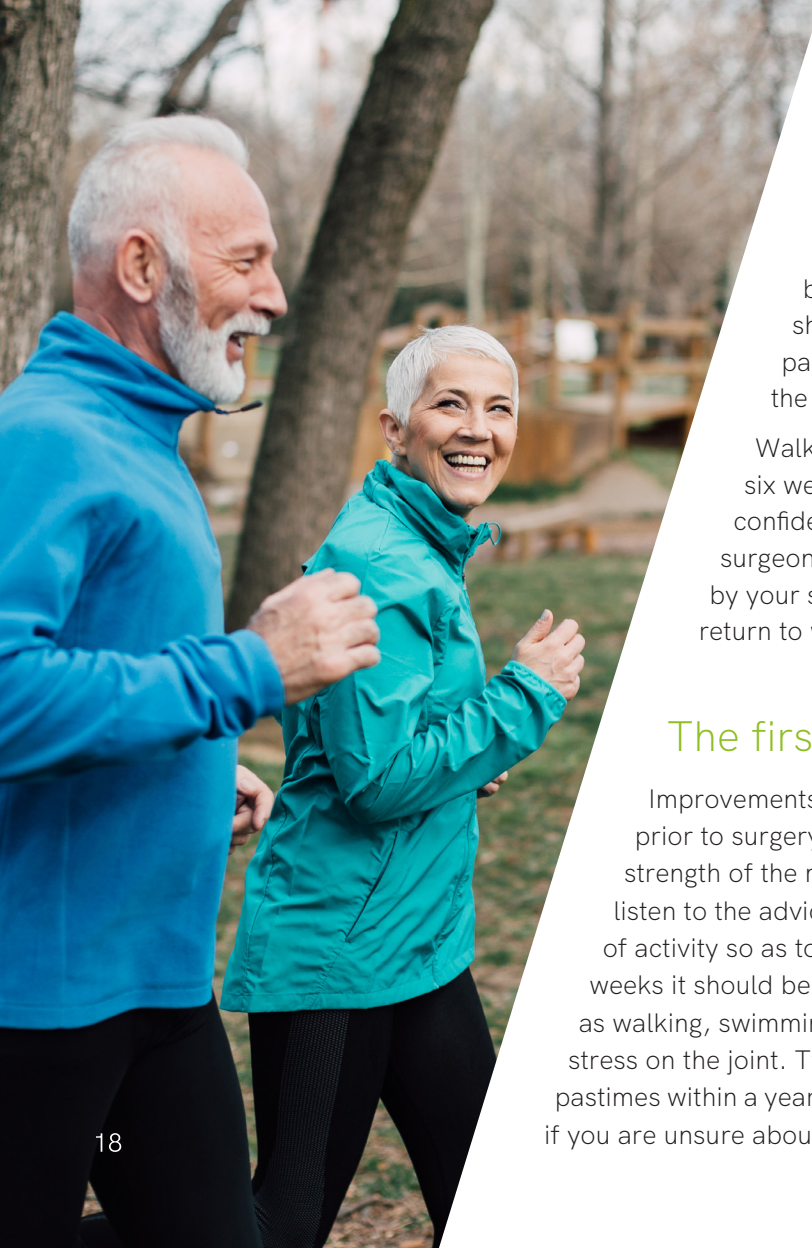
Before you leave, you will be given an appointment for the outpatients clinic. This appointment is a routine check-up to ensure that you are making satisfactory progress. It is likely that you will also be offered physiotherapy to aid in your rehabilitation and improve your recovery time.

The first few weeks

Once you return home, you may need to continue to take your painkillers if this is advised by your surgeon. You may also be advised to continue to wear compression stockings that you will have been given for a further few weeks. These can be difficult to put on and take off, so you may need someone to help you with this.

Some patients experience swelling of the thigh on the operated side, but this usually disappears quite quickly. A few patients may experience clicking or other sounds from their new hip, but this rarely causes serious problems and usually disappears after a few months.





You must take great care during the first eight to twelve weeks to avoid potentially dislocating your new hip – you must be patient and not try to test your new joint to see how far it will go. Initially you will tire more easily, not least because there will continue to be traces of anaesthesia in your body for some time. Set aside a rest period each afternoon. You should contact your doctor immediately in the case of any undue pain, severe redness around the operation site or drainage from the wound.

Walking without the aid of a stick is often possible from four to six weeks after surgery – although this will be determined by your confidence and progress and you should follow the advice of your surgeon or physiotherapist. Your return to driving will be determined by your surgeon which may be as much as six to twelve weeks. Your return to work will also be determined by your surgeon.

The first year

Improvements can continue for a year or more, depending on your condition prior to surgery. It is important that you take regular exercise to build up the strength of the muscles around your new hip. However, it is essential that you listen to the advice of your physiotherapist as to the suitability of different forms of activity so as to avoid damaging or dislocating the new joint. By around 12 weeks it should be possible to resume low impact, weight-bearing activities such as walking, swimming, golf or gentle cycling. Avoid rigorous sports that put undue stress on the joint. Typically you will be able to return to almost all previous normal pastimes within a year of your operation. Ask your physiotherapist, doctor or surgeon if you are unsure about the suitability of any activity.

Further resources

For more information go to **www.coringroup.com**. You may also find the following websites helpful in continuing your research:

Association of Anaesthetists of Great Britain and Ireland - www.aagbi.org

American Academy of Orthopaedic Surgeons - www.aaos.org

Arthritis Research Campaign - www.arc.org.uk

Arthritis Foundation - www.arthritis.org

Arthritis Care - www.arthritiscare.org.uk

Australian Orthopaedic Association - www.aoa.org.au

British Orthopaedic Association - www.boa.ac.uk

Joint Action - www.jointaction.org.uk

National Institute for Clinical Excellence - www.nice.org.uk

National Joint Registry - www.njrcentre.org.uk

Pain Concern - www.painconcern.org.uk

Royal Association for Disability & Rehabilitation - www.radar.org.uk

The European Society of Regional Anaesthesia and Pain Therapy - www.esraeurope.org

Royal College of Anaesthetists - www.rcoa.ac.uk

These organizations above are independent of Corin Group PLC. Corin does not recommend any service or product you may find on these sites and does not guarantee the accuracy of information.

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