

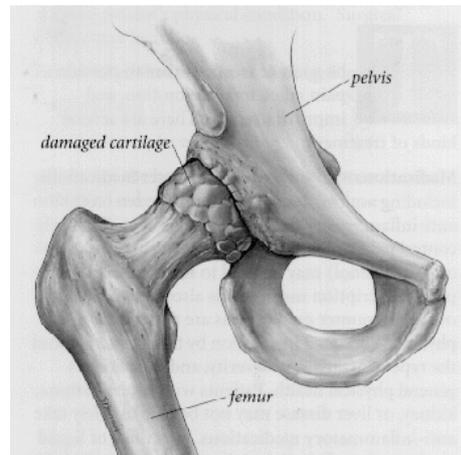
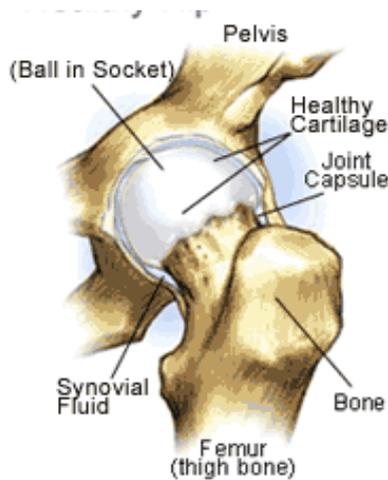
TOTAL HIP REPLACEMENT

WHAT IS A HIP REPLACEMENT?

Total hip replacement, although dating back to the 1940's, was advanced by the British in the 1960's. The aim of the operation is to replace the head of the femur (ball) and the acetabulum (socket) with a man made device (prosthesis). The femoral component goes into the femoral canal and has a ball attached to the top. The acetabular component goes in to the socket in the pelvis and a liner is inserted into this. These devices are combinations of metal and plastic or ceramic. They are fixed to the bone either using bone cement or by using a prosthesis with a rough surface, which relies on your bone growing on to the implant for long term stability.

Total hip replacement is not a complete solution to the problem as they can become loose with time. Choice of prosthesis depends on bone quality, anatomy and surgeon preference.

HIP ANATOMY



The hip joint is composed of a ball and socket joint. The femoral head (ball) is the top of the femur (thigh bone) and the acetabulum (part of the pelvis) is the socket. These surfaces are both covered by articular cartilage, which is a specialised lining allowing smooth pain free motion of the joint. Damage to this lining results in arthritis.

The joint is lined by a specialised synovial layer, which secretes fluid helping with lubrication. Inflammation of this layer is called inflammatory arthritis the most common of which is rheumatoid arthritis.

The labrum is a specialised structure adding to stability of the joint. Damage to this structure can result in catching and pain in the joint. The capsule surrounds the synovium stabilising the joint.

WHAT CAUSES A PAINFUL HIP?

When one or more parts of the hip are damaged it can become painful and movement becomes restricted. Over time cartilage (the smooth covering at the ends of the bone in the joint) starts to crack or wear away. When this happens, the bones making up the joint rub together. No matter what age you are, a hip problem may keep you from activities you enjoy.

- **Osteoarthritis**

As you get older the hip can wear out through overuse, obesity or heavy manual labor. As time goes by, normal wear and tear can add up. Cartilage may begin to wear away (osteoarthritis). As the bones rub together they become rough and pitted. This narrows the space in the joint.

- **Inflammatory Arthritis**

This is a group of conditions where the lining of the joint becomes inflamed and secretes material that destroys the joint cartilage. In these conditions more than one joint is usually affected. The joints are hot, swollen and painful and deformity is common.

- **Avascular Necrosis**

This can occur for no reason (idiopathic), following a bad injury (fracture) or can be secondary to a number of conditions such as long-term use of alcohol or steroids. It is due to loss of blood supply to the bone. If the bone dies (necrosis), the joint will become arthritic. This pain often comes on quite suddenly and may increase rapidly. This can happen at any age but is particularly common in young adults. There are many other causes of this condition but they are rare.

- **Fracture**

A bad fall or blow to the hip can break (fracture) the bone. If the broken bone does not heal properly the joint may slowly wear down. Fracture can also cause avascular necrosis.

- **Childhood Hip Problems**

Occasionally hip pain results from a problem, which may have started in childhood. These include conditions such as a poorly formed hip joint (dysplasia or congenital dislocation of the hip), infection (of the hip joint), problems with blood supply to the hip (Perthe's disease), or trauma.

- **Infection**

Infection can destroy the cartilage lining leading to osteoarthritis.

- **Other causes**

- A bad injury that did not heal properly.
- A chronic illness such as kidney failure.
- Long term exposure to sports.
- Heavy manual labor.
- Other rare diseases affecting bones or soft tissues can also cause severe pain in the hip and may lead to arthritis.

WHAT ARE THE BENEFITS OF HIP REPLACEMENT?

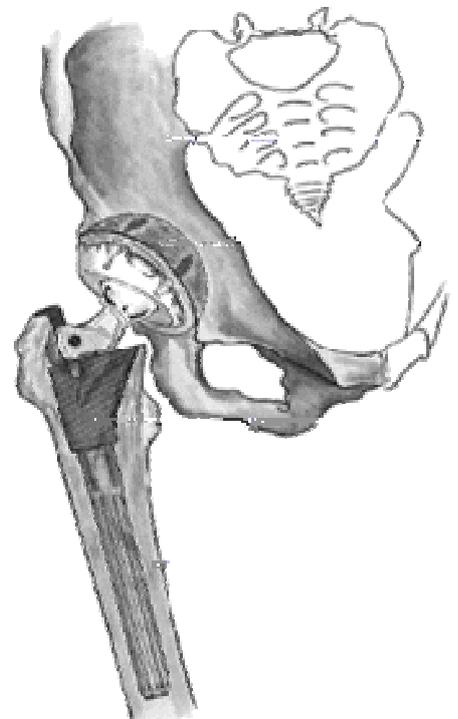
You do not have to live with a painful hip for the rest of your life. During this surgery your problem hip joint is replaced with an artificial joint (a prosthesis). After a total hip replacement, you can look forward to moving more easily and without pain. Most people gain all the following benefits...

- Eliminates or greatly reduces hip pain. Even the pain from surgery should go away within weeks.
- Improves quality of life by allowing you to do activities of daily living and low impact activities in greater comfort.
- Enables you to sleep without pain.
- Provides years of reliable function.

ARTHRITIC HIP



ARTIFICIAL HIP REPLACEMENT



INDICATIONS

When you have arthritis on your x-ray, pain and stiffness from your hip joint can cause...

- Severe disability.
- Stops you or makes it difficult to perform your job.
- Interferes with your leisure activities.
- Interferes with your walking or mobility .
- Causes difficulty putting on your shoes and socks.
- Wakes you at night despite non operative treatment such as drugs.
- When conservative treatment such as analgesia, anti-inflammatories, weight loss, physiotherapy and aids like crutches or a cane has failed.

Remember it is an elective procedure and should only be performed when you are no longer prepared to put up with your pain and disability and understand the benefits versus the risks involved.

PRE –OP INSTRUCTIONS

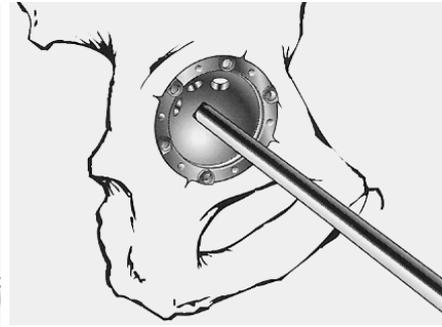
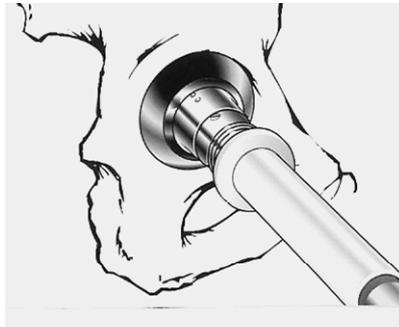
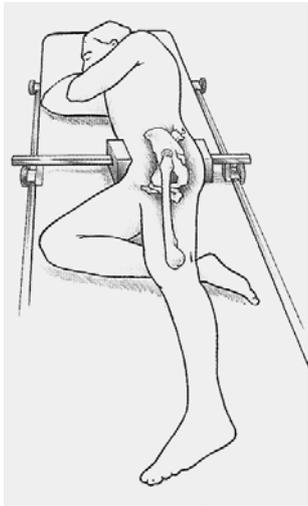
You will be required to attend a pre admission clinic. At this clinic the following will be attended...

- **BLOOD TESTS** - You will have simple blood tests to make sure your blood count is normal and you have no other major medical problems.
- **ECG** – A Cardiograph of your heart will be taken to make sure you have no underlying cardiac problems.
- **X-RAYS** – You may be required to get new x-rays of your hip.
- **URINE SAMPLE** – A urine sample is required to make sure you do not have a urinary tract infection. If an infection is found, it can be treated with simple antibiotics prior to surgery.
- **INFORMATION** – hopefully everything you need to know about what to do before, during and after your stay in hospital will be discussed at length at this clinic.
- Cease aspirin and anti-inflammatory medications (e.g. voltaren, feldene) 10 days prior to surgery as they can cause bleeding.
- Cease any naturopathic or herbal medications 10 days before surgery as these can also cause bleeding.
- Continue with all other medications unless otherwise specified.
- Notify me if you have any abrasions or pimples around the hip.
- **You are advised to stop smoking for as long as possible prior to surgery.**

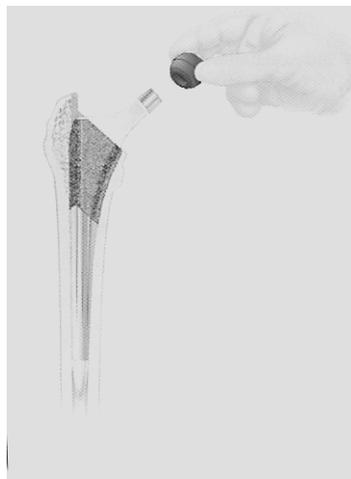
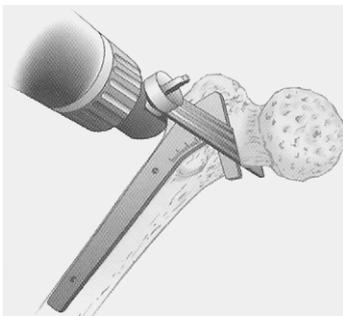
PROCEDURE

- The Anesthetist will see you before the surgery. They will discuss with you then if they are going to do a spinal, epidural or general anaesthetic.
- You will then be taken to the operating theatre.
- A urinary catheter will be placed in your bladder to measure your fluid balance during and after surgery.
- A cut is made in the skin and underlying tissues to expose the hip.
- The hip joint is dislocated and the femoral head (ball) cut off.
- Special instruments are used to make very accurate cuts in the bone to fit the prosthesis.
- Trial components are put in first to make sure everything fits properly.
- The bone is then cleaned to remove debris.
- The real components are then inserted.
- Drains are usually inserted.
- The wound is then carefully closed in layers the last being the skin.
- A dressing is applied and you are taken to recovery.

PREPARATION OF SOCKET (ACETABULUM)



PREPARATION OF FEMUR



POST – OP

- Your hip will have an adhesive dressing on it.
- You will have a large triangular shaped pillow between your legs.
- Your fluid input and output is measured carefully. A drip in the arm will be used to give you fluid, or blood and antibiotics.
- Pain is normal after the operation but if your pain is not reduced be sure to tell the nurse. Pain medication may be injected into a muscle or delivered by IV into the blood stream.
- **Patient Controlled Analgesia (PCA)** allows you to control your own pain medication. When you push a button pain medication is pumped through an IV line. PCA pumps can provide a steady level of pain relief and with they're built in safety features you will be assured that you will not get too much medication.
- The drip, drains and catheter are removed at approximately 24 hours after surgery.
- Blood will be taken 24 to 48 hours after the operation to check your haemoglobin and blood chemicals.
- Your exercise regime will begin as soon as you are capable and this will continue during your stay in hospital and once you are at home. A physiotherapist will supervise this.
- You will be discharged 5-7 days post operatively depending on your progress. In most cases you will be sent to a rehabilitation center before you go home to have hydrotherapy and physiotherapy.
- Sutures are usually dissolvable but if not are removed at about 10 days.

RECOVERY

- When you leave hospital you will probably still require tablets for pain but no injections. Wean your medications down to Panadol as soon as possible.
- It is best to avoid anti-inflammatory if you have arthritis elsewhere for one week to avoid any possible bleeding.
- You should sleep with a pillow between your legs for 6 weeks to avoid possible dislocation.
- You lose 60 to 80 percent of your pain by six weeks and 95 percent of your pain by twelve weeks. By twelve weeks you can usually walk as far as you want to.
- People usually can return to work somewhere from eight to twelve weeks. Heavy manual work may take longer. Normally by three months you can play sports like golf, bowls, stationary bike ride, bush walk, doubles tennis and swim.

COMPLICATIONS

Specific to Total Hip Replacement

- **Infection**

One of the risks after total hip replacement is infection. Infection may be superficial (i.e. in the skin) or deep (around the prosthesis). Infection rates are in the order of 1%. If you do get an infection it will be treated aggressively with antibiotics, but occasionally, re-operation is necessary to clean out the infected material. In very rare circumstances, sometimes the hip replacement is removed and another one put in at a later time, six to eight weeks later when the infection has cleared up.

- **Fracture (break) of the Femur or Pelvis**

This may occur during surgery and may at times not be recognised. It may require more extensive surgery during the operation and very occasionally re-operation a few days later. If the bones do crack or break, sometimes you are required to stay in traction or in bed for several weeks post operation (this is very rare).

- **Damage to nerves or blood vessels**

During the operation, nerves or blood vessels may be damaged. These may be repaired at the time if recognised but may require a second operation to explore or repair any damage. It is very rare that a damaged nerve does not recover on its own. If a damaged nerve does not recover it can lead to poor function of the leg below the joint replacement such as a foot that does not work properly due to weakness or sensory loss.

- **Blood Clots (Deep venous thrombosis or pulmonary embolus)**

Blood clots can form in the calf muscles and they can travel to the lung. These can occasionally be serious and even life threatening. These blood clots will be treated immediately and every measure is taken to avoid these occurring. Occasionally, instead of blood, fat can go to the lungs, which may cause temporary shortness of breath this usually passes off without any of the aggressive treatment mentioned above.

- **Wound Irritation or Breakdown**

The operative scar will always cut some skin nerves so you will have numbness around the wound. This does not affect the function of your joint but may be irritating to you over the short to medium term. Eventually this numb feeling improves slightly and does not worry most people. Occasionally, instead of a numb sensation you will have burning or a hypersensitive sensation in the wound. This usually settles down over many months but occasionally can be long term and troublesome. Occasionally there is some aching around the scar for many months, which can become worse in cold weather but this usually is nowhere near as uncomfortable as the pain you had before the operation.

Wound breakdown is rare, but if it does occur, it may require surgery to repair it. You can also get a reaction to the sutures used, causing a stitch abscess, this usually appears as a small pimple on your scar. They can usually be treated with an antiseptic dressing but occasionally require a short course of antibiotics.

- **Trochanteric Bursitis**

It is not uncommon after total hip replacement to get inflammation where the muscles pass over the trochanter (the prominent part of the femur bone, just adjacent to the hip). This is called trochanteric bursitis and usually improves over time as your limp improves. Occasionally injections are given into the painful area and usually this condition cures itself. Occasionally people can have long-term discomfort in this area.

- **Dislocation**

After the operation, the new hip may dislocate. This means the ball pops out of the socket. This usually occurs in the first 6 to 8 weeks when the capsule around the hip has not reformed and your muscles are weak. Dislocation rates from 2 to 4 % have been recorded in the literature. If the hip dislocates this is usually relocated under general anaesthetic without a cut needing to be made in the skin. It is rare for the hip to continue dislocating but occasionally further surgery is required to make an adjustment to one of the components or to make the hip tighter by lengthening the leg.

- **Leg Length Inequality**

When total hip replacement is performed there are two major issues, which need to be addressed...

- First the hip has to be stable.
- Secondly, we try not to lengthen the leg.

It is very difficult to make the leg exactly the same length as the other one. Occasionally we need to deliberately lengthen the leg to make it more stable (i.e. prevent it from dislocating). A dislocating hip is a far greater disability than a leg length inequality. 30% of the normal population has a 1cm leg length inequality without having had any surgery or disease. In general most patients (80%) have equal leg lengths after surgery. Approximately 15% are less than 1cm long and about 5% are 1cm or more longer, but again this may be necessary to make the hip stable at the time of surgery. Occasionally, because you may have arthritis or deformity of the other leg it is impossible to match your leg lengths.

Some people have other causes for leg length inequality after total hip replacement. They may have a pelvis that is tilted abnormally due to spinal problems or previous injuries or growth abnormalities in the lower limbs that were present before the surgery. Some spinal abnormalities can also cause postoperative leg length inequality that may not have been apparent before surgery. All leg length inequalities can be treated by a simple shoe raise on the shorter side. If you want a guarantee of equal leg lengths then you may want to reconsider having the surgery done at all.

- **Wear**

The long-term complication of total hip replacement is wearing of the ball and socket. The ball and socket joint is like a tyre and if you are hard on the joint, such as someone who does heavy manual labor, plays a pounding sport like jogging or is very overweight, it will wear out faster than a more sedentary person.

Conventional hip replacements have about an 80 to 90 percent fifteen-year survival. There are a large number of factors, which affect the survival rate.

Continual improvements in technology make these components more likely to last for a longer period of time. It is our belief that the hip replacements of today will function better and last longer than those in the past but we won't know this for another 10 years.

If there is significant wear in the joint then the liner may need to be replaced. Wear can sometimes causes loosening of the joint and the whole joint may then need replacing. This is why we need to follow you up forever. We need to assess your x-ray every few years to make sure that nothing worrying is occurring in the knee joint before you get symptoms.

It is extremely important that you do not lose contact with your surgeon during the life of your knee replacement and if you move away from Sydney you should consider talking to your surgeon to recommend a surgeon in another part of Australia.

- **Osteolysis**

This means part of the bone is reabsorbed or disappears. This is a result of small wear articles setting up a reaction in the body causing this bone reabsorbtion. Occasionally we may recommend you have a procedure to change the liner (bearing surface) or bone graft these defects before they become major problems.

- **Limp**

This is usually temporary and usually improves over a twelve month period. It is a result of muscle weakness. It can however persist especially if you have had a limp for a long time prior to surgery or if you have a major anatomical problem associated with or causing your arthritis, e.g. congenital dislocation of the hip.

- **Heterotopic Ossification**

This means bone forms in the soft tissues surrounding the hip. This can cause discomfort and stiffness and occasionally needs to be excised. This is quite rare in the hip.

- **Breakage of the Implant**

This is very rare. If this were to occur reoperation to remove the broken implant and replace it with a new one would be required.

RESULTS

This operation is one of the most successful operations available today. It is an excellent procedure to improve a person's quality of life. After this operation, 98 percent of people are good or excellent. Good means occasional aches and pains which do not require painkillers, and excellent means no significant pain or discomfort. There are some people who will have unexplained pain.

In general 90 –95% of hips survive 15 years but this depends on a number of variables such as your age and activity level. Again, we use the analogy of a tyre. The more you drive on it the quicker it wears out. The better it is looked after and serviced the longer it will last.

PRECAUTIONS

There are precautions necessary to undertake after hip surgery. The major precaution is to limit hip bending. With your new hip, you should not bend it up more than 90 degrees (right angle). Turning the knee inwards while the hip is bent should be avoided.

- Avoid crossing your legs or ankles even when sitting, standing, or lying.
- When sitting, keep your knees below the level of your hips. Avoid chairs that are too low. You may sit on a pillow to keep your hips higher than your knees.
- Avoid bending over at the waist. You may consider purchasing a long-handled shoehorn or a sock aid to help you put on and take off your shoes and socks without bending over. Also, an extension reach or grabber may be helpful for picking up objects that are too low for you to reach.
- An elevated toilet seat may be necessary to keep the knees lower than the hips when sitting on the toilet.

SPECIAL PRECAUTIONS TO TAKE

- Remember, this is an artificial hip, and must be treated with care.
- In general the more active you are, the quicker your hip will wear out.
- You can drive when you have regained muscle control, usually by 6 weeks.
- Avoid situations where you might fall.
- Your hip may make the alarm go off in a metal detector at the airport. You can receive a note from our rooms to say you have had a joint replacement.

- Prevention of infection is vital. If you have any infections anywhere make sure you see your local doctor straight away for treatment. If you get increasing pain in your joint and are sick and have temperatures you should go to hospital to get checked out.

ACTIVITIES

- You should avoid pounding activities, which put a lot of stress on the joint.
- Walking is good.
- Swimming in a pool or light surf between the flags is safe.
- Doubles tennis is allowable but anything more aggressive will lead to premature wear of your joint.
- Contact sports are forbidden and jogging can be detrimental to the long term survival of your joint replacement.
- Skiing on groomed slopes if you are a good skier is acceptable as long as you are aware you can cause significant damage if you fall.
- Bowls and golf should not be a problem after hip replacement.

CONCLUSION

This operation is one of the most cost effective and beneficial operations available. By far, the majority of people are happy with their joint replacement. Although there is a lot of information, it is important to read it all so you can make an informed decision to go ahead. You must not proceed until you are confident that you understand this procedure and particularly the complications. Although every effort has been made to explain the complications there will be complications that may not have been specifically mentioned because they are extremely rare. Feel free to access other sources of information from the Internet, other patients and your local doctor. A good knowledge of this operation will make the stress of undertaking the operation easier for you to bear.