

# Total Hip Replacement

## Frequently Asked Questions

### What Is Arthritis?

The bone ends in a joint are covered with a smooth glistening material called cartilage. This material cushions the underlying bone from excessive force or pressure and allows the joint to move easily without pain.

In Osteoarthritis (OA), the cartilage becomes worn and no longer allows smooth movement of the joint. The bone surfaces may begin to rub together in more advanced disease causing severe pain, swelling and stiffness in the affected joint, particularly if the joint bears weight.

The hip joint may also be damaged by Rheumatoid Arthritis, where the lining of the joint produces destructive enzymes that eat away at cartilage, bone and tendons.

Trauma such as a fracture through the hip or a dislocation can cause permanent damage to the cartilage producing arthritis.

Avascular Necrosis (AVN) is when the blood supply to the ball of the hip joint is lost, for one of many reasons, and can result in death of the bone with collapse of the hip joint causing severe pain and limp.

Total hip replacement can relieve pain and improve function in all these conditions.

## What is a total hip replacement?

Your hip is a ball-and-socket joint where the thigh bone articulates with the pelvic bone.

A hip replacement is when you surgically 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 on 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.

The bearing surfaces are either metal on plastic, ceramic on plastic, or ceramic on ceramic. Each has advantages and disadvantages.

Cementless prostheses have been developed which allow the bone to directly bond to the implant. However, cemented prostheses have the longest track record in clinical use and are still commonly used. The main factors in deciding whether you will have a cemented or non-cemented implant are age, activity

and bone quality.

## What are the benefits of a total hip replacement?

Most people gain all the following benefits:

- Stops or greatly reduces hip pain. Even the pain from surgery should go away within weeks
- Increases leg strength. Without hip pain you will be able to use your legs more and build up your muscles
- 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. Most total hip replacements last for many years

## Who is offered total hip replacement as an option?

When you have arthritis on your X-ray and pain and stiffness from your hip joint cause:

- Severe disability
- Difficulty or inability to perform your job
- Interference with your leisure activities
- Interference with your walking or mobility
- Difficulty putting on shoes and socks
- Waking you at night despite non operative treatment such as drugs

Or when conservative treatment such as analgesia, anti-inflammatories, weight loss, physiotherapy and aids like crutches or a cane has failed.

Remember that 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.

## When should I have a Hip Replacement?

The timing of hip replacement surgery is a decision that you as the patient must make. The need for surgery is a quality of life decision and the aim of the surgery is to eliminate your hip pain. As an added bonus you will likely get a better range of motion, your limp may reduce or disappear and your quality of life should improve significantly.

If you feel that you can manage with your current pain levels then there is no urgency to have your arthritic hip replaced. Simple analgesics (eg. Panadol) or anti-inflammatories (eg. Voltaren, Celebrex etc) may be sufficient to provide you with a relatively painfree hip. These drugs will not improve stiffness and the arthritis will continue to progress and at some point the drugs will no longer have their pain relief effect.

Alternative medicines (eg. Glucosamine and chondroitin, fish oil etc) may have a role in helping with pain but scientific studies have proven that the claim that they "prevent arthritis or progression of the disease" is false. These medicines whilst not doing you major harm will not stop your hip continuing to wear out.

If you are overweight, weight loss may help in reducing your hip pain. Low impact exercises (walking, cycling and swimming) help maintain muscle tone and thereby control the arthritis pain.

Physiotherapy is often useful in helping strengthen surrounding

muscles and maintaining good muscle tone and pelvic balance. Try to avoid overstretching the joint, as this will only cause discomfort.

## **What is the best hip replacement to have?**

### **Things you need to know about Hip Replacements and Hip Resurfacing Replacements**

Total Hip Replacement, Hip Resurfacing Replacement or “mini stem” Hip Replacement are simply different designs of prosthesis. They all replace your hip and therefore are collectively termed Hip Replacements. Some prosthesis (Birmingham Hip Resurfacing) are more bone conserving but these prosthesis still replace the acetabulum (socket) and either resurface the femoral head (ball) or replace the head but preserve more bone lower down.

### **What Replacement should you have?**

This can be a most complex topic particularly in discussing the options and correct choice in a young patient.

The key to a successful hip replacement is the surgical skill of the surgeon implanting the prosthesis and the type of bearing used in the ball and socket joint.

Modern day hip prosthesis may well last a patient a lifetime. It is most likely that a well recognized, tried and tested implant will not wear out in patients over the age of 70 provided the surgery is performed correctly. The key to implant longevity apart from good surgical technique is the materials used in the bearing (the actual parts that move).

## **Facts about bearings**

The traditional hip bearing is a metal head (chrome cobalt ball) that moves on a polyethelene liner ("plastic" liner). Modern day plastic liners have very low wear rates unlike the material used 30 years ago. Studies show that modern day liners will probably take about 30 years to wear out. It is for this reason that it is likely that an artificial hip joint implanted in a patient over the age of 70 will last them a lifetime. Off course should the lining wear out sooner a new plastic lining can be inserted.

In an effort to develop bearings that last longer than the traditional "plastic" lining, a number of other alternatives are available. These include the following

- **Ceramic on Ceramic**
- **Metal on Metal**
- **Ceramic on polyethylene**

These bearings were developed to allow younger patients to have hip replacements as they may last longer than traditional metal on plastic bearings and hopefully last a "lifetime"

### **Ceramic on Ceramic**

The ceramic – ceramic bearings have been around for over 20 years. They have extremely low wear rates (1000 times less than plastic) and if implanted correctly may last 40 years or more.

Unfortunately ceramics are not perfect in that there is a 1 in 20 000 incidence of breakage / fracture (ceramic is more brittle than metal) and a very rare chance that the hip can develop a squeak.

In general however ceramic on ceramic bearings are an excellent choice to use in the young patient (under the age of 60). Surgical technique is critical. They can "squeak".

### **Metal on Metal Bearings**

These bearings have been around for over 30 years but have regained popularity with the introduction of modern designed hip resurfacing replacements.

The wear rate of metal on metal bearings is only slightly higher than ceramic on ceramic but like ceramics is significantly lower than metal on plastic bearings. Metal on metal bearings are very tough and are not susceptible to breakage (fracture).

The disadvantage of metal on metal bearings is that they produce metal ion particles and if the implant is not functioning properly these metal ions can invoke a significant inflammatory response in and around the hip joint which can cause hip pain and swelling.

Some patients are allergic to metal on metal implants but this is extremely rare. Some metal on metal bearings squeak but this is usually a temporary phenomenon.

There has been a recent type of hip replacement with this metal on metal bearing that had poor outcomes and many patients required to have a revision hip surgery after only a few years. Other metal on metal hip replacements have good outcomes.

## **What about minimally invasive surgery and AMIS (Anterior Minimally Invasive Surgery) hip surgery?**

### **Minimally Invasive Hip Surgery and Anterior Approach**

There are many approaches to implant a hip replacement. Over the last decade surgeons have become more skilled in making smaller incisions using refined techniques with better instrumentation.

Some approaches are more muscle sparing than others and recovery may be a little quicker HOWEVER the most important aspect of any hip surgery is to ensure that the prosthesis is implanted accurately and correctly, that the surgery is carried out in an efficient manner minimizing blood loss and reducing anaesthetic time and the risk of complications is kept to a minimum.

ANY approach will produce a good functional pain free outcome provided the surgeon is skilled at what he is doing.

The **Anterior Approach** (from the front) is more muscle sparing and allows a slightly quicker recovery. Patient selection is important and not all patients are suitable for this approach. This approach has a higher complication rate related to the

technique and it is important that you choose a surgeon who is skilled in this technique. Whilst patients may recover quicker there is NO evidence to show that at 6 months post surgery there is any difference in functional outcome. Studies are on going to evaluate the long term benefit of this approach.

Total Hip Replacement surgery has now been in existence for almost 50 years. There are various surgical approaches that enable the surgeon to enter the hip joint and replace the arthritic hip.

The posterior approach is the most popular approach used by surgeons all over the world as it is a very straightforward approach allowing good visualization of the hip joint. It is my preferred approach.

The literature shows no evidence at 1 year post op that any approach is better than another with excellent clinical outcomes shown in all approaches.

**The most important part of hip replacement surgery is that the surgeon implants the replacement safely and in excellent alignment to ensure optimum hip function, full pain relief and long term success of the implant.**

Remember that ALL approaches if performed correctly will result in a successful pain free outcome that should last at least 20-30 years using modern day implants.

## **Cemented of uncemented hip prosthesis?**

There is NO difference in the revision rates of either a cemented or uncemented femoral component (the hip stem that sits on the thigh bone). A well implanted cemented stem works just as well as a well implanted uncemented stem. As outlined above the key to longevity is in the bearing and NOT whether the stem is cemented or uncemented. A surgeon will choose what stem fits best into your bone quality. In general softer osteoporotic bone with thin cortices do better when cement is used to fixate the implant.

Most acetabular components (sockets) are uncemented and the bone will grow into the component. The lining is then placed in the metal shell and this lining is either plastic, ceramic or metal. Occasionally the bone is so soft that a plastic liner is cemented onto the bone instead of using an uncemented shell.

## Is the procedure safe?

This operation is one of the most cost effective and beneficial operations done in surgery. Hip replacement surgery has evolved significantly over the last 40 years since first performed. There are improvements constantly being made but modern day hip replacements are extremely sophisticated and function well for many years.

However, there are risks in any operation. You can read about the general complications here. Some complications specific to total hip replacement are:

- Infection
- Fracture of femur or pelvis
- Damage to nerves or blood vessels
- Blood clots (deep vein thrombosis or pulmonary embolism)
- Wound irritation or breakdown
- Trochanteric bursitis
- Dislocation
- Leg length inequality
- Wear
- Osteolysis
- Limp
- Heterotopic ossification
- Cosmetic appearance
- Breakage of the implant

## **When can I go back to work?**

People usually can return to work somewhere from eight to twelve weeks. Heavy manual work may take longer.

## **When will I be able to drive again?**

When you feel comfortable and when you have regained muscle control. For most people, this is usually by six weeks. Please also check with your insurance company as they may have specific rules on when you can drive after surgery.

## **When will I be able to resume sexual intercourse?**

Sexual intercourse is allowed when the patient is comfortable but they have to be in charge of the positions used and any significant discomfort should result in the patient abstaining until they talk to their doctor.

In general, sexual intercourse occurs at around three to six weeks post operatively.

## **When will I be able to do exercise again?**

Normally by three months you can play sports like golf, bowls, stationary bike ride, bush walk, doubles tennis and swim. Jogging and heavy weights, although possible, will wear the joint prematurely. Contact sports are not appropriate.

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.

Avoid situations where you might fall.