

Hip Replacement Surgery

Hip replacement surgery is a great operation providing relief of pain, stiffness and disability caused by hip arthritis. For milder symptoms, a lower risk approach is weight loss, paracetamol, anti-inflammatory tablets, activity modification and a walking stick or hiking pole.

Why have a hip replacement?

Hip replacement surgery is performed to relieve pain, stiffness, and disability caused by hip arthritis. The most common reason is osteoarthritis. Osteoarthritis occurs from the hip wearing out – often there is an underlying “design fault” in the shape of the hip, or soft bone, or previous injury contributing to it wearing out. The pain is most commonly felt in the groin, but some people get the pain in the thigh, knee, buttock, or a combination.



Figure 1. Hip Osteoarthritis. This shows both hips, the one on the left of the page is normal. The one on the right shows the joint space to have gone, there are holes in the bone, and the ball no longer round.

Design Basics

The hip is a ball and socket joint between the pelvis and the thigh bone (femur). A hip replacement removes the femoral head and replaces it with a new ball. That ball needs a way of connecting it to the femur – the surgeon puts a stem inside the relatively hollow femur. Between the ball and the socket is some sort of bearing surface. Traditionally plastic (polyethylene) was used. Now the plastic component is medical grade high molecular weight, and highly cross-linked. The wear rate is expected to be less than 0.04mm/year, an order of magnitude better than plastic of last century. Highly cross-linked polyethylene is backed by evidence in the Australian Registry.

Rapid Recovery Surgery

Speed of recovery is improved with local anaesthetic mixture infiltration into all layers of the wound, minimizing the pain, and usually allows you to start walking with the assistance of a physiotherapist two hours after surgery. One night in hospital is sufficient for 70% of our patients.

The Taperloc Hip Replacement



Figure 2. Taperloc Hip Replacements

The Taperloc is a 30-year-old design with a titanium stem and cup that bone "grows on to". There have been incremental changes to the design over the years to allow for variations in shape between patients, rather than just size. The current iteration of the socket is called the G7 and allows the surgeon additional stability options in small patients, and a ceramic liner if required. Screws can be inserted through the cup into the pelvis when necessary, but usually those holes are left capped.



Figure 3. New Microplasty Taperloc for Anterior Approach.



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Other Hip Replacement Designs

Ceramic Bearings

It is common to use a ceramic ball component there is good evidence that this reduces the wear rate of the polyethylene component. It is also possible to use a ceramic liner in combination with it, a so-called “Ceramic on Ceramic” design. This is meant to make the hip replacement last longer. Rarely, the ceramic can squeak, break, or develop “stripe wear” requiring re-operation. Dislocation and other failures of all hip replacements may still occur.

The Australian Joint Registry demonstrated a 4% failure rate for ceramic hip replacements at 10 years for bearing 32mm or larger (ie the normal sizes), no different than polyethylene.

Cemented Hip Replacement

The first truly successful hip replacements were cemented and whilst we no longer use Sir John Charnley’s design, we do use its successors such as the C-Stem, the Exeter, and the MS-30. They can be adapted to fix a large number of problems with the hip. The implants are less expensive, but a longer operation, and slightly increased risk of heart & lung complications. They do slightly reduce bleeding from the bone, and can be used if the bone is very soft with osteoporosis. The skin incision may need to be a bit larger.



Figure 3. Fully cemented hip replacement on the left side of this image. The bone cement is seen as a white-grey cloud between the implant and the bone.

Birmingham Hip Re-surfacing

Re-surfacing arthroplasty doesn’t replace the head of the femur. Instead, it puts a new surface on it. It feels more like a normal hip than other operations, and is industrial strength for farmers and athletic individuals.



Figure 4. A Birmingham Resurfacing

Two specific disadvantages are femoral neck fractures and metal sensitivity. It is not done in older osteoporotic individuals because the risk of fracture is too high. It is less commonly done in women, who have a higher risk of both these complications.

Metal on metal has been used for hip replacement since the 1950’s, but early failures were caused by fixation methods and inadequate precision in matching the ball and socket. These problems are fixed. A concern is the metal bearing surface will elevate blood levels of metal ions which was seen with a copy called the ASR, but not the Birmingham..

The Corail implant

The Corail is a European uncemented implant that is kept on the shelf at Ballarat Base Hospital and SJG. Some patients will fit this marginally better, and it is available with a collar if the bone quality is doubtful.

We don’t use the ASR

The ASR hip replacement had three major design changes of the metal on metal relative to the Birmingham it was copying. On this basis, we didn’t do any. No member of Ballarat Orthopaedics ever used the ASR.



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Anterior Hip Approach

There is an eloquent anatomical approach to the front of the hip joint that is gaining some interest for hip replacement. The theoretical advantages are a further reduction in dislocation rate, and a faster recovery. We don't yet know if that means people can get their socks on themselves before six weeks. Using our Local Infiltration Analgesia, the additional advantage to recovery seems likely to be very small as our most common day to go home is the day after surgery.

Many surgeons have avoided doing this technique as it has required a traction table, and carries an elevated risk of fracture in the upper femur, and even the tibia or ankle.

A further progression of this technique now sees it possible without a traction table – the so called “Off Table Anterior Approach”. Fracture risk should be diminished.

The bikini incision

The incision for an anterior approach classically is directed from the bony prominence at the front of the pelvis towards the outer aspect of the kneecap. More eloquent approaches now start 3cm further down, and 5cm further outward of this point. It can still be directed towards the outer knee, or the other direction towards the inner thigh. This carries an advantage with a better healing scar. Does it hide under a bikini? No.

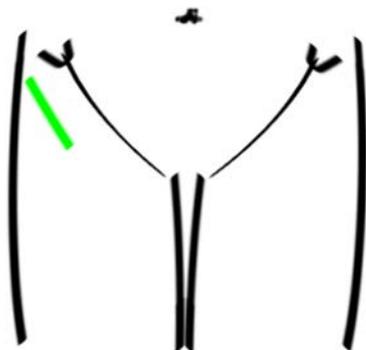


Figure 5. The so called Bikini incision

Mooted advantages

- Lower dislocation rate (could be 0.2% instead of 1%)
- Faster recovery - most patients with a minimiposterior approach in Ballarat are only one night in hospital, but it could be that strength & confidence return faster.
- An improvement in bladder control for women with incontinence has been noted by some Japanese investigators.

Disadvantages

- Some **numbness** is likely to occur on the outer thigh. This is rarely permanent, and most patients don't get any numbness at all. It is caused by bruising of some small nerve branches supplying the patch of skin.
- The risk of **fracture** of the upper femur occurs with all approaches, but possibly a bit higher with this approach.
- A complication of **leg lengthening** is probably no more likely with this approach than any other.
- Increased risk of **re-operation** during a surgeon's first 50 cases.

So who should have anterior?

As a surgeon, it is important to recognise the limitations to various techniques. The ideal patient for the anterior approach is thin, supple, without excessive stiffness of the hip. Conversely, the most difficult patient has a short neck of femur and the trochanter is overlapping the entry point, the hip is stiff and the patient a bit tubby.

More complex reconstructions of the hip joint, and most revision operations (if an old hip replacement is being rebuilt) need more extensive exposure of the top of the femur.



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Why is it better to have only one night in Hospital?

Firstly – reflect on the old days

When hip replacement was popularised around 1962, knee replacement over a decade later, the operations were painful, and the general consensus was that rest would be good for the patients. The old surgical approaches to the hip joint weren't great, and results might have been better by slowing down the patients. Patients were admitted to hospital often days prior to the surgery for tests and meeting other doctors involved in the care.

Two complications were particularly prominent: infections and blood clots. Antibiotics were added to the treatment, blood thinners also administered. Through the 1990's wound were more prone to bleed, more dressing changes required. Drain tubes were a routine part of surgery. To control pain morphine pumps were used, more recently "patient controlled analgesic systems". These required a drip to be running and oxygen administered. Urinary catheters were required in 80% of our patients in 2003, so it became routine to insert at the start of the operation. Patients were effectively tied to the bed.

Immobility adds to blood clots, chest infections, even pressure sores. Urinary catheters add to urinary infections. Bleeding from the wounds required dressing changes, exposing patients potentially to other patients bacteria, even in wards where single beds are available.

A new way of looking at it

If the surgery was not very painful, the patients could get up and move. We find the first time patients get up they get dizzy, whether it is day three after surgery, or two hours. The next time they are usually fine. If they can get up and walk, they are less likely to get blood clots – in fact in the absence of a history or family history of blood clots, we virtually never see them. If the patient is comfortable, and only needs tablets for pain, there is no need for a morphine machine. No morphine machine means the patient need not be "tied to the bed", and probably won't have nausea or vomiting. We find patients are almost always independent by after lunch the day after surgery. There are surgeons in the USA doing joint replacements as day surgery!

If the patient is moving well, pain well controlled, not nauseated, and safe, why not go home? By getting out of hospital, the risk of being exposed to other patients' bacteria is dramatically reduced, and our lower infection rate reflects this. We do have a scoring system RAPT score to check it is plausible to go home. Scores of more than 9 will probably go home the day after surgery, scores less than 5 probably need to go to rehabilitation.

Perversely, the funding systems discourage the hospitals from short stay. The hospital is paid less for short stays, and the patients and their family need to work harder. But it is in the interest of better results to go home. Some people feel that they are being "thrown out of hospital" – no one goes home if they don't pass the checklist. By going home – less infections, and less clots.

Going to the patients own home is usually best. At someone else's house, there is a lesser tendency for the patient to get up and do things. Getting up and doing things is what we need! It is hard to check the temporary and permanent house are both safe.

Where people live alone, we'd like a friend or relative to stay the first night or two at home with the patient. Where family live next door, or within 15 minutes, even an empty house is often acceptable.



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The Process of having a hip replacement

Getting fit for surgery

The greatest predictor of the recovery time is how fit you are before surgery. Walking or cycling for the weeks before surgery is a good idea. In the week prior to surgery – avoid gardening or other activities where you might get a cut or infection that could cause your surgery to be cancelled.

Pre-admission Clinic

Most patients attend the pre-admission clinic at St John of God Hospital. At this clinic you will have an ECG & the preadmission nurse will ensure all the required tests have been done (including a blood & urine test) and that you are familiar with the hospital and its layout. Sometimes this is arranged by telephone alone.

Preadmission clinic Ballarat Orthopaedics

Your next appointment at the rooms will be our own preadmission clinic. We need you to bring your support person to this appointment, preferably the one taking you home from hospital. At this appointment we will write your medication chart for surgery, discuss post-operative medications, and make changes to your current medications as required. We spend time discussing expectations, surgery, your discharge plan (which is usually the day after surgery), and go through any questions you may have. It is important to bring your current medications to this appointment. We provide a “pre-op pack” of compression stockings, Somac (an anti-acid tablet) and a bottle of Powerade to drink before coming to hospital.

Femoral Head Donation

Hip replacement removes your existing femoral head, and replaces it with a new metal or ceramic one. The removed femoral head is usually incinerated. The Pre-op clinic at St Johns will discuss with you donating your femoral head to the Bone Bank, where it is processed for further use. By donating, you help someone else in need, from hip surgery to children with cancer!

Physician Assessment

Physicians are doctors specializing in adult internal medicine, like I specialize in orthopaedic surgery. Most patients having a hip replacement will not need a physician unless they have other serious health issues.

Stopping medications before surgery

Potent anticoagulants like Plavix and Iscover are stopped 10 days prior to surgery. On the day of surgery, take your normal blood pressure tablets. Ensure your surgeon knows what medications you normally take.

What to bring to hospital

You will only be staying a few days, so don't bring too much. Wear to hospital the clothes you will wear home. Night-shirts and boxer shorts allow for easier access for dressings / bandages / having the wound attended to & topped up with local anaesthetic agents. A second set of night attire allows for any drama like needing to wash the first set. Bring some magazines, but don't bother with laptops. There are both positives & negatives to bringing your mobile phone. Aim not to bring any jewellery.

Admission to hospital

Typically patients are admitted on the day of surgery to the hospital through the Surgical Admission Unit. Same day admission has successfully reduced the risk of post-operative infections. Prior to surgery, no solid food is permitted for six hours, and Gatorade or clear fluid 2 hours.

Anaesthesia & anaesthetist

The best anaesthetic overall is a combined spinal and general anaesthetic. The spinal anaesthetic means you can have a very light general anaesthetic and wake easily ready to walk. The anaesthetist will meet you before you go to the operating theatre to discuss any concerns. If you are a high-risk patient, it may be appropriate to meet the anaesthetist some weeks prior to surgery.



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Recovery room

Typically you will wake up in the recovery room, located adjacent to the operating theatre. The nurses there closely monitor you. Ice packs may be applied to the wound. They may ask you “do you have any pain?” – unless uncomfortable – you should answer “NO” or “minimal”. If you wish to speak to your surgeon – say so, rather than saying you have pain! The recovery nurses have a protocol allowing them to give you A LOT of drugs if you say you have pain. These drugs may make you feel sick or vomit.

Tubes

The drip is usually disconnected the day after surgery. Oxygen may be administered in the first 24 hours but is not required all of the time. No drain tubes are used as a rule.

Orthopaedic Ward

It is important to start taking painkillers before the anaesthetic starts wearing off. I am keen to have you drinking some Gatorade within two hours of the surgery, and eating some light food on the day of surgery. Avoid fruit juices to reduce nausea. Don't pick rich food off the menu!

Physiotherapy

Both hospitals in Ballarat have their own physiotherapy service paid for by your insurance. Our intention is to have you out of bed on the day of surgery to minimize the risk of blood clots. The physiotherapist will be there probably the first time you get up, then just the nurses. Our aim is to have 80% of people independent by 16 hours from surgery.

Walking aids may start with a frame, and changed to using two crutches as soon as possible. A few people are good enough to use only a walking stick at discharge from hospital.

Post operative aims for recovery

First time up	3 hours (2-24)
Independent	16 hours (8-48)
Discharge home	1 day (1-7)
Inpatient rehabilitation	5%
Outpatient physiotherapy	2%

What will the leg be like?

The wound will often be a bit tender and initially have a bulky dressing on it.

Ice packs are used frequently to reduce pain and swelling. The swelling often gets worse over the first week. The bruise eventually may go to your ankle.

Support person & discharge

The value of having a SINGLE family or other support person to deal with communications is impossible to value.

IF YOUR FAMILY STRONGLY FEEL YOU ARE NOT SAFE TO GO HOME – IT IS ALMOST IMPOSSIBLE FOR US TO HAVE YOU GO HOME! BRING THEM TO THE NEXT APPOINTMENT WITH YOUR SURGEON BEFORE SURGERY.

Do I need to go to inpatient rehabilitation?

The majority of people DO NOT need inpatient rehabilitation. We have found that even people at 80 years old are usually right by 5 days to go directly home – if there will be someone with them. Going to a friend's house is not always ideal, as it may need minor modifications – like have a rail in the shower to hang on to. Preferably the shower can be walked directly into rather than needing to step into a shower/bath.



Weekly Progress

First week:

- Walking
- **Getting to a single crutch or stick**
- **Avoid excessive bending at the hip**
- Panadol, Mobic, some Tramadol
- **OK to lie on the operated side in bed**

Second week:

- Wound checked at about 10 days after surgery at the surgeon's rooms
- Most people using a walking stick
- Take the Mobic

Third week

- OK to lay in any position
- Continue the Mobic unless a problem

Fourth Week

- Stop the Mobic
- Some people (see below) might be able to drive under certain circumstances.

Sixth week:

- In a sitting position, start bending your hip so your knee comes up to your chest, **roll your knee OUTWARDS to put on a sock**
- OK to drive
- **OK to kneel on operated side knee – keep hip fairly straight and only work directly in front of you.**

Three months

- **OK to access your foot to put on shoes, tie shoelaces, socks and dry toes. However, some care is still required, it should be done in a seated position, with the knees apart, and the foot up on the opposite leg's knee.**

Back up plan

A key part to going home is that you can call me if there is a problem.

My mobile number is **0438 322 969**. In hours you can call my rooms on **5332 2969**. Out of hours you can call the St John's Orthopaedic Ward on **5320 2140**, or the Ballarat Base Hospital ward on 5320 4640. Most problems only require advice, but perhaps one person per year needs to go to the emergency department.

What to ring us about...

Nausea/vomiting

Black bowel motions

Constipation not fixed by three days

Feeling unwell

Pain not controlled

Bleeding through the dressing

Bowels

Constipation is a problem best avoided by eating plenty of fruit and walking frequently. Avoid Panadeine Forte, a common painkiller, although all painkillers can do it. Prune or cloudy pear juice is a classic remedy and probably should be taken on day two (Saturday after a Thursday operation).

If your bowels haven't worked within three days of surgery please seek advice from your local Pharmacy. If they still haven't worked the next day – contact your surgeon.



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Driving after Hip Replacement

The old recommendation from the Arthroplasty Society of Australia that patients cannot drive for six weeks after surgery. In truth – some patients shouldn't be driving BEFORE surgery because of eyesight, or motor skills. Our research has demonstrated that patient's reaction times are in acceptable range sooner than this.

It may seem reasonable to drive sooner if:

- You are walking without crutches
- You are not using strong pain killers
- You drive an automatic and left hip had the surgery

When you start driving you should:

- Have mobile phone turned off
- Have radio/music turned off
- Start with short distances
- Avoid peak hour traffic
- Avoid tailgating – if your reaction times are off by 0.8sec this could translate to 50m more stopping distance.

THINGS TO REMEMBER FOREVER!!

Dislocation Risk

Dislocations whilst rare are serious. The hip is a ball and socket joint, but the two are not “locked” together. In the native hip (before replacement) there is a ligament in the middle of the joint and a “locking ring” around the edge. Neither of these exists after a hip replacement procedure.

The biggest risk period is the first 3-4 months, but there is always a risk with “crazy movements” forever. At **three months** it is safe to dry your toes sitting, knees apart, foot of the hip replacement side sitting on the knee of the opposite side. **DO NOT EVER lurch down to the outer side of your leg with your knees together.**

Infection Risk

Whilst infections are rare, they usually occur when bacteria get into the body. The common sources we see are damage to the skin (rose thorn, cut foot), from the mouth (dental abscess) and urinary infections. Wear appropriate gloves / trousers / and possibly safety boots to garden. Get any infections treated quickly – antibiotics alone will NOT cure a joint replacement infection – further surgery AND antibiotics have only a 90% success.

*Dental and invasive procedures****

You should tell your dentist you have a hip replacement. Dental abscess, infected root canals and gingivitis carry a risk of spreading infection into your joint replacement. A large dose of antibiotics is required an hour before some dental treatment.

Pain Management after Orthopaedic Surgery

Good pain control allows early mobilization, reduces complications and you go home sooner.

Local Infiltration Analgesia

During joint replacement operations, local anaesthetic is infiltrated around the wound by the surgeon. This is mixed with steroidal & non-steroidal anti-inflammatories and adrenaline. The surgeon leaves a wound catheter buried in the bandaging so extra drugs can be injected around the joint replacement the following morning. It has a filter on it to avoid any contamination.

Pain Patch.

Norspan, a narcotic patch, is applied to the skin and gradually releases analgesia. This has allowed us to avoid having a drip – we aim to ensure it is easy to get up and about after surgery. If the patch is too hot, you may become nauseous or drowsy – typically in the shower. Try to keep the patch out of hot water. If your joint is sore you can warm up the patch by giving it a rub, or put on a jumper. The patch typically is changed six days after surgery then stays on 10 days.

Background tablets

Mobic 7.5mg is used twice a day for three weeks. For those that have a history of stomach ulcer, we ask you take an extra anti-ulcer tablet (eg Nexium/Somac) the night before and morning of surgery. Panadol is used for the first few weeks.

Pain score

Nurses in recovery and the ward will ask you whether you have any pain, and to score it out of ten. It is important that you tell them if the pain you complain of is somewhere different than where the operation was. Most patients have a score of zero in recovery. If you report 1-3, usually tablets are given, at 5/10 injections of morphine. For comparison – 7/10 has visible signs of pain – teeth clenched, pale appearance, sweaty brow. 10/10 pain is rarely seen, but described as “screaming with pain”.

Top up medications

Tramal is my preferred drug to top up. Typically the order is 1-2 tablets every 4 hours as required. Tramal is not perfect, it can cause nausea or hallucinations, and can't be used with many anti-depressants. Usually we have had an opportunity of trying them in hospital before you go home.

Swelling control reduces pain

Rest doesn't mean do nothing, but not do too much. Sitting is NOT good rest as the lower leg becomes swollen.

Ice packs are first applied in recovery, or as soon as possible after the surgery. Be a little careful with areas that have local anaesthetic that you may not be able to feel how cold it is. Do NOT apply ice directly to the skin, and apply it only 20 minutes at a time.

Compression is usually a bulky dressing. Venosan Silverline travel socks are worn and are worthwhile to minimise foot and leg swelling.

Elevation. In the first two weeks, put your leg up either on the bed, or lounge suite when you're not moving about. Do not sit for longer than 10-15 minutes at a time.

Avoiding nausea and vomiting

Our aim is to have you drinking fluid as soon as possible after the surgery, and start eating food by six hours. Avoid orange juice for the first three days as these sweet & acidic drinks can make you nauseous. Gatorade is a sugar & salt drink – this can be used up to two hours before surgery, and when you are alert after surgery.

If you feel sick, tell the nursing staff. It can usually be fixed with anti-nausea medication, but it may be that if you're comfortable and nauseous – that you're overdressed and the pain patch should be removed. It is easier to control it early than to fix it once you start vomiting.



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Complications following hip replacement

A hip replacement is a major surgical procedure carrying substantial risks. This list cannot be complete, but does deal with more common problems. Accepting and minimizing these risks is a responsibility of both the patient and the surgeon. If the patient doesn't accept that a joint replacement occasionally goes wrong, then they should not submit themselves to surgery.

Urinary catheterisation

Urinary catheters are not used routinely. Since using local anaesthetic and early mobilization, most patients have been able to use their bladder normally. However, a small number of patients may still require a urinary catheter hopefully only overnight. People who have previously had urological procedures and problems are more likely to have problems. Please tell us.

Thrombosis & pulmonary embolism.

Clots can occur within the veins of the leg and pelvis before, during or after surgery. They carry a risk of dislodging and moving up to the lung. It can be fatal. A “post phlebotic syndrome” where the leg remains swollen can occur, and may develop ulcers. Since using “local infiltration” and early mobilization we have only seen blood clots in people who have previously had blood clots. We use Aspirin (Cartia), early mobilisation and stockings to help minimise the risk. People that have had blood clots, or family members with clots, need more treatment. PLEASE TELL US!

Infection.

Infections can occur directly after an operation, or out of the blue years later. The infection rate is about 1 in 600. Most infection patients carry additional risk factors such as diabetes, poorly controlled diabetes, obesity, malnutrition or cigarette smoking. To minimize the risk of infection, we prepare the operation site with antiseptics, use antiseptic impregnated drapes, and use intravenous antibiotics at the time of surgery. At St John's we have laminar flow operating theatres and “space-suits”. You are at particular risk for the first two years following surgery. Any dental extractions, urethral catheterisations, or colonoscopy are usually “covered” with prophylactic antibiotics. Any cuts to your skin should be taken seriously.

Dislocation

Our dislocation rate is about 1% for traditional hip replacements. Most of these will have a single dislocation. Others may go on to recurrent dislocations. **The most common mechanism patients dislocate their hip by is abruptly bending down & towards the operated side, either from a standing or sitting position.** Less common is with walking and turning abruptly away from the side of the hip replacement.

We avoid these movements for 3 months after surgery. Some patients dislocate their hip falling over – tripping over rugs, hoses, dogs, or doing forceful things in the garden.

Other hip precautions include:

- Elevated toilet seat for 3 months
- Avoid regular bathtubs for 3 months
- You will need help with stockings, socks & shoes (consider use of alternate footwear) for 3 months
- Do not cross legs
- Chairs with armrests are an advantage
- Avoid low chairs/bed
- No recliner chairs

Dislocations are very distressing. Often an ambulance needs to be called to take you to hospital. A dislocation will upset your confidence.

Leg length discrepancy

The intention after hip replacement surgery is for the leg to match the other one, but stability of the hip joint is more important. If the leg length is right, but the hip keeps popping out requiring an ambulance trip to the hospital, little has been achieved! The leg may seem long for 6-12 weeks after the surgery because the muscles over the side of the hip (glutei) may be tight. As the muscles stretch, the leg returns to a more normal position. Leg length discrepancy more than 10mm is rare with current pre-operative templating techniques.

Fracture

A fracture of the femoral shaft can occur at the time of surgery, or after injury. The intra-operative cases I have seen have required a cable around the femur and the patient has restricted weight bearing. Late post-operative fractures may require extensive surgery and a much slower recovery. Fracture on the pelvic side is reported in 0.4% of cases. This may require re-operation, prolonged time on walking aids, and a delay to good result by a year.

Death and severe complications

Death occurs in 1% of patients within 90 days of the surgery. In those under 70years, the rate is 0.2%, 70-80 1%, and over 80years is 2.5%. The deaths usually occur from heart attacks, strokes and blood clots. A physician assessment prior to surgery is common for those over 80years. Hip replacement is regarded as the most effective improvement in patient's quality of life, as long as the various risks are managed, and surgery not done for minor symptoms.

Bowel obstruction

Narcotics such as morphine can slow the gut action. On occasions the gut gets worse, becomes distended and may require surgical treatment! This is usually a "pseudo-obstruction" and occurs in 0.5% of cases.

Neurovascular injury

Passing around the hip are nerves and arteries. These supply the leg. Rarely they can be injured, although the cause of nerve injury is only found 50% of the time. Injury to nerves or arteries, permanent loss of function, or viability of the limb is possible.

Loosening

For a variety of reasons, the fixation between the hip replacement and the bone may fail. This loosening may cause pain and require re-operation. Infection is a cause of loosening, but other causes exist.

Wear & Osteolysis

All hip replacements can wear out. The plastic component is most at risk, but should be able to be replaced fairly easily. This can cause "osteolysis" which implies that bone (osteo...) develops holes (..lysis). This can cause a fracture or loosening around the hip replacement.

Renal failure

Many patient's have kidney's not quite functioning normally. Being elderly on powerful anti-hypertensives, anti-inflammatory medications and being a bit dry might push you over the edge and dialysis required. If you've had dialysis previously – tell us. Otherwise the risk-benefit ratio means we use a reduced dose of anti-inflammatories but still use them.

Stroke

A stroke occurs in 0.2% of patients, causing possibly permanent weakness, and one in four die as a result.

Surgical team

There might be 150 steps to getting an operation just right, some in, some out of the operating theatre. The surgeon is responsible for every step. Some steps are delegated to nurses, administrative staff and the orthopaedic fellow. The fellow is a fully trained orthopaedic surgeon in his own right, but chooses to work with your surgeon to learn and copy his technique. All critical steps are performed under direct supervision by the surgeon, or performed by the surgeon. Whilst possible to request your surgeon to do every intra-operative step, this might have a larger out of pocket expense. Your surgeon's reputation is based not only on his own skill, but that of the whole team.

Other

It is not possible to provide a full list of complications. Extremely rare occurrences eventually happen to somebody. In short, having a hip replacement involves taking on an element of risk. Ask your surgeon to clarify any specific questions you may have.