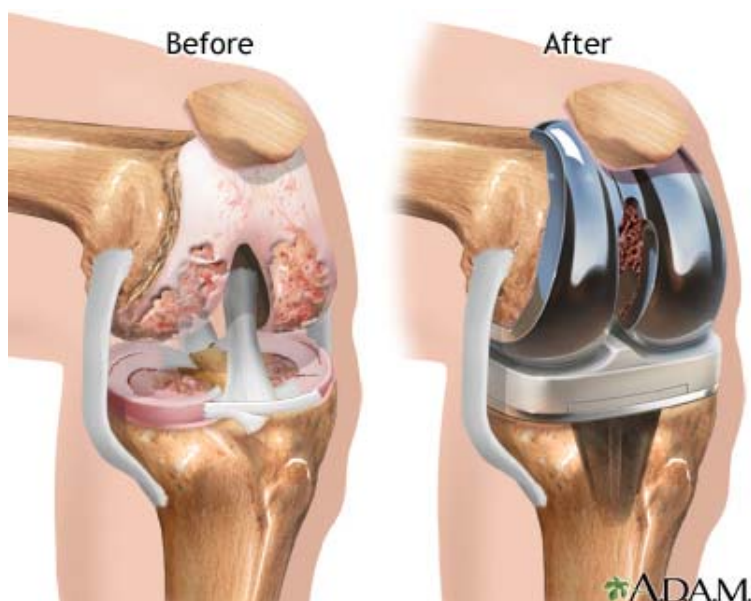




## Total Knee Replacement

### What is a total knee replacement?

A total knee replacement is a surgical procedure that involves re-surfacing an arthritic knee joint and replacing it with a prosthesis. It is a very good treatment for people with pain and impaired function due to knee arthritis.



### What does total knee replacement surgery involve?

A total knee replacement involves surgically removing the existing cartilage surfaces in your knee joint and replacing them with a prosthesis. The prosthesis is made of 2 metal components (cobalt chrome) with a plastic (polyethylene) liner in between. The cartilage surface of the kneecap (patella) is also usually resurfaced with a polyethylene "button". The prosthesis is held in place using specialised bone cement, or via a specialised material which allows your bone to attach to the prosthesis. It is performed through a vertical incision over the front of your knee. I usually use a robot to help accurately position your knee replacement. This requires two additional small incisions over the front of your shin-bone (tibia).

Before surgery, you will need to have a new CT scan and set of xrays of your leg. This allows us to accurately plan your knee replacement and program the robot with your individualised plan. I commonly refer patients for a pre-operative medical assessment with a physician colleague. This helps to reduce your risks from surgery by ensuring that any medical conditions you have (eg diabetes, heart disease etc) are optimised prior to surgery. You are also required to have a pre-admission assessment at the hospital prior to surgery.

Surgery is performed either under a general anaesthetic, or a spinal block (a local anaesthetic injection in the back, causing numbness in the legs) with sedation. A spinal block is an excellent option, as it reduces your blood loss during surgery, and provides pain relief when you wake up. Most people require 3-4 nights in hospital after surgery, to help control your pain and allow time to get mobile. Some patients may choose to go to an inpatient rehabilitation unit for a short period to improve their mobility before going home. You will be discharged from hospital with pain-relief medications and a blood-thinner to help prevent blood clots (DVT).

### **How do I know if I am ready for a total knee replacement?**

Although a knee replacement is generally a very good pain-relieving operation, it does not function quite as well as a normal knee, and the procedure carries a small but significant risk. Therefore, it is important that in your mind, you are convinced that you are ready for this undertaking.

A knee replacement should be reserved for people with arthritis who have moderate-severe pain that is significantly impacting their quality of life. For example, pain that affects your sleep and limits your ability to walk normal day-to-day distances. It is also a good idea to have tried some of the physical treatments and medications for arthritis (see my Osteoarthritis patient handout) before jumping straight into a knee replacement.

When deciding when to have a knee replacement, it is important to try to be in optimal physical and mental health, have adequate home support and have sufficient time (6-12 weeks) to concentrate on your rehabilitation.

### **What does recovery and rehabilitation involve?**

A total knee replacement can be a painful operation. The first few days after surgery can be tough, but we try to give you enough pain relief to keep you as comfortable as possible. Pain gradually improves day by day, but you can expect to have some pain (particularly at night) for around 8 weeks after surgery. Your pain and function may continue to improve for 6-12 months after surgery.

Rehabilitation should be supervised by a physiotherapist, with the aim of increasing your knee range of motion and regaining your mobility. You will commence exercises straight away after surgery and gradually increase your rehabilitation over time. It is important to diligently perform range of motion exercises 3-4 times per day after surgery. Ideally, your knee should straighten fully and bend to at least 90° before leaving hospital.

You will be allowed and encouraged to walk on day 1 after surgery. Initially you will require the aid of a walking frame, before gradually weaning down to crutches or a walking stick. You can wean off

all walking aids as your pain allows. For most people, expect to walk with some aid for 6 weeks after surgery.

Swelling is normal after a knee replacement and can persist for up to 6 months after surgery. In the first few weeks after surgery, regularly icing your knee is the best way to minimise swelling.

Return to work will depend on the demands of your work, but allow approximately 6 weeks. Driving depends on which leg is operated on, and whether you drive a manual or automatic car. If you are having a right knee replacement, allow at least 6 weeks before driving. If you have a left knee replacement and drive an automatic car, you may be able to drive after ~2 weeks, once you are over the anaesthetic and are no longer taking strong pain-killers.

Return to sport depends on the demands of your sport. You should be able to return to low impact activities such as swimming or golf after 6-12 weeks. Higher impact activities such as tennis or surfing may take 3-6 months. There are no absolute restrictions after a knee replacement, but I would recommend against high impact activities (such as going for runs) indefinitely.

### **Will I be pain free after my total knee replacement?**

Studies suggest that around 80-85% of patients are very happy after their knee replacement. Full recovery usually takes 6-12 months. For reasons that we often can't explain, 10-15% of patients may not be completely happy with their knee after surgery, although most will eventually function reasonably well. A small percentage of patients (~5%) may be unhappy, and continue to experience knee discomfort. 1-2% of patients (usually those who have a complication, such as infection) may be worse off than before surgery. Fortunately, this is rare, and we take all possible precautions to prevent this.

### **How long will my knee replacement last?**

In recent years there have been significant improvements in the longevity of knee replacement implants. How long your knee replacement lasts depends on a number of factors such as age, weight and gender. In general, however, Australian statistics show that ~92% of total knee replacements last at least 20 years.

### **What are the major risks and complications of total knee replacement?**

Risks of total knee replacement include, but are not limited to:

- **Anaesthetic risks and medical complications**
- **Pain:** as discussed above, not all patients who have a knee replacement will have complete relief of their pain.
- **Knee stiffness:** a small percentage of patients may have a reduced range of motion in their knee after surgery. This is more common in those who have a limited range of motion before surgery. In severe cases, this may require a manipulation of the knee under general anaesthetic in the first 3 months after your knee replacement.
- **Infection:** is a rare, but potentially disastrous complication of total knee replacement. It occurs in ~1% of cases. We take great precautions to prevent this by ensuring complete

sterility during surgery, and routine antibiotics after surgery. Infection may occur early (in the months after surgery) or late (many years after surgery). Patients with an infected knee replacement usually require at least 1 or 2 revision operations, and months of antibiotics to control the infection. At worst (extremely rare), an infected knee replacement can even necessitate an above-knee amputation.

- **Wound complications:** rarely, the wound may be slow to heal or continue to leak after surgery. This may require regular attention with dressings and antibiotics. If it persists, further surgery to wash and re-close the wound may be required.
- **Bloods clots (DVT):** are not uncommon after knee replacement surgery. Rarely, clots can travel to the lungs (pulmonary embolism) and can be dangerous or even fatal. We give everybody blood-thinning medication after surgery to reduce this risk.
- **Loosening of the prosthesis over time:** uncommonly, the implants can become loose over time, requiring revision surgery.
- **Fracture:** rarely, the femur or tibia may be fractured when inserting the knee replacement prosthesis. This may require additional surgical fixation of the fracture and slow your rehabilitation.
- **Numbness:** you will have a small numb patch on the outer aspect of your knee replacement scar. Although, this can improve somewhat over time, some degree of numbness usually persists.
- **Nerve and blood vessel injury:** extremely rarely, an important nerve or blood vessel may be injured during surgery. This can affect the function and sensation of the leg long term.