



MR CAMDON FARY

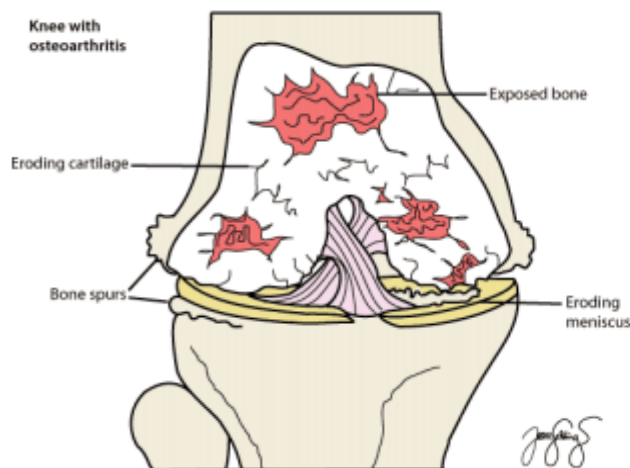
BSc(Hons) MBBCh BAO FRACS(Ortho) FAOrthA
ORTHOPAEDIC SURGEON

Total Knee Replacement

A Total Knee Replacement (also called Total Knee Arthroplasty) is a surgical procedure designed to replace the severely diseased knee joint with an artificial knee joint.

The most common reason for a total knee replacement is severe pain and dysfunction caused by knee arthritis.

There are many types of arthritis but by far the most common type of arthritis that benefits from surgery is osteoarthritis, followed by rheumatoid arthritis.



Osteoarthritis is a wear and tear process that happens with aging but can also occur after an injury to the knee.

It involves removing parts of your femur (thigh bone), tibia (shin bone) and patella (kneecap) and replacing them with a combination of surgical-grade metal alloys and highly wear resistant plastic. It's designed to help with pain and restore the bending movement of the knee.

Benefits of the operation

A knee replacement can dramatically reduce the pain caused by arthritis and get you walking and bending your knee again.

The replacement may not remove all your pain or fully restore your knee movement and it will not make your knee 'brand new' again but it will considerably reduce your pain.

Not having the surgery

It is an elective procedure. All benefits, risks and alternatives to the surgery itself should be considered carefully before making a decision. However, knee arthritis is a progressive disorder and the pain can become so severe it stops you performing every day activities such as; walking, climbing stairs, showering, gardening and shopping. You may no longer be independent and able to look after yourself.

Preparing for Surgery

Preparation for your operation begins several weeks before the date of surgery itself.

Your fitness will be assessed and all the necessary tests will be performed.

Appointments will be arranged for the following:

- Physician
- Anaesthetist (if necessary)
- Pre-Admission Knee Information Session

It is important to be in the best possible physical condition for your surgery. The pre-admission knee class is a presentation that will guide you through your journey from admission to hospital, surgery itself and ultimately recovery.

Tests usually ordered for you prior to surgery include:

- Blood tests
- ECG
- Urine test
- X-ray (chest, knee) / CT

Preparing your skin. Your skin should **not** have any infection or irritation present before surgery. If either is present, contact your surgeon for a program to improve your skin.

Go see your dentist. We recommend treating significant dental diseases (including tooth extractions and periodontal work) before your operation. Routine dental procedures should be delayed until six months after surgery.

Medications. Before surgery, your surgeon or physician will advise you which medications you should stop or continue taking. All complimentary and alternative medications should be stopped 2 weeks prior and not started until 2 weeks post-operatively unless otherwise recommended.

Get some help from your friends and family

Although you will be able to walk with crutches or a walker soon after surgery, you will need some help for several weeks, such as; cooking, shopping, bathing, and laundry. If you live alone, a social worker, or a discharge planner at the hospital can help you make in-advance arrangements to have someone assist you at your home. A short stay in an extended care facility after surgery may also be arranged to help continue with your recovery.

Home Planning

To help make your return home safer and more comfortable during your recovery it is advised to have:

- Securely fastened safety bars or handrails in your shower or bath
- Secure handrails along all stairways
- A stable chair for your early recovery with a firm seat cushion, a firm back and two arms
- A raised toilet seat
- A stable shower bench or chair for bathing
- A long-handled sponge and shower hose
- A dressing stick, a sock aid, and a long-handled shoe horn for putting on and taking off shoes
- A reacher that will help you to grab objects without excessive bending of your knees.
- Removal of all loose carpets / electrical cords from areas where you walk in your home.

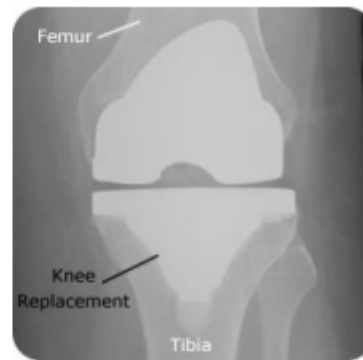
Knee Replacement Surgery

The operation usually takes 2 to 4 hours. Your wound is approximately 15-25cm in length. It usually runs straight down the centre front of your knee.

Precise surgical bone cuts are made at the end of your femur (thigh bone) and the top of your tibia (shin bone), thereby removing your arthritic knee joint.

The knee replacement is made of surgical grade metal alloy and plastic. It is inserted and held in-place either by surgical cement or a special coating on the metal or screws.

At the time of surgery and after your surgery, you will be given antibiotics and medications to thin your blood.



X-ray of a knee with a total knee replacement (cemented variety)

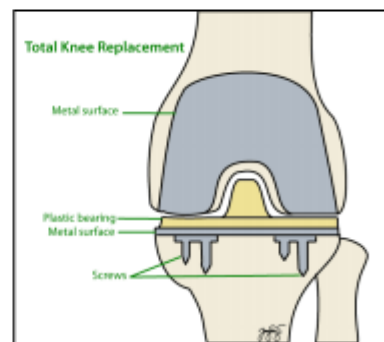


Diagram of a knee with a Total Knee Replacement (uncemented variety)

Computer Navigation

During a joint replacement procedure, it is important everything is aligned properly. Accurate alignment of the knee components is critical to the overall function of your new joint. It also plays a role in helping your joint feel healthy again, and helping the joint replacement to potentially last longer.

Computer-assisted technology has made it possible for your orthopaedic specialist to **navigate** joint replacement procedures with a level of accuracy so precise it may improve the results of your surgery.

Computer Tomography (CT)

A common alternative to computer navigation are patient specific implants where the alignment is assessed and calculated by computer tomography (CT) prior to surgery rather than intra-operative computer navigation or alignment jigs. The decision is based on patient anatomy and complexity of the surgery required.

Anaesthetic:

Usually either a spinal anaesthetic or general anaesthetic which is when you are put to sleep. You will be able to discuss the most appropriate and preferred type with your anaesthetist.

My Pain:

You can expect to have pain in the operation site.

You may have either:

- Pain catheter into the operation site. This will enable continuous anaesthetic for the first 36 hours. The amount of anaesthetic can be increased or decreased depending on your pain.
- Patient controlled anaesthesia, where you have a machine which injects pain killer intravenously that is controlled by yourself. It is programmed so too much pain killer is not given.

Length of Stay in Hospital:

Approx. 7-10 days

Recovery & Rehabilitation:

Once you arrive on the ward, a team of nurses, physiotherapists, occupational therapists and doctors, will help you recover from your operation.

My Food:

To begin with, you can have small sips of water, then slowly take more until you are eating normally. You may have a drip in your arm, this will be removed by the second day after your operation.

My Wound & Dressing:

Your wound will be a cut down the front of your leg from above to below the knee and will be closed with either sutures or clips which will stay in for 10 to 14 days.

A waterproof dressing will cover the cut and you may have a drain to clear any blood and fluid from the wound into a small bag. The drain is removed 24 to 48 hours after the operation or once the drainage has stopped. You can shower 1 or 2 days after surgery. You may go home with a dressing covering your wound until your stitches or clips are removed. Continue to keep your wound clean, dry and protected until healed and no seepage is present. Dressing should be changed as necessary.

Notify us if the wound appears red or begins to ooze. Some swelling is normal for the first three to six months after surgery.

My lungs and blood supply:

It is very important after surgery that you move as soon as possible. Pump your feet backwards and forwards and bend and straighten your non-operated leg at the knee.

This prevents blood pooling and forming clots in your legs and possibly travelling to your lungs.

You will be given a tailor made rehabilitation program to follow after surgery. You will start walking the second day after surgery with the use of walking aids. You will be instructed when you can put your full weight on your new knee.

Also, you need to take ten deep breaths every hour, to help prevent secretions pooling in the lungs. This can lead to a chest infection. At all costs, **avoid** smoking after surgery as this increases your risk of chest infection.

Risks and complications

There are risks in any type of surgery, not just knee replacement surgery. The general risks of knee surgery – such as; a poor reaction to anaesthesia or stroke are similar to most other types of surgery.

Specific risks/ complications

for a total knee replacement include:

Deep Vein Thrombosis (DVT) and Pulmonary Embolism (PE).

There are two serious consequences:

- DVT : Is a condition in which a blood clot forms in a deep vein, commonly in the leg. DVT symptoms can include, swollen and tender calf or calves, red areas on the leg, temperature differences between the two legs (leg with a clot may be warmer to touch), swelling in one area or on one leg, pain or tenderness in one leg.
- PE : Is when a blood clot breaks free from the vein wall and travels to the lungs which can cause death. Signs are usually in your breathing; shortness of breath, sharp pain in the chest/breastbone region (aching, burning, stabbing), increase in heart rate, increase in breathing rate, increase in pain when taking a deeper breath or when coughing/bending, develop a sudden cough, coughing up blood or bloody mucus.

Notify your surgeon *IMMEDIATELY* if you develop any of these warning signs. Should you not be able to contact your surgeon it is imperative you go to the nearest Emergency Department or local doctor.

Most people will be prescribed medication for 6 weeks. If you have been assessed to be at higher risk of DVT/PE, then you may be placed on Clexane injections instead. This threat is present any-time after your operation and lasts for several weeks after your surgery.

- **Infection** this may require antibiotics, further surgery, possibly the new knee joint to be removed and possible leg amputation.
- **Wear and Tear.** The artificial joint may fail or wear out. Surgical revision of the knee joint replacement may be required. The artificial joint will loosen or wear out. This can happen over a period but 9 out of ten knee joint replacements are still working after 10 years. Surgical revision of the knee joint replacement may be required.
- **Nerve or blood vessel injury.** There is a risk of damage to nerves or blood vessels in knee replacement surgery – as in any other kind of surgery – but it is extremely low.
- **Fracture.** The bones around the joint may break during or after surgery.
- **Dislocation.** The knee joint can dislocate. Re-operation is required to correct this.
- **Revision surgery.** The artificial joint may fail or wear out.

All risks are increased significantly in those who are obese or smokers.

Important things you need to tell your doctor following surgery

- Signs and Symptoms listed under Deep Vein Thrombosis & Pulmonary Embolism (page 3)
- Redness, swelling or warmth around the cut
- Leakage from the cut
- Fever and chills
- Severe knee pain that is not relieved by prescribed painkillers
- Sudden sharp pain and clicking or popping sound in the knee joint
- Loss of control over leg movement
- Loss of leg movement

- Further surgery planned for the future i.e; dental work, bladder catheterisation, examinations of the bowel, bladder, rectum or stomach

My Exercises

You will feel tired for a few weeks after surgery. You need to take things easy and return to normal duties, as you feel able to.

For the first four to six weeks following surgery, most of our patients require and receive some form of physiotherapy: either home or out-patient based or as part of care in a rehabilitation facility. It takes approximately 3 months to recover.

There are a number of movements to **avoid**:

- Avoid jumping - even from low surfaces.
- Avoid sudden jolts to the leg (e.g. stepping off kerbs).
- Avoid gaining weight, which puts extra stress on your joint.
- Keep to low - key activities at work and at recreation.
- Avoid kneeling on your new knee joint.

Looking after my knee joint

Joint replacements can become infected at any time after the surgery from the first post-operative day to many years down the line. You can take the following steps to help prevent infection:

- Take antibiotics before dental or any medical procedure.
- See your doctor to treat all suspected urinary tract infections.
- Look for signs of infection in the knee including pain, redness, swelling or increased warmth.

Keep in mind you need to protect your knee replacement to ensure a long lasting, successful result. Follow all instructions concerning any activity restrictions.

Returning to Work / Driving

It is important to discuss driving and returning to work with your surgeon.

If you have any concerns whatsoever about your new knee, do not hesitate to contact your surgeon.