

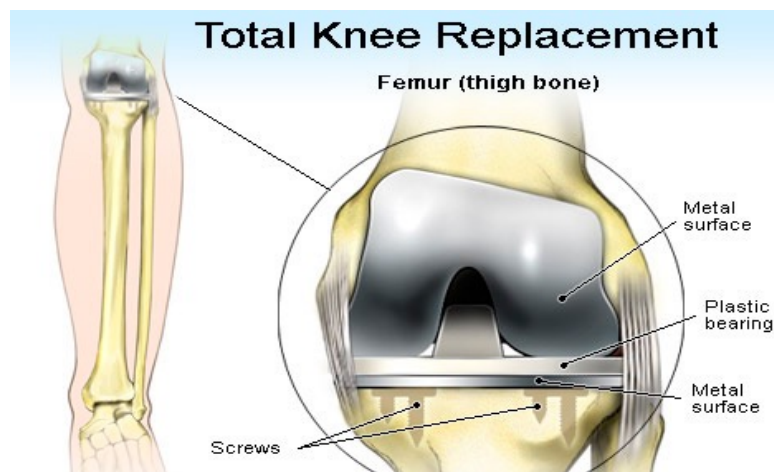
# Total Knee Replacement Surgery

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**Total knee replacement surgery** is a very effective treatment option in minimising or eliminating knee pain caused by arthritis when other conservative treatment methods have failed.

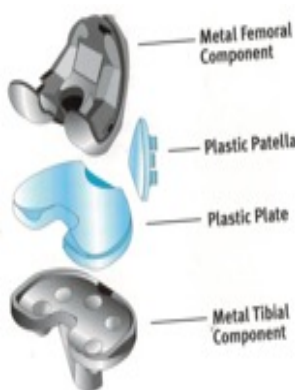
**Symptoms of arthritis:** Osteoarthritis is the commonest cause of knee arthritis. It affects 10% of the adult population and is a slowly progressive degenerative joint disease.

In arthritis, the protective cartilage lining of the joint is thinner than normal or completely absent. This can cause severe pain that limits your everyday activities. The pain may wake you up at night. The pain usually increases after activities and improves with rest. Other symptoms include swelling and deformity of the knee, loss of knee function and stiffness.



## The Procedure:

A total knee replacement operation is done under a general or a spinal anaesthetic. The joint is approached through an incision at the front of the knee. The damaged parts of the knee joint and cartilage are removed and replaced with metal and durable plastic components; The end of the thigh bone or femur is removed and replaced with a curved component to fit your bone, the end of the shinbone or tibia is replaced with a flat metal plate, whilst a smooth plastic component between the two acts as cartilage. Depending on the condition of the kneecap, a plastic button may also be added under the kneecap surface.



If knee pain has robbed you of some of life's simple pleasures – such as taking a walk, playing with your grandchildren, or working in the garden – then you may wish to contemplate Total Knee Replacement surgery

## You should consider having a knee replacement if:

- Medications and other non-operative measures are not controlling your symptoms.
- You have more bad days than good.
- Your quality of life is poor with your current treatment of arthritis
- You had to severely limit or are incapable of doing your daily activities because of knee pain.
- You would like to be able to resume low impact sports such as golf, swimming, walking or other activities
- You think your bad knee is going to continue to get worse.



## Benefits of total knee replacement:

- improved quality of life
- dramatically reduce knee pain
- improved range of motion of the knee

# Complications of Total Knee Replacement Surgery

Adapted from The American Association of Orthopaedic Surgeons 1999; 7: 311-324

Patients who have undergone total knee replacements are enjoying prolonged success of the procedure well into the second decade, with prosthetic survivorship in excess of 90% at 20 years. However, infrequently, complications can occur. Some of the more common complications include:

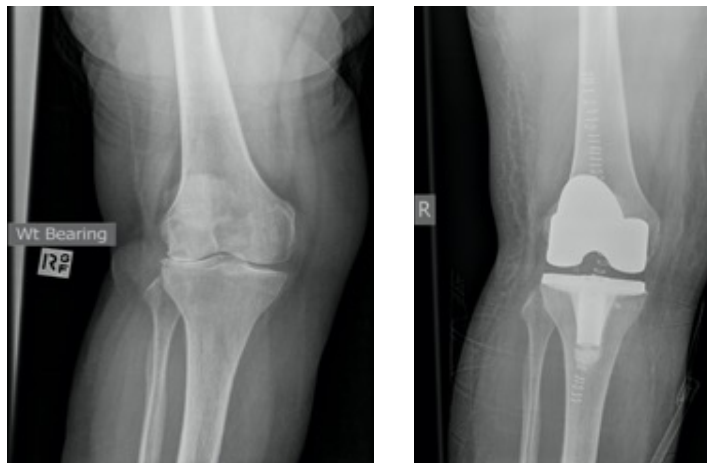
- **Thromboembolic diseases/Blood clots.** People may develop a blood clot in a leg vein after knee joint replacement surgery. Blood clots can be dangerous if they block blood flow from the leg back to the heart or move to the lungs. Blood clots occur more commonly in older people, people who are very overweight, people who have had blood clots before, and people who have cancer. Risk of fatal pulmonary embolism is 0.1%
- **Infection in the surgical wound or in the joint.** (1%) Infection is rare in people who are otherwise healthy. People who have other health problems, such as diabetes, rheumatoid arthritis, or chronic liver disease, or those who are taking corticosteroids are at higher risk of infection after any surgery. Infections in the wound usually are treated with antibiotics. Infections deep in the joint may require more surgery and in some cases the doctor must remove the artificial joint.
- **Nerve injury.** (0.5%) In rare cases, a nerve may be injured around the site of the surgery. It is more common (but still unusual) if the surgeon is also correcting deformities in the joint. A nerve injury may cause tingling, numbness, or difficulty moving a muscle. These injuries usually get better over time and in some cases may go away completely.
- **Vascular injury** (0.1%): The most common arterial complications are occlusion or thrombosis, partial or total arterial division, and formation of arteriovenous fistulae or false aneurysms
- **Blood Loss** which may require a transfusion
- **Stiffness:** How much you can bend your knee after surgery depends a lot on how much you could bend your knee before surgery. Some people are not able to bend their knee far enough to allow them to do their regular daily activities, even after several weeks of recovery. If this happens, the doctor may give you a medicine to relax your muscles and then gently force your knee to bend further. This may loosen tissues around the joint that are preventing you from bending it.
- **Persistent swelling:** Swelling can take many months to settle down after a total knee replacement
- **Failure of the Knee extensor Mechanism:** 1.5%. Include: Patella Fractures, Patella Baja or Patella Tendon Rupture
- **Dislocation of the patella (PF instability).** This is an uncommon complication of knee replacement surgery. If this happens, the kneecap may move to one side of the knee, and it will "pop" back when you bend your knee. This may not be painful, but it may make the knee feel unstable, and it may be uncomfortable. Dislocation of the kneecap interferes with the way your thigh muscles (quadriceps) work, and it usually needs to be treated with surgery.
- **Periprosthetic Fractures.** Example: patella (Kneecap), femoral or Tibial Fractures. These are uncommon.
- **Instability in the joint.** The knee may be unstable or wobbly if the replacement components are not properly aligned. You may need a second surgery to align the components correctly so that your knee is stable.
- **Loosening of the prosthesis** from the bone may occur after a total joint replacement. This may cause pain. If the loosening is significant, a revision of the joint replacement may be needed. New methods of fixing the prosthesis to bone should minimise this problem.
- **Wear:** Some wear can be found in all joint replacements. Excessive wear may contribute to loosening and may require revision surgery.
- **Prosthetic Breakage:** Breakage of the metal or plastic joint replacement is rare.
- **Persistent pain** past 1 year (5-10%)
- **The usual risks of general anaesthesia.** Risks of any surgery are higher in people who have had a recent heart attack and those who have long-term lung, liver or kidney disease
- **Other rare and improbable complications.**



This document doesn't provide a complete list of the possible complications, but it does highlight some of the most common complications following Total Knee Replacement

# Total Knee Replacement Rehabilitation Protocol

- Start early Mobilisation/Rehabilitation with a Physiotherapist on day one.
- Pain management/Pain team review day one
- Antibiotics are used for the first 24 hours after surgery
- Injections are given to stop blood clots
- Postoperative Xrays of your knee is usually done in recovery after surgery
- Blood test to check your blood levels on day one
- Wound care and review



Xrays showing the knee before and after total knee replacement surgery

## First week after discharge

- Check your incision daily. Follow instructions for incision care given to you at the time of discharge.
- You will not be driving. Someone will need to drive you to physical therapy.
- You will need help getting in and out of a car/van.
- Have someone available to help with meal preparation & bathing.
- Swelling of your incision and knee is normal. Continue to use ice and TED stocking to help reduce the swelling. Apply ice to your knee while elevated, 20-30 minutes four times a day. Do not apply ice to bare skin
- Do your exercises while your leg is elevated.
- Take pain medication before exercise sessions and with increased activity. Rest between activities.
- Constipation is a common problem. Talk to your nurse or pharmacist about a treatment plan using diet and medications.
- If skin clips are used, they should come out 10 days after surgery

## Two to four weeks after surgery

- Pain and swelling will slowly decrease. Continue to use ice to help reduce the swelling.
- You are very likely to still require strong analgesics for postoperative pain
- Elevate your leg 20 to 30 minutes four times a day.
- Increase the amount of time spent walking.
- Progress from using crutches or a walker to a walking stick

- Do not stand for more than 10 minutes without walking.
- Do not sit for more than one hour without getting up to walk.

## Five to eight weeks after surgery

- Swelling should continue to decrease.
- Continue your exercise program to increase the strength and motion of your knee. (You may need to continue attending physical therapy for 6 to 12 weeks after surgery)
- You will begin using one crutch or a cane 4 to 6 weeks after surgery.
- Gradually increase your walking distance.
- Your surgeon will inform you when to begin driving. (Usually 6 weeks post surgery)
- You may resume sexual activity. Be well rested beforehand and be prepared to rest after. Take pain medication prior to sexual activity.

## Six months after surgery

- You may have occasional discomfort and stiffness.
- You may have numbness on the outside edge of your incision, this is normal.
- Swelling will gradually disappear.
- You should be able to resume a normal walking pattern within **the first year**

# Living with your new Total Knee

Improvement of knee motion is a goal of total knee replacement, but restoration of full motion is uncommon. The motion of your knee replacement after surgery can be predicted by the range of motion you have in your knee before surgery. Most patients can expect to be able to almost fully straighten the replaced knee and to bend the knee sufficiently to climb stairs and get in and out of a car. Kneeling is sometimes uncomfortable, but it is not harmful.

Most people feel some numbness in the skin around your incision. You also may feel some stiffness, particularly with excessive bending activities.

Most people also feel or hear some clicking of the metal and plastic with knee bending or walking. This is a normal. These differences often diminish with time and most patients find them to be tolerable when compared with the pain and limited function they experienced prior to surgery.

Your new knee may activate metal detectors required for security in airports and some buildings. Tell the security agent about your knee replacement if the alarm is activated.

Infection can occur in your knee years after you've had surgery. Be sure to call your doctor if you notice sudden swelling, pain, and redness in your knee. Also, don't forget to tell your dentist about your knee replacement. If you need dental surgery, you'll have to take antibiotics before the procedure.

## Some of the minor disturbances of a total knee include:

- Clicking of the joint surfaces with stairs and walking
- A sense of stiffness throughout the knee after periods of inactivity
- Numbness on the outside of the knee
- Activation of metal alarms in airports
- Discomfort with kneeling
- Prolonged or even lifetime use of handrails to go up and down stairs



Almost all patients become less aware of these disturbances over time. Survey questions geared to measure satisfaction and improved function yield good or excellent scores in **greater than 90%** of total knee patients by **one year** after surgery.

### Allowed activities after a total knee replacement include:

Walking, Slow dancing, Bike riding, Golf, Bowling, Treadmill, Low impact aerobics, Swimming, Cross country skiing, Fast walking, Double Tennis, Certain weight machines, Rowing, Ice skating (with caution), Gardening.

### Activities Not Recommended

Roller blading, Downhill skiing, Running or jogging

Singles tennis, High impact sport: Soccer, Basketball, Football, Volley Ball

