

Total Knee Replacement

Patient Information



What is Total Knee Replacement?

Total Knee Replacement or TKR, is a surgical procedure that helps decrease pain in the knee joint(s) of patients suffering from arthritis (osteoarthritis, rheumatoid arthritis), injury or infection. These conditions may cause severe pain, swelling, limitation in motion and cause problems carrying out simple everyday tasks.

During the TKR procedure, the damaged parts of the knee (including the cartilage and bone) are replaced with artificial parts (prostheses). There are three components of knee joints that are replaced with artificial components. The lower part of thigh bone (femur) is replaced with a contoured metallic component designed to fit the curve of lower femoral bone. The upper part of shin bone (tibia) is replaced with a flat metallic component with a stem and a plastic component (specialized polyethylene) is fitted on this flat metallic component that allows the motion at the knee joint. The third component replaced is the patellar button that is placed underneath the surface of the knee cap. All three components are fixed with specialized material called bone cement.

Knee replacement surgery can help reduce pain in the knee joints, help with increased movement and mobility, and improve your quality of life.

Why is Total Knee Replacement surgery done?

Patients who are recommended total knee replacement surgeries are often those who have been experiencing severe pain in their knees for a long period of time. Although there are many causes for knee pain, the most common reasons include osteoarthritis (degenerative joint disease) and rheumatoid arthritis (causing chronic inflammation of joints).

The following signs can indicate the need for a knee replacement surgery:

- Recurring or persistent pain
- Difficulties in movement or limited mobility
- Pain experienced while performing simple activities of daily living
- Severe pain that leads to disturbed sleep
- Failure of non-operative treatments to provide relief from pain
- Stiff and swollen knees limiting activities of daily living
- Difficulty in walking, climbing stairs, sitting down and getting up.

Although most patients who undergo Total Knee Replacement are between 60-80 years, many patients need the procedure much sooner. Each patient is evaluated individually and recommendations for surgery are based on the patient's pain, disability, deformity and limitation in activities of daily living.

What do I need to do before the surgery?

If you have opted to undergo the TKR surgery, you will be asked to take pre-surgical testing, where staff will perform routine diagnostic tests so you can be cleared for surgery. The medical staff will also request you to provide complete information about your medical history and list any medications you may be taking.

You will also be given instructions and information about the following:

- Deep breathing and coughing exercises.
- Taking a shower before the surgery and washing the surgical area.
- Eating and drinking; you will be asked to refrain from eating or drinking anything on the morning of surgery.
- Bringing all x-rays and lab reports, walking frame (if you have one), eyeglasses and dentures (if you use them) and list of medicines with dosage and timings to the Hospital.

How is total knee replacement surgery done?

The surgical procedure is performed under anaesthesia. The surgical procedure takes about 1-2 hours to perform. During the procedure, the diseased bone and cartilage will be removed. It will then be replaced with metal shells and plastic pieces. These artificial components of a total knee replacement are referred to as the prostheses. After surgery, you will be moved to the recovery room, where you will remain for a few hours while your recovery from anaesthesia is monitored. After you wake up, you will be taken to your hospital room, where you will be administered and given medication to manage your pain. You will be permitted liquids when you are fully conscious and gradually you will progress to a soft diet.

It is normal to experience pain for several weeks after the surgery; this is typically managed with pain medication. The pain will normally subside after a few weeks of rest and strengthening exercises. If it does not ease, contact your doctor for medical advice. It is also normal to experience swelling for several months after the knee replacement surgery. A Continuous Passive Movement (CPM) machine may be placed under your operated leg, starting from 30 degrees for 2 hours. This will provide gradual movement and strengthening of the leg muscles.

What special instructions will I need to follow after the surgery?

After the surgery, you will need to follow the instructions below:

- You will be asked to keep the operated leg straight in an upright position on the bed.
- You can put weight on the operated leg as advised by your doctor.

- You may be required to wear the knee immobilizer when sleeping or when you are out of bed unless the doctor tells you not to wear it.
- You will be required to do deep breathing and coughing exercises (taught pre-operatively) at least 5 times per hour every day and preferably more often.
- Change position in the bed or chair at least every 2 hours to prevent pressure sores on your back and behind.
- While getting up from a chair, use both arms. Avoid low or overstuffed furniture, and use a pillow or cushion to raise your body while seated.
- While in the bathroom, use an elevated toilet seat. If possible, place a shelf in the shower at chest height for your things, to avoid bending. You can use a bathtub seat to sit while bathing. To reach your lower body during a bath, use a long handled bath sponge.
- You will be asked to consume a balanced diet, often with an iron supplement to promote proper tissue healing and restore muscle strength. Iron supplements may cause constipation. To avoid this, include fresh fruits and vegetables in your diet and drink 8 full glasses of water daily.
- You will be allowed to walk normally 1-2 days after the operation. In the beginning, you will be asked to walk with the help of different aids. Ask your doctor how much weight you may put on your recovering leg. You will also be taught to walk up and down the stairs.
- Do not drive until your doctor gives you permission to do so.
- Be careful and take special precautions to avoid falls and injuries, as a fall may interrupt the recovery process.
- In case you visit a dentist, notify him or her of the knee replacement surgery you went through.
- In case of infection such as dental, skin, urinary, respiratory or gastrointestinal infections, you must see the concerned doctor and get appropriate antibiotics to avoid infection in your knee implant.

At the hospital the physiotherapy team will guide you in performing gentle exercises to help improve the range of motion in the knee and strengthen muscles. The physical therapist will also develop a daily exercise program for you to follow at home. These will include the following exercises:

- Deep breathing (inhaling with the nose and exhaling through the mouth).
- Flexing and extending your feet at the ankle (moving foot up and down).
- Rotating feet at the ankle joint in clockwise, followed by anti-clockwise motions.
- Placing a wedge (such as a rolled up towel) under the knee, pushing the knee down, lifting the heel to straighten the knee and holding the pose for 5 seconds.

- With the wedge under your knee, pushing the knee and heel down.
- Pulling toes up towards yourself; pushing the back of your knee down onto the bed. Lifting the leg straight, just clear of the bed and holding the pose for 5 seconds.
- Sitting with your legs over the edge of the bed and lowering your foot on the operated leg gently towards the floor. Once you reach a right angle, gently swinging your leg backwards and forwards.
- Bending your knee up as far as your pain allows and holding it there for 5 seconds after which straightening it so that your leg is flat on the bed. Try not to hitch your hip up or use your hands to help move the leg.

What will be the impact of total knee replacement surgery on my life in the long term?

You may feel numbness in the skin around your cut. You also may feel some stiffness, particularly with excessive bending activities. Occasionally, you may feel some soft clicking of the metal and plastic with knee bending or walking. These issues typically diminish over time and most patients find these are minor, compared to the pain and limited function they experienced prior to surgery.

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

Call your doctor if you experience the following:

- Increased pain in your calf
- Tenderness or redness above or below your knee
- Increased swelling in your calf, ankle or foot.

These signs and symptoms may indicate the formation of a blood clot in the veins of your leg. This can be fatal if the clot moves towards the lungs, and therefore, it is important to not ignore these signs and symptoms.

Also be mindful if you notice the following as they may indicate an infection:

- Persistent fever (higher than 100 degrees)
- Shivering with chills
- Increased redness, tenderness or swelling of the knee wound
- Drainage from the knee wound
- Increased knee pain with both activity and rest.