



Specialist Centre for Orthopaedic Surgery

TOTAL KNEE ARTHROPLASTY (Total Knee Replacement)

The Knee Joint

The knee is a hinge joint, formed by the end of the femur (thighbone) and the end of the tibia (shinbone). The bones are coated in cartilage, which acts as a cushion between the two bones and allows the knee to move. In front of these bones is the patella (kneecap), which glides in a groove on the end of the femur.

Knee Joint Conditions

Total knee replacements are usually performed for people who have arthritis in the knee that is worsening and is no longer responding to non-surgical treatments. The most common type of arthritis is osteoarthritis, which happens with aging or previous injury to the knee joint.

The Operation

A Total Knee Replacement is the surgical removal of the diseased joint and replacing it with an artificial joint (prosthesis) that is attached to the femur and the tibia. Dr Hazratwala will decide whether the patella requires resurfacing or replacement during your surgery.

The Artificial Knee Joint

In most cases, bone cement is used to fix the artificial joint to the thigh and shinbone. Dr Hazratwala will have discussed with you the most suitable type of prosthesis for your condition and health. The operation takes between two and four hours. When you are in hospital, you will be given antibiotics. During hospital and while at home, you will receive tablets to thin your blood. Please inform Dr Hazratwala if you are taking Aspirin, anti-inflammatory drugs or blood thinning agents, e. g Warfarin or Plavix before surgery.

Benefits of Having the Surgery

The pain should gradually improve making it possible to take up activities, which could not have been done prior to surgery because of pain and stiffness in the knee.

Risks of Not Having the Surgery

The pain may become so severe that independence with every day activities such as showering, walking, shopping, gardening, climbing stairs, getting out of a chair, may be lost or difficult to do alone.

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RISK	CAUSES	TREATMENT OPTIONS
Blood Clots in the Legs and Lungs	Blood clots can form in the legs. This can happen (1 in 2 people); although drugs and compression stocking are usually used to help prevent this.	Long term blood thinners. Ultrasound scans to check status of blood clots. Vascular specialist referrals. Surgery to remove clots from either legs or lungs.
Wound Infection.	Infection in a knee replacement occurs (1 in 100 people)	Long term IV Antibiotic therapy. Further surgery to wash out the knee; surgery to remove the implants; surgery to amputate the affected limb.
Dislocation of the knee joint.	The knee joint/patella can dislocate as the muscles and ligaments are weakened due to the surgery.	Surgery to reduce the dislocations. Surgery to repair damaged tissues.
Intra-operative Fractures	The bones around the joint may break during or after surgery. This can occur (1 in 40 to 1 in 300 cases) depending on bone strength.	Surgery to repair the fracture. Plaster to hold the fracture in place.
Patella Fracture	The patella may fracture (1 in 650 people)	Surgery to repair the fractured patella.
The artificial joint will loosen or wear out.	The implants may fail due to wear and tear, obesity or infection. This may occur over time. At 10 years there is a 90% success rate of original implants.	Surgical revision of the knee joint may be required. Some or all of the implants may require replacing.
Numbness by the cut.	The skin may be numb due to the resection of nerves near the incision site.	In most cases this resolves within 12 months of surgery. In some cases this numbness is permanent.
Foot drop/ paralysis of the foot.	Damage to the peroneal nerve around the knee can occur during surgery (1 in 300 people)	This may be temporary or permanent. Further surgery may be necessary. The use of a splint may be required for life.
Vascular Damage	Damage to the blood vessels behind the knee can occur (1 in 300 to 1 in 500 people)	Surgical repair of the blood vessel may be required. Surgical amputation of the limb if blood supply is not able to be repaired.
Altered sensation of the knee	Damage to the nerves may cause a burning pain and inability to straighten the knee (1 in 125 people)	A nerve block can be performed to relieve the pain. Manipulation under a general anaesthetic to straighten the leg.
Stiff knee joint.	Inadequate administration of pain relief after surgery. Inadequate adherence to exercise regime after surgery.	Manipulation under a general anaesthetic to straighten the leg. Further surgery may be required to debride scar tissue formation.
Infection of the prosthesis years later.	Infective agents can be transported to the prosthesis via the skin, mouth or from other surgical procedures. (1 in 300 people)	The knee joint may have to be removed. To prevent this, you will need antibiotics before other procedures and dental work.

RISK	CAUSES	TREATMENT OPTIONS
Increased risks in obese patients.		A documented increase risk of wound infections, chest infections, cardiac and respiratory complications and thromboses.
Increased risk in smokers.	Smoking slows wound healing and affects the cardiac and respiratory circulation. Cease smoking prior to surgery to decrease the risks.	A documented increase risk of wound infections, chest infections, cardiac and respiratory complications and thromboses.
Death.	Death is extremely rare due to knee replacement	
Heart Attack	Reduced blood volume, underlying unknown cardiac diseases.	CPR and fluid resuscitation. Further treatment by a cardiologist or cardiac surgeon.
Lung collapse/ Difficulty Breathing	Small areas of the lungs may collapse during surgery and cause difficulty in breathing after surgery.	Chest x-rays, antibiotics and physiotherapy.
Retention of Urine	Urinary retention can occur (1 in 16 people) following surgery due to narcotics and immobility.	Nursing staff will place a catheter into the bladder to drain excess urine. Antibiotics may be given to treat infections. Surgery may be required if retention continues.
Bowel Obstruction	The bowel can spasm after surgery causing pain, bloating, nausea and vomiting. Bowel movements will also be affected by narcotic medication and reduced activity.	Medications can be administered to aid defaecation. Naso-gastric tubes may need to be passed to reduce stomach bloating. Surgery may be required if the bowel loses blood supply and becomes necrotic.
Blood Loss	Uncontrolled bleeding may occur during surgery. Bleeding into the wound after surgery.	Blood transfusion may be indicated. If a large haematoma develops, further surgery to drain the blood clots may be required together with antibiotic cover and a longer hospital stay.

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Alternative treatments

- 1. Walking aids** such as a walking stick.
- 2. An exercise program** can strengthen the muscles around the knee joint relieve pain.
- 3. Nonsteroidal anti-inflammatory drugs**, or NSAID's. Some common NSAID's are Mobic, Ibuprofen and Celebrex.
- 4. Corticosteroids** such as Prednisone can reduce joint inflammation but further weaken the bones in the joint. Side effects from corticosteroids are increased appetite, weight gain, and lower resistance to infections.
- 5. High Tibial Osteotomy.** The surgeon a wedge from the tibia and this can restore the joint to its proper alignment. This in turn aids in transferring the weight evenly across the joint. For some people an osteotomy relieves pain. Recovery from an osteotomy takes 6 to 12 months. The function of the knee joint may worsen and the patient may require more surgery in the future.

Recovering From Your Operation

After your surgery the nursing staff in recovery will closely monitor your breathing and pain levels. Once you are comfortable and breathing steadily, you will be returned to the Orthopaedic Ward. On the first day after surgery you will undergo x-rays, blood tests and the physiotherapists will assist you with learning to walk with crutches. You will generally be in hospital between 3-5 days following your knee replacement. If you experience any side effects, such as headache, nausea, vomiting, you should inform the nurses who will administer medication.

Pain

You will experience pain after your surgery. The main aim of being in hospital after your surgery is for you to learn to control your pain with the medications that are available. You will have pain around your joint for up to 6 months after surgery. Please read the pain relief pamphlet, which you will be given on discharge, for further information on how to control your pain.

During your stay you may be administered the following for pain relief;

- 1. Spinal** – This may be performed before your surgery in the operating theatre. This will numb your legs for up to 12 hours after surgery. This can cause discomfort at the injection site.
- 2. Epidural** – This may be performed before your surgery in the operating theatre. This will numb your legs for up to 12 hours after surgery. A small tube will be inserted into your back, which will be removed in recovery. This can cause discomfort at the injection site, headaches and nausea.
- 3. Injections** – Narcotic medications can be administered for severe pain.
- 4. Tablets** – Regular medications will be administered in the tablet form. These will include Panadol and some Narcotic medications.

Diet

You will have a drip in your arm, this will be removed by the second day after your surgery. Immediately after surgery you will be encouraged to drink small amounts of fluid, then you will be allowed to eat a small diet until the effects of the general anaesthetic have worn off.

Wound

Your wound will be an incision approximately 15 - 25cms down the front of your leg. The wound will be closed with sutures, which will remain for between 10 and 14 days. A dressing will cover the incision and you will have a drain in for 24-48 hours. This is in place to drain any blood and fluid from the wound into a small bag. The nurses will shower you the day after surgery. A waterproof dressing will be put on over the top. Your dressings will be changed as ordered by Dr Hazratwala. You will be discharged from hospital with your dressings in place. These will be removed at the post-operative appointment.

Exercise

The Physiotherapist will commence seeing you in hospital on the first day following your surgery. You are advised to take pain relief medication prior to performing any exercises. You will need to place ice therapy on your knee following exercises. You will need to be able to go up and down stairs with your crutches before you leave hospital. While resting in bed, you must paddle your legs up and down to prevent blood pooling in the legs and forming clots. You will also be given a triflo to help expand the lungs after surgery.

Blood Transfusion

For the first two days after surgery you will have blood tests performed to ensure you have adequate red blood cells. If your levels are reduced and you are experiencing symptoms, Dr Hazratwala may order a blood transfusion. Blood transfusions are not without risks and two information fact sheets have been provided for you to peruse. There will be a section on the consent sheet whereby you must indicate if you consent to a blood transfusion. If you have any objections to receiving a blood transfusion please inform Dr Hazratwala and his staff.

Driving

You will be unable to drive a vehicle for the first 6 weeks after your surgery. You will be advised at your **6-week** post operative appointment when you can commence driving again.

Looking After Your New Joint Replacement

1. Always have antibiotic therapy prior to any dental procedures or other surgical procedures to prevent the risk of infection to your implants
2. Your new joint will set off metal detectors at the airport. Wear loose clothing to ensure your scar may be easily visualised by airport staff.
3. High impact activities will reduce the longevity of your joint replacement. Ensure you perform regular, low impact exercises often.
4. Your new joint may click or clunk as the bone surfaces have been replaced by metal and plastic.

Questions

If you have any further questions about the surgery, please do not hesitate to call and speak to the Practice Nurse Alicia on (07) 4727 4111.