

TOTAL KNEE REPLACEMENT

What is a total knee replacement?

It's the surgical substitution of damaged cartilage in the knee by means of an artificial bearing surface. This is obtained by sawing off the distal femur, the proximal tibia and the articular surface of the patella (knee cap). The main purpose of this substitution is pain management and the correction of deformities of the knee caused by different diseases that affect knee cartilage. This surgery can also be named: total knee arthroplasty and knee prosthesis.

Why is a total knee replacement necessary?

Damaged cartilage around the knee can be caused by many pathological conditions, resulting in cartilage degeneration and wasting that produces abnormal bone on bone friction. This abnormal friction causes different degrees of pain. At the beginning pain can be managed with non steroidal anti-inflammatory agents, weight loss, limitation of high impact activities, special exercises, physiotherapy, intraarticular injections, knee braces and the use of a cane. When all these recommendations to treat knee pain fail, and the extent of pain felt has an important limitation on daily activities, it is time to consider a knee replacement.

Not only will knee replacement eliminate pain, it will also bring back mobility, correct deformities and it will increase your capacity to perform daily activities thus highly increasing your quality of life.

How is a knee replacement done?

This procedure is performed while the patient is under general or epidural anaesthesia. Surgery substitutes damaged cartilage by use of artificial components made of metal alloys and plastic. The surgeon will substitute all three articular surfaces in the knee which include distal femur, proximal tibia and patellar surface.

Metallic components are made of a very resistant and biologically friendly alloy made out of iron, cobalt, chromium, nickel and titanium. Plastic components are made out of an extremely tough polyethylene which is very resistant to wear. To adequately fixate the above components to the patient's knee, we regularly use a unique bone cement (Cemented Knee Arthroplasty), but for some special cases the implant can be directly fixated on the knee without the use of bone cement using a press fit technique (Uncemented Knee Arthroplasty).

How long will the recovery take after Total Knee Replacement?

Recovery time varies among patients. We usually encourage patients to start exercises immediately after surgery. Patients start walking the day after surgery with the help of a walker and activities such as climbing stairs, driving and swimming can be started after 2 weeks. We encourage the substitution of the walker for a cane after the second week and patients can usually walk without a cane after 4 weeks.

What are the benefits of undergoing a Total Knee Replacement?

The main benefit is the complete or almost complete disappearance of knee pain. Some patients still perceive some amount of knee pain after surgery. This is considered as mild pain, a normal consequence of the surgery and muscle stiffness because of prolonged inactivity before surgery. This mild pain can continue for a few months after surgery but it will progressively get better after muscle function improves. It will also be normal to have some discomfort associated with cold weather, humidity and excess use. Pain will always be mild and will easily be managed by the use of simple over-the-counter painkillers.

Two additional benefits from surgery are correct knee alignment and increased knee mobility. Recovery of normal movement will depend on how rigid the knee was before surgery.

What are the potential risks of a Total Knee Replacement?

As in any surgical procedure, there will always be potential risks and complications. Remember that knee replacement is considered a major orthopaedic surgery. Patients should let their doctors know beforehand of all pre-existing medical conditions. To determine the exact surgical risks, your doctor will perform a complete physical examination and will request a complete set of blood and urine tests, chest x-ray and E.K.G. These tests will be evaluated by an Internist and by an Anaesthesiologist. All medical problems found during this evaluation should be assessed before surgery. The anaesthesiologist will inform you about the type of anaesthesia to be used and potential risks.

What are the potential complications that could occur with a Total Knee Replacement?

The most serious complication is knee infection. It can occur superficially in the surrounding soft tissue of the knee, or it can occur deeply surrounding the implant. It can occur while the patient is hospitalised or once the patient is home. It can also happen a few years after surgery.

Superficial infections are treated with antibiotics while deep infections are treated with surgery. Most likely the surgeon will have to temporarily remove or, in some extreme cases, a definitive removal of the knee implants.

One of the most common causes of prosthetic knee infection is the presence of an infection somewhere else in the body that disseminates through the blood stream from its original site and infects the knee. To prevent this, all patients who have a knee replacement should be on antibiotics before dental procedures, urinary tract procedures and catheters, and any kind of surgery. If there is any kind of infection anywhere in the body all patients must be promptly placed on antibiotics.

Other less frequent complications related directly with Knee Replacement are:

Aseptic loosening: this is the most frequent mechanical problem encountered after total knee replacement. It causes pain and swelling. If loosening is severe, implants must be surgically removed and substituted for a new implant.

Knee cap dislocation: Patients who have severe deformities of the knee that are corrected during surgery are at greater risk of presenting knee cap dislocation after surgery. Usually patients can spontaneously reduce the dislocation. If the problem is recurrent, further surgery might be needed to definitely solve the problem.

Implant rupture: This is a rare complication. If this occurs, surgery will be necessary to change the ruptured implant.

Implant wear: Implant wear occurs over a long period of time. Implant wear particles can result in aseptic loosening of the implant. They will have to be surgically removed and changed with new implants.

Vascular or nervous injury: Patients who have severe deformities of the knee are at greater risk of this rare complication. Vascular injuries are a severe complication that may require further vascular surgery. Nervous injury usually resolves itself over time.

Deep venous thrombosis and pulmonary embolism: This is the formation of blood clots inside the deep veins of the legs and can occur in both legs. If the blood clots become loose, they can travel and lodge deep in the lung vessels causing pulmonary embolism. We routinely use blood thinners in all patients to prevent these serious complications.

Is Total Knee Replacement a definitive surgical procedure?

Most elderly patients might expect that their new knee prosthesis will be the only one and it won't be necessary to have it replaced for the duration of their lives. Knee prosthesis will bring them many years of pain-free knee movement. The average durability of a total knee replacement in patients over 65 years is 15 years. In younger and more active patients, implants may last between 10 and 15 years and will have to be surgically removed and changed because of aseptic loosening or wasting.

Dear patient: if you have any doubts or questions regarding knee replacement surgery, please contact us to let us know all your worries. Remember that we are here to help you.

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NOTE: The main reason for the above information is to aid patients. We are not responsible for the decisions made by patients without previously consulting their attending physician.