

TOTAL KNEE REPLACEMENT COMPLICATIONS



FREEDOM
FROM PAIN,
MOVEMENTS
FOR LIFE



Dr. Vivek Mittal

M.B.B.S., M.S. (Ortho.), ASIF FELLOW (Austria)
Ranawat Fellowship (for HIP & KNEE Replacement, USA)

**DIRECTOR AND SENIOR CONSULTANT
JOINT RECONSTRUCTION AND ORTHOPAEDICS**

We understand surgery is not a pleasant prospect for anyone, but for everyone who is crippled with knee arthritis, it could mean the difference between leading a near normal life or putting up with a lifetime of worsening debilitating condition.

Continued advances in medicines, anesthesia and surgical techniques has significantly increases the success of total knee replacement surgery while simultaneously reducing the risk associated with it, considering the complexity of the procedure. But complications can occur and as a patient, you must be aware of these prior to making a decision. You and your family should discuss all of your concerns thoroughly with your Orthopedic Surgeon prior to surgery so that you fully convinced that this is the procedure for you.

Complications can be medical (general) or those specific to the Knee.

Medical complications include those of the anesthesia as well as your other medical comorbidities related, almost any medical condition can occur so this list is not complete. Few of them include:

- *Allergic reactions to medications*
- *Blood loss requiring transfusion with its low risk of disease transmission*
- *Heart attacks, strokes, kidney failure, pneumonia, bladder infections*
- *Complications from nerve blocks such as infection or nerve damage*
- *Serious medical problems can lead to prolonged hospitalization or rarely even death*

Complications specific to the Knee

Infection

Infection can occur after any operation. Being a foreign body artificial joints are always at more risk of infections especially with any dental work or if there is persistent source of infection in the body like untreated urinary tract infection or another surgical procedure which has got infected. Although infection rates after joint replacement surgery are very low (approximately 1%), yet, as stated even this percentage is very significant.

Patients with Diabetes, Rheumatoid arthritis, Psoriasis, Renal & Hepatic Compromised patients, HIV patients, h/o past infection like TB, Chronic urinary tract infection, etc. are at a higher risk for developing postoperative infections.

Lot of precautions is taken before & during surgery to prevent wound infection, which includes preoperative control of diabetes, optimization of rheumatoid (& other autoimmune diseases), chronic kidney / liver disease, skin disorders to name a few. Preoperative screening with blood test & urine routine and culture test are done. Antibiotics, Sterile operation rooms with laminar airflow and space suits are preferred during surgery.

Presence of unexplained pain, rest pain, persistent pain, swelling or redness in and around the operated scar area, fever, malaise should warn you to inform your surgeon.

Infections caused by low virulence infections are usually superficial and responds very well with antibiotics. But if they do not respond to antibiotics alone or instead infection was caused by high virulence organism, then further surgery procedure like surgical debridement (joint cleaning) may be required. If infection persist or increases despite adequate antibiotics or joint cleaning then your artificial joint may need to be removed and replaced by cement antibiotic spacer to eradicate infection in stage 1 and revision Total knee replacement in stage 2 after 10 to 12 weeks

Wound healing problem or wound dehiscence

is seen more in elderly, obese patients, those not mobilized well before surgery, poor quality muscles and bone, diabetes, etc. In some no cause could be found.

Blood Clots (Deep Venous Thrombosis)

Though less common, blood clots in the legs veins is one of the most serious complications of total knee replacement surgery. They can form in the calf / thigh / lower abdominal veins after surgery and can break and then travel to the lung causing Pulmonary embolism, a serious and even life-threatening complication.

Adequate precautions are taken before & after surgery to prevent them from occurring; like blood thinners like LMWH, Aspirin, Rivaroxaban / Xarelto, Calf pumps, Early Mobilization & Exercises, Stockinet's etc. Blood thinner medicines are prescribed 3-4 weeks after surgery to prevent blood clot complications.

Sometimes they preexist in some patients. These patients are prone for deep vein thrombosis because of various reasons like immobility, obesity, hypercoagulable state, oral contraceptives, malignancy etc.

*If you get calf pain, persistent swelling of operated limb, you should notify your surgeon. If you notice sudden shortness of breath even after few days of total knee replacement, please immediately **rush to hospital** & call your doctor.*

Stiffness in the Knee

Ideally after knee replacement surgery, your knee should regain preoperative range of motion, but on occasion it may not bend much. For unexplained reasons, some patients form excessive scar tissue in the knee after surgery, resulting in diminished bending of the knee (a condition called arthrofibrosis). It is impossible to predict ahead of time which patients might develop arthrofibrosis. In these patient's manipulation of the knee is required to break down the excessive scar tissue, this means going to the operating room where the knee is bent for you while under anesthesia. Alternatively arthroscopic surgery to clean up the excessive scar within the knee joint may be required, if nothing helps.

Ligament Injuries

There are a number of ligaments surrounding the knee. These ligaments can be torn during surgery or break or stretch out any time afterwards. Ligament injury to inside of the knee (medial collateral ligament) can be of serious consequence requiring reoperation, or use of revision implants during surgery.

Patellar Complications

Occasionally the knee cap does not track properly on the femoral component causing it to jump out"as the knee bends. The chance of this occurring is very less with the current generation of total knee implants. It can lead to wear of patella button. If persistent, then requires reoperation for correction.

Damage to Nerves and Blood Vessels

Rarely these can be injured at the time of surgery and can cause debilitating. Nerves and blood vessels run very close to the knee joint. Nerve damage can (rarely) occur with knee replacement. The most common nerve damaged is the nerve to the muscles that bring the foot up toward the face (the peroneal nerve). The odds of this occurring are very low. If it does occur, the affected nerve usually recovers after 6 to 12 months. Quite commonly the skin around the knee feels numb because of small skin nerves that get cut at surgery. Sensation usually returns to normal within a few months. Arterial injury (popliteal vessel injury) is an uncommon but serious complication. The major arteries of the leg lie just behind the knee joint. Once injured, blood vessels are explored and repaired by a vascular surgeon. If not, you could even lose your leg. The chance of this occurring is extremely small.

Fractures or Breaks in the Bone

Incidence of such fractures is low. Fractures or breaks can occur during surgery in severely osteoporotic bones. Sometimes patient also develop stress fracture around knee without any fall especially those with severe deformity and who delays surgery for long. These fractures can be managed successfully during the surgery with special implants. Sometimes fractures are noticed only on post operative x-rays, and they are managed by modifying postoperative rehabilitation protocol or rarely may requires resurgery.

Fracture around the implant (peri-prosthetic fractures) can happen many weeks or months after the surgery. These peri-prosthetic fractures require fixation for

restoration of functions.

Aseptic Loosening

It is the most important long-term problem & the reason for revision of total knee replacement surgery. Loosening of the prosthesis from the bone is the most important long-term problem. However good news is, Current generations of implant have good survivorship. Good surgery, choice of correct implant with proven design and good survivorship, maintaining good quality of bone & muscle, maintaining weight and avoiding high impact activities are some of the factors which delay this complication. As implants gets loose & bone quality & quantity becomes poor, Revision Total knee Replacement surgery stays the ultimate solution.

Cosmetic Appearance

The knee may look different than it was because it is put into the correct alignment to allow proper function.

Leg length Inequality

Unlike total hip replacement, this is a very unusual complication after total knee replacement. This is most likely to happen when a patient with significant deformity of both knees chooses to undergo one knee operation at a time. This happens due to the fact that a corrected knee is straighter and hence longer.

Dislocation

Atraumatic knee dislocation is an uncommon complication where the ends of the knee joint lose contact with each other or the plastic insert may come out of tibial base plate. Dislocation of plastic component alone is a rare complication and unfortunately needs surgery to replace the plastic insert with a new one. Atraumatic dislocation of TKR is usually secondary to implant malposition, mismatch gap balance, incompetent extensor mechanism or medial collateral ligament. This requires reduction under anesthesia; however, surgery is usually needed for correction of all factors responsible.

Allergy to the Metal Parts of Implant

Allergy to the metal parts of the implant has occasionally been reported. People who know they have metal allergies should mention to their surgeon before surgery. Metal allergies are rare and also the tests are not completely reliable. Oxinium Total Knee implant and Gold Knee are completely inert and can be successfully implanted in these patients.

Decision to undergo surgery is an important one. I hope the information mentioned here helps you understand the pros and cons of surgery there by giving you a balanced perspective.

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Appointment: +91 - 8750 106 106, 8750 107 107, 8750 140 140

E-mail: ask@drvivekmittal.com Website : www.drvivekmittal.com



**ARTHRITIS & JOINT
REPLACEMENT CLINIC**

15, Jain Mandir Road, New Delhi-110001
Near hotel "The Connaught" / Shivaji hockey Stadium
Timings: Mon to Fri - 6.00 pm to 8.00 pm