Kalyani's Knee & Shoulder Clinic

कल्याणी घुटना एवम कंधा क्लिनिक

Total Knee Replacement (TKR)

Patient Awareness | Knee Arthritis & Joint Replacement

Appointments: 9554066663, 9554066664, 9219200378

Address: Umaraha Market, Varanasi

What is Total Knee Replacement? Total knee replacement is an operation for advanced knee arthritis where the damaged joint surfaces are replaced with metal and high-quality plastic components. The aim is to reduce severe pain, correct deformity, improve walking and restore day-to-day function when medicines, physiotherapy, injections, braces or knee preservation options are no longer sufficient.

Knee preservation message: Every painful knee does not need replacement. Early arthritis may be managed with weight control, physiotherapy, activity modification, injections, bracing, arthroscopy in selected cases, or realignment surgery such as HTO. TKR is usually considered when arthritis is advanced and quality of life is significantly affected.

Who may need TKR?

- Advanced osteoarthritis with severe cartilage loss or bone-on-bone changes.
- Pain affecting walking, stairs, sleep, work or daily activities.
- Knee deformity such as bow-leg or knock-knee that is no longer correctable by simpler measures.
- Stiffness, swelling and loss of confidence despite non-operative treatment.
- Failed or unsuitable knee preservation procedures in an appropriate patient.

Common symptoms

- Persistent knee pain, usually worse with walking, standing or stairs.
- Morning stiffness or stiffness after sitting for long periods.
- Swelling, warmth, creaking or grinding sensation.
- Reduced walking distance and difficulty squatting or sitting cross-legged.
- Progressive deformity, limp or feeling that the knee may give way.

When to seek early consultation

- Pain is limiting work, walking, sleep or desired activity.
- Repeated swelling, locking, instability or falls.
- Increasing bow-leg/knock-knee deformity.
- You have been advised knee replacement but want to understand knee preservation options first.
- You need a clear plan for conservative care, HTO/partial replacement, or TKR.

Examination and diagnosis

History: pain location, walking distance, night pain, stair difficulty, medicines, injections, physiotherapy, previous surgery and patient expectations are reviewed.

Clinical examination: walking pattern, limb alignment, swelling, tenderness, range of motion, deformity correction and ligament stability are assessed.

Imaging: standing knee X-rays and long-leg alignment X-rays assess arthritis severity and deformity. MRI may be used when the diagnosis or associated problems need clarification.

Fitness assessment: diabetes, blood pressure, heart/lung status, dental/skin infection risk, weight and medication review are important before surgery.

Technical details of TKR

Anaesthesia: usually spinal/regional anaesthesia, general anaesthesia, or a combination depending on the patient and anaesthesia team.

Surgical principle: damaged cartilage and a small amount of bone are removed from the femur and tibia; the knee is balanced and aligned.

Implants: metal components are fixed to the femur and tibia with a smooth plastic insert between them. The kneecap may be resurfaced or preserved depending on findings.

Fixation: implants may be cemented or cementless depending on bone quality, implant design and surgeon preference.

Recovery plan: early knee movement, walking with support, physiotherapy, swelling control and progressive strengthening are essential.

Total Knee Replacement: Treatment Pathway and Patient Guidance

Treatment stage	What it includes	When it is useful
Non-operative care	Weight management, physiotherapy, activity modification, pain medicines, injections, walking aids and brace.	Early or moderate arthritis, or patients not ready/fit for surgery.
Knee preservation options	HTO/realignment, cartilage/meniscus treatment or partial replacement in carefully selected cases.	Younger/active patients, one-compartment disease, correctable deformity or localised damage.
Total knee replacement	Replacing damaged knee surfaces with implants and restoring alignment, balance and movement.	Advanced arthritis with major pain, deformity and functional limitation despite other treatment.
Rehabilitation	Early mobilisation, exercises, swelling control, gait training and progressive strengthening.	Essential after surgery to achieve good range, strength and confidence.

TKR and knee preservation: key difference

Feature	Knee preservation approach	Total Knee Replacement
Main aim	Preserve natural joint and delay replacement.	Replace worn joint surfaces to relieve end-stage pain.
Best suited for	Selected early/moderate arthritis, localised damage or correctable alignment.	Advanced arthritis, severe pain, deformity and functional limitation.
Activity goal	Maintain activity with natural knee where possible.	Reliable pain relief and improved daily function.
Future options	Replacement may still be possible later if arthritis progresses.	Implants can last many years but revision may be needed later in some patients.

Preparation before surgery

- Control diabetes, blood pressure and other medical conditions.
- Stop smoking/tobacco and optimise weight if advised.
- Treat skin, dental or urine infections before surgery.
- Strengthen quadriceps and learn post-operative exercises.
- Plan home support, toilet/chair height and safe walking space.

Possible risks to discuss

- Infection, blood clot, stiffness, persistent pain or swelling.
- Nerve or blood vessel injury is uncommon but important.
- Implant wear/loosening over time; revision may be needed later.
- Medical risks depend on age and health status.
- Good rehabilitation reduces stiffness and improves function.

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For knee arthritis, knee preservation options, total knee replacement assessment and rehabilitation guidance

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