

Knee Implants

What is the role of knee implants in a knee replacement surgery?

Do you feel constant pain in your joints? Everyday routine adversely affected by poor mobility? Do you find yourself struggling to achieve your daily goals? Depending on the condition and pain level of your knees, medications and therapies can be your best recourse. However, when these options fail, a partial or a **total knee replacement surgery** is recommended.

Knee replacements are operative substitutions of a knee joint, where the femur and tibia bone meet with an artificial joint or implants. The procedure facilitates the knee to move properly, alleviating pain from joint trauma, rheumatoid arthritis, or degenerative diseases like osteoarthritis consequently helping in leading a better quality life.

Knee replacement surgery cost might vary so before you choose from the available list of **knee replacement doctors**, study their experience, expertise and the facilities provided at the hospital. Finding **Knee Implants in Patna** isn't tough but to choose the best **knee replacement doctors** needs a bit of enquiry and study.

When is it the right time to opt for a knee replacement surgery?

- Are you experiencing **intense knee pain or tautness** there by preventing you from carrying out daily chores? For instance, walking, climbing upstairs, standing up after sitting, etc.
- Do you feel **moderate, but incessant knee pain** that is persistent even while resting or sleeping?
- Have you sensed **chronic knee inflammation and swelling** despite medications or therapies?
- Do you see any **knee deformity**?

Knee's condition and physical activity play an important role in deciding the type of implant

Fixed bearing: Most patients receive a fixed implant. It is not as strong and has less mobility when compared to the other implant, but is best suited for patients who are not overweight and do not lead an active lifestyle. An ideal recommendation for this composition is generally elderly patients who will not put serious wear-and-tear on the implant and are unlikely to require a revision. This is because a metal implant is attached to the tibia and a polyethylene component is attached atop it, forming a cushioned surface.

Mobile bearing: This design lets the plastic cushion of the tibial component rotate to some degree, giving patients more flexibility on the medial (inner) and lateral (outer) sides of the knee. These are best suited for young and active lifestyle patients. It ideally is known to reduce the risk of dislocation.

Different knee implant materials used and their purposes

Metal on plastic: This is the most common kind of implant. It features a metal femoral component that sits on a polyethylene plastic spacer attached to the tibial component. Metals frequently used include cobalt-chromium, titanium, zirconium, and nickel. It is inexpensive and has a record of being safe. Nevertheless, with plastic implants, an immune reaction can be

actuated by tiny particles that wear away from the spacer leading to bone breakdown, loosening, and failure of the implant.

Ceramic on plastic: This type uses a ceramic femoral component instead of metal or a metal component with a ceramic coating and rides on a plastic spacer. It is best used on patients who show sensitivity towards the use of nickel, though; plastic particles can lead to an immune reaction.

Ceramic on ceramic: The femoral and tibial components are both made of ceramic thus helping circumvent any reactions with the body. Conversely, they can break under heavy pressure into pieces leading to surgery to remove them.

Metal on metal: Both the femoral and tibial components are created out of metal. Since metal may lead to traces in the bloodstream, they are not as popular. These can cause inflammation, pain, and probably even organ damage therefore they are better used for younger and active patients preferably men since they last longer.

Does the material match the following criteria?

- All materials must be biocompatible, which is to say, they can be laid in the body without creating a rejection.
- Their strength and shape should be retained for a long term.
- They should be capable of duplicating the knee structures they are proposed to replace. For instance, strong enough to take weight, flexible to bear stress without breaking, and the ability to move smoothly against each other as and when required.

Understanding the three components of a knee implant

Patellar component – This piece is dome-shaped to go with the resurfaced shape of the patella. Since the patella rests

against the femur, the alignment of the patellar component along with the femoral component is fundamental for proper functioning.

Femoral component– This piece fastens to the end of the femur. Since it possesses a groove, it can allow the patellar component to smoothly move upwards and downwards when the knee bends and straightens.

Tibial component – This part is fastened to the tibia for stability and is a flat metal platform with a cushion of strong and durable plastic. Irrespective of whichever implant is opted by the doctor, the same basic function has to be offered, which means to substitute your unhealthy bone and reduce the pain. It will help your surgeon to pick the right prosthetic device after knowing your activity level, age anatomy and weight. Ultimately, the implant designs are made as per the complexity of the joint and more often to mimic the motion of your regular knee. The objective is that you should be able to live a normal life. Instead of wondering, “What are the best options for **best orthopedic knee surgeons in INDIA?**” get in touch with AIOR team

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