Knee Replacement Handbook

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Total and Partial Knee Replacement

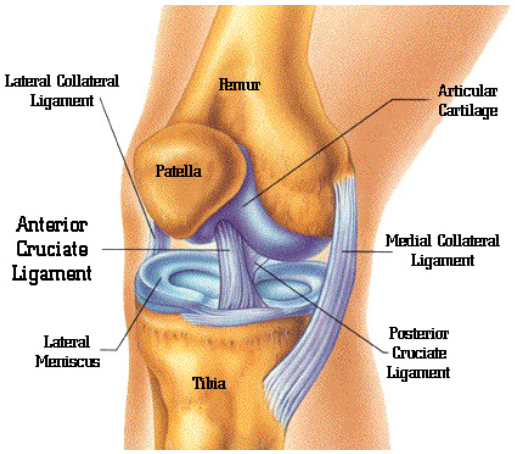
Total Knee Replacement/Arthroplasty (TKA)

Indications for Surgery:

- Pain which affects your activities of daily living
- Difficulty sleeping due to pain
- Knee swelling/inflammation
- Deformity of the knee
- Stiffness or loss of motion
- Certain types of hip fractures
- Failure of conservative treatments (medications, therapy, activity modification, attempts at weight loss, walking aids, etc.)

Normal Knee Anatomy:

The knee is the largest joint in the body and is created by three bones: the femur (thigh bone), the tibia (shin bone) and the patella (knee cap). The knee is a very complex joint that flexes and extends (bends/straightens), translates (slides) and rotates.



Knee Anatomy with Arthritis:

The ends of all of these bones are normally covered in a nice thick layer of protective articular cartilage (cushion/shock absorber). Over time or after injury, this layer of cushion can wear out just like the tread on your car tire, leading to “bone on bone” contact or arthritis. At a certain point, the “bald tire” may need to be replaced much like an arthritic joint may need a new joint to allow it to function and be relatively pain free.

Knee Anatomy after a Total Knee Replacement:

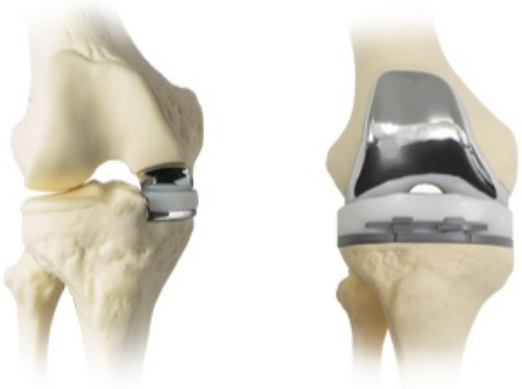
A knee replacement consists of a metal femoral component or "cap" that covers or resurfaces the end of the femur, a metal baseplate with a short stem/keel that goes on the top of the tibia, a plastic spacer/insert that goes between the femoral and tibial components and a plastic button that goes on the back side of your own patella (knee cap). The components are accurately sized and positioned utilizing custom, single-use, patient specific plastic molds that will be used during the case. By accurately positioning and aligning these components, the knee should feel and function more normal. In addition to this, accurate alignment should help the implants to last much longer than a knee done with less accurate conventional alignment, just like a mal-aligned tire on your car may wear out much quicker than a well-aligned tire.

Partial/Unicompartmental Knee Replacement ("Uni"):

A unicompartmental knee replacement is an alternative to a total knee replacement when only one compartment of the knee needs replaced. The knee joint can be divided into three separate compartments: the medial (inner) compartment, the lateral (outer) compartment, and the patellofemoral (knee-cap) compartment. If only one of the three compartments is affected, then a "uni" could be a good option where a metal femoral and tibial component are placed along with a plastic spacer between these metal components.

Some of the advantages of a "Uni" are:

- More "normal" feeling knee than a total knee
- Less invasive than a total knee with less pain
- Quicker recovery than a total knee (typically half the time)
- Less chance of stiffness and other complications compared with a total knee



"Uni" vs. Total Knee

Potential Risks/Complications from Hip and/or Knee Replacement Surgery:

As with any surgical procedure there are potential risks and complications. Although these are rare, it is important to be aware and informed of these potential risks/complications:

- Pain
- Scar
- Bleeding
- Infection
- Fracture
- Stiffness
- Numbness around the hip and/or knee incision
- Blood clot
- Need for blood transfusion
- Dislocation
- Leg length inequality
- Component loosening
- Prosthesis wear/breakage
- Damage to neurovascular/musculoskeletal structures (blood vessels, nerves, muscles, tendons, bones, etc.)
- Failure of procedure
- Need for future procedure
- Reaction to medications/anesthesia
- Death