

# The Surgical Procedure for Total Knee Replacement

Total knee replacement is a surgical procedure which involves the end of the femur (thigh bone) and the top of the tibia (shin bone) being resurfaced. The artificial knee implant is composed of metal and polyethylene – a durable plastic. The femoral and tibial components glide together to replicate the knee joint.

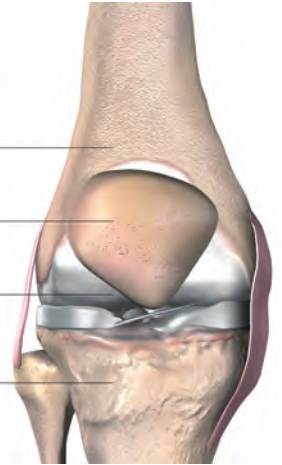
## A Normal Knee

**Femur (thigh bone)**

**Patella**

**Healthy Cartilage**

**Tibia (shin bone)**



## Step 1: Knee Incision

To begin the surgery, the surgeon will make an incision on the front of your knee, cutting through the tissue surrounding the muscles and bone. The kneecap, or patella, is rotated to the outside of the knee, to help your doctor see the area where the implant will be placed.



## Step 2: Prepare the Femur

The surgeon will use special cutting instruments to measure and make precise cuts of the bone. The end of the femur (thigh bone) is cut into a shape that matches the corresponding surface of the metal femoral component.



## Step 3: Implant the Femoral Component

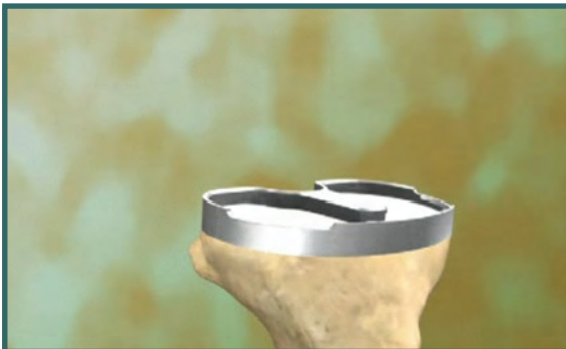
The femoral component is then placed on the end of the femur.

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## Step 4: Prepare the Tibia

The tibia (shin bone) is prepared with a flat cut on the top. The exposed end of the bone is sized to fit the metal and plastic tibial components.



## Step 5: Implant the Tibial Component

The metal tibial component is inserted into the bone. Then a plastic insert is snapped into the tibial component. The femoral component will slide on this plastic as you bend your knee.



## Step 6: Implant Patella

If needed, the patella (kneecap) is also cut flat, and fitted with a plastic patellar component. The surgeon may choose to use cement to help fix the implants onto your bone.



## Step 7: Final Implants

Your surgeon will conduct several tests during the surgery to ensure the correct sized components are used to help you regain good balance and motion in your knee. Your surgeon will then close the wound in layers with stitches and/or staples.