

Knee Replacement

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Knee Replacement

Introduction

The knee joint is among the strongest, largest and most complex joints of the body. Whenever you walk, sit, squat, turn around, drive or perform many other seemingly simple movements, you are depending on the knee for support and mobility. When your knee is healthy, you may take it for granted, not giving a thought about the job it does for you. But once it starts to become painful, stiff, and you are forced to restrict certain activities, you may come to realize how much freedom of movement means to you.

Fortunately, today's advanced medical technology makes it possible to replace the knee joint with an artificial one that reduces pain, allows you to strengthen your legs, and improves your quality of life.

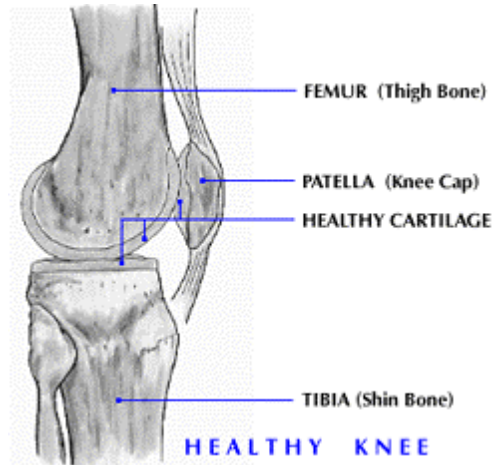
Knee replacement is a procedure performed more than 300,000 times a year in the U.S., and one that offers a high rate of success.

In this site, we will discuss how your knee works, how arthritis can cause your pain, and the knee replacement surgery you may have. We will also help you make preparations for the upcoming surgery and outline what you can expect every step of the way.

How Your Knee Joint Functions

The healthy knee. The healthy knee joint is a remarkable mechanism. It is formed by the bottom end of the femur (thigh bone), the top end of the tibia (shin bone) and the patella (knee cap). A healthy knee joint has cartilage between the bones that acts as padding. This padding helps assure a gliding movement of the knee that is both effortless and smooth. The healthy knee joint also has a joint capsule which houses the synovial membrane. This membrane produces lubricating fluid which contributes to the smooth movement of the knee.

The human knee is designed to withstand a lifetime of stressful activity. However, sometimes arthritis intrudes, interfering with the knee's ability to cushion the body from stress, and eventually causing the pain that dramatically erodes your quality of life.

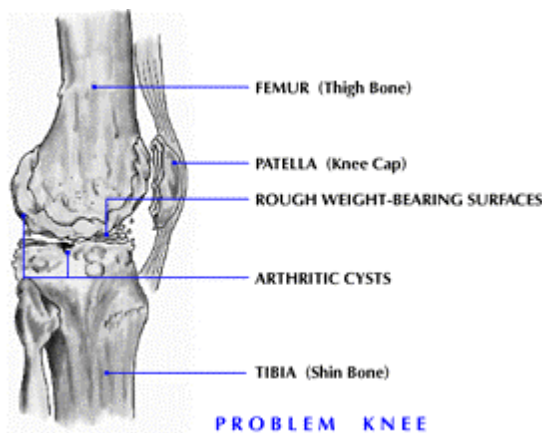


What is Arthritis?

Arthritis is not a symptom of "just getting old." It is a degenerative or inflammatory disease of the joints that is not necessarily part of the normal aging process. Indeed, some patients with arthritis experience symptoms in their 20s and 30s.

Although there are several types of arthritis, one of the most common is called osteoarthritis. It affects more than 16 million people in the United States.

Arthritis causes permanent deterioration of the cartilage layers that shield the joint from impact. Because cartilage cannot repair or replenish itself, it begins to crack, wear away and eventually disappear. The cushion your knee requires to absorb stress is gone, resulting in bone-on-bone contact. The bones in advanced cases may be so rough and pitted from grinding against each other that they form bone spurs, which often cause stiffness.



In the first stages of osteoarthritis, your knee may feel stiff and swollen. Later, you may feel pain and notice that one leg seems shorter or more crooked than the other. Eventually, your mobility may become limited and you may need to alter your lifestyle to accommodate your sore, arthritic

knee. If you are overweight or have a malalignment, the extra stress on your knee can accelerate the damage.

Regardless of your type of arthritis, you may have already had to curb or quit the activities you enjoy such as golfing, bicycle riding, walking and traveling. This is partly why arthritis can make people "feel" old, even though they are still in the prime of life. But there is hope?you have options.

How to Know When You Are Ready for Total Knee Replacement Surgery

Total knee replacement surgery is an elective procedure. Along with your doctor, you will decide when the time is right for this surgery. Your doctor has more than likely treated your condition with pain medications, anti-inflammatory drugs or perhaps even minor surgery. But now the pain may have become severe and even staying off your feet doesn't help. You cannot sleep at night because of the discomfort. You are probably the best judge of if and when you will finally need total knee replacement surgery. When the pain becomes so chronic that even medication does not seem to help, you are probably ready to consider surgery.

Getting Into Shape Mentally and Physically

After you and your doctor have decided that knee replacement surgery is appropriate for you, **consider these four essential steps** that will help you get into shape before knee replacement surgery:

1. Commit to the success of your surgery. Working as a team, you, your physician and your family must adopt a positive attitude toward the success of your surgery. Together, you will gain a clear understanding of the common goals and expectations of the procedure.

2. Lose excess weight. Because excess weight causes strain to be placed on already-damaged joints, losing weight is one of the best ways to improve the condition of your knee and optimize surgical results. Remember to seek your doctor's advice before beginning your weight-loss program.

3. Start a physician-approved, low-impact exercise plan. After a comprehensive assessment of your condition, your physician or physical therapist may recommend a low-impact exercise plan that will strengthen your knee without creating further damage. Do not attempt an exercise program without consulting your physician!

4. Stop smoking. If you have not already done so, it is suggested that you stop smoking. This will be good for you during and after your surgery.

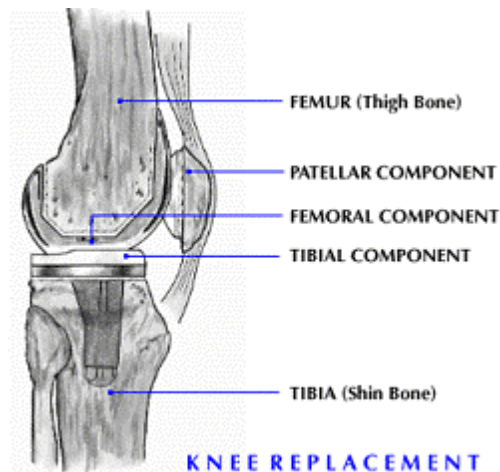
General Information

About Total Knee Replacement Surgery

Surgeons and manufacturers have made remarkable advances in joint replacement technology over the last few years. The materials are long-lasting (generally from 7 to 15 years), and the surgical methods have been fine-tuned and standardized. As a result, the chances for a successful outcome are very good.

The Components of Your New Joint

In total knee replacement (also known as total knee arthroplasty, or TKA), the joint's bone-end surfaces are resurfaced with man-made materials. In total knee arthroplasty, the implant (prosthesis) design may vary according to your needs, but the most common implant consists of three component parts. The patella, or knee cap, is made of high-density polyethylene, which offers tremendous strength and durability. The femoral section, or thigh bone, is metal, while the tibia, or shin bone, is made of high-density polyethylene and may be supported by a metal tray.



Benefits of Knee Joint Replacement

Once your new joint has completely healed, you may reap the benefits of the surgery. These may include:

- Reduced joint pain
- Increased movement and mobility
- Correction of deformity
- Increased leg strength (if you exercise)

- Improved quality of life - ability to return to normal activities and pastimes

Most likely, running, jumping, jogging or other high-impact activities will be discouraged. But many patients can resume golf, dancing, walking, hiking, bicycling, cross-country skiing, bowling, swimming and other low-impact sports. Make sure you discuss these activities with your orthopaedic surgeon before participating in them.

Risks of Knee Joint Replacement and Surgery

As with any major surgery, there are potential risks involved. It is important that you are informed of these risks before the surgery takes place. Improper prosthesis selection or alignment, inadequate fixation, use where contraindicated or in patients where medical, physical, mental, or occupational conditions will likely result in extreme stresses to the implant, may result in premature failure due to loosening, fracture or wear. Infection and loosening have been reported following total joint arthroplasty, as have wear and failure due to fracture or breakage of prosthesis components.

Infection. Because a bacterial infection from your mouth could infect your new joint, you will be asked to complete all dental work before surgery. Consult your physician before scheduling any postoperative dental work. Postoperative infection has been reported as a complication in a small percentage of joint replacement cases. Consult your physician for more details.

Blood clots. You could develop blood clots. Many orthopaedic surgeons prescribe anti-coagulation medications after surgery. You may also need to wear elastic stockings for several weeks to minimize the risk of blood clots forming and to prevent emboli.

Pneumonia. Pneumonia can sometimes develop in patients who are lying in bed right after surgery. A device called an incentive spirometer helps clear your lungs. Getting out of bed soon after surgery is also encouraged.

Pre-Surgery

Making Preparations for Surgery

Medical Evaluations.

Before surgery, your doctors need to understand your over-all health status. You will be evaluated in several ways.

Complete medical evaluation. Your doctor will take your health history, an inventory of medications you now take, and will administer a total physical. X-ray images will be taken of your knee that help the surgeon plan your surgery. Some patients will also need chest x-rays, ECGs and other tests to ensure they are strong enough for surgery and recovery. You may also want to discuss surgery with your primary care physician.

Preliminary lab work. As part of your pre-admission process, you will need to undergo routine lab work. Your physician's nurse can explain what each test is and why you need it.

Donate your own blood. You may be asked to donate some blood to have on hand in case you need it during surgery. Some patients cannot donate their own blood. In these cases, using pre-screened blood bank blood is recommended.

Getting Your Home Ready

To make your life easier postoperatively, it pays to think ahead about how to adapt your home environment for safety and greater efficiency. Here are some tips that can help:

Arrange for help now. You won't be able to drive immediately after surgery. This means you will need the assistance of someone who can drive you to your follow-up doctor's appointments, as well as help you with shopping and errands. Try to line up this person's assistance now.

Stock up on essentials. Have individually packaged convenience food items ready, or make and freeze some casseroles that you can simply warm up later. Stock up on extra toilet paper, paper towels, toothpaste, etc., so you have plenty on hand.

Reorganize your home. Bending, kneeling and squatting will be impossible immediately following your surgery. Also remember you will be on crutches or a walker for awhile. Place everyday essentials in top drawers or easy-access places. Remove loose scatter rugs, electrical cords and clutter that poses a hazard. Don't wax floors.

Obtain assistance items. It makes sense to have certain assistance items ready when you return home. Some suggested items might be a cordless

phone, large apron with pockets, backpacks, reaching aids and bathing aids. Check with your surgeon and hospital to identify which items will be provided to you at discharge.

Packing for the Hospital

When packing your hospital bag, bring your list of medications, your insurance card and/or Medicare card and the telephone numbers of your relatives or designated "help" person. Bring walking shoes, loose, comfortable clothes, underwear, books or personal stereo with headphones, personal care items and cash for sundries. Please don't bring jewelry, large amounts of cash, credit cards or other valuable items to the hospital with you.

A Note About Medications

It is very important to tell your doctor about every single medication you are taking, even aspirin or ibuprofen. Some medications are not compatible with anesthetic, and others could increase bleeding or cause other problems. Your physician will determine which medications you can continue up until your surgery, and which ones you must discontinue.

Surgery

What to Expect the Day of Surgery

Most likely, you will be admitted to the hospital the morning of your surgery. You will change into a hospital gown. Your vital signs will be taken by a nurse. An intravenous line containing medications and fluids will be inserted comfortably into a vein on your arm or neck. At this point, your anesthesiologist will arrive to begin administration of your anesthetic for surgery. You may have general anesthesia or spinal anesthesia with sedation. Once you are transferred to the operating room, you are moved to the operating table where the surgery will take place. This is often the last thing you remember before waking up in the PACU (Post-Anesthesia Care Unit, or recovery room).

What to Expect Right After Surgery

In the PACU, you will recover from surgery until you are awake and alert. You could experience chills or nausea -- these are normal side effects of anesthesia. You may notice:

Drainage tubes and catheters. A drainage tube and catheter may be in place.

Pain medications. To manage the pain you may feel right after surgery, you will be given medication. Some patients are treated with a PCA (patient-controlled analgesia), a device which you use to administer your own pain medication through an IV. After the IV is removed, you will receive the pain medication in pill form.

Elastic stockings. You may be fitted with elastic surgical stockings that help prevent blood clots and improve circulation. You may wear these stockings every day for six to eight weeks following surgery.

CPM machine. Your operated leg may be connected to a CPM (continuous passive motion) machine, which slowly bends it up and down to improve range of motion.

You are returned to your regular hospital room once you are completely awake. Your family members may then visit you in your room.

Post Surgery

Two Days After Surgery

IV tubes and lines are usually removed within the first few days following surgery. If a drain was placed in your knee, it will probably be removed a day or two after surgery.

The start of physical therapy. Physical therapy usually begins for most patients within the first few days following surgery. The therapist focuses on helping to increase the knee's range of motion with bending exercises. You will also be building strength in the knee and muscles of the leg. Often the CPM machine is continued at a higher degree of bend.

Walking. It is imperative that you get up and begin moving as soon as possible. This ambulatory activity helps prevent clots and speeds your recovery. With the help of the therapist and nurses, you should be able to get from the bed to a chair (transfer) at least once or twice a day. You will eventually be able to transfer with your crutches or walker.

Three to Four Days After Surgery

Your physical therapy will continue, except you will practice becoming more independent in your exercises, transfers from bed to chair, stair climbing and other activities your therapist has designed for you. Your dressings will be changed, as well as your blood tested for coagulation.

Before you are discharged from the hospital, your physician and physical therapist will review instructions for your continuing care and exercises at home. You will be given prescriptions for medication you need.

Long-term Care of Your Knee

Your knee replacement should give you years of service. You can protect it by taking a few simple steps:

Watch for and prevent infection. Because your new knee is sensitive to infections, you must be diligent about preventing them. You may need to take antibiotics before seeing the dentist. If you suspect a bacterial infection of any kind, notify your physician right away.

Follow-up care. When you leave the hospital, you will be given a schedule of follow-up visits. These visits will ensure the long-term success of your operation. Your physician may want to check you several times during the first year and annually thereafter. Often, follow-up x-rays will confirm proper placement and alignment of the implant.

Weight control. Keeping your weight under control will reduce the amount of pressure and stress on your new knee. Avoid high-impact sports

and participate regularly in low-impact activities such as walking, swimming, golfing or cycling. These are excellent ways to strengthen your new knee and get the exercise you need to stay fit.

Glossary

AMBULATORY - Mobile, walking.

ARTHROPLASTY - The surgical replacement of your knee joint with an artificial one.

CARTILAGE - A layer of soft tissue that helps joints absorb stress.

CPM - Continuous passive motion machine that helps your new knee attain range of motion right after surgery.

EMBOLI (Pulmonary Embolism) - The plugging of pulmonary arteries with fragments of a blood clot after surgery.

INCENTIVE SPIROMETER - A tube you blow into to keep your lungs clear after surgery.

IV LINE - A tiny catheter inserted into your arm or neck to administer fluids or medications during, and one or two days after, surgery.

OSTEOARTHRITIS - Degenerative disease of the joints in which the cartilage begins to wear away.

PACU - Post anesthesia care unit (recovery room).

PROSTHESIS - The artificial joint; also referred to as the implant.

TRANSFER - A physical therapy term for getting up from your bed and moving yourself to a chair, or vice versa.