

pt connection

Orthopedic & Sports P.T. Assoc. OSPTA • OSPTA@Home
Valley Outpatient Rehabilitation VOR

Total Knee Replacement

Overview

Total joint replacement is a surgical option for those individuals with a non-functioning joint. Most commonly performed in the weight bearing joints of the legs such as the knee and hip, these surgical procedures offer a means of continued use of the lower extremity. Although less commonly performed, total joint replacement is also done in the upper extremity. In this newsletter, we will discuss total joint replacement specific to the knee.

Candidates for these procedures are individuals with degenerative joint disease, rheumatoid arthritis, traumatic injury, or other disease process such as cancer affecting bone function and preventing weight bearing. The most convincing factor to the candidate is pain in the joint preventing use of the extremity. Age groups preferred by surgeons are usually above age 55, due to the limited expected lifespan of 5 to 20 years of the implanted prosthesis.

There are many surgical techniques in practice today for total joint replacement. These techniques vary geographically as well as by the surgeon's preference. Factors considered when choosing a specific technique include the patient's age, lifestyle, general health, and status of the joint.

Preparing for a total joint replacement can be a stressful time for the patient. There are some steps one can take to make the process easier:

1. Education

- attend a local seminar: OSPTA offers weekly seminars free of charge
- learn about the surgeon's specific techniques and rehab preferences
- join a support group or talk to friends who have experienced a total joint replacement
- consider what type of rehab setting would benefit you most after surgery: inpatient, home care, or outpatient

2. Prepare your home

- move any obstacles or throw rugs
- create a temporary "apartment" on one level
- prepare small meals to be heated for easy preparation after surgery
- involve family and friends who can help

3. Prepare your body

- if overweight, lose as much weight as possible before surgery
- begin some gentle exercise as directed by your doctor or physical therapist
- obtain a supply of any current medicines

Once the surgery is completed, a patient can expect to experience some disruption of their normal routine. For example, bathing is limited to sponge bathing for up to 2 weeks. Sleeping may require positional devices such as a foam wedge. Driving is not allowed for about 4 weeks, and help may be needed to enter and exit a vehicle. Post-surgical pain and swelling are a normal part of the process and will be managed with medication and compression hosiery. It is important to follow the orders of your doctor and therapists to achieve the best outcome.

Rehabilitation of a total joint replacement lasts about 2 to 3 months from the date of surgery to discharge from all therapy. There are three basic settings for therapy: inpatient, home care, and outpatient. Inpatient requires the

patient to reside at the facility where rehab occurs. Home care takes place in the patient's home. Outpatient occurs at a clinic to which the patient travels for each session. Most recipients of a total joint replacement can expect to receive at least two of the above three during their recovery. During each stage of therapy, family members are also educated in ways to help position, move, and assist the patient in walking safely.

Anatomy

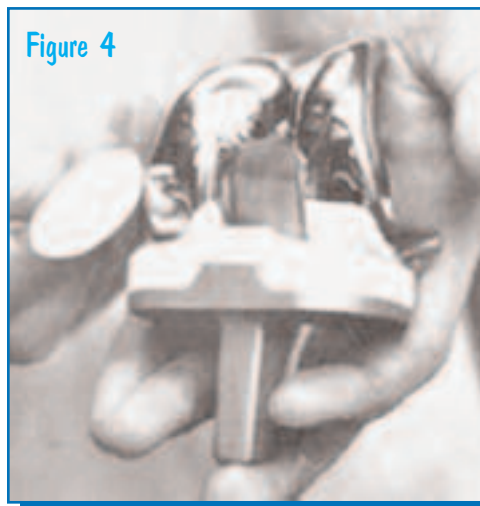
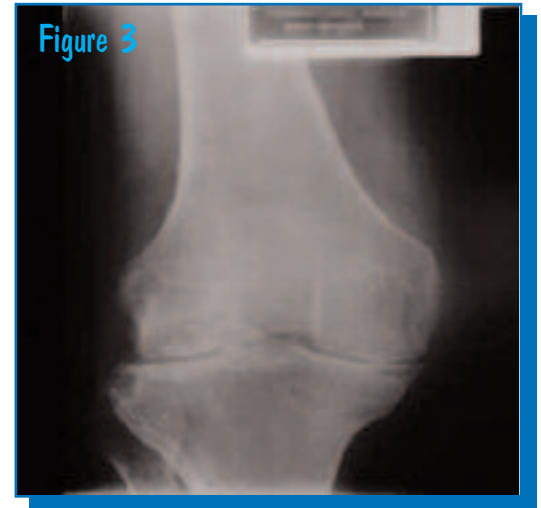
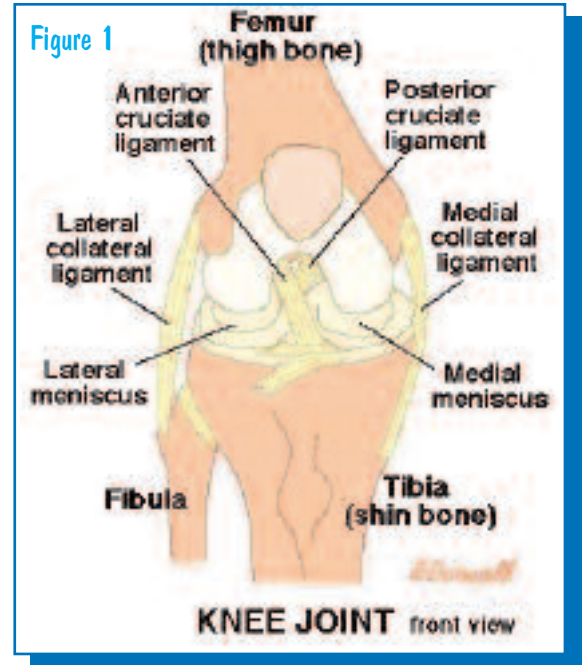
The knee is a hinge type joint that is protected by a specialized bone called the patella, or kneecap. Shown to the right is a diagram of the anatomy of the knee joint (see fig. 1).

The joint is divided into three compartments: medial (inside), lateral (outside), and patella-femoral (space between the patella and femur). Any of these three compartments can become arthritic; however, arthritis in the medial compartment is most common. A total knee replacement is indicated when two or more of the compartments are affected.

Shown to the right is an x-ray of a healthy knee with joint space intact (see fig. 2). Compare that to the x-ray to the right depicting an arthritic knee (see fig. 3). The collapse of the joint results in bone-to-bone contact, causing further degeneration and pain when bearing weight through the joint. This loss of joint space usually necessitates replacement of the knee joint.

During the procedure, the orthopedic surgeon removes the diseased knee joint and replaces it with an artificial joint called a prosthesis (see fig. 4). The procedure restores proper joint space and eliminates the source of pain.

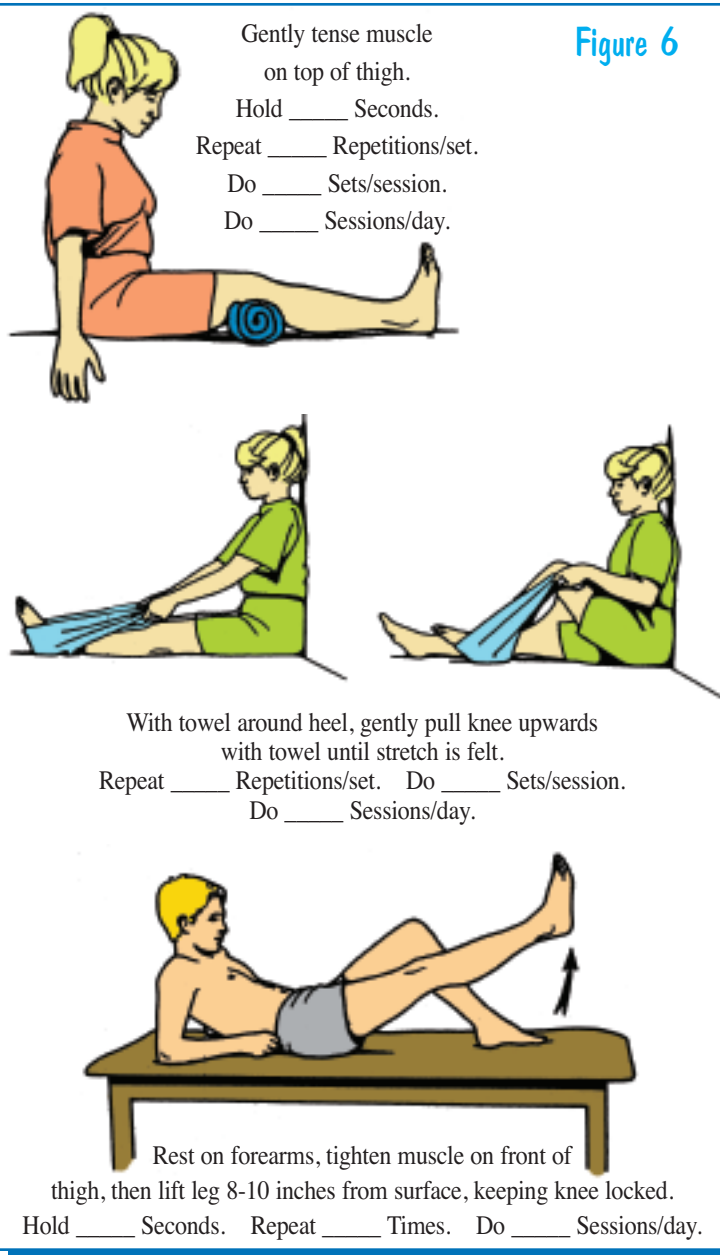
To the right is an x-ray of a knee after total knee replacement (see fig. 5). As expected, proper joint space is restored.



PREOPERATIVE EXERCISES

Your physician or physical therapist may prescribe exercises to be performed prior to your surgery. These exercises are designed to increase strength in your quadricep muscle and maintain knee mobility (see figure 6).

Figure 6



Rehabilitation Process

The rehab process begins with inpatient therapy at the hospital, progresses to home care, and then to outpatient therapy. Patients can expect a hospital stay of three to five days. Rehabilitation begins the day of surgery, with emphasis on mobility and safety. Unlike

total hip surgery, there are no joint precautions and patients are encouraged to achieve maximum movement as soon as possible. To assist with movement, your orthopedic surgeon may utilize a Continuous Passive Motion device (CPM) after surgery. This device is used at the bedside and is designed to passively move the knee joint through a set range of motion, helping the patient to bend and straighten the knee. Although an excellent tool, the CPM is not a substitute for active movement.

During the inpatient phase of therapy, rehabilitation goals are oriented toward walking, moving in bed, bathing safely, moving the knee and strengthening the knee musculature. After three to five days, patients are discharged to either home or an inpatient facility.

Because driving is prohibited for about 4 weeks following surgery, often patients are recommended to undergo two to four weeks of home care therapy. Goals of home care are oriented more toward the patient's home environment, as well as preparation for re-entering the community. Exercises for strength, motion, and stability are performed. In addition to the rehab time spent with the therapist, patients also perform a daily home exercise program. Once the therapy goals have been reached, many patients will progress to outpatient physical therapy.

During outpatient therapy, patients are ready to begin the final stages of achieving full movement and strength at the knee joint. It is common to receive three to six additional weeks of therapy.

The entire rehab process lasts about 3 months, with the end result being return to pain-free walking without a cane, full strength, and full motion at the knee joint. It is extremely important to continue to perform the home exercise program in order to maintain the strength, stability, and function gained during the rehab process. If you are considering total knee replacement, OSPTA offers free weekly seminars to increase your understanding of the rehabilitation process for either total hip or knee replacement. Seminars last approximately 60 minutes and can be scheduled by contacting the OSPTA office closest to you.

