



CONNECTICUT  
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## After Knee Replacement Surgery

After undergoing knee replacement surgery, it is important to have realistic expectations about what types of activities you may do.

### Driving

Driving may be resumed in accordance with the type of surgery you had. If the surgery was on your right side, your surgeon may give you permission to drive six weeks following surgery. In any case you must be able to move the leg easily from the gas pedal to the brake. If you have a manual shift car and the surgery was on the left side, driving permission may also be given at about six weeks following the surgery.

### Walking and Stairs

You will be progressed during your physical therapy program from your original walking aid (e.g., walker, crutches) to a cane. Eventually you will use no supportive device as long as no other problem was encountered requiring long-term use of a walking aid. Eventually you will be allowed to climb the stairs step over step. In most cases, patients begin with smaller height steps and gradually progress to standard height steps. How quickly you progress through therapy may vary but an average patient can walk without a cane or walker between 2 – 4 weeks after surgery.

### Work Activities

Determining the date you return to work will depend both on your surgeon and the type of work you do. Some individuals may require modifications of their job, while others may easily return to their previous activities. Those engaged in heavy manual labor requiring strong impact stresses or stop-start movements, jobs requiring moving heavy objects or tasks requiring excessive squatting or climbing steep stairs may have to discuss the possibility of vocational counseling with their surgeon.

### Leisure and Sport Activities

There are different risks associated with certain types of leisure and sport activities. Some activities may lead to damage of your artificial joint over time due to wear and tear of the joint. More vigorous the activities will increase the risk of damaging the implant. Increased the wear and tear on the implant will increase the risk of loosening of the implant.

Three major categories of activities should be avoided. These include:

- Activities causing high impact stresses on the implant.
- Activities with potentially high risk of injury.
- Activities that may result in falling or getting tangled with opponents risking dislocation of the joint itself or a fracture of the bone around the implant. These types of activities include competitive racquet sports (such as, singles tennis, squash, and racquetball), high impact aerobics, high intensity jogging, water skiing, power gliding, Alpine skiing, mogul skiing, martial arts, rope jumping, and rough contact sports (such as, football, soccer, lacrosse, basketball, baseball, handball, and volleyball). Therefore, these activities should be avoided.

Lower stress activities such as golfing, hiking, walking, biking, stationary skiing (e.g. Nordic Track®), and swimming are excellent forms of exercise for individuals with a knee replacement. Others may also be considered for long-term sports or leisure activities including cross-country skiing, table tennis, rowing, Tai Chi, and bowling. Check with your surgeon or physical therapist about participating in doubles tennis, calisthenics, low impact aerobic exercise, horse back riding, and canoeing.

As with any medical treatment, individual results may vary. Only an orthopaedic surgeon can determine whether an orthopaedic implant is an appropriate course of treatment. There are potential risks, and recovery takes time. The performance of the new joint depends on weight, activity level, age and other factors. These need to be discussed with your doctor.

## **Postoperative Total Knee Replacement Rehabilitation**

### **Physical Therapy Postoperative In-patient Total Knee Replacement Examination and Interventions/Treatment**

Knee replacement surgery can be performed using a variety of techniques, including standard and mini-incisions. In addition, your new knee may be implanted with or without bone cement. Postoperative instructions will depend on your surgeon and the type of technique performed.

#### **Examination**

Your physical therapist may see you on the day of or the day following surgery. During the first visit your physical therapist will perform a thorough examination to gather as much information as possible about the history of your condition. Quick screening examinations of your heart rate, blood pressure, breathing rate, skin integrity, range of motion of other joints of the body, functional strength of other areas of the body, and your overall ability to move may be done during this phase.

Your physical therapists may assess the following:

- How your operated knee is moving.
- The presence of pain.
- The range of motion in your new knee.
- How you are able to move while in your hospital bed.
- Your safety when getting up and sitting on the edge of the bed.
- How well you remember and are practicing your breathing.
- The type of walking aid you will begin to use and if you are putting the right amount of weight through your foot.

#### **Interventions/Treatment Plan**

Initially ice may be used to help reduce the pain and swelling. Ice makes the blood vessels become narrower, called vasoconstriction, which helps control inflammation. Elastic stockings may also help to prevent vein problems in the lower leg. Foot cradles or soft heel cups may also be used to prevent sores from developing on the heels.

Your knee may also be placed in a machine (CPM machine) that allows continuous passive movement of bending and straightening of your knee.

## Precautions

Your therapist will discuss the knee precautions for you to follow after surgery which include:

- Do not twist your knee.
- Turn your entire body avoiding stress on the knee.
- Do not impose any jarring forces on your knee.

## Exercises

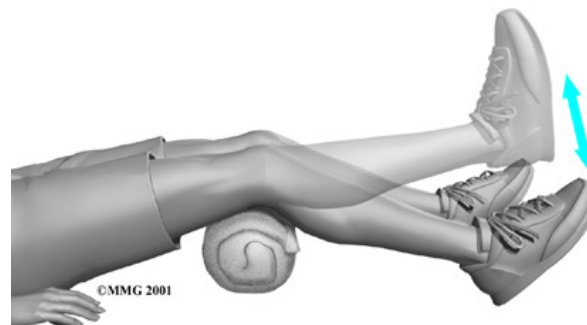
Exercises should be done only at the direction of your physical therapist. The choice of exercises used after surgery will depend upon the type of surgical technique used. Exercises are used to help control pain and help with movement in the knee, hip, and ankle. You may be given gentle passive movements of your knee and lower leg, as well as, active movements of your knee, hip, ankle, and foot. Some of the following exercises may be incorporated in your treatment plan.

The goals prior to discharge from the hospital will often be to have close to full straightening and approximately 90 degrees of bending of your new knee, the necessary range for stair climbing.

**Gently bending and straightening of your ankle** – This helps keep your calf muscle flexible while "pumping" the muscles to help circulation.



**Exercises for the knee and thigh muscles** may include setting or isometric exercises for the buttocks, the quadriceps (the muscles in the front of your thigh) and the abductors (the muscles on the outer side of your hip). Gentle sliding of your heel toward your buttock and straightening it back out and pushing your leg straight out to the side and bringing it back may be initiated. With a roll under your knee, you may begin exercises to straighten the knee.



This exercise may be progressed to straightening your knee out while sitting in a chair. You may also perform straight leg raises of about 6-10 inches on your operative side. In standing you may also be taught to bend the knee back, to gently push the leg back, and to hike your hip.

**Arm exercises** may also be included in your post-operative physical therapy program to assure you have adequate strength in your arms for moving around in bed, for standing up from a chair, and for walking when using your walking aid.

**Breathing exercises** are incorporated into your post-operative program to help prevent pneumonia from developing. Deep breathing is the simplest form of breathing exercise. In addition, you may be given an incentive spirometer, a device requiring you to take in as deep a breath as you can, hold it for a few seconds, and then blow it out. An indicator on the incentive spirometer will enable you to track your deep breathing progress as you attempt to take in deeper and deeper breaths each time you use the device.

**Trunk strengthening exercises** are included in your postoperative program to keep your trunk muscles strong, which may help avoid back problems that may arise from the initial uneven weight bearing. Your therapist will instruct you in the type and number of exercises, the amount each exercise is to be done, and how often they should be done.

### **Position Changes**

You will be given instructions and assistance on how to move and change positions in bed as well as getting yourself to the seated position. Your physical therapist will also assist you to the standing position and will teach you how to transfer safely from the bed to a chair and toilet. Proper body mechanics will be stressed during all activities.

### **Walking and Stairs**

Your surgeon will determine the amount of weight you can bear on the operated knee while walking, and your physical therapist will provide you detailed instructions as to how to achieve that amount of weight bearing. Weight bearing on the operated side may range from as much weight bearing as tolerated by you, to partial weight bearing with a specified percentage, to toe touching only. You may use a walker, a cane, or other assistive devices.

Instructions will be given to you in the hospital for stair climbing. The general rule is you go up the stairs holding onto the handrail with one hand and with your walking aid in the other hand. The non-operative leg goes up first and then the operative leg and walking aid are brought up together to that same step. Going down the stairs is the opposite; the operative leg and walking aid go down the step first, followed by the non-operative leg to the same step.

### **Other Interventions**

Your physical therapist will indicate which activities you should avoid, which put a strain on the surgical area. You do not want to twist your knee, and you will be instructed in turning your entire body to avoid stress on the knee. In addition, you should not impose any jarring forces on your knee. During your activities, pain acts as your guide. If you feel pain with any activity, stop and consult with your physical therapist to determine if what you are doing is straining or irritating the knee.

While you are in the hospital, your physical therapist may see you for therapy up to two times each day, and you will progress from doing activities bedside to doing them in the therapy department. You may expect to stay in the hospital several days after your knee replacement surgery depending on which surgical technique was used.