PHYSICAL THERAPY

AFTER YOUR TOTAL KNEE REPLACEMENT

Full recovery from your total knee replacement surgery will take several months. The following guidelines will discuss precautions to protect your new knee joint, exercises to increase your knee strength and range of motion, and activities of daily living to help you become an active partner in your care and recovery.

THE NORMAL JOINT

Your knee is a hinge joint found where the end of the thigh bone (femur) meets the beginning of the large bone in your lower leg (tibia). A healthy knee has layers of smooth cartilage that cover the ends of the femur and the tibia. The smooth cartilage acts as a cushion and allows the surfaces of the two bones to glide smoothly as you bend your knee. The muscles and ligaments around the knee joint support your weight and help move the joint smoothly so you can walk without pain.

As the knee joint degenerates, the smooth cartilage can wear down on the ends of the femur and the tibia. The smooth surfaces become rough, like sandpaper. Instead of gliding smoothly when you bend your knee, the bones grind and you have pain and/or stiffness.

YOUR REPLACEMENT KNEE PROSTHESIS

To create a new knee joint, the ends of the bones forming the joint are surgically removed. They are replaced with parts similar to pieces shown here. The parts of the prosthesis are made of metal and very strong plastic. The prosthesis provides new smooth surfaces on the ends of the bones.
GUIDELINES TO PROTECT YOUR NEW KNEE JOINT

Full recovery from your total knee replacement surgery will take several months. The following guidelines discuss precautions to protect your new knee joint, exercises to increase your knee strength and range of motion, and activities of daily living to help you become an active partner in your care and recovery.

LYING IN BED

During the first 24 hours following surgery, your knee will be stiff and may feel uncomfortable. You may also have a Continuous Passive Motion (CPM) machine placed under your knee after surgery. The CPM is only used in the hospital setting or when bedridden.

SITTING IN A CHAIR

Use a firm, sturdy chair with arm rests. Use a cushion or pillow to raise you up, if needed, to facilitate getting out of the chair. Keep foot and leg elevated as much as possible.

WEIGHT BEARING ON YOUR NEW KNEE

The physical therapist will teach you to use a walker or crutches until your knee heals. Your therapist and provider will tell you how much weight you can safely put on your new knee. At your check-ups, your provider will tell you if your knee has healed enough to progress to a cane or one crutch.

YOUR BALANCE MIGHT BE SHAKY FOR A WHILE

- Use handrails on steps.
- Use low-heeled or flat shoes.
- Avoid wet or waxed floors.
- Keep your floors free of items you could trip on. Throw rugs or small objects should be kept off the floor for your safety.
- Watch for pets or other animals that could get in your way.
- Avoid ice or snow.

IF YOU ARE RIDING IN A CAR, STOP EVERY HOUR OR SO

Get out and walk around for a few minutes. This will help the circulation in your legs and keep your muscles from stiffening up.
MANAGING ACTIVITIES OF DAILY LIVING
FOLLOWING YOUR KNEE REPLACEMENT

CHAIR TRANSFER

Avoid low recliners and soft couches until otherwise told by your doctor. Stiff-backed chairs with armrests are ideal for sitting. If the seat is low, you may place one or two pillows on the chair to elevate the seat and facilitate transfers.

1. Back up until you feel both legs touching the chair.
2. Slide your operated leg out in front of you as you reach back with one hand for an armrest.
3. Lower yourself slowly, keeping your operated leg straight out in front of you. Once seated, bend your knee comfortably, or keep it straight.
4. When getting up, scoot your operated leg out in front of you until you can stand on it comfortably.
5. Push up using the armrests, keeping your operated leg out in front of you.

CAR TRANSFERS

Sitting in the front seat is preferable because it generally has more leg room, can be adjusted for comfort, and allows the rider to more easily wear a seat belt.

6. Make sure the seat is as far back as possible. Back up to the car with your walker or crutches. Put your operated leg out in front of you.
7. Lower yourself slowly to the seat. You may roll the window down and use the car doorframe, along with the headrest, to support yourself as you sit.
8. Scoot back into the seat, then swing your legs into the car. If the seat is low, put a pillow on the seat for elevation or recline the back slightly.
9. To get into the back seat in a semi-reclining position, use your arms and non-operative leg to scoot yourself back farther onto the seat.
ADAPTIVE EQUIPMENT

After your total joint replacement, you will benefit from several pieces of equipment. The most important part includes crutches and/or a walker, the other items below will make your daily activities easier and safer.

Seat/shower bench:
This seat allows you to sit while bathing and provides safety while in the shower.

Seat cushion:
Cushions are used to elevate the seat height of a chair, couch, car, or other surface.

Elevated toilet seat:
This device is attached to your toilet seat to elevate its height.

Reacher/grabber:
A reacher is used to pick up items off the floor and help you get dressed.

Dressing stick:
This device has a hook on one end and a pusher on the other end. It is used to help put on pants, skirts, and pull up zippers.

Sock aid:
This aid helps you safely put on your sock.

Long-handed bath sponge:
This sponge helps you clean hard-to-reach areas while bathing.

Long-handled shoe horn:
This shoe horn is attached to a long stick and allows you to put on shoes while sitting or standing.
WALKING WITH CRUTCHES

CRUTCHE SAFETY

- Place the weight on your hands, not your armpits. Nerve damage can result if weight is placed on the armpits for a long period of time.
- Keep your elbows close to your side to keep the crutches against your ribs.
- The tips of your crutches should be 2–3 inches away from the side of your feet so you do not trip on them.
- There should be a slight bend in your elbow when holding onto the crutches (15–20 degrees).
- Take your time and do not try to walk too fast.
- Keep your head up and look ahead. Do not look at your feet while walking.
- You must pick up your crutches and injured leg higher while walking on carpet than tile or linoleum floors.
- Remove all throw rugs from the floor to prevent slips and falls.

Touch down weight bearing

The touch down method means you may touch your operated leg on the floor, but do not step onto it. It is as if you are “walking on eggshells.”

Partial weight bearing

Partial weight bearing means you may place up to 50 percent of your body weight on your operated leg. Do not place full weight on the operated leg until cleared by the doctor.

Weight bearing as tolerated/full weight bearing

You may place as much weight on your operated leg as you can tolerate. Use the crutches to improve your balance and safety while favoring the operated leg when it is painful.

Stairs and curbs

Always use a handrail if one is available.
GOING UP WITH HANDRAIL
1. Place both crutches under your arm on the injured side.
2. Grasp the handrail with your other hand, if possible.
3. Bring your good leg up to the next step. Let the injured leg trail behind.
4. Straighten your good leg and bring up the crutches and injured leg.

GOING UP WITHOUT HANDRAIL
1. Place one crutch under each arm.
2. Keep crutches on the stair you are standing on.
3. Support your weight between both crutches.
4. Bring your good leg up to the next step. Let your injured leg trail behind.

GOING DOWN WITH HANDRAIL
1. Place both crutches under your arm on the injured side.
2. Put the crutches on the lower step.
3. Bring injured leg down to the lower step.
4. Support your weight between the crutches and handrail.
5. Move your good leg to the lower step.

GOING DOWN WITHOUT HANDRAIL
1. Place one crutch under each arm.
2. Put the crutches on the lower step.
3. Support your weight between both crutches.
4. Bring your injured leg down to the lower step.
   Let your good leg trail behind.
5. Bring your good leg down.
HOME EXERCISE PROGRAM BEFORE AND AFTER SURGERY

1. Elevate operative leg on four pillows three times a day for 30 minutes each time, for AT LEAST three weeks. This will help with pain control and swelling. Please ensure that the knee is STRAIGHT.

2. Exercise to help with extension (which is the hardest and most crucial to achieve). Place pillow under heel of operative leg so that gravity can assist in dropping the operative knee into full extension (leg straight). Please do this four times a day for five minutes each time, for AT LEAST three weeks.

The following three exercises should be performed at home 2–3 times daily for at least six weeks.

STRAIGHT LEG RAISE

This exercise works the muscles of the upper leg and thigh, and should be performed while lying in bed.

1. Keeping your knee as straight as possible, lift your leg about 12 inches off the bed.
2. Slowly lower your leg back to the bed. 3. Relax and repeat.
3. Perform 30 repetitions; resting as needed.

KNEE STRAIGHTENING OVER A PILLOW

This exercise works the muscles of the lower thigh and helps you walk without limping. It should be performed while lying in bed.

1. Place a rolled up pillow or towel under the operated knee.
2. While your knee remains on the pillow, lift up your foot, straighten the knee, and point the foot toward the ceiling.
3. Slowly lower your foot back to the bed. 4. Relax and repeat.
5. Perform 30 repetitions, resting as needed. 6. Do not leave pillow behind knee after exercises.

KNEE BENDING

This exercise improves the range of motion of your new knee, and should be performed in a chair.

1. While sitting in a high chair, hang your leg freely to let gravity bend your knee. If this is too painful, let your foot rest on the floor and slide your heel back along the floor. Bend your leg back under the chair as far as possible.
2. Straighten your leg back out in front of you.  
3. Relax and repeat. 
4. Perform 30 repetitions, resting as needed.

**ANOTHER WAY TO PERFORM THIS EXERCISE IS AS FOLLOWS:**
1. Sit in a chair with both feet flat on the floor.
2. Bend your operated knee, slide your foot back and plant your heel firmly on the floor.
3. While keeping your feet in place, slide your hips forward to the edge of the chair and hold for 10–30 seconds.
4. Slide your hips back in the chair and relax.  
5. Repeat 10 times.

**HOME EXERCISE PROGRAM AFTER YOUR TOTAL KNEE REPLACEMENT**

**ISOMETRIC EXERCISES**
Isometric exercises will help your muscles “wake up” after surgery and promote circulation in your legs to prevent blood clots from forming. They may be performed throughout the day any time your legs become stiff. Remember to breathe in as you tighten muscles, and out as you relax them. Breathe normally while you hold the position.

**ANKLE PUMPS**
1. This exercise strengthens the calf muscles in your lower leg.
2. Lie on your back.
3. Bend your ankle and pull your foot and toes towards your head.
4. Push your foot back down and point your toes away from you as far as possible, like pushing the brake pedal of a car.
5. Repeat 10 times on each leg every two hours.

**QUAD SETTING**
This exercise helps your upper leg or thigh muscles.
1. Tighten the muscles of your thigh.
2. Keep your knee straight. Push your knee down into the bed, having your kneecap move upward toward your hip.
3. Try to raise your heel half an inch off the bed.
4. Hold for five seconds and then relax.  
5. Repeat with the other leg.
6. Alternate legs and complete 10 repetitions on each side, three times per day
GLUTEAL SETTING
Squeeze your buttocks together. Hold for five seconds. Relax and repeat. Complete 10 repetitions twice a day.

ADVANCED EXERCISES AFTER YOUR TOTAL KNEE REPLACEMENT
These advanced exercises may be started 4 weeks following your total knee replacement, only if the previous exercises can be completed without difficulty.

STRAIGHT LEG RAISE
This is the same exercise as listed above; however, the difficulty can be increased by holding your leg off the bed for a longer period of time.
1. Keeping your knee as straight as possible, lift your leg about 12 inches off the bed.
2. Hold your leg straight without allowing your foot to drop for 5–10 seconds.
3. Slowly lower your leg back to the bed.
4. Relax and repeat.
5. Perform 30 repetitions, resting as needed.

KNEE STRAIGHTENING OVER A PILLOW
This is the same exercise as listed above; however, the difficulty can be increased by holding your leg off the bed for a longer period of time.
1. Place a rolled up pillow or towel under the operated knee.
2. While your knee remains on the pillow, lift up your foot, straighten the knee, and point the foot toward the ceiling.
3. Hold your foot in the air for 5–10 seconds.
4. Slowly lower your foot back to the bed.
5. Relax and repeat. 6. Perform 30 repetitions, resting as needed.

STATIONARY BIKE
You may begin riding a stationary bike without resistance four weeks after surgery. Start by doing small semicircles with your operative knee straight down. Slowly rock the pedal back and forth, causing your knee to bend. Gradually work toward a full circle. The amount of motion and time you spend on the bike should begin at a low level and slowly increase. Monitor your pain and swelling closely and cut back if either increases significantly. Follow your orthopaedic surgeon’s instructions carefully to minimize the potential of blood clots which can occur during the first several weeks of your recovery.