

# **Patient's Guide To Total Knee Replacement Surgery**



## **St. Peter's Hospital**

A Member of St. Peter's Health Care Services



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# What Is A Total Knee Replacement?

To understand a Total Knee Replacement, you must first understand the structure of the knee joint.

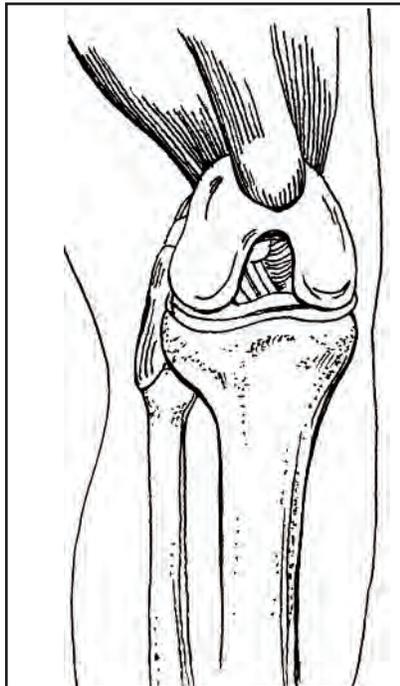


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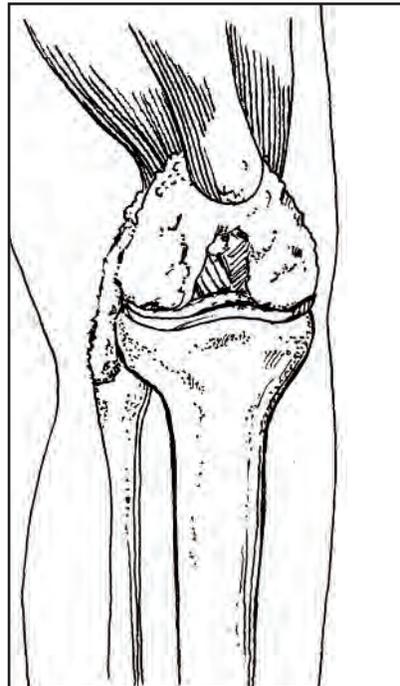
The ability to walk easily depends upon the intricate workings of the knee joint. The knee joint is formed by the junction of three bones: the femur (the thighbone), the tibia (the shinbone), and the

patella (the kneecap). These bones are connected to each other by strong ligaments. The powerful muscles of the thigh and calf attach to the bones around the knee by means of tendons.



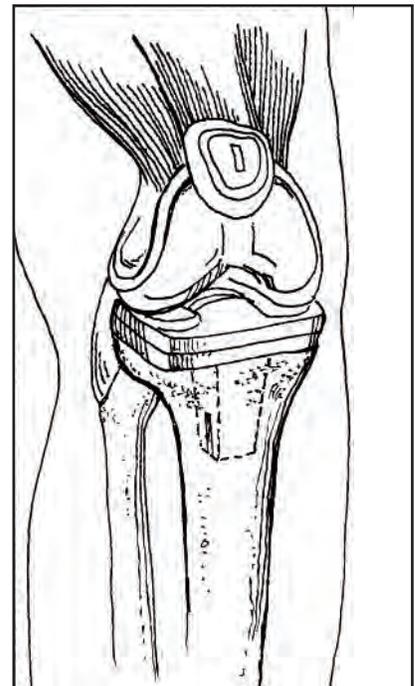
## 1 – The Healthy Knee

Smooth slippery, white cartilage covers the contacting surfaces of the knee joint, permitting it to bend and straighten as much as 100 times per minute without pain.



## 2 – The Arthritic Knee

Over time, the cartilage wears away, leaving the surfaces of the joint pitted, eroded, and uneven. The result is stiff, unstable movement, and, of course, accompanying pain.



## 3 – Total Knee Replacement

To regain smooth, pain-free movement, the end of the femur is resurfaced with a metal implant and the tibia and patella are resurfaced with plastic implants or implants made of both metal and plastic.

**NOTE:** We have used an arthritic knee as the basis for this explanation of Total Knee Replacement. Though there can be other reasons for the replacement, in general, the knee replacement method will be similar.

## Progress Guidelines for Total Knee Replacement

Day of Surgery	Day 1 after Surgery
<p>Perform coughing and deep breathing exercises and use incentive spirometer several times each hour.</p> <p>Do ankle pumps and other leg and buttock exercises described in the booklet.</p> <p>Request pain medication as needed.</p> <p>Oxygen and an IV may be in place.</p> <p>Intermittent Compression Device and elastic stockings will be on your legs.</p> <p>Ice bags to your operation site.</p> <p>Your diet will be increased as tolerated.</p> <p>Continuous Passive Motion machine, applied by staff.</p> <p>Knee immobilizer in place when out of bed and standing or walking x 24hrs.</p> <p>Out of bed to chair with assistance.</p> <p>You may be seen by the Physical Therapist for evaluation and initiation of your exercise program.</p>	<p>Perform coughing and deep breathing exercises and use incentive spirometer several times each hour.</p> <p>Do ankle pumps and other leg and buttock exercises described in the booklet.</p> <p>Request pain medication as needed. Oral pain medications to begin.</p> <p>Oxygen and an IV may be discontinued later in the day.</p> <p>Intermittent Compression Device and elastic stockings will be on your legs.</p> <p>Ice bags to your operation site.</p> <p>Continuous Passive Motion machine, applied by staff.</p> <p>Knee immobilizer to be discontinued.</p> <p>Out of bed to chair with assistance for all meals and brief periods of time between meals.</p> <p>Out of bed, walking to the bathroom with staff assistance.</p> <p>Dressing change by doctor, physician assistant or nurse.</p> <p>Blood sample taken for lab test.</p> <p>Physical Therapy and Occupational Therapy evaluations and initiation of your exercise program. You will be seen twice a day by the Physical therapist.</p> <p>Do you have any questions regarding assistance in care after leaving the hospital?</p> <p>Your case manager will discuss your discharge plan with you.</p>

## Progress Guidelines for Total Knee Replacement (continued)

Day 2 after Surgery	Day 3 after Surgery
<p>Perform coughing and deep breathing exercises and use incentive spirometer several times each hour.</p> <p>Do ankle pumps and other leg and buttock exercises described in the booklet.</p> <p>Request pain medication as needed. Oral pain medications to be given.</p> <p>Intermittent Compression Device and elastic stockings will be on your legs.</p> <p>Ice bags to your operation site.</p> <p>Continuous Passive Motion machine, applied by staff .</p> <p>Out of bed to chair with assistance for all meals and progress with all activities towards independence.</p> <p>Out of bed, walking to the bathroom with staff assistance</p> <p>Blood sample taken for lab test.</p> <p>Physical Therapy visit and exercise program twice a day</p> <p>Occupational Therapy activities program.</p> <p>Is your home prepared for you?</p> <p>Continue planning your home care program with your case manager.</p>	<p>Perform coughing and deep breathing exercises and use incentive spirometer several times each hour.</p> <p>Do ankle pumps and other leg and buttock exercises described in the booklet.</p> <p>Request pain medication as needed. Oral pain medications to be given.</p> <p>Intermittent Compression Device and elastic stockings will be on your legs.</p> <p>Ice bags to your operation site.</p> <p>Continuous Passive Motion machine, applied by staff.</p> <p>Out of bed to chair with assistance for all meals and progress with all activities towards independence.</p> <p>Out of bed, walking to the bathroom with staff assistance</p> <p>Blood sample taken for lab test.</p> <p>Physical Therapy visit and exercise program twice a day. If you are being discharged therapy will be in the AM only.</p> <p>Occupational Therapy activities program.</p> <p>Complete your arrangements for going home, confirm your discharge and home care plan with your case manager.</p> <p>Discharge time is 11 a.m.</p>

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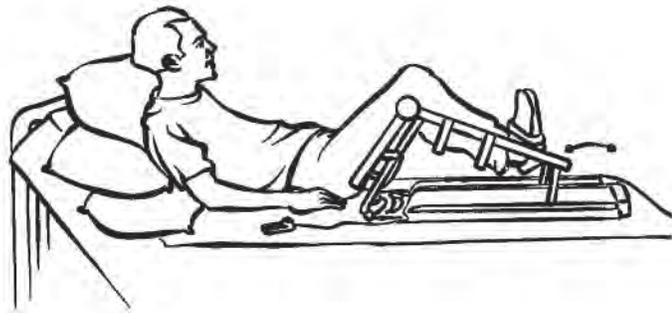
# Your Rehabilitation After Total Knee Replacement

## Introduction to Rehabilitation Therapy

A physical therapist and occupational therapist will see you on the day of your surgery or on the first day, after your surgery. The therapy schedule is posted on the patient care unit by 8 a.m. You may ask your nurse for the approximate time you will be seen by the therapist.

## The Continuous Passive Motion (CPM) Machine

You will have a CPM machine applied to your leg after surgery. The machine bends your leg at the knee in ranges determined by your doctor. The CPM is routinely used along with daily physical therapy sessions following a Total Knee Replacement. The goals of CPM are to reduce swelling, increase knee range of motion and decrease the effects of immobility. The CPM machine is not used by all doctors.



## To Gain Maximum Benefit From the CPM, We Recommend the Following:

- Relax and let the machine bend your knee.
- Avoid making changes to the position of your bed while you are on the CPM. If you feel the need to change position, call for assistance.
- Follow your doctor's recommendations for the CPM setting. Most surgeons prefer that the CPM be used periodically during the day and at night while you are sleeping. Your knee may feel stiff when it is out of the machine more than an hour or two at a time. **This is normal.**
- For your safety and comfort, **please do not let anyone other than your care team members change the settings.** The CPM is set to **your** personal tolerance.

## Control of Pain During Physical Therapy

For the first few days after surgery, most patients will benefit from taking pain medication about 30 minutes prior to a therapy session. Discuss this with your nurse and your therapist so that they can coordinate your physical therapy with your pain medication schedule.

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## Other Exercises for Your Knee

### Your Exercise Program

The therapist will instruct you in an exercise program designed to increase the motion and strength of your knee.

Your therapist will assist you in sitting up at the edge of the bed (we call this dangling).

You will then stand with the use of a walker and the continued help of your therapist.

The amount of weight you can place through your operated leg will depend on your surgery. Your therapist will inform you of your weight-bearing status.

- Toe-touch weight bearing = 20% of normal walking
- Partial weight bearing = 30–50% of normal walking
- Weight bearing as tolerated = allowed to bear full weight (normal walking)

### Stair Climbing

You will practice stair climbing several times prior to discharge.

Remember, you make the difference. **It is important that you understand that your motivation and your participation in your physical therapy program are the key in the speed and success of your rehabilitation.**

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## Discharge Instructions

### Wound Care

- Change your dressing as per your doctor's instructions.
- If you have a lot of drainage you may change your dressing more often.
- Keep your incision clean and dry.
- You may use an ice pack for 20 minutes on and 20 minutes off to decrease pain and swelling.

### Activity

- Weight bearing status as per your doctor's instructions.
- Take short, frequent walks increasing the distance that you walk each day (as tolerated).
- Change your position every hour to decrease pain and stiffness.
- Continue the exercises taught to you by your physical therapist.
- No driving until cleared by the doctor.
- Sponge bath until otherwise instructed by your doctor.
- No tub baths, hot tubs, or swimming pools until otherwise instructed by your doctor.
- **Do not** squat down on the floor.
- **Do not** kneel or twist your knee.
- Avoid activities that place stress on your knee.

### Other

- Continue to wear your anti-embolic stockings and remove twice a day or at night unless otherwise instructed.
- Continue to cough and deep breathe after using the incentive spirometer.

### Call your doctor if you experience:

- An increase in pain not controlled by pain medication or change in activity or position.
- Temperature greater than 101° F.
- Redness, increased swelling or foul smelling drainage from or around the incision.
- Numbness, tingling or a change in color or temperature of the operative leg.
- **Call your doctor immediately if you experience chest pain, shortness of breath or calf pain.**

### Long-Range Protection Against Infection: Antibiotics

Although it is very rare, an artificial joint can become infected by the bloodstream carrying infection from another part of the body. Therefore, it is important that every bacterial infection (pneumonia, urinary tract infection, abscesses, etc.) be treated promptly by your family doctor. Routine colds and flu, as well as cuts and bruises, do not need to be treated with antibiotics.

**To prevent infection at any time in the future**, you should ask your doctor about an antibiotic before having any of the following procedures.

- Skin biopsy
- Podiatry procedures which involve cutting into the skin
- Cystoscopy
- Colonoscopy/Endoscopy
- Dermatologic procedures which involve cutting into the skin
- Routine dental cleaning or any dental procedures, including root canal

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## Discharge Instructions (continued)

**You do not need** to take antibiotics for the following procedures:

- Pedicures/Manicures
- Gynecologic exams
- Cataract surgery
- Injections or blood work

It is important that you tell your physician and dentist that you have an artificial joint, so that they may remind you to take antibiotics and to prescribe them, as appropriate. In addition, they may wish to consult with your orthopedic surgeon or rheumatologist.

**If you have any questions about germs or infections, or any type of procedure,** you should call your orthopedic surgeon or rheumatologist.

### Your Nutritional Program

For the near term, it is very important that you eat a well-balanced diet. Your body is in the process of healing and needs proper nutrition. But now is the perfect time to review your long-range nutritional program. Ask yourself and your food preparer (if it is not yourself) in what ways you can modify your meal habits to make a stronger contribution to your long-range health.

### Managing Constipation

Constipation may occur after surgery because of relatively little activity and use of pain medication. To solve this problem:

- Increase your water intake. Drink at least eight glasses of water daily.
- Try adding fiber to your diet by eating fruits, vegetables and foods that are rich in grains.

- If you do experience constipation, you may take an over-the-counter stool softener/laxative such as Peri Colace, Senekot or Milk of Magnesia.

### Your Rehabilitation Program At Home

It will be an extremely important part of your continuing recovery. Please read the section on home recovery and exercise. Note both the precautions and the exercises. If you have questions, ask your physical therapist for answers before you leave. Notes on exercise are elsewhere in this guide.

### When You Begin Driving Your Car

Most patients are able to resume driving about four weeks after surgery. It depends upon your leg positioning, strength and coordination. First, check with your doctor.

### Follow-up Appointments With Your Doctor

Regardless of how well you feel after you have been home for a while, follow-up appointments with your doctor are necessary. Call the office to arrange appointments.

### Office number:

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## Home Recovery and Exercise

During the first few weeks at home, you adapt what you learned at the hospital to your own setting. Before your surgery, you must prepare your home for your recovery.

- You will need a firm chair with arms. Add firm pillows to a low chair to provide proper height.
- Be sure all walking areas are free of clutter.
  - Remove throw rugs.
  - Watch for small pets.
- Store items within easy reach.
- Prepare meals ahead of time and store in freezer. Helpful hint: have your favorite home delivery numbers handy.

### Showering

You cannot take a bath or shower until your surgeon gives you permission. If you have any questions about this, please ask your nurse.

### Showering in a Tub/Shower

Your new knee may make it easier for you to get in and out of a tub/shower than before. However, in both the short and long run, you should be concerned with safety as you enter and leave a tub/shower. Equip your tub/shower with safety handrails and a non-slip surface. Please arrange for this to be done ahead of your hospitalization, if possible.

**Dressing is a good time to exercise your knee.** Please focus on bending your knee as far as possible when you dress. Think of this as another way to help your recovery.

As you know, much of what you normally do each day does not require bending your knee to maximum. However, both showering and dressing do **require extra bending of your knee.** So please take advantage to this situation to repeatedly work on your knee range of motion as a normal part of your daily routine.

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## Car Transfer

### Front Seat

- Be sure to move the seat back as far as it will go. You may also recline the seat back to give you more room.
- Park the car several feet away from the curb. Open the door and stand on the street, as close as you can get to the car.
- Turn until your back is facing the seat and back up until you feel the car seat on the back of your legs.
- You can place one hand on the back of the car seat or headrest and the other hand on the dashboard or car seat. Do not use the car door for support as it could move.
- Carefully lower yourself to the seat, keeping your operated leg slightly out in front.
- Slide back until your knees are on the seat then bring your legs around into the car one at a time. You can use your hands to help lift your legs if needed.



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## Car Transfer

### Back Seat

- Move the front seat of the car as far forward as possible.
- If your right leg was operated on, it is easier to enter from the passenger's side of the car. If your left leg was operated on, it is easier to enter from the driver's side.
- Park the car several feet from the curb and stand on the street as close to the car as possible.
- Turn and back up so that your legs are touching the edge of the seat.
- Place one hand on the back of the front seat and your other hand on the back seat. Do not use the open car door for support.
- Carefully lower yourself to the seat, keeping your operated leg slightly out in front.
- Slide back until the knee of your operated leg is supported on the seat then bring your legs around into the car one at a time. You can use your hands to help lift your legs if needed.



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## Home Exercise Program

Following is a list of basic exercises that you will begin after your surgery with the help of your physical therapist. In continuing these at home, you should try to do at least three to four sessions of 15-20 minutes apiece every day. The number of times you do each exercise depends on your ability. You should gradually increase the number of times you do each exercise. You may feel some stiffness and mild soreness in various muscles as your body adapts to the new knee. These feelings are normal.

### While Resting

While resting it is important to dangle your operated knee during the day. It is also important to keep your operated leg elevated for short periods of time to avoid swelling.

### Practice Walking

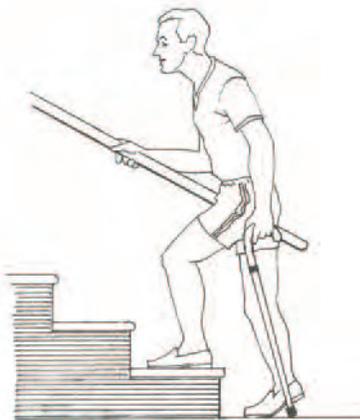
Continue to practice walking as your therapist taught you. Remember not to walk with a “stiff” knee. Bend it as you normally would when you walk. The more you walk the better.

### Managing Stairs

#### A. One Knee Replaced

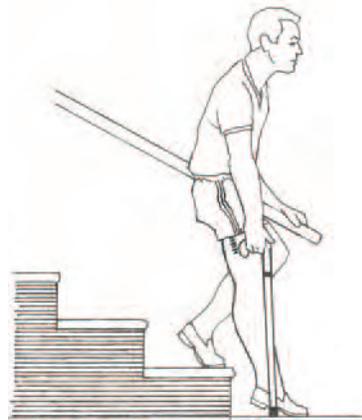
##### Upstairs:

- a) The good leg goes first.
- b) The operated leg goes second.
- c) The cane or cane goes last.



##### Downstairs:

- a) The cane goes first.
- b) The operated leg goes second.
- c) The good leg goes last.



#### B. Two Knees Replaced

##### Upstairs:

- a) The stronger leg goes first.
- b) The weaker leg goes second.
- c) The cane or crutch(es) goes last.

##### Downstairs:

- a) The cane or crutch(es) go first.
- b) The weaker leg goes second.
- c) The stronger leg goes last.

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## Home Exercise Program (continued)

These exercises help avoid blood clots.

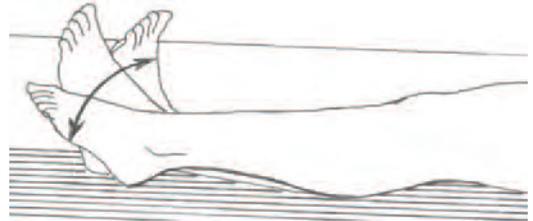
(\*Do only those exercises checked by your physical therapist.)

Exercises to do during each daily session:



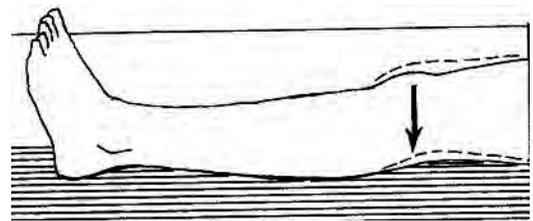
### Ankle circles and pumps

- Keeping legs flat on bed, pull your foot up and down at the ankle.
- Keeping legs flat on bed, make circles with your ankles.
- Perform 10 times an hour while you are awake.



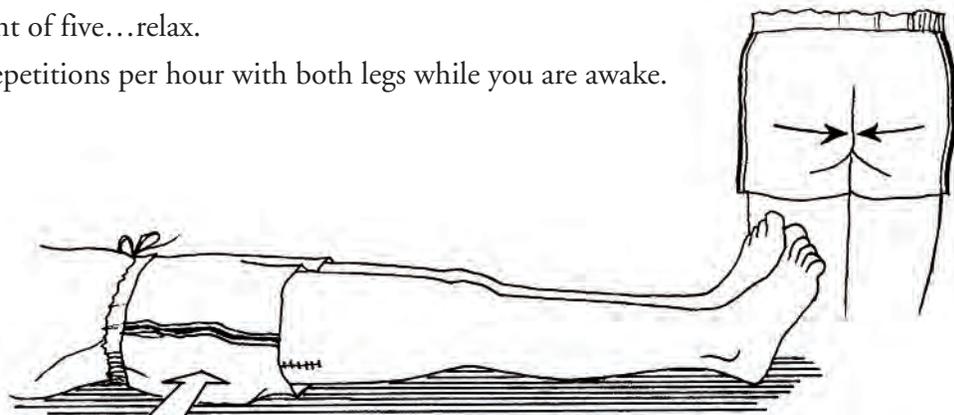
### Quad sets

- Lying on your back on a firm mattress, tighten both knee muscles by pressing knees down into bed.
- Relax
- Perform 10 times an hour with both legs while you are awake.
- Hold for 5 seconds. Do this exercise with both legs.



### Gluteal sets

- Lying on a firm mattress, pinch your buttocks together.
- Hold for count of five...relax.
- Perform 10 repetitions per hour with both legs while you are awake.



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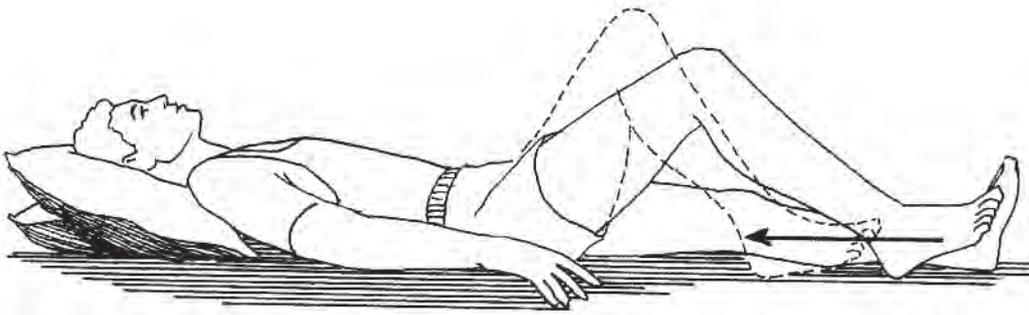
## Home Exercise Program (continued)

(Do only those exercises checked by your physical therapist.)



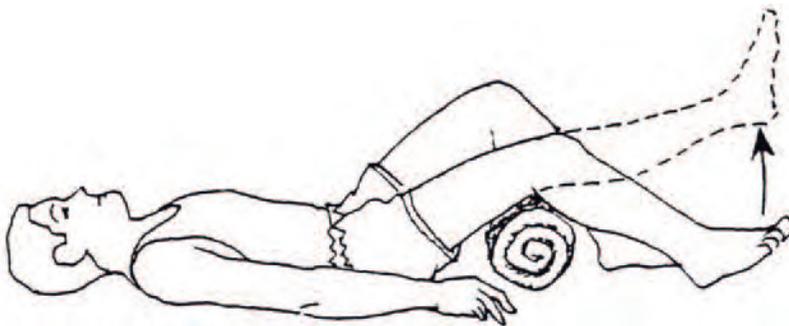
### Lying on back: Heel Slide

- Bend hip and knee of operated side; keeping your foot on the bed, slide your foot towards your buttocks.
- Slowly lower your leg and relax.
- Perform \_\_\_\_\_ repetitions, \_\_\_\_\_ times a day.



### Laying on back: Short-Arc Quad

- Place rolled towel (8 inches) under knee of operated leg.
- Keeping thigh resting on the towel roll, slowly straighten knee.
- Hold for three seconds.
- Slowly lower and relax.
- Perform \_\_\_\_\_ repetitions, \_\_\_\_\_ times a day.



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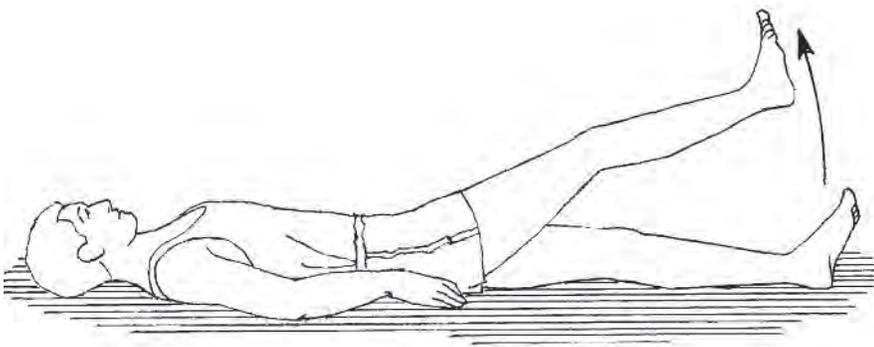
## Home Exercise Program (continued)

(Do only those exercises your physical therapist has checked.)



### Lying on back: Straight Leg Raise

- Keeping the knee of your operated leg straight, lift your operated leg up about 12 inches.
- Slowly lower your leg and relax. Perform \_\_\_\_\_ repetitions, \_\_\_\_\_ times a day.

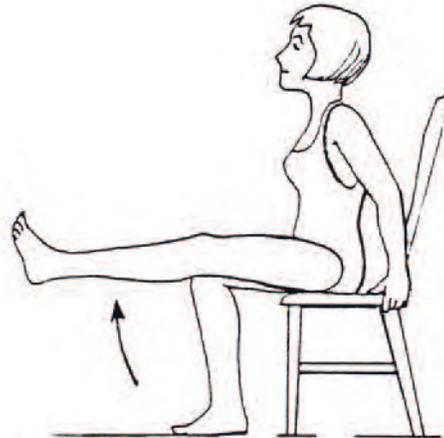


**Be sure to keep the non-operated knee bent with foot flat on the bed.**



### Sitting: Terminal Knee Extension

- Straighten operated knee.
- Hold three seconds.
- Slowly return to starting position.
- Perform repetitions, times a day.



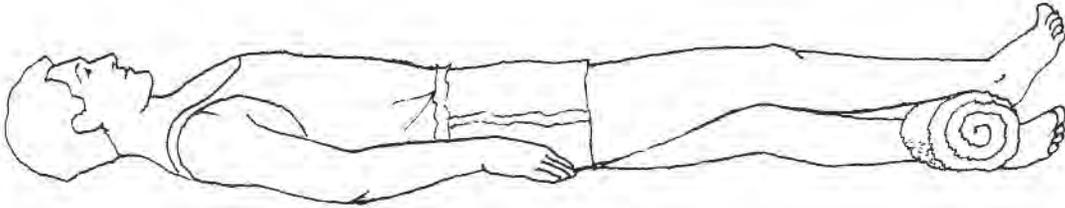
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## Home Exercise Program (continued)

(Do only those exercises your physical therapist has checked.)

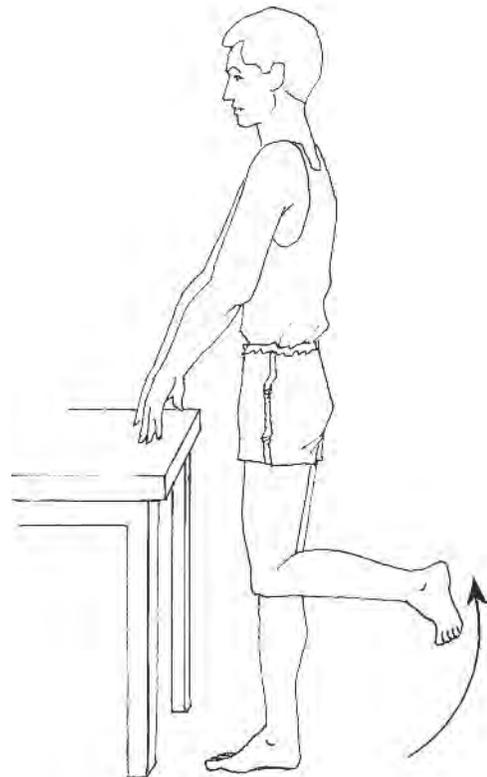
### Lying: Prolonged Hamstring Stretch

- Place a small (six-inch) towel roll under ankle of your operated leg so that back of knee is off the bed.
- Relax and allow your knee to straighten as much as possible.
- Try to rest like this for 10 minutes.
- Perform \_\_\_\_\_ repetitions, \_\_\_\_\_ times a day.



### Standing: Hamstring Curls

- Stand holding onto a solid object for balance (counter, couch back)
- Bend operated knee up as far as possible
- Hold three seconds
- Lower slowly
- Perform \_\_\_\_\_ repetitions, \_\_\_\_\_ times a day.







Inside back cover



# St. Peter's Hospital

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The compassion to heal.

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