



# Total Knee Replacement

Patient Resource





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# Introduction

Thank you for choosing Brightshores Health System to have your total knee replacement surgery. This is the first step to returning to your daily activities and becoming more mobile. Patients who are prepared for surgery and who take part in their care can recover in less time, with less pain and regain their independence sooner.

In this package, you will learn what knee replacement surgery is and what to expect before, during, and after surgery.

**If your surgeon or healthcare team gives you different advice than what is provided in this booklet, please follow the advice given.**

**Expect to be discharged home the day of surgery unless the surgeon advises you will spend one night in hospital.**

## About the Bundled Care Pathway for Knee Replacement Surgery

The Ontario Ministry of Health and Long-Term Care has introduced new care plans, called Bundled Care Pathways, for most patients having knee replacement surgery. The Bundled Care Pathway coordinates the care that you will receive throughout your knee replacement surgery journey. Inclusion in the bundled care pathway may be impacted by complications (should they occur) during your surgery and hospital stay. Your healthcare team will be able to answer questions related to this if needed.

## Members of the Healthcare Team

Throughout the pathway, you will be meeting and working with some or all of the health care team. Some of the members of the team may include your surgeon, nurses, and physiotherapists. We are here to support you and your family if you have any questions and/or concerns. You will also have a chance to ask any questions during your surgical pre-screening visit.

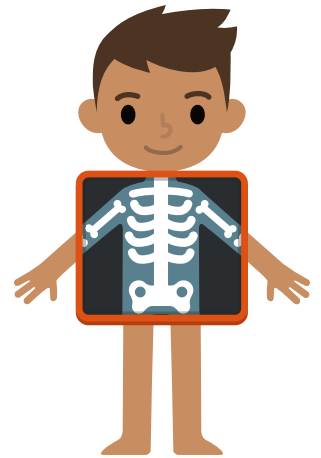


# Introduction

## What is the Knee Joint?

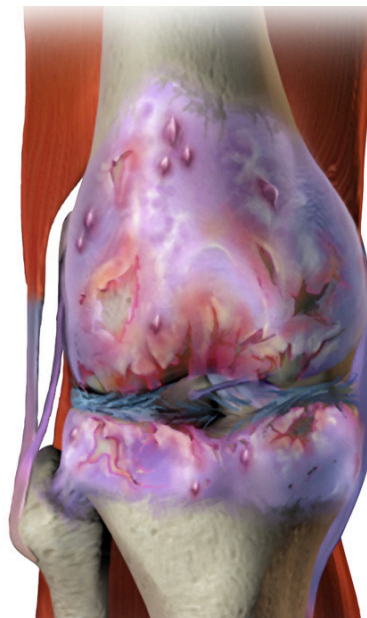
The knee joint works like a hinge. The thigh bone called the femur in your upper leg is hinged to the shin bone called the tibia in your lower leg. The patella is the knee cap. The knee joint allows the shin bone to move backward and forwards so that you can bend and straighten your leg.

In a normal knee, smooth cartilage covers these bones, which cushions the bones and allows them to move easily. In an arthritic knee, the cartilage layers are destroyed and bone rubs against bone. This causes pain, muscle weakness, and limited motion.



## Arthritic Knee

Femur (thigh bone)



Tibia ( shin)

# Introduction

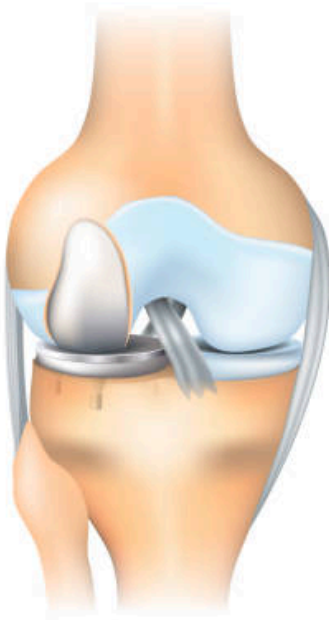
## What is total knee replacement surgery?

Knee replacement surgery replaces your arthritic knee joint with an artificial one. More than 90% of knee replacements last for the rest of a person's life. Most patients are very pleased with the results because it improves their quality of life, independence and walking.

### TOTAL KNEE REPLACEMENT



### PARTIAL KNEE REPLACEMENT



Unicompartamental knee arthroplasty



Uni knee implant

# Preparing for Your Surgery

Watch the Brightshores Patient Information for Knee Replacement Surgery video on the Brightshores Health System website at [www.brightshores.ca/surgery](http://www.brightshores.ca/surgery)

## Plan ahead:

- Make sure everything is ready for you when you go home after your surgery.
- Some tasks might be difficult, especially at the beginning. At first, you may need some help from friends or family with meals, laundry, bathing, cleaning etc.
- If you do not have enough help at home after your surgery, discuss looking into private hire assistance through agencies in your community.
- Some people choose a short stay in Retirement Home– please be aware that there is a cost for these services and the extent of assistance varies. Respite care needs to be arranged prior to surgery. You can discuss this at your pre surgical appointment if needed.

## Arrange your living space to make life easier when you go home after your surgery.

### Here are some suggestions:

- Place items that you use a lot where they are easily reachable.
- Remove scatter rugs and ensure hallways and rooms are free of clutter and tripping hazards such as electrical cords.
- Move furniture and other items so that there is a clear path for you and your walker/crutches.
- Install stair railings or make sure existing ones are secure.
- Get well-fitted slip-on shoes or slippers with soles that are not slippery, easy to get on.
- Stock the refrigerator and freezer.
- Buy frozen foods or prepare individual portions that can be reheated until you are well enough to cook.
- Get a thermometer to check your temperature if needed.
- Have ice packs available if needed.
- Ensure lighting in the home is appropriate and use night lights.
- Ensure a nice comfortable tall chair with armrests for sitting in.

# Preparing for Your Surgery

## Stop smoking and vaping

If you smoke, we encourage you to quit at least 4 weeks before surgery. It can help you recover faster. Quitting smoking isn't easy, talk to your doctor or nurse, they can help you quit or reduce the number of cigarettes smoked daily.



## Reduce your alcohol use

Inform your healthcare team about how much alcohol you regularly consume. The amount of alcohol you consume can negatively affect your surgery. Your healthcare provider can help you to cut down on your alcohol use. Important: Do not drink alcohol for 24 hours before surgery. Alcohol can change the way some medications work. This could affect how well you recover.



## Weight Control

Try to get to a healthy body weight before surgery and keep that body weight after surgery. The more your body weighs, the more force it puts on your hip. If you are at a healthy weight, this may help speed up your recovery, reduce any complications after surgery, and help your new joint last longer.



# NUTRITION

Good nutrition helps you to recover from surgery and reduces the risk of infection.

Important nutrients before and after surgery include protein, calcium, vitamin D, and fibre.

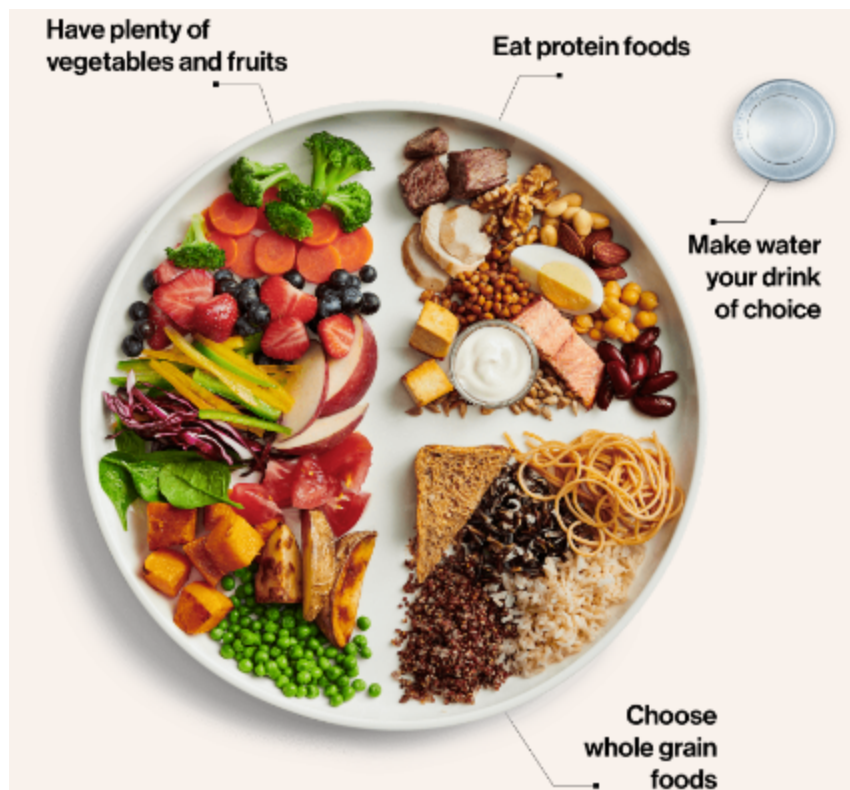
## PROTEIN

Protein promotes healing after surgery.

Food sources of protein Include:

- Beans, peas, lentils
- Nuts & seeds
- Eggs
- Fortified soy beverages, tofu, soybeans
- Fish & shellfish
- Lean meats and poultry
- Lower fat dairy products

Try to choose protein foods that come from plants every day.





# NUTRITION

## CALCIUM & VITAMIN D

Calcium and Vitamin D are important for strong bones. Food sources of calcium include:

- Milk, yogurt, cheese
- Calcium-fortified soy beverage and orange juice
- Collard greens, cooked spinach
- Canned fish with bones

All adults age 50+ are recommended to take a Vitamin D supplement of 400 IU along with eating food sources of Vitamin D such as:

- Eggs
- Soft margarine
- Fatty fish
- Milk & fortified plant-based beverages

## FIBRE

For a few days after surgery, your bowels may slow down, which can lead to constipation. To help promote regular bowel movements:

- Eat a variety of fibre-rich foods including whole grains, fruits, vegetables, beans and lentils.
- Drink plenty of fluid throughout the day.

Follow Canada's Food Guide for general healthy eating principles.

- Eat a variety of healthy foods each day.
- Limit processed foods high in sodium, sugars or saturated fat.
- Choose high-fibre foods like whole grains, fruits and vegetables.

# Exercise Program Before Your Surgery

Try to exercise every day.

Being physically active before surgery can make a big difference in how you recover. If you are not exercising, start slowly adding exercise into your day. Exercise does not need to be hard to make a difference. A 10 minute walk every day is a good start.

If exercising is painful, consider low-impact exercises such as swimming or biking, and/or consider having an exercise program set up for you by an exercise specialist. These exercises are important to help strengthen your muscles.



**Practice the exercises found on pages 26 and 27 of this booklet in preparation for your surgery.**

# Prepare for your Discharge

Expect to go home on the same day or the day after your knee replacement surgery.

Before you come for your surgery, you must:

- Have a discharge plan in place, which should include assistance in your home or a family or friend's home, or assistance in a short-stay bed in a retirement home.
- Have arranged for someone to pick you up and drive you home from the hospital.
- Have your physiotherapy clinic appointment already booked for 1 week after your surgery.
- Pack a Bag if you are staying overnight
  - Any personal toiletries you might need while in Hospital (toothpaste, toothbrush, shampoo, skin cream, facial tissue, etc.)
  - A sturdy pair of non-skid sole shoes or slippers
  - Loose underwear
  - Loose fitting clothing for your return home
  - Glasses, hearing aids, dentures and their storage cases labeled with your name
  - Personal phone numbers that you may need
  - Dressing aids you may need
  - Something to read while you are waiting for surgery.

**Note:** We are not responsible for lost, stolen or damaged valuables. Please leave any valuables at home. We strongly recommend that you have a friend or family member keep your belongings until we transfer you to your room or discharge you home after your surgery.

**You DO NOT need to bring mobility equipment to the hospital.**

# Prior to Your Surgery

Pre Surgical Screening is a clinic at Brightshores Health System. At this appointment, you will meet with some of the team involved in your care, have some tests to make sure you are medically fit for surgery, and receive some education about your surgery.

Your Pre Surgical Screening visit is very thorough and can be 3 to 4 hours long. You will have blood work done and get x-rays and ECGs if needed. We will review some of the education material and we will explain how to use the pre-op sponges prior to surgery.

## In preparation:

- Read this booklet and watch the video <https://www.youtube.com/watch?v=kOSxFsDH2U4>

## Please bring the following to your Pre Surgical Screening visit:

- Your health card (and a photo ID)
- Your completed Pre Surgical Questionnaire
- All your medicines in their original bottles, including herbal medicines and vitamins, eye drops and inhalers
- Any health records
- Water and snacks

## Make sure you:

- Book your physiotherapy appointment for 1 week after surgery.
- Stop taking any medicines that the Pre Surgical Screening team or your internist has told you to stop before surgery (such as blood thinners).

Required equipment will be discussed. We will let you know how to rent or buy the equipment required. You are responsible to get the recommended equipment before coming for your surgery.

**DO NOT SHAVE** the Area of surgery at least 5 days before surgery. If needed, your surgeon will shave the area.

# Prior to Your Surgery

## What to eat and drink

Eating well will give you the energy you need to recover from surgery, but you may need to restrict your diet just before your surgery.

Your pre surgical screening nurse will explain what to eat and drink before surgery, including the day before surgery and the morning of surgery.

## The day before surgery

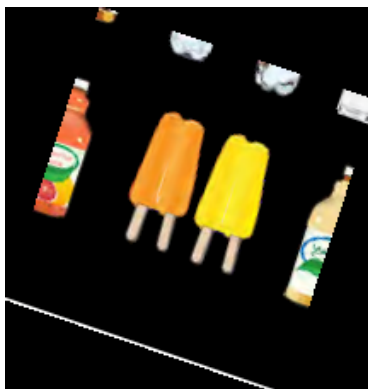
- Eat and drink normally up until 6 hours before your surgery.
- You can continue to drink clear fluids (a liquid you can see through) up to 2 hours before your surgery.

## The morning of surgery:

- Do not eat any food.
- You can continue to drink clear fluids (a liquid you can see through) up to 2 hours before your surgery.

### Examples of clear fluids are:

- Water
- Fruit juices without pulp
- Tea or coffee (without milk or cream)
- Sports drinks that have electrolytes
- Jello or popsicles



# Day of Surgery

Please arrive at the time given to you. Please register at Central Registration then take the Central Elevators to the 3rd floor. Upon exiting the elevator, follow the sign to Day Surgery

## Please bring the following on the day of your surgery:

- Your health card (and a photo ID) and private insurance information
- Completed pre surgical screening questionnaire
- All your medicines in their original bottles, including herbal medicines and vitamins, eye drops and inhalers
- The bag you packed for the hospital **(if you are staying overnight)**

You may have 1 to 2 family member(s) or friend(s) accompany you on the day of your surgery. Please do not bring small children.

After registration, a nurse will take you to the change room where you will undress, change into a hospital gown, and remove all your jewelry.

The nurse will then take you to a room where they will check your vital signs (body temperature, blood pressure, breathing rate, heart rate) and go over your medical history to make sure there are no changes. The nurse may also put an intravenous (IV) line into your veins, give you any medicines that the surgeon ordered for you before your surgery, or perform any necessary blood tests.

Your surgeon will mark an "X" on the site of your body we will be operating. If you have any questions or concerns before your surgery, please be sure to ask your doctors at this time.

# After Your Surgery

## Home Day of Surgery

- After leaving PACU, you will go to x-ray and then be transferred to the 4-1 surgical unit
- Managing pain and discomfort after surgery
- Medical Management and medication for nausea will be given if needed
- Provide assistance to get moving for the first time- you will NOT be getting up without supervision
- Start post operative deep breathing and ankle pumping exercises
- Will be expected to urinate before leaving for home
- Seen by Physiotherapist for walking and stair training (if needed) and review of post operative physiotherapy expectations
- Home when all medical issues are acceptable and mobility activities are successfully completed

## Home Next Day

- After leaving PACU, you will be transferred to the 4-1 surgical unit
- Managing pain and discomfort after surgery
- Provide assistance to get moving for the first time- you will NOT be getting up without supervision
- Monitor post operative ability to control bladder function
- Monitor and manage medical issues including nausea, vomiting
- Complete antibiotic doses
- Continue to do post operative breathing and ankle pumping exercises
- Early next morning, you will be seen by a Physiotherapist for review of the exercises, walking and stair training (if needed)
- Home when x-ray has been completed, and medical and mobility tasks are completed

# After You Are Discharged

## How do I manage my pain?

Pain is a normal symptom after surgery. Although a total joint replacement is major surgery, our goal is to help make you as comfortable as possible so that you can start your physiotherapy program. Your pain should be controlled enough that you can rest comfortably. It should not prevent you from breathing deeply, coughing, turning, getting out of bed or walking. Together, pain management and physical activity will greatly speed up your recovery process.

## Pain Medicine

By the time you leave the hospital, you will only need oral pain medicines to control your pain. Your doctor will prescribe a strong pain medicine (such as a narcotic) to take by mouth. Your doctor may also give you a prescription for an anti-inflammatory. Use this medicine as instructed, for the full length of time your doctor prescribes.

When taking prescription pain medicine:

- Take this medicine as directed.
- Take pain medicine when you start to have pain. Do not wait until it becomes really bad or intolerable. You may need to take more than one type of pain medicine to manage your pain.
- Take pain medicine 30 to 45 minutes before your physiotherapy sessions.





# After You Are Discharged

## Non-Medicine Methods

Non-medicine methods can help relieve pain. Some of these include:

- Meditation, relaxation, distraction with breathing, and imagery techniques.
- Physical techniques, such as positioning, movement, and cold packs

**Distraction:** Focusing your attention on something other than the pain can make you less aware of the pain. Distraction may work well while you are waiting for the pain medicine to take effect.

1. Concentrate on your breathing. Breathe out slowly and feel yourself begin to relax. Feel the tension leave your body. Breathe in and out, slowly and regularly, at a speed that is comfortable for you.
2. Close your eyes and focus on an object or a quiet place.

**Positioning:** Positioning or elevating your leg on pillows is important. This will decrease swelling and improve your blood circulation.

1. When lying on your side, place a pillow between your knees.
2. When lying on your back, place a pillow under your lower leg as seen below in the picture.

**DO NOT** place a pillow or folded blanket under your knee. This could interfere with your ability to fully straighten the knee in the future.

**DO NOT** perform deep knee bends or kneel on the floor.



## Cold Packs

When applying a cold pack:

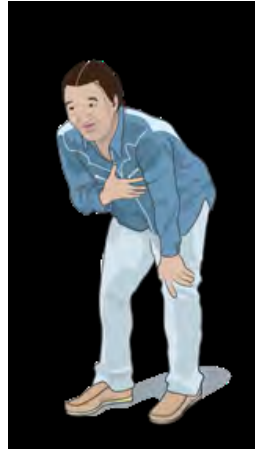
- Apply the pack for 15- 20 minutes at a time, 4 to 6 times a day.
- Make sure you place a towel or cloth between the pack and your skin

# When to Call the Doctor

Phone your surgeons office or go to the emergency department if any of these happen:



You feel extremely weak



You have trouble breathing or chest pain



You have persistent vomiting or nausea



You have a fever higher than 38°C (100.4°F)



You have redness, swelling, warmth or pain in either leg

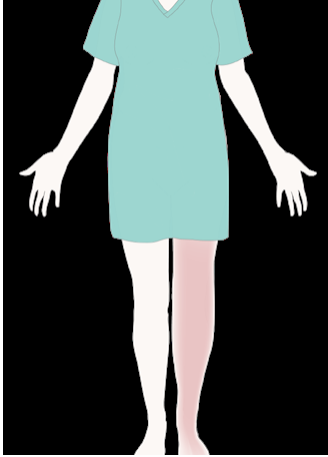


Your incisions are warm, red and hard or you see pus coming out



Your pain levels are not manageable and medications provided are not helping

**Call your surgeon, nurse or come to the Emergency Room right away if you notice any of these signs in either leg:**



Increased redness



Increased pain

### INFECTION

**If your incision (cut) is painful and red and/or your temperature is above 38°C or 100°F, for 2 days in a row, please phone your surgeon's office.**



Increased warmth



Significantly increased swelling

# Activities of Daily Living

## When can I return to my normal activities?

Healing after surgery takes several months. Too much activity too early can interfere with the healing process. Allow yourself time to recover from the surgery as it can take longer than you expect. Focus on your rehabilitation. Balance your activity and your exercises with periods of rest, and gradually increase your activity as tolerated.

## Getting into Bed

Sit at the edge of the bed.

- Place your non-operated leg under the operated leg and bring them into the bed at the same time.
- Lower your body with your arms while lifting your legs onto the bed

## Getting Out of Bed

Move to the edge of your bed, while keeping your legs apart.

- As you slide the leg that is closest to the edge off the bed, push with your hands and raise your body upright.



## Sitting in a Chair

Avoid rocking chairs and soft couches and use chairs with firm straight seats and that have arm rests. A higher seat will make it easier to get on/off the chair. As a guideline, choose a chair, with a seat that is high as your knees. If you need to raise the height of the chair, you can place a firm cushion on the seat.

- Back up until you feel both legs touching the chair.
- Slide your operated leg out in front of you and reach back for the armrests.
- Lower yourself slowly. When getting up, scoot to the front of the chair. Push up from the chair using the armrest

# Activities of Daily Living

## Tub/Showers

If you have an option, a walk-in shower stall may be easier to manage. If transferring into the tub, transfer from a seated position, if possible, by sitting on a shower chair or tub-transfer bench and then swinging your legs into the tub from a seated position. If stepping in/out of the tub, use grab bars, make sure feet are dry and make sure there is a non-skid mat in the bottom of the tub. Ask for help at first if needed. You may have bathing restrictions after your surgery. Ask your nurse for specific instructions.

Equipment that may help:

- Shower chair
- Tub transfer bench
- Grab bars
- Hand held shower head
- Non-skid mat/rug
- Long handled sponge/brush

**Never use soap dishes or towel racks to support yourself. These are not made to hold your weight and may give way.**



# Activities of Daily Living

## Walking

Continue to use your cane, crutches or walker until advised by the physiotherapist. This will help you walk without a limp. Walking with a limp puts more pressure on your joint. It will also stop your muscles from getting stronger.

You must have both hands on the walker/crutches at all times. Use a basket or bag attached to the walker to help with transporting items or a backpack when using crutches.

When walking, put your walker or crutches first, then the operated leg and then the non-operated leg. Stepping backward is the reverse of this pattern.

## Stairs

**If available, always use a handrail and a crutch or a cane.**

Ascending the stairs:

1. Step up with the non-operated leg.
2. Lift the operated leg followed by the crutches or cane to the same step.

Descending the stairs:

1. Step down with the operated leg and lead with the crutch or cane.
2. Follow with your non-operated leg down onto the same step.



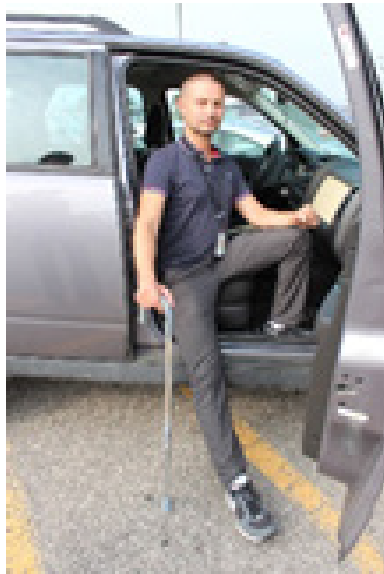
# Activities of Daily Living

## Car transfer

You need to arrange transportation ahead of time for your discharge from hospital and to/from medical or therapy appointments.

If you are riding in a car for a long time, stop every hour or so and get out and walk around for a few minutes. This will help the circulation in your legs and keep your muscles from stiffening.

1. Make sure the seat is as far back as possible. Back up to the car with your walker/crutches. Put your operated leg out in front of you.
2. Slowly lower yourself onto the seat. It is okay to bend your operated knee.
3. Scoot back into the seat, then gently swing your legs into the car to face forward. You may need some assistance in lifting your legs into the vehicle.



# Possible Complications After Surgery

| Complication                       | Description  |
|------------------------------------|--|
| <b>Anemia</b>                      | You may need a blood transfusion if surgical blood loss is more than expected.                       |
| <b>Bleeding from surgical site</b> | You will be given medication to minimize this.   |
| <b>Anaesthesia</b>                 | Sometimes involves temporary confusion, heart attack and stroke.                                     |
| <b>Deep vein thrombosis</b>        | You will be provided with medication to thin the blood. It is important to move early after surgery. |
| <b>Infection</b>                   | To prevent, will be given antibiotics, happens in 1% of cases.                                       |
| <b>Loosening of components</b>     | You can reduce this risk by keeping a health body weight and avoiding high impact activities.        |
| <b>Leg length discrepancy</b>      | Could be a minor change in length depending on the surgical procedure.                               |
| <b>Neurovascular injury</b>        | There could be a small area of skin that feels numb around the incision afterwards.                  |
| <b>Periprosthetic fracture</b>     | Can occur when rigid metal components are fit into the softer bone.                                  |
| <b>Skin irritation</b>             | Important to change position often to avoid skin sores.  |

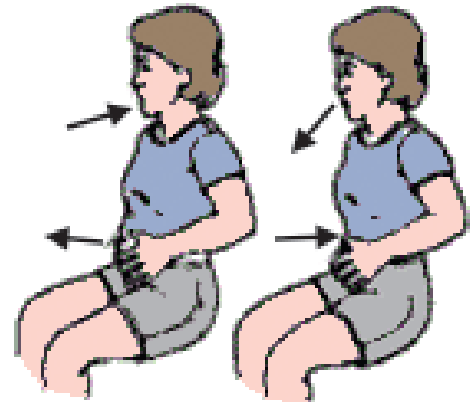
**If you are concerned about any of the above, please speak with your surgeon.**



# Post Op Exercises - Day of Surgery

## Deep Breathing and Cough

Take 5 deep belly breaths in, followed by a cough every 1-2 hours that you are awake.



## Ankle Pumping and Ankle Circles

These exercises help your blood flow in your legs.

Repeat each exercise 4 to 5 times every 30 minutes while you are awake.



Fully bring toes up and then point down bending at the ankle



Clockwise and counterclockwise

# Appendix A – Post Operative Exercises Day 1 Onwards

## Instructions:

Perform these exercises BEFORE and AFTER your surgery.

- Do all exercises **10 times** (or as many as you can tolerate up to 10), **2–3 times per day**.

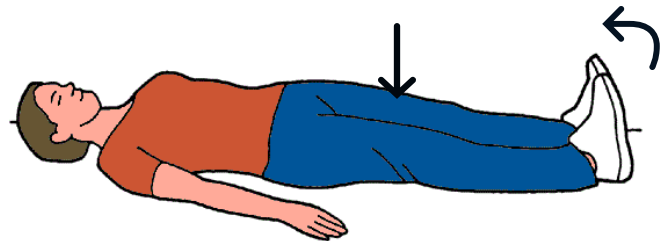
**Continue ankle pumping and circles hourly when awake.**

**Avoid twisting movements and overdoing exercises.**

These are your initial exercises. Your physiotherapist will provide you with other exercises to help you progress.

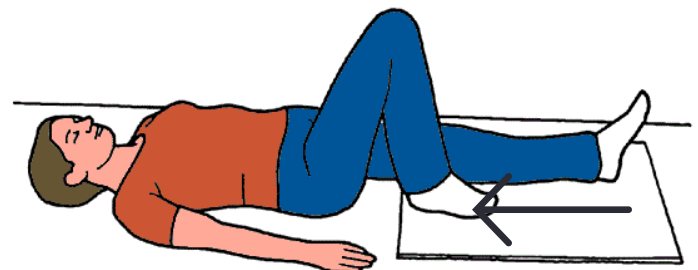
## 1. Static Knee Extensions (isometric quadriceps)

While laying down, pull your foot and toes up as you press your knees down firmly against the bed. Hold for at least 5 seconds, then relax. Repeat. Strengthens your front thigh muscles.



## 2. Knee flexion

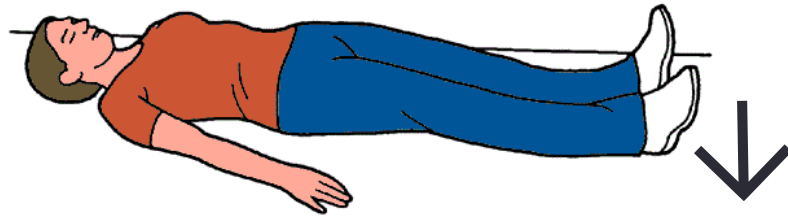
Place an item, like a sliding board or plastic bag under your foot. Slide your heel up towards your buttocks. May assist with leg strap if needed. Return to starting position and repeat.



# Appendix A- Post Operative Exercises Day 1 onwards

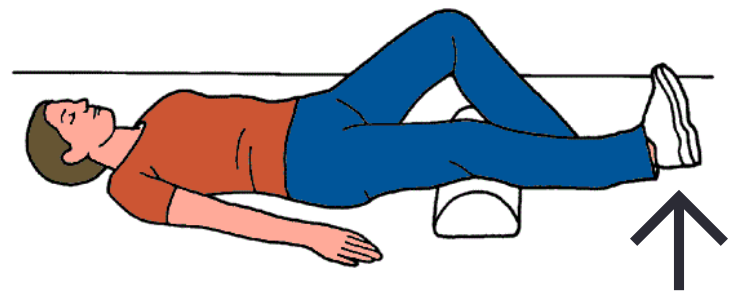
## 3. Static Hamstrings

Bend your knee slightly.  
Push your heel into the bed and tighten the muscles on the back of your thigh.  
Hold for at least 5 seconds, then relax. Repeat.



## 4. Quads-over-Roll

Place a roll under your knees.  
Pull your toes up and raise your heel off the bed until your leg is straight.  
Hold for at least 5 seconds and slowly lower heel back down. Relax and repeat. Assist with leg strap if needed.



## 5. Seated Knee Flexion

Sit on a chair with your feet on the floor.  
Bend your knee as much as possible. Hold for 5 seconds, then slowly relax.



## 6. Seated Knee Extension

Sit on a chair.  
Pull your toes up, tighten your thigh muscle, and straighten your knee. Hold for about 5 seconds.  
Slowly relax your leg.



# Contact Us



## Brightshores Health System

1800 8th St. East  
Owen Sound, ON  
N4K 6M9



519-376-2121



[web@brightshores.ca](mailto:web@brightshores.ca)



[www.brightshores.ca](http://www.brightshores.ca)



Patient Information for Knee  
Replacement Surgery