

Knee Arthroplasty

Bring this guide to the hospital the day of your surgery

Day of surgery: _____ Expected discharge date: _____

Surgeon: _____ Telephone no.: _____

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Introduction

This guide will help you understand what's involved in a knee replacement. We hope that the information it provides will help you prepare for your surgery.

About Hôpital Montfort

Hôpital Montfort is Ontario's Francophone academic hospital, offering exemplary person-centred care.

Montfort serves over 1.2 million people in Eastern Ontario, in both official languages.

Our daily actions are guided by compassion, respect, mutual support, excellence and accountability.

Participate in your health care!

- If you have any questions or concerns, talk to us.
- Inform a member of your care team of any previous illnesses and your current state of health.
- If you have any food or drug allergies, tell your care team.
- Make sure you know the measures you must take after leaving the hospital.

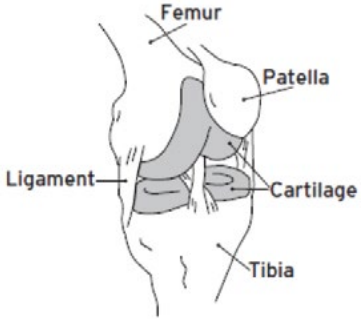
Your interprofessional care plan

- During your stay at the hospital for your knee replacement, we will follow an interprofessional care plan known as a "clinical pathway."
- Your clinical pathway is included in this guide. It's an interactive document. When the nurse discusses it with you, take notes as needed.
- We've prepared this document so that you, your family or loved ones and your care team are informed of your care plan. It provides an overview of the examinations you'll have and the treatments you'll receive.
- Read the information in this guide and ask a family member or loved one to do the same. Once you've done so, if you have any questions, don't hesitate to talk to your care team.

1. Knee arthroplasty

1.1 Anatomy of the knee

The knee is the joint between the thigh bone (the femur) and the bone on the front of the leg (the tibia). It's a joint that allows you to bend and straighten your leg.



1.2 Common knee problems

All forms of arthritis can damage the cartilaginous pad of the knee. As the cartilage deteriorates, the bones rub against each other, causing pain, stiffness, swelling and sometimes cracking. In cases of arthrosis, wear and tear destroys the cartilage, while in rheumatoid polyarthritis, it's the damage caused to the synovial membrane that deteriorates the cartilage.

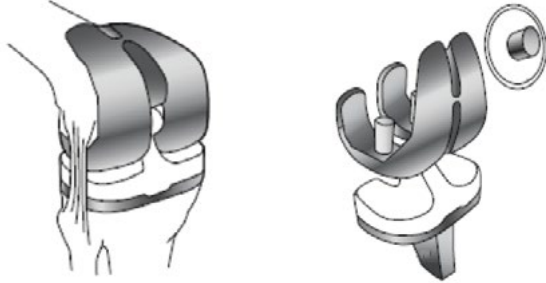
1.3 Types of arthroplasty

Total knee arthroplasty

Total knee arthroplasty consists of replacing the damaged joint with an artificial prosthesis. First, the surgeon makes an incision to access the bones and moves the muscles and ligaments away from the joint. The damaged bones are then trimmed to fit the prosthesis. The ends of the femur and tibia are covered with metal shells separated by a plastic liner. The patella may be lined with a plastic disc, if necessary. The muscles and ligaments are then repaired. The incision is closed with sutures or metal staples that hold the skin together during healing. This procedure takes about 2 hours: 1 hour for preparation and 1 hour for the surgery.

Today, many patients who have knee arthroplasty have greater joint mobility, less pain and are able to walk more comfortably for up to 25 years after the surgery.

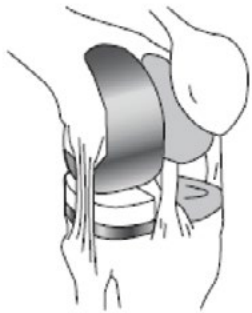
Total knee prosthesis



Unilateral (partial) knee arthroplasty

If you have bone lesions on only one side of the knee, your surgeon may perform a partial knee arthroplasty. As with a total knee arthroplasty, the surgeon trims the damaged parts of the bones to fit the prosthesis. Many patients who undergo this procedure recover much more quickly than those who undergo a total knee arthroplasty.

Unilateral knee prosthesis



1.4 Duration of your hospital stay

Your hospital stay could be very brief. Best practices show that people should go home the day of their surgery. Your care team will make sure that your health condition is stable and that you're able to leave the hospital safely.

Before your surgery, make sure to organize your return home, including transportation. Normally, you should be able to return home at the end of the day, or by early evening, on the day of your surgery. If you recover quickly from the procedure, you could even be discharged earlier than planned.

Make sure that someone is available at all times on the day of your surgery to pick you up at the hospital. It's important that someone stay with you at home for at least 72 hours after the surgery.

2. Preparing for the surgery

2.1 Hôpital Montfort's pre-operative education program

Hôpital Montfort offers a virtual pre-operative education program designed to inform and prepare patients and their family or loved ones before the surgery. This program is mandatory and can be followed at your own pace online. After your visit to the Arthroplasty Clinic, you'll receive a prehab pamphlet with a link to the website featuring information capsules and community resources relevant to your surgery. You can watch the videos with a family member or loved one, as many times as you like. If you don't have access to the Internet, you can schedule an in-person session at the Aline-Chrétien Health Hub.

Please refer to the prehab pamphlet available on the patient portal.

The information capsules will explain what you can expect during your hospital stay, the exercises you need to do to prepare for your surgery and the recommended equipment to ensure a safe return home.

2.2 Visit to the Pre-Admission Clinic

You'll have an appointment at the Pre-Admission Clinic about 2 weeks before the scheduled date of your surgery. It's important that you attend so that you can prepare for your surgery. The meeting with the pre-admission nurse might be held over the phone or via telemedicine.

Bring the following items with you to your appointment:

- ☐ Your health card
- ☐ An up-to-date list of your medications from your pharmacy, including the names, the number of mg and how many times a day (this should include natural products and over-the-counter medication)
- ☐ If you take anticoagulants or aspirin, make sure to inform the surgeon and mention it to the Pre-Admission Clinic nurse
- ☐ Any information regarding your health insurance plan
- ☐ The name and contact information of the person designated responsible for any decisions on your behalf (if you decide to not sign the power of attorney for personal care form)
- ☐ This guide and the prehab questionnaire, duly completed
- ☐ Your weight, height and the circumference of your neck

The appointment at the Pre-Admission Clinic usually lasts about 3 to 4 hours. If possible, ask a family member or loved one to come with you. If you need an interpreter, ask a member of your family to come along. Bring a bottle of water, a snack and something to pass the time (books, headphones, etc.).

During your appointment at the Pre-Admission Clinic, you might undergo diagnostic procedures (X-rays) and laboratory tests (blood tests), according to your surgeon's instructions.

So that you're well prepared for the surgery, you'll meet with several members of your care team:

- **The pharmacy technician or pharmacist** will meet with you to take note of the medications you're taking at home. For this meeting, bring a recent list of your medications from the pharmacy.
- **The nurse** will meet with you to complete your health assessment and specific questionnaires about your lifestyle and your health needs. He or she will review your clinical pathway and some of the sections in this guide with you.
- Next, to ensure a personalized follow-up after your pre-operative education program, the **physiotherapist** will review the questionnaire on your situation at home, answer your questions about the exercise program and talk to you about the physiotherapy that you'll continue after your discharge from hospital. You'll also be able to discuss any other issues related to your discharge from hospital.

You might see other health professions during your appointment, including:

- An anesthesiologist (also an opportunity for you to ask any questions you may have about the anesthetic)
- An internist (cardiologist, respirologist, someone from the thrombosis clinic, etc.)
- A social worker

The meeting with the pre-admission nurse or one of the above-mentioned healthcare professionals might be held over the phone or via telemedicine.

2.3 Preventing infection at the surgical site

Before your surgery, pick up the antiseptic body wash at the Hôpital Montfort gift shop or the Ontario Medical Supply (OMS) store at the Aline-Chrétien Health Hub, in Orléans.

The gift shop is located east of the main corridor and the store is open Monday to Friday, 8:30 a.m. to 5 p.m. Opening hours may differ on official holidays. Access the store through the north entrance of the Hub.

How to prepare your skin before the surgery

One week before the surgery

1. Do not shave the area where you'll be having the surgery. Shaving can cause small skin abrasions, opening up the skin to bacteria and possible infection.

The Admissions Department at Hôpital Montfort will call you at home to schedule your appointment.

My appointment at the Pre-Admission Clinic is on:

If you have any questions, please call Hôpital Montfort at 613-746-4621, ext. 4919.

The evening before the surger

- 1. Take a shower and wash your entire body using the antiseptic shower gel. Do not use it on your face or hair. You can wash your hair with your usual shampoo. Follow the instructions for the pre-operative wash. Rinse well.
- 2. Use a clean towel to dry off.
- 3. Do not use any lotions, powders, haircare products, makeup, nail polish or deodorant after the shower.

After the shower, put on clean pyjamas or clothes, and use freshly washed sheets and pillowcases.

The morning of the surgery

- 1. Take a shower and wash your body using the rest of the anti-septic shower gel. Follow the instructions in the kit. Rinse well.
- 2. Dress in warm, freshly washed clothes.
- 3. Do not use any lotion, power, cream, haircare products, makeup or deodorant.

Pre-operative screening for Staphylococcus aureus (SA)

Why screen for SA?

Over the last several years, there's been a significant increase in antibiotic-resistant bacteria. The most common one in hospitals is Staphylococcus aureus.

Generally, these bacteria do not lead to health problems and do not require treatment. However, they can sometimes cause infections if they enter through skin or an incision. Treating these infections can be more difficult because of the limited choice of antibiotics.

How to screen for SA

A lab technician will insert a cotton swab 1-2 cm into each nostril and rotate it against the mucous membranes 2 to 3 times.

If your test is negative, nothing needs to be done.

If your test is positive, you'll receive a call from your treating physician's office. You'll be given a prescription and instructions to follow to decolonize the bacteria before your scheduled surgery date.

After your appointment at the Pre-Admission Clinic, you will know:

- ☐ The type of surgery you'll be having;
- ☐ What you need to do to prepare at home before the surgery
- ☐ To stop smoking, consuming tobacco or cannabis, and drinking alcohol at least 24 hours before the surgery
- ☐ What you need to do the morning of the surgery and where to go
- ☐ When to stop drinking and eating before the surgery
- ☐ Which medications to take the morning of the surgery and which ones to stop taking before the surgery
- ☐ How to prepare your skin before the surgery to prevent infection
- ☐ The type of care you'll need after the surgery

Note: Please contact your surgeon's office as soon as possible if you have a fever, flu, cold or sore throat or if you need to cancel or postpone your surgery.

2.4 Diet

A good diet will help you recover after your surgery and will reduce the risk of infection. Here are nutrients that you'll need before and after your surgery.

Protein

Protein promotes healing after surgery. You'll need a greater quantity than usual; eat at least 3 portions of each of these food groups every day.

Meat and substitutes 1 portion contains :	Milk and substitutes 1 portion contains :
<ul style="list-style-type: none">• 85 grams (3 ounces) of meat, poultry or fish• 170 grams (3/4 cup) of legumes• 70 grams (3/4 cup) of tofu• 2 tablespoons peanut butter• 2 eggs	<ul style="list-style-type: none">• 225 ml (1 cup) of milk or soy beverage• 55 grams (2 ounces) of cheese• 175 ml (3/4 cup) of yogurt

Multivitamins

Multivitamins are not necessary if you have a healthy and balanced diet. When possible, it's preferable to obtain your nutrients from a healthy diet than from supplements. If you have a history of anemia, talk to your doctor, pharmacist or dietitian about possible supplements.

400 UI. Ask your doctor, pharmacist or dietitian to recommend supplements suitable for you.

Fibre and water

It's important to have regular soft stools at least every 3 days. It may be necessary to add softeners or laxatives if you go 2 days without a stool as constipation can cause complications. Eat foods high in fibre before and after the surgery, such as whole grains, bran, fruits, vegetables, beans and lentils.

Eat them throughout the day and drink at least 1.5 L (8 cups) of fluids per day (water, juice, milk, tea, coffee), at least half of which should be water.

For more information about diet, consult Canada's Food Guide.

2.5 Managing your weight

If you're overweight or underweight, you may have a more difficult time recovering after the surgery.

If you're overweight, it would be good to try to lose a moderate amount of weight in order to reduce knee pain and enable you to be more active. For each ½ kilogram (1 pound) of excess weight, you're bearing an additional load of approximately 2 kg (3 to 6 pounds) on your knees. If you try to lose weight before the surgery, don't exceed ½ kg per week. Avoid fad diets that could deprive you of nutrients and slow your recovery.



½ kg (1 lb) excess weight = load of approximately 2 kg (3 to 6 lb) on your knees

If you're underweight, your body may have difficulty healing after the surgery. It's important to eat well in the weeks leading up to your surgery.

If you're concerned that you're overweight or underweight before the surgery, consult a professional dietitian. For information on diet and nutrients, consult the Dietitians of Canada website at www.unlockfood.ca. If you live in Ontario, you can also call Telehealth Ontario at 1-877-510-5102.

2.6 Exercising before your surgery

Doing exercises before your surgery makes for a faster and easier recovery. Also, learning a new exercise program adapted to your knee is easier before the surgery than after, when you'll be dealing with an incision and post-operative pain. Choose activities that don't stress your joints, such as:

- 1. Exercises in a pool, like swimming or walking in the water
- 2. Biking
- 3. Nordic pole walking
- 4. Stretching and strengthening exercises
- 5. Exercises demonstrated by the physiotherapist in the information capsules on the website (prehab pamphlet)
- 6. Balance exercises (useful for preventing falls)

These activities will help you strengthen your muscles, improve your endurance and preserve your mobility. They'll also build your confidence and prepare you for the exercises you'll have to do after the surgery.

Keep in mind that after the surgery, you'll have to do daily exercises for several months as part of your rehabilitation.

Be sure to strengthen your arm muscles because you'll need to rely on your arms after the surgery to use your walking aids, get into bed, sit down and stand up. If possible, start the strengthening exercises at least 3 to 6 months before the surgery.

2.7 Preparing your home before the surgery

It's important to properly set up your home before your knee replacement so that you can move around more easily with a walker or crutches and reduce the risk of falling. Use this list as a guide:

- Clear clutter from hallways and rooms. Remove objects that you could trip over, such as rugs and stools.
- Lay down non-slip surfaces on stairs and outdoor entrances.
- Make sure that handrails in stairways are securely attached, or think about installing some if you don't have any.
- Make sure you have a solid chair with armrests.
- Make sure lighting is adequate in all rooms and hallways.
- Arrange for help with household tasks and meals (e.g., vacuuming, laundry, groceries), if necessary.
- Place household items (e.g., pots) at counter height. Consider moving items that are usually in the bottom of your refrigerator or in the freezer to a higher shelf. Items should be between knee and shoulder height.

- Buy healthy foods. Prepare meals in advance and freeze them. There are also food and meal delivery services in the community.
- Keep an icepack in the freezer that you can use after the surgery if your knee is swollen. You can also use a bag of frozen peas or corn.
- Arrange for help in the home (e.g., family member or friend) after your return from the hospital.
- In the bathroom:
 - Place a non-slip mat in the bathtub and on the floor.
 - It's very useful to install grab bars in the bathtub, shower stall and beside the toilet. Some grab bars are removable.

If you're not able to get help at home, you need to plan your convalescence in a specialized residence.

For a list of residences available in the region, consult the website, under the information capsules, in the "Community resources" section.

2.8 List of accessories to pick up before the surgery

Make sure to pick up the following walking aids before the surgery so that your physiotherapist can adjust them according to your height.

- Two-wheel walker (5" unidirectional wheels) – **mandatory**
 - You'll probably need to use the walker for:
 - 2 to 3 weeks for a partial knee replacement
 - 3 to 4 weeks for a total knee replacement
- Standard cane (if you have stairs at home and as a transition after the walker)
- Long-handled shoe horn and sock puller (optional, only if you have difficulty putting on your shoes before the surgery)
- Shower and/or bath chair (optional, but can make it easier to stand in the shower, or avoid sitting directly in the bathtub)
- Raised toilet seat (optional), with or without arm rests

Orthopedic device stores and pharmacies sell or rent these items. Some suppliers offer monthly rentals. Check to see if your insurance plan covers the cost. If you need a medical prescription to obtain a refund of these fees, talk to your surgeon. You can also ask friends and family if they have any equipment you could borrow. The list of stores that supply medical equipment is available on the website under the information capsules, in the "Community resources" section.

2.9 Other things to do before your surgery

- The Admitting Department will call you on the working day before your surgery, between **2 p.m. and 5 p.m.**, to tell you when and where you need to go on the morning of your surgery.
- Prepare the items you need to bring to the hospital the day of your surgery (see the checklist in Section 3.1 of this guide).
- Complete your skin preparation for the surgery as explained by the Pre-Admission Clinic nurse (see the instructions for the pre-operative wash).
- Put your name on all of the items you're bringing with you to the hospital (e.g., walker, crutches, re-usable bag).
- Know when you'll be discharged from the hospital and make arrangements for your transportation home.
- Make arrangements for someone to be close by for the 72 hours following your discharge from hospital.
- Have a thermometer on hand to take your temperature once you're home.

Arthroplasty is an elective surgery (scheduled in advance). It's your responsibility to organize your discharge from hospital and your convalescence, depending on your needs.

3. The surgery

3.1 List of items to bring the day of your surgery

Prepare a bag or small suitcase containing the following items:

- This guide (important)
- Toiletries if you're admitted (e.g., toothbrush, hair brush, etc.)
- Loose-fitting clothing for your return home
- Your walker identified with your name (the person accompanying you could bring it to you after your surgery)
- Closed shoes or slippers with non-slip soles; chose roomy shoes because your feet may be slightly swollen
- Your eyeglasses and reading materials or something to pass the time
- Your hearing aids, if applicable
- Your medication, as instructed by the Pre-Admission Clinic
- Credit card information if you're spending the night at the hospital and would like to rent a TV
- A light snack if you're having day surgery (there's no meal service for day centre patients)

Hôpital Montfort is not responsible for damage, loss or theft of your personal effects. Do not bring any valuable items or large sums of money with you for your hospital stay.

3.2 At home, the day before your surgery

- Do not eat anything after midnight. You can only drink water or apple juice up to 2 hours before the surgery. **Do not drink more than 250 mL (one cup) of fluids.**
- Do not chew gum or eat hard candy as they can cause up to 1.5L (6 cups) of fluid build-up in the stomach.
- Do not wear jewelry, contact lenses, nail polish, makeup or perfume, or use hairspray or deodorant on the day of your surgery.
- Remove any body piercings, particularly earrings. These objects can cause burns if electric devices are used in the operating room. If it's located close to the surgical site, the piercing could cause an infection.
- Do not shave your legs because if you cut yourself or have any skin irritations, the surgery could be cancelled.

Medication

- If you're diabetic, follow the instructions the nurse gave you at your Pre-Admission Clinic appointment. Oral hypoglycemics and insulin are not recommended before the surgery, unless indicated otherwise by the doctor.
- Take your usual medication with a sip of water before coming the hospital, unless indicated otherwise indicated by the doctor, nurse or anesthesiologist.
- If you're asthmatic and use an inhaler, use it as prescribed and bring it with you to the hospital.

3.3 The day of the surgery

Go to the Operating Room Admitting, room 2A105, at the scheduled time and be sure to bring your health card.

3.4 At the pre-operative unit the day of the surgery

- The pre-operative unit is a large room where patients are prepared before their surgery. Curtains separate the beds for patient privacy.
- Before the surgery, you must put on a hospital gown and the nurse will put in an IV.
- If the surgeon recommended a urinary catheter, the nurse will insert it before you leave for the operating room.
- A porter will take you from the pre-operative unit to the operating room.

3.5 During the surgery

- Before entering the operating room, you'll meet with the surgeon, anesthesiologist and operating room nurse.
- The anesthesiologist will assess your health condition and suggest the safest anesthesia for you. A regional anesthesia or combination of techniques is often used. A regional anesthesia is similar to the anesthesia administered by a dentist, except that it's injected in your back and numbs you from the waist down to the legs so that you don't feel any pain during the procedure. If you receive this type of anesthesia, you won't be able to move your legs for up to 4 hours after the surgery.
- The anesthesiologist will monitor your comfort throughout the surgery and administer medication through your IV to relax you.

- Some patients receive a general anesthesia, which puts them to sleep for the duration of the surgery.

3.6 In the recovery room after the surgery

- After the surgery, you'll be taken to the recovery room or the post-anesthesia care unit, where you'll stay for a minimum of 30 minutes.
- The nurse will frequently check your blood pressure, pulse, pain level and the dressing on your surgical incision.
- You may wear an oxygen mask for a brief period after the surgery.
- Don't hesitate to describe what you're feeling. For example, if you're experiencing nausea, pain, discomfort, thirst, a dry mouth or itchiness or you're not able to urinate, the nurse can take steps to relieve these symptoms.
- You'll feel drowsy after the surgery, but when you start to wake up, you'll be asked to breathe deeply and do exercises with your feet and legs. These exercises help prevent complications related to blood clots.
- If you suffer from sleep apnea, you may be transferred to a special unit with increased monitoring for the first night after your surgery. You can discuss this more with your surgeon and anesthesiologist.
- A member of your care team will help you get up for the first time after the surgery, depending on your surgeon's recommendations, in order to encourage blood circulation.

3.7 At the care unit after surgery

- A porter will take you from the recovery room to day surgery, if you're returning home the same day, or to your room where you'll stay until you're discharged.
- When you arrive, you'll be on an IV solution to keep you hydrated and to administer medications, such as antibiotics. You'll have a dressing on your operated knee.
- Your nurse will regularly check your pain level and administer medications as needed. When possible, the physiotherapists try to coordinate their interventions with your analgesic schedule.
- Most surgeons prefer load bearing based on tolerance, where pain is your guide, in order to accelerate the healing process and normalize your gait pattern right away. However, you may have restrictions (e.g., partial, very light or no load) for the operated leg, and these will be explained by your care team.
- You'll see a physiotherapist at this stage for an assessment of general mobility, stairs and a review of the exercises before you return home.

4. Post-operative care

4.1 General instructions after the surgery

- Avoid activities that require concentration. It will take you several hours to regain your concentration.
- Eat a light first meal after the surgery.

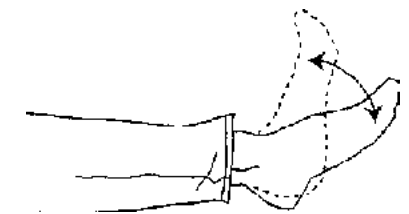
4.2 Ankle and deep breathing exercises

Ankle exercises

Point your toes toward your head, then toward the foot of the bed. Repeat this exercise 10 times every 2 hours, when you're awake, until you start walking.

Deep breathing exercises

Breathe in deeply through your nose and breathe out through your mouth. Cough every hour to clear your lungs.



4.3 Pain control

It's very important to control post-operative pain to optimize your healing. Your care team will use several pain-relief methods, such as anti-inflammatory medications and analgesic injections around the knee (administered in the operating room); this will help to reduce the sensitivity of the operated knee.

Before returning home, your nurse will explain how to use the pain scale to describe the intensity of your pain. The number “0” represents no pain and “10” represents the worst pain possible.

- The objective is to keep your pain at 4 or less, when possible.
- Generally, you’ll receive analgesics in the form of oral tablets.
- Different medications will be prescribed to control your pain. The combination of these medications makes it possible to reduce the side effects of each medication taken on its own and to control your pain more effectively. It’s important to follow your care team’s recommendations on how and when to take these medications.
- The analgesics can have side effects: nausea, vomiting, drowsiness, itchiness or constipation. If you experience any of these symptoms, talk to your nurse as soon as possible.

4.4 Controlling the pain at home

For most people, the pain slowly and gradually decreases over a period of 6 to 12 weeks. If the pain prevents you from performing your daily activities at home (getting dressed, walking to the bathroom), sleeping or doing your exercises, talk to your physiotherapist or family doctor. Consult a doctor if your pain worsens or if you develop new pain.

Here are some techniques to help you control your pain:

- Take your analgesics according to the instructions you received from your care team before you went home. It’s normal to feel more pain or symptoms during physical activity and the physiotherapy sessions.
- For the first few weeks after the surgery, it’s a good idea to take your medication one or two hours before doing these activities. It’s preferable to take medication before feeling intense pain.
- Place a cold compress wrapped in a towel on your knee, according to your physiotherapist’s instructions, for a maximum of 15 minutes per hour.
- Don’t overdo it. You should rest regularly to promote healing.
- Regularly change position (every hour, except at night).
- Relax. Practise relaxation techniques, such as breathing exercises or progressive muscular relaxation (contracting then relaxing each part of the body, starting with the toes and moving up to the neck).
- Distract yourself. Listen to music, do crossword puzzles, receive friends, watch TV.
- Be positive. You’ll feel better and better as you recover.

4.5 Constipation and urinary elimination

Changes in your diet, reduced activity and analgesics can cause constipation. Here’s how to relieve it:

- Drink a minimum of 2 L of fluid per day. Water is the best choice for keeping hydrated.
- Eat foods rich in fibre, such as prunes, bran, beans, lentils, fruits and vegetables.
- Move as much as possible and do your exercises.

The doctor may prescribe laxatives and softeners as needed. You may have to continue to take them at home. If you suffer from constipation at home, consult your family doctor or pharmacist.

Constipation can sometimes be serious. Do not neglect your symptoms (nausea, abdominal pain, loss of appetite and, in rare cases, vomiting). If untreated, constipation could lead to intestinal blockage.

The inability to urinate is a temporary problem, often observed after surgery. If this is your case, inform your nurse immediately. It may be necessary to empty your bladder using a catheter (tube), before your return home.

4.6 Anticoagulants

In rare cases, a blood clot can form after surgery. Here’s how to reduce the risk of clots:

- Take the anticoagulants as prescribed by the surgeon at the same time each day (Xarelto, injection of Lovenox, Fragmin or other).
- Get up and move every hour (except at night).
- If you’re admitted to hospital, maximize the use of the venous pump (intermittent pneumatic compression). This air pump inflates and deflates an air-tight bag around your leg and helps prevent clot formation.

Anticoagulants come in tablet form or as an injectable solution. At the hospital, you may receive anticoagulant injections that you’ll continue at home. You may also receive an injection at the hospital, but take anticoagulant tablets once you’re home. Your surgeon will discuss the best option with you, depending on your needs.

Pain assessment



4.7 Wound care

- The edges of the wound will be brought together with sutures, staples or Steri-strips. The staples are metal and keep the edges of the wound in place while your skin heals. They're removed about 14 days after the surgery. If you have Steri-strips, don't touch them. They'll eventually peel off on their own.
- It's important to keep the wound and the dressings dry. Don't touch the incision and make sure the skin around it is clean.
- You'll leave the hospital with a dressing that you can remove 7 to 10 days after you go home.
- Once the wound is well healed, it's very important to massage the scar to encourage the healing process. Usually, scar tissue forms around the incision, which can lead to adherence of the skin and muscle, and prevent the knee from attaining maximum movement.

Talk to your physiotherapist about safe scar massage techniques. Make sure to practise good hand hygiene before massaging the scar. Vitamin E cream or a fragrance-free cream can improve the effectiveness of the massage and wound healing. See the information capsules on the website for a video explaining proper scar massage techniques.

- Your incision must be completely healed (4 to 6 weeks) before submerging it in water (bath, hot tub, pool, etc.).

4.8 Sexuality after knee arthroplasty

You can resume sexual relations as soon as you feel comfortable, generally 4 to 6 weeks after the surgery.

4.9 Dental care and medical procedures

It's important to tell your health professional that you had surgery before you receive any dental care or undergo another medical procedure (in particular for the bladder, prostate, lungs or colon). You may need to take antibiotics to prevent infection reaching your new joint. For 2 years after your surgery, infection prevention treatment is recommended for all dental procedures. After two years, preventive treatment is recommended for any invasive procedures (extractions, implants). Consult your dentist or doctor about this.

4.10 Transportation

To get around after your surgery, you could call on a family member or loved one, or use a taxi or adapted transport service (e.g., Para Transpo). The adapted transport service will pick you up and drop you off at your appointments as needed. Make sure to find out if this service is offered in your region.

4.11 Driving

Your ability to drive will be reduced after your knee arthroplasty. Talk to your surgeon or physiotherapist beforehand. When you'll be able to start driving again depends on several factors. Here are the general restrictions to follow:

- No driving for **at least 6 weeks** for a total replacement
- No driving for **at least 3 weeks** for a partial replacement
- No driving while you're still taking narcotics (morphine, hydromorphone, etc.)
- No driving until your physiotherapist has conducted a range of motion (knee movement) and strength assessment of the operated limb.

For some surgeries, you'll receive a copy of the Medical Conditions Report form, sent to the Ministry of Transportation of Ontario and signed by your surgeon (if applicable). It will contain clear instructions on the restrictions you must respect.

4.12 Air travel

If you must travel shortly after your surgery, talk to your surgeon. It's not recommended to fly for at least 8 weeks after the surgery.

After the surgery, air travel may require special precautions. You must plan for more time and your new joint may set off the airport metal detectors. To avoid awkward situations, inform the security agents before going through the detectors. Usually, you're not required to have a letter from your doctor or copies of your X-rays.

If you're taking a plane less than 3 months after an arthroplasty, be sure to take several stretching breaks to prevent serious complications. On the plane, do the ankle exercises every hour to prevent clot formation. If, after your discharge from hospital, you must fly home, ask the airline if medical documents are required.

5. Complications

5.1 Infection

Fewer than 1% of patients develop a wound infection after the surgery. However, an infection elsewhere in the body could travel to the new joint through the blood vessels. Infection can start in your joint during surgery, in the hospital or from bacteria from another part of your body. Patients who contract an infection in the joint often require antibiotics. In rare cases, they must have another surgery. Prevention is the key to success in preventing infection or other problems.

Here's how to prevent infection:

- Wash your hands often.
- Eat healthily and do not smoke.
- Take the antibiotics you're given after the surgery.
- Avoid contact with people with colds or infections.
- Talk to your doctor if you think you have an infection.

5.2 Swelling

Your operated leg will likely be swollen after the surgery and during your recovery. Swelling can last a few weeks and even up to a few months. Your leg could swell a little more as you become more active. To reduce this swelling:

- Elevate the operated limb (ideally 20 to 30 cm above chest level). Stretch out on your back and elevate your legs by placing pillows lengthwise under your leg.
- Avoid sitting for long periods and do the ankle exercisers every hour, except at night.
- Be active for brief periods. Walk a few steps, rest, then start again.
- Place an ice pack or a bag of frozen peas or corn, wrapped in a towel, on the joint for a maximum of 15 minutes per hour. You can also use a

Cryo/Cuff® device. Talk to your physiotherapist or surgeon for more details.

Here are the signs of infection to watch for:

Infection of the incision

- Redness extending beyond the boundary of the wound
- Unusual colour or discharge (greenish, yellowish or foul-smelling pus)
- The wound and the surrounding area are increasingly painful or swollen
- Temperature above 38°C or 100°F
- Sutures that fall off earlier than expected

Urinary infection

- Pain when you urinate
- Frequent or urgent need to urinate
- Foul-smelling urine
- Temperature above 38°C or 100°F

Sore throat or chest infection

- Swollen lymph nodes in the neck, pain when you swallow
- Frequent coughing, yellowish or greenish sputum, shortness of breath
- Temperature above 38°C or 100°F

5.3 Clots

In rare cases, clots can form after the surgery in the deep veins of the legs. These blood clots may detach and lead to serious health risks. This phenomenon is more frequent in people who have heart or blood circulation problems, are inactive or overweight or have other health problems, such as diabetes. The signs and symptoms of clots are:

- Red, painful calf
- Abnormal swelling of the operated leg

If this is the case, **immediately inform your family doctor or your surgeon.**

If you have the following signs or symptoms, call 911 immediately:

- Shortness of breath
- Sudden chest pain

5.4 Anemia

You may lose a significant quantity of blood depending on the type of surgery you have. Anemia is a decrease in the level of hemoglobin (molecule that transports oxygen in the blood). The symptoms of anemia are:

- Feeling dizzy or faint
- Nausea or headache
- Major fatigue or weakness
- Rapid pulse or shortness of breath

If you present symptoms of anemia, consult your family physician. You may require an iron supplement and/or blood transfusion.

5.5 Post-operative delirium

Sometimes, elderly patients experience a period of confusion or delirium after surgery. They may act or talk strangely. Generally, delirium disappears after a few days, but sometimes can last for a few weeks. The side effects of the anesthesia and the medication, a lack of sleep, pain, infection, alcohol withdrawal, constipation and low oxygen levels are common causes of delirium. Your care team will investigate and correct the cause of the delirium when possible.

5.6 Skin complications

Pressure ulcers (bed sores) may form in patients who are bedridden for a long period. This complication can be prevented using good skin care techniques and by frequently changing position. A healthy balanced diet and adequate hydration also help to keep the skin healthy and prevent pressure ulcers.

5.7 Prosthesis loosening

After several years, the connection of the prosthesis to the bone may loosen. This could result in pain and difficulty bending the knee. To reduce the risk of this complication, avoid high-impact physical activities. If you notice that your prosthesis is more painful than usual, consult your doctor as soon as possible.

6. Daily exercises and activities

6.1 Physiotherapy

Physical activity plays a very important role in your recovery. It helps to improve knee function and to clear your lungs, reduces the risk of clot formation in your legs, relieves pain and promotes good bowel function.

The physiotherapist will guide you and show you how to:

- Use a walker or crutches
- Do your daily exercises 2 to 3 times a day
- Go up and down stairs safely

The hospital physiotherapist will advise you and refer you to physiotherapy services once you're home. Depending on your needs, place of residence and services available in your region, you'll need to go to a physiotherapy clinic (private or funded by the public sector), a hospital outpatient clinic or, in rare cases, receive services in your home.

This follow-up generally occurs 7 to 10 days after the surgery. Your physiotherapist will adapt your exercise program depending on how your condition has progressed, for a period of 4 to 8 weeks on average.

Your physiotherapist will discharge you once your knee achieves functional range of motion and adequate strength, and you're able to walk and comfortably use stairs.

Your physiotherapist will specify exercises to stretch and strengthen your legs and enable you to walk more easily and achieve better balance. As you advance in your recovery, the exercises will become more difficult. Through these exercises, you'll learn to use your new joint and become more autonomous. Do these exercises 2 to 3 times a day, at home. It's important that you continue to do them at home for at least 1 year after your surgery.

If you have any questions about your exercises or any concerns about your progress, talk to your physiotherapist.

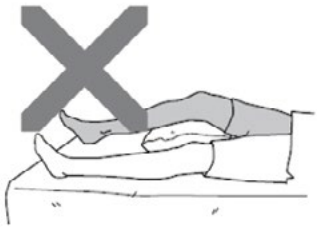
Before your discharge from hospital, make sure to book an appointment with a physiotherapy clinic.

6.2 Positioning your leg in bed

After the surgery, you must follow these precautions for 6 to 8 weeks, unless otherwise indicated by your surgeon.

In all of the following illustrations, the shaded leg indicates the operated leg.

Do not place a pillow under the operated leg:



You can place a small pillow lengthwise under both legs



You can also lie on your side with small pillows between your legs to maintain leg alignment.



You can lie on the operated side, if it's comfortable.

6.3 Walking

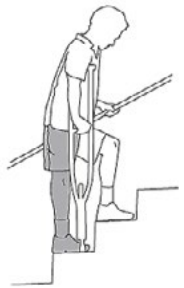
You can expect to use a walking aid, such as a walker, crutches or a cane, for 2 to 3 months after the surgery. After 4 to 6 weeks, you should be walking more easily, with greater strength and over longer distances. Regular physiotherapy will help you get the most out of your new joint. Physical activity will speed up your recovery and promote blood circulation. It will also reduce your risk of developing a blood clot.

6.4 Using stairs

Practise going up and down stairs with the hospital physiotherapist so that you can do it safely on your own.

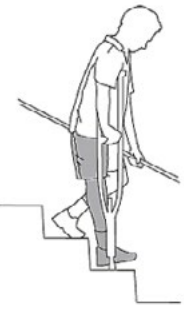
Going up the stairs

- Use the handrail and a crutch or cane
- Step up with your good leg first
- Then place your operated leg and crutch or cane on the same stair as your good leg
- Take one stair at a time



Going down the stairs

- Use the handrail and a crutch or cane
- Place the crutch or cane on the step below
- Step down with your operated leg first
- Then place your good leg on the stair
- Take one stair at a time



6.5 Getting in and out of bed

Getting into bed

- Sit down on the side of the bed. It may be easier to start with your stronger side.
- Slide yourself onto the bed using your arms. A plastic bag under your buttocks may make this easier.
- A half side-rail may help you get in and out more easily, but it's not mandatory. It has a handle and 2 long metal bars and is placed between the mattress and the box spring. You can get one from a medical supply store.
- Lift your operated leg onto the bed.

Getting out of bed

- Slide yourself to the edge of the bed.
- Use your arms to push yourself up to a sitting position.
- Slide your operated leg off the bed, followed by your good leg.
- Bring yourself to a sitting position on the edge of the bed.



6.6 Sitting down

- Use a firm chair with armrests.
- Stand up beside the chair to check the height of the seat before sitting down. The seat should be at knee height, or slightly higher.
- Back up until you feel the edge of the chair against the back of your knees.
- Move the operated leg forward and hold the armrests with your hands.
- Slowly lower your body onto the chair.



6.7 Getting dressed

- Sit on a chair or a bed.
- Start with your operated leg; finish with your operated leg when undressing.
- If you had difficulty getting dressed prior to the surgery, use adaptive aids like a long-handled reacher, sock aid or shoe horn for your operated leg to put on your socks, pants and shoes.



6.8 Using the bathroom

Falls can happen anywhere, but most falls occur in the bathroom. Here's how to reduce the risk:

- Take your time. Plan to use the bathroom often. Place a commode beside your bed, if necessary.
- When bathing, sit on a bench or a chair, if necessary.
- Use non-slip mats and grab bars.
- Make sure your bedroom and bathroom are well lit.
- Wear comfortable, non-slip shoes or slippers.
- **If you're dizzy or feel unstable, ask for help and consult your family doctor.**

The toilet

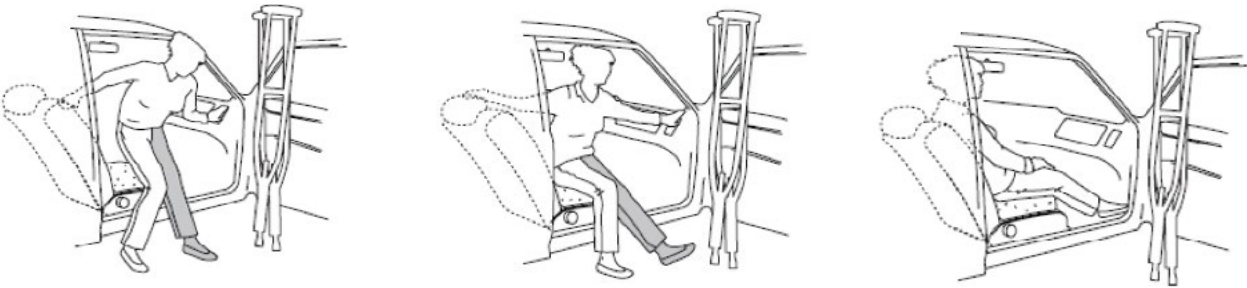
Use a raised toilet seat with secure armrests, unless you're able to use the counter to push yourself up. You can also install grab bars to help you sit down and stand up. Never use the towel racks or toilet paper holder—they're not designed to support your weight.

The shower

- Use a transfer bench and a hand-held shower head (in a bathtub) or a shower chair (in a shower stall) for the first few weeks. Do not sit on the bottom of the tub. If you're tall, you may need a bench or chair with long legs to be comfortable.
- Sit down as you would in a chair. Slide yourself back as far as possible, then lift your legs over the side of the bathtub.
- Use long-handled aids so that you can wash yourself without having to stretch.

6.9 Getting in and out of a car

- Talk to your physiotherapist if you have any questions about using a car. Practise these guidelines before your surgery, if possible:
- Park far enough away from the curb so that you don't have to step down directly from the curb into the car. However, if you're driving a truck or an SUV, you should park close to the curb to avoid having to step up too high to get into the vehicle.
- Move the seat back as far as possible. Back up to the seat until you feel the seat on the back of your legs. Extend your operated leg. Hold onto the back of the seat with one hand and onto the car with the other to stabilize yourself.
- Lower yourself onto the seat.
- Slide back and lift your legs into the car.
- It might be easier for you to slide back by placing a plastic bag or large garbage bag on the seat.
- You can also use a device called a Handybar that can assist you in getting in and out of a car more easily. It's sold in medical supply stores.



6.10 Going back to work

Give yourself time to recover from your surgery and focus on your rehabilitation before returning to work. Some people return to work shortly after their surgery, but others need more time to heal. This depends on your state of health and the type of work you do. To determine which option is better for you, talk to your physiotherapist or surgeon.

Before the surgery, assess your workstation and make the necessary changes before your return to work.

Adapting your work environment

- Chair: Choose a standard chair. Avoid chairs on wheels, which tend to move when you get up.
- Desk: Place your phone and computer close to you.
- Keyboard tray: If your desk is too low or too high, use a height-adjustable keyboard tray so that you're comfortable while typing.
- Work schedule: Plan to take frequent breaks to stretch. Get up and walk often. Avoid sitting for more than 45 minutes at a time.
- Bathrooms: Check the location of the grab bars.

7. Follow-up with your surgeon

A follow-up appointment with your surgeon will be planned for approximately 2 weeks after your surgery to check the wound, remove the sutures or staples and renew your prescriptions, if necessary.

Once you've recovered, you should make an appointment with your family doctor for a general health check-up. Your surgical report will be sent to your family doctor, if necessary.

8. When to get emergency help

Call 911 if you:

- experience sudden onset of intense pain in the operated leg
- are not able to move the operated leg
- experience sudden onset of chest pain
- are suddenly short of breath

From the day of your surgery to your discharge

Assessment

- We'll check your temperature, blood pressure, pulse and oxygen level before the surgery and frequently throughout the day.
- We'll also assess your pain level. Using a scale of 0 (no pain) to 10 (extreme pain), we'll ask you to record your pain.
- We'll frequently examine the colour, sensations and movements of the operated leg.
- We'll frequently check your dressing to make sure there's no excessive fluid leaking through the bandages.
- We'll ask you to record the quantity of fluids you're drinking and urinating.

Examinations

- Your doctor may order other blood tests before and after your surgery.

Medications

- You'll have an IV installed which we'll use to give you fluids.
- Your nurse will give you medications prescribed by your physician, including pain medication, if necessary.
- You'll receive an antibiotic to prevent infection. We'll remove the IV after your last dose of antibiotics.
- We may prescribe an anticoagulant (tablet or injection) to reduce the risk of a blood clot.

Nutrition

- After your surgery, we'll give you clear fluids (such as water).
- After that, you'll be able to drink and eat according to your level of tolerance.

Activity

- You'll be asked to take deep breaths and cough. This exercise helps to clear your lungs and prevent pneumonia.
- We'll ask you to do ankle and foot exercises 2 to 3 times a day while you're awake. This will help prevent blood clot formation and keep your muscles active.
- We'll help you walk, get in and out of bed to go to the bathroom, use the commode or urinate, as soon as you need to.
- You'll need to keep a pillow between your legs when you lie on your side.
- Your care team will regularly remind you of the precautions to take. Don't try to get out of bed on your own—always ask for a member of your care team to help you.
- Your physiotherapist will teach you how to get out of bed, walk with crutches and/or a walker and use stairs, if you have stairs at home.

Education

- Your care team will make sure that you know how to do the deep breathing and coughing exercises as well as the ankle exercises.
- Your care team will explain the various ways to control your pain (pain journal and oral medication).
- Your care team will review the information on how to take care of your dressing.
- Your care team will make sure that you and your family or loved ones understand the precautions to take for your knee and know where and when to ask for help, if necessary
- Your physiotherapist and/or occupational therapist will review your exercise program with you and teach you how to walk using walking aids (walker or crutches). Videos are available on our website to help you.
- Don't hesitate to ask questions.

Criteria for your discharge

- You'll be discharged from hospital once:
 - you've transitioned from the bed to the chair, walked and used stairs (if necessary) on your own using your crutches or walker
 - you clearly understand your pain control plan and pain medications
 - your designated caregiver understands your care needs once you're home

Planning your discharge

- Your nurse will review with you and your family or loved ones the information regarding your home situation and will make sure that the necessary arrangements for your discharge have been made.
- If you need help planning your discharge, we can organize a meeting with a social worker.
- If you require home care services, your care team can refer you to the appropriate resources.

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Important

This guide does not replace the advice given to you by your doctor.

Consult your doctor to find out if information presented in this guide does not apply to your situation. The content of this guide was prepared by Vancouver Coastal Health and adapted by Hôpital Montfort.

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