



Total Knee Replacement

Patient Information Booklet

Please bring this book to your admission to the Hospital and to all of your appointments.

**For Information Call
613-732-2811 extension 6380**

Orthopaedic Surgeon's Name: _____

Extension: _____

Your Health Care – Be Involved

MISSION, VISION, AND VALUES STATEMENT

Mission

We are a regional community hospital committed to delivering a wide range of quality health services. Following Catholic tradition, we will meet the physical, emotional, and spiritual needs of all.

Vision

Delivering the safest and highest quality of care to every person, every encounter, every day.

Values

We uphold and promote:

- Compassion and caring
- Excellence and innovation
- Social and fiscal responsibility
- Sacredness of life
- Mutual respect
- Community spirit

Acknowledgments:

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WELCOME TO THE PEMBROKE REGIONAL HOSPITAL

As a patient- and family-centred community hospital, the Pembroke Regional Hospital (PRH) provides quality healthcare in a warm and personal way through the services of dedicated healthcare professionals. We look forward to helping you throughout your hospital stay. Please be sure to ask any questions you may have at any time.

We use the acronym “Speak Up” to advise you to get involved in your health care:

- S – Suggest ideas to improve your care
- P – Provide a list of the medications you take
- E – Ensure you ask all your questions
- A – Assign someone to help you
- K – Keep your contact info up-to-date

- U – Understand your care
- P – Please tell us any information that will keep you safe

This booklet is intended to provide you with information to prepare you for your hospital stay and discharge. It will give you the general information you need to get yourself, your family, and your home ready for surgery. **Read this booklet and bring it to all of your appointments including to the Pre-Operative Assessment Clinic (POAC) and on the day of admission to hospital.** We hope that you find this booklet a useful reference guide before, during, and after your joint replacement surgery.

Patients who are prepared for surgery and who take part in their own care can recover in less time and with less pain. Your stay in the hospital will be short. In general, your home is a healthier place to recover as people tend to eat, sleep, and heal better at home. The role of the healthcare team in the hospital is to get you moving as soon as possible and resuming your daily activities safely.

IMPORTANT: If your Surgeon or healthcare team gives you different recommendations than what has been provided in this booklet, please follow their directions.

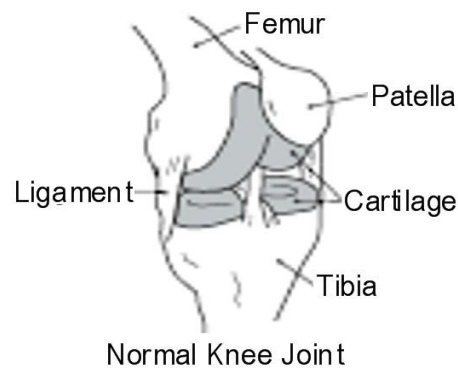
KNEE ANATOMY & KNEE REPLACEMENT SURGERY

In this section, you will learn about:

- Knee anatomy
- Knee replacement surgery
- Knee precautions

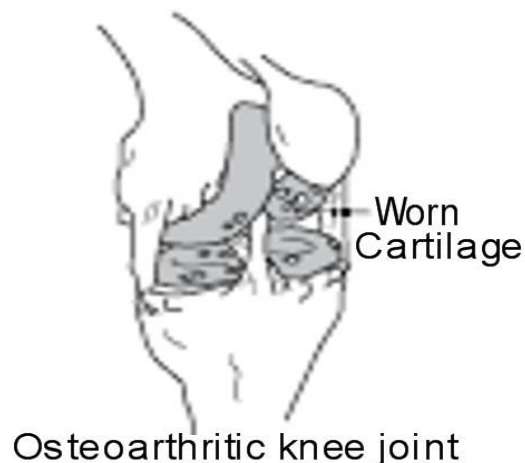
Knee Anatomy

The knee joint is where the thigh bone (femur) meets the shin bone (tibia). The knee is a hinge joint that allows you to bend and straighten your leg. The knee cap (patella) is the attachment for muscles that help you bend your knee.



Knee Disease

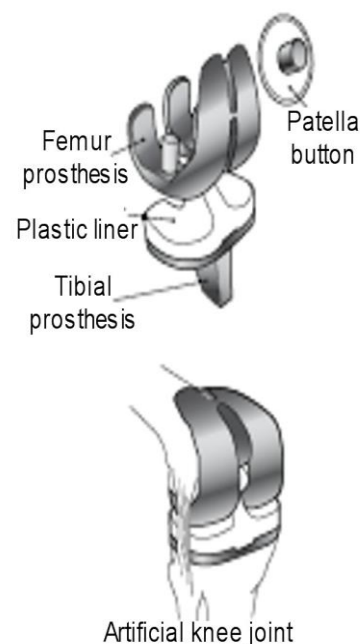
The most common reason for joint replacement surgery is osteoarthritis. Osteoarthritis results in the breakdown of cartilage on the ends of the bones. It usually appears in the joints that carry your body weight, such as the hips and knees. Osteoarthritis can cause joint pain and stiffness that may require joint replacement surgery. Other diseases or injuries can lead to joint damage. Talk to your Doctor if you have questions about your joint health.



Total Knee Replacement Surgery

In a total knee replacement surgery, the Surgeon replaces the diseased joint with an artificial joint (prosthesis). First, the Surgeon makes an incision and moves the muscles and ligaments away from the knee joint. Then the damaged bones are reshaped to fit the artificial joint. The ends of the thigh bone and shin bone are covered with metal shells separated by a plastic liner. The metal artificial joint pieces are secured to the bone with a quick-hardening adhesive. If the kneecap (patella) is damaged, it may be lined with a plastic disc. Once the new joint is in place, the muscles and ligaments are repaired. Your skin is closed with staples (metal clips that hold your skin together while the incision heals). This surgery takes about two hours to perform.

Today, many patients who have knee replacement surgery can move their joint better, have less pain, and are able to walk more comfortably than they were prior to surgery.



Bilateral (Both) Knee Replacement Surgery

In some rare cases, a Surgeon may decide that both knees need to be replaced at the same time. This depends on a number of factors including your overall health, joint damage, and lifestyle. The surgery will be the same as a total knee replacement. However, your hospital stay may be longer and you may need more rehabilitation after surgery to help you get back to your daily activities.

Unicompartmental (Partial or Oxford) Knee Replacement Surgery

If you only have arthritic damage on one side of your knee, your Surgeon may decide that you are a suitable candidate for unicompartmental (partial or Oxford) knee replacement surgery. As with total knee replacement surgery, the Surgeon reshapes the damaged parts of the bone to fit the artificial joint (prosthesis). Many people who have this kind of joint replacement surgery recover more quickly than people who have a total knee replacement surgery.



Knee Revision (Repeat) Surgery

Some people who previously have had a knee replacement may need a revision (repeat) surgery because:

- The replacement joint is loose or worn out
- There has been bone loss or an infection in the replaced joint (see signs and symptoms of infection on page 34)

These surgeries can be more complex and you may need more physiotherapy after surgery. You may not be able to put as much weight on your new joint while you recover.

BEFORE KNEE REPLACEMENT SURGERY

Before Surgery

In this section, you will learn about:

- Pre-operative education
- Pre-operative assessment clinic
- Home set-up
- Equipment list
- Exercise
- Nutrition
- Final checklist before surgery
- Preparation for surgery

Pre-Operative Education

Pre-habilitation Program (Total Knee Replacement)

The Pembroke Regional Hospital's Outpatient Rehabilitation Department provides a pre-habilitation program designed to educate both patients and their caregivers. You will be contacted by phone to arrange your appointment shortly after we receive notification of your upcoming surgery. It is mandatory to attend this appointment, or your surgery will be postponed or cancelled. We encourage you to bring a friend or relative for additional support. Please record the time of this appointment as we will not call to remind you.

This is an individual 45-60 minute session with a Physiotherapist. We will demonstrate exercises that we encourage you to start before your surgery and continue immediately after your surgery. We will suggest a gait aid (e.g. cane, crutches, walker) and any additional home equipment that would benefit you. You will be told where you can obtain any additional equipment.

Please read this entire booklet and come prepared with any questions you may have.

Please come a few minutes early to fill in some information we are required to collect.

Appointment time: _____

PRE-OPERATIVE ASSESSMENT CLINIC (POAC)

This visit takes place 2 to 3 weeks before your surgery.

The Pre-Admission Department will call you to schedule an appointment with the POAC. Your visit to POAC may take approximately 60-75 minutes to complete. It is mandatory to attend this appointment or your surgery will be postponed or cancelled. In the clinic, you will be officially registered for your hospital admission and nursing assessment and pre-operative tests will be performed. On the day of your appointment, report to the PRH Tower D, Ground

Floor, Information Desk with your health card. You will be directed to the Patient Registration Department to be registered and then directed to the POAC.

Some tests may be performed including:

- X-ray
- Blood and urine tests
- ECG (electrocardiogram)

Please remember these tests are not prescheduled. Therefore, there may be some waiting to complete them.

You will be given information about your hospital stay. The Nurse will take your health history and ask you to review your consent for surgery. The most important things you will learn during your POAC visit are:

- When to stop eating and drinking before surgery
- Medication management before and after surgery
- The date and place for your hospital admission
- How to prepare for your surgery
- Deep breathing exercises and ankle exercises

You may see other healthcare professionals during your POAC visit if requested by your Surgeon. These may include:

- Anaesthesiologist (bring any questions you have about anaesthetic to your POAC appointment)
- Medical Doctor
- Community Care Access Centre Care Coordinator
- Social Worker
- Dietitian

Please bring the following to your POAC appointment:

- A current print out of medications from your pharmacy **or** all of your current medications in the **original** bottles or boxes including vitamins and herbal products. Please include prescription and non-prescription medication, puffers, sprays, ointments, and eye drops.
- If your pharmacy prepares a dosette or blister pack, bring one that contains at least a week's supply of medication and ask your Pharmacist to prepare a list with dosing instructions of the medications contained within it.
- A list of medication allergies including the type of reaction.
- Provincial health insurance card and proof of any additional health insurance.
- Your substitute decision maker if they have signed the consent for you.
- Your reading glasses if required.
- A translator if you have difficulty understanding or speaking English.
- We recommend that you bring one able-bodied family member or friend with you to your appointment. This person has to be able to accompany you to your various appointments in the hospital and there is some walking involved.
- Bring this booklet to all appointments including POAC.

You will be asked if you smoke or consume alcohol on a regular basis. Please be honest, as this may affect your surgery and recovery time. We can provide you with smoking cessation support to prevent nicotine withdrawal during your hospitalization.

When Is My POAC Appointment?

The Pre-Admission Department from PRH will notify you at home of your appointment at POAC. Please report to Tower D, Ground Floor for your POAC appointment.

My POAC appointment is on: _____ at: _____

If you have any questions about your appointment, please call the Pre-Admission Department: Monday to Friday 8:00 a.m. to 4:00 p.m. at 613-732-2811 extension 6017.

You may eat and drink as usual on the day of your POAC visit, unless otherwise notified by your Surgeon.

My date of surgery is: _____

On the day of your Pre-Operative Assessment Clinic visit, we advise you to purchase Endure 420-Chlorexidine 2% wash. It can be purchased at Mulvihill Drug Mart located in the hospital by the Tower C entrance.

MRSA (Methicillin Resistant Staph Aureus)/ESBL (Extended Spectrum Beta-Lactamase producing bacteria)

If you have ever been told you have or had an antibiotic-resistant bacterium such as MRSA or ESBL, please notify your surgeon's office. Today, many hospitals in Canada and around the world are dealing with bacteria which no longer respond to many antibiotics. PRH is taking steps to prevent and control antibiotic-resistant bacteria. These bacteria do not usually cause problems in healthy people but can cause infections in people who have weakened immune systems or who have had major surgery. If you have stayed overnight in a healthcare facility within the last year, you will be screened for resistant bacteria at the time of your POAC visit.

Will I Need to See a Social Worker?

If there are any issues that may make it difficult for you to manage at home after discharge. Please inform any member of your healthcare team and they will refer you to appropriate support. If you have financial concerns that interfere with your discharge plans or if you have other worries, please let us know. We can offer support and connect you with other services that you may not know about. If you are already on Home Care through Community Care Access Centre (CCAC), please make sure that your Care Coordinator knows the date of your surgery.

If you live alone, you should plan to have someone stay with you overnight when you are discharged from the hospital and to help make meals for a few days. You could also make meals ahead of time and freeze them. If you are worried about being alone, you may want to think about private convalescent care in a retirement home. You can make these arrangements yourself or ask your healthcare team as you prepare.

If you are a caregiver for someone else, please let us know at the time of your POAC visit.

Primary Contact

Please discuss and decide with your family/friends who will be the primary contact person. This should be the only person to phone the hospital staff regarding your condition. This person can then further contact the rest of your family and/or friends. The name of this person will be written on the chart. Please let your family and friends know who this person will be.

My primary contact is: _____
Phone number: Home: _____
Work: _____
Cell: _____

Patient recovery can be enhanced by visits from family members, but remember your recovery is also aided by plenty of rest. Please be courteous and have family and friends respect the most up-to-date visiting guidelines. Your stay in hospital is very short, so your visitors may prefer to come to your home to see you after discharge.

Health Tips before Surgery

- Notify your Surgeon before your surgery if you develop a cold or any other illness.
- We ask that you check your temperature regularly during the three days before your surgery date. If you feel feverish (temperature 38°C or 100.4°F or higher) or develop a respiratory or any other infection during this period, you should notify the Surgeon who is performing your surgery by calling his/her office. This is important for your well being and the safety of others because there is a risk for everyone if you go to surgery with an infection in progress. Should your surgery be delayed, every effort will be made to have you rescheduled as soon as possible.
- If you have had a flu shot in the past and did not have any problems with it, you may have a flu shot before your surgery. It must be done at least one week before your operation.
- Your Surgeon recommends that if you require any dental work or teeth cleaning it should be done before your POAC visit.

Note: Notify your surgeon by calling their office before your surgery if you develop a cold, have any open wounds, have an active virus (e.g., shingles), or have any other illness. This is important for your well-being and the safety of others, because there is a risk for everyone if you go into surgery with an infection.

Dental Work

- We recommend that dental work be done six weeks in advance of surgery (including cleaning and any dental procedure). Having dental work done closer to surgery may result in your surgery being cancelled due to risk of infection.
- After your surgery, you must inform your dentist and other doctors that you have had a joint replacement surgery. You may need to take antibiotics prior to certain procedures.

We do not recommend dental work, unless it is an emergency, for 3-6 months after surgery.

WHAT SHOULD I BRING TO THE HOSPITAL?

- Your Health card
- All current medications in their original package, dosettes or blister packs. Please bring a current list of all medications in a printout from your pharmacy. If not needed after your surgery, your family can take your medications home if you have been admitted.
- A list of allergies, including the type of reaction
- Wear comfortable loose fitting clothing
- Walking shoes that tie on and wrap around your heel
- Please bring your recommended gait aid, but leave it in your car. It will be needed to assist with getting in and out of your vehicle and into your house when going home.

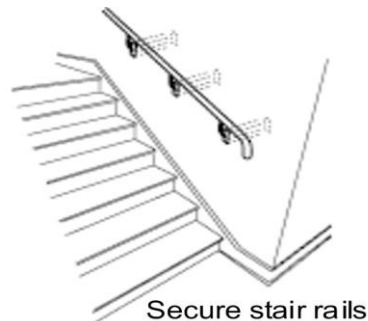
NOTE: four wheeled walkers with breaks are NOT to be used immediately after surgery.

DO NOT bring valuables to the hospital

HOME SET-UP

It is important to set up your home **BEFORE** joint surgery. This will allow you to easily move around your home with a walker or crutches after surgery and reduce the risk of falls.

- Ensure hallways and rooms are free of clutter and tripping hazards (e.g. scatter rugs, footstools, etc.).
- Add non-slip surfaces to outside stairs and walkways.
- Install stair railings or make sure the existing ones are secure.



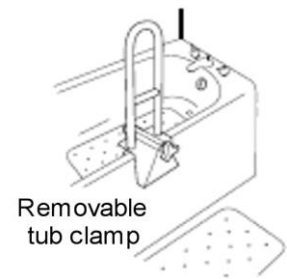
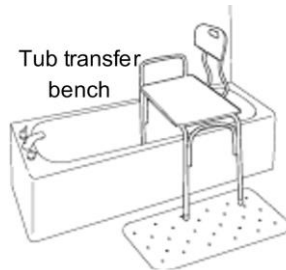
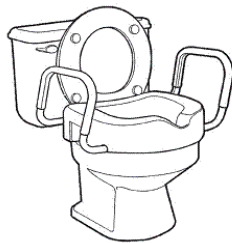
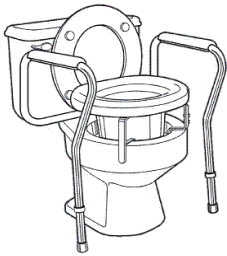
- Set up a firm chair with armrests.
- Ensure that you have good lighting in hallways and other well used areas.
- Arrange for extra help with household tasks if needed (e.g. vacuuming, laundry).
- Move frequently used household items to counter height (e.g. pots and pans). Consider moving items in the lower parts of the fridge/freezer to a higher shelf.
- Stock your freezer/pantry with healthy foods and snacks. If needed, private food/meal delivery services are available in many areas.

- Keep several ice packs in your freezer for possible joint swelling after surgery. Alternatively, you can use a bag of frozen peas. Ice should be applied 3 or 4 times a day for the next several weeks after surgery.
- Have a thermometer at home to check your temperature after surgery.
- Consider alternatives for pet care (e.g. dog walking, changing cat litter).

Bathroom

Note: The Physiotherapist Therapist will discuss recommendations specific to your home with you at your pre-habilitation visit. *You may not necessarily need all of the equipment listed below.*

- Install a raised toilet seat with armrests/toilet safety frame to assist you to sit or stand.
- Remove sliding doors from your bathtub and replace with a shower curtain.
- Set up a transfer bench or a shower chair (in a shower stall).
- Use a non-slip bathmat both inside and outside the bathtub or shower.
- Install a hand-held shower hose in the bathtub.
- Grab bars in the bathtub/shower stall and by the toilet are very useful. Removable grab bars are available. DO NOT use towel racks or toilet paper holders to assist you to stand or sit.

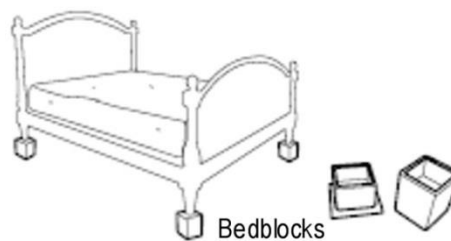


Seating after Knee Surgery

It will be easier for you to sit and get out of higher surfaces so it is important to consider the height of chairs, beds and toilets.



- Use a high density (firm) foam cushion or bed blocks to increase chair height. The cushion should be firm enough that it will not compress when you sit on it. Plan to take your foam cushion with you to adapt chairs outside of the house.
- Set up a firm chair with armrests (not a rocking chair).
- Set up a table beside your chair for frequently used items.
- If your bed is too low, add another mattress or place the frame on bed blocks.



EQUIPMENT:

During your pre-habilitation appointment, the physiotherapist will provide you with a list of equipment recommendations specific to you and your home environment. Please arrange to have this equipment in place before your surgery.

Equipment you must bring to the Hospital on day of surgery unless otherwise told by a therapist

- Two-wheeled walker, to be left in your car (four-wheeled walkers are NOT permitted)
- Comfortable and loose-fitting clothing

Note: Please make sure your name is on all equipment.

Equipment for Home

The equipment below may be recommended:

- Raised toilet seat (with handles) or commode chair over toilet
 - Long-handled reacher
 - Long-handled shoehorn
 - Sock aid
 - Long-handled sponge
 - Non-slip bathmat
 - Elastic shoe laces (otherwise use slip-on shoes with enclosed heel)
 - Hand-held shower hose
 - Bathing – use a shower chair for a walk-in shower or a tub transfer bench for a bathtub
-
- Please ensure that equipment fits in your home and is in good working order before you have your surgery
 - Walkers, crutches, and canes must be adjusted to your height
 - Equipment is available at medical supply stores in our community and a medical supply store list will be provided to you
 - Equipment may be able to be rented and/or purchased
 - Suppliers may deliver to your home and/or install
 - Costs may be covered by extended health plans – check your plan

EXERCISE

Exercising before surgery will help you to have a faster and easier recovery. Do activities that put less stress on your joint. Try:

- Exercises in water, such as swimming or water walking at a community pool
- Cycling
- Nordic pole walking
- Gentle stretching and strengthening
- Specific exercises suggested by a Physiotherapist
- Balance exercises (valuable in preventing falls)

These activities will make your muscles stronger, improve your endurance, and help keep your joint moving. Exercising before surgery will also help you to build up your confidence and knowledge of the exercise you will do after surgery.

REMEMBER: After surgery, daily exercise is essential and will be a part of your rehabilitation for many months.

Be sure to strengthen your arm muscles. You will need strong arms after your surgery to use walking aids, to get in and out of bed, and to get on and off a chair. If possible, do strengthening exercises for at least 3 weeks before surgery.

For example, push up through your arms while seated. Work up to 10 repetitions 2 times each day.

If this exercise causes you discomfort, or if you are new to exercise and/or have other health conditions, **always talk to your Family Doctor before starting a new exercise program.** If you don't know how to get started, talk to a Physiotherapist.



NUTRITION

Good nutrition helps you to recover from surgery and reduces the risk of infection. Talk to your Doctor, Pharmacist, or Dietitian if you have any concerns. Important nutrients before and after surgery include:

Protein

Protein promotes healing after surgery. To meet increased protein needs, try to eat at least 3 servings from each of these food groups every day.

Meat and alternatives 1 serving =	Milk and alternatives 1 serving =
<ul style="list-style-type: none">• 2-3 oz. of meat, poultry or fish• 2 eggs• 3/4 cup beans• 3/4 cup tofu• 2 tablespoons peanut butter	<ul style="list-style-type: none">• 1 cup milk or soy beverage• 2 oz. cheese• 3/4 cup yogurt

Calcium and Vitamin D

Calcium and Vitamin D are important for strong bones. Adults should have 2 to 3 servings of milk or calcium-fortified products a day. Talk to your Doctor, Pharmacist, or Dietitian about current supplement recommendations that are right for you.

Fibre and Water

It is important to have a regular bowel habit before joint surgery because constipation can be a complication of surgery. Include fibre in your diet, such as whole grains, bran, fruits, vegetables, dried beans, and lentils. Gradually increase your fibre intake and spread the fibre throughout the day. Drink at least 8 glasses of water or other low-calorie fluid a day.

For more information about nutrition, see Canada's Food Guide:

www.healthcanada.gc.ca/foodguide or visit Eat Right Ontario at: www.eatrightontario.ca

Weight Management

Being **overweight** or **underweight** can affect your recovery from surgery. If you are **overweight**, moderate weight loss is a good strategy to reduce knee pain and to allow you to be more active. Every pound you carry places 3-6 pounds of force on your knees and hips. If you are trying to lose weight before surgery, aim for a gradual loss of no more than 1 pound per week. Avoid fad diets, as they may cause you to be undernourished and prolong recovery.

Approximately 1 extra POUND = 3-6 POUNDS OF FORCE on your knees and hips
--

Being **underweight** can make it harder for your body to heal after surgery. It is important to eat well before surgery.

Talk to a Dietitian if you are worried about being overweight or underweight before surgery. To find out more information on nutrition or specific nutrients see:

Dietitians of Canada Website: www.dietitians.ca

Final Check List: 1 Day before Surgery

By now you should have picked up your medical equipment and set up your home. Here is a final checklist of things you need to do before coming to the hospital:

- Label all of your dressing equipment with your name.
- Make arrangements for transportation to and from the hospital. There is no specific discharge time for patients. Please be flexible and ready to go home as soon as you are ready.
- Make arrangements for someone to stay with you or be nearby for at least the first 72 hours after you leave the hospital.
- Perform your skin preparation as explained by the POAC staff.
- Pack your bags for the hospital. Bring only the minimum of personal belongings (clothing, etc.) with you to hospital. Your planned stay will be short, patient rooms are small, and there is limited storage. Most patients now go home the day of surgery.
- A waterproof dressing will be applied in the hospital and will stay on for 7 days or longer, then another dressing can be used.
- Ice or frozen gel packs to be applied 3-4 times per day at home to decrease swelling.

Please ensure that visitors are aware of the Pembroke Regional Hospital scent-free policy. Please do not bring scented flowers to the hospital.

PREPARATION FOR SURGERY

You must follow these rules or your surgery may be cancelled:

1. **Do not eat after midnight the night before your surgery or your surgery will be cancelled. Do not chew gum or suck on any mints, candies, or cough drops. You may drink CLEAR fluids until 3 hours before your surgery. Clear fluids include water, apple juice, gingerale, or Gatorade. Eating or drinking can cause you to vomit during anaesthesia and this can be dangerous.**

Exception: You should take your regular prescription medications (no vitamins or herbal products) with sips of water the morning of surgery as instructed, unless POAC staff told you not to take the medicine.

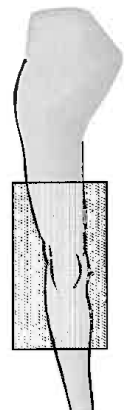
Please take:

You should stop taking:

_____	on	_____
_____	on	_____
_____	on	_____

You **must** stop taking medications such as Vitamin E, omega 3, fish oils, ginkgo biloba, garlic, and ginseng at least one week before surgery. These medications thin your blood, which could cause excessive bleeding during and after surgery.

2. **Skin preparation:** Stop shaving in the operative area one week (7 days) before your surgery date. Shaving can cause tiny nicks in the skin that may allow germs to enter your body and cause an infection. Have a bath or shower the night before and morning of your surgery. At the end of your bath or shower (if shower, shut off the water), using the chlorhexidine sponges, use the non-abrasive side of the sponge and gently rub the operative area for about 2 to 3 minutes and then RINSE WELL. Remember to do the front, sides, and back area of the site (see diagram). Dry your body with freshly laundered towels.
Do not use bath scents, powders, or body lotions. The morning of surgery repeat your bath or shower using the chlorhexidine soap sponges.



3. If you are a smoker, stop smoking 24 hours before your surgery. We can provide you with smoking cessation support to prevent nicotine withdrawal during your hospitalization.
4. Do not drink alcohol 24 hours before surgery.

5. On the day of surgery do not wear make-up, body piercings, nail polish, deodorant, or contact lenses. **Please do not wear any scented products, as the hospital has a scent-free policy.**
6. Do not bring valuables (jewellery, credit cards, money) to the hospital. We do not assume responsibility for lost or stolen articles.
7. Do not drive your car to the hospital the day of surgery.

When you see the nurse for your POAC visit ask about smoking cessation support in preparation for your surgery.

DURING YOUR HOSPITAL STAY

In this section, you will learn about:

- Day of surgery
- Length of hospital stay
- Rehabilitation
- Pain management
- Anticoagulant medications
- Going home

DAY OF SURGERY

When you arrive at the hospital:

- Please report to the Tower A, 3rd floor Surgical Registration desk.
- **Please bring your health card.**
- Staff will show you where to change into a hospital gown. Your clothes will be placed in a locker for later transfer to your room. You will then lie down on a stretcher.
- A Nurse will complete the paperwork for your admission to the hospital.
- An aide or porter will take you to the Operating Room.
- Please bring your own bag

During Surgery: Anaesthesia

You will talk to your Anaesthesiologist and Surgeon in the waiting area of the Operating Room. The Nurse, Anaesthesia Assistant, or the Anaesthesiologist will start an intravenous (IV) by inserting a small needle into your arm or hand. Medication and intravenous fluids are given through this needle.

Most people who have joint replacement surgery have **spinal anaesthetic**. This freezing goes into your back through a needle and makes you numb from the waist down and stops you from feeling pain. The Anaesthesiologist will make sure you are comfortable throughout the surgery, giving you medication through your IV that makes you relaxed and sleepy. If you have a spinal anaesthetic, you may not be able to move your legs for up to 4 hours after surgery.

Some people receive **general anaesthetic**. This is a combination of drugs that will make you unconscious during the surgery.

Bring any questions you have about anaesthetic to your POAC appointment.

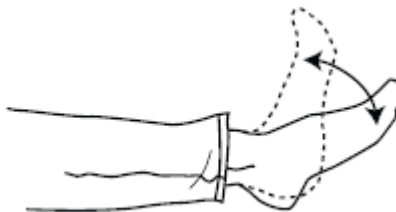
After Surgery: Recovery Room

- Your operation can last from 1½ to 2½ hours.
- You are moved from the Operating Room to the Post-Anaesthetic Care Unit (PACU).
- You may have an oxygen mask or nasal prongs on your face. You may require oxygen for 24 hours following surgery.

- The Nurse monitors your vital signs, including your pulse and blood pressure, and will look at your incision frequently.
- The Nurse will check the circulation, sensation, and movement of both legs. Your legs will feel heavy and will be difficult to move for a few hours after the spinal anaesthetic. They will slowly return to normal.
- If you feel any pain, nausea, or itchiness tell the Nurse. You will be given medication to help you feel better.
- You will be drowsy after the surgery. As you become more alert we will encourage you to do ankle exercises and deep breathing exercises (see below). These exercises will help to prevent post-operative complication.
- You will stay in the PACU for a minimum of 30 minutes.
- If you are being admitted to the hospital, you will then be transferred in your bed to your room on the surgical unit. Your family will be able to visit you after you are admitted to your room. They can also bring any extra personal toiletries and clothing at this time.
- If you are being discharged home after surgery, you will be transferred to the day surgery unit to complete your recovery.

Ankle Exercises:

Point your toes toward your head, then toward the foot of the bed. Make your feet go around in circles five times. This exercise should be done at least every hour while you are awake.



Deep Breathing Exercises:

Take a deep breath in through your nose and slowly blow out through your mouth. Repeat this three times. This should be done every hour while you are awake for the first day, then every two hours for the next 1-2 days.

After Surgery: Surgical Unit

- You will have an intravenous (IV) in your arm to give you fluids.
- You will have a large dressing on your leg that covers your incision.
- You will be told how much weight you can put on your new joint (weight-bearing status). This will vary for each individual. Often people are told to weight bear as tolerated, but you may have a weight-bearing restriction such as partial, feather, or non-weight bearing on your surgical leg. This will be determined by your Surgeon.
- The Physiotherapist or Nurse will help you to use a walker to stand on your new joint, if allowed by your Surgeon, either the day of surgery or the day after your surgery.
- The Nurse will ask you if you are having any pain and/or nausea. Please tell the Nurse if you have pain or nausea so he/she can give you some medication to help you feel better.

- You will use a commode or raised toilet seat during the day to use the bathroom and a bedpan or urinal at night. As soon as you are able, you will walk to the bathroom.
- Some people who have spinal anaesthetic find it difficult to urinate and will need a catheter (a temporary tube placed in your bladder to empty the urine).

LENGTH OF HOSPITAL STAY

Your time in hospital is short. Your healthcare team will work with you to make sure you are medically stable and able to leave the hospital.

Before surgery, it is important to make arrangements to have someone pick you up from the hospital when going home.

REHABILITATION

The adherence to your exercise plan will be essential to the outcome of your joint replacement:

- Physical activity expands your lungs, reduces the risk of blood clots in your legs, reduces pain, starts your bowels moving and is a very important part of your recovery.
- The Physiotherapist and/or Rehabilitation Assistant will work with you throughout your hospital stay. Your Physiotherapist will teach you how to:
 - Walk with a walker and/or crutches
 - Do your daily exercises
 - Use the stairs safely
- The Physiotherapist will give you exercises to do in hospital and at home. Exercises are a key component of your recovery. **It will be your responsibility to continue your exercises after you are discharged from hospital.**

Protecting Your Skin from Pressure Injuries

During and after your surgery, you are at risk for developing a pressure injury (bed sore, pressure ulcer). A pressure injury is skin breakdown that develops, usually over the tailbone and the heels, from sitting and lying in the same position for long periods of time or from sliding down in bed. Some key things that can be done to protect your skin are: avoid sitting in bed with the head of the bed higher than 30 degrees for long periods of time; reposition yourself or ask for help about every 2 hours; when you turn on your side, put a pillow between your legs; when you lie on your back, use pillows under your lower legs so your heels “float” off the bed.

PAIN MANAGEMENT

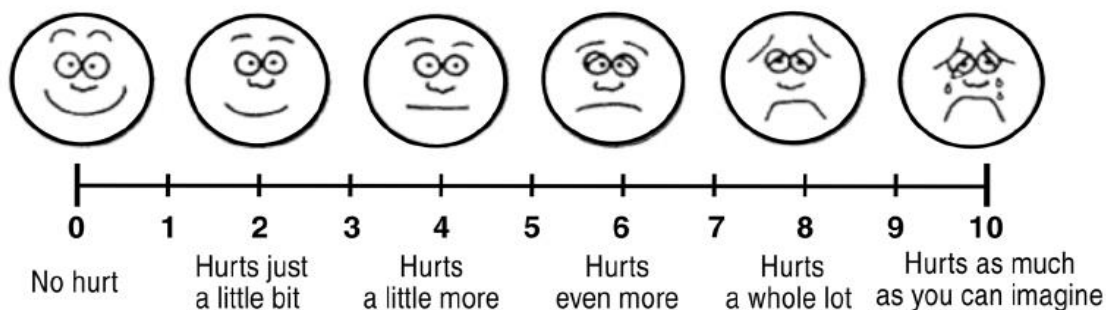
Adequate pain management is very important for your quick and speedy recovery. Good pain management is needed in order for you to be able to participate in physiotherapy and early walking. It is very important to take your pain medication in order to be comfortable enough to move about as required. Your Anaesthetist may decide to inject a small dose of morphine into your spine during your surgery and this can provide pain relief for up to 24 hours. If you receive this medication, your oxygen level and respiratory rate will be assessed for the first 24 hours.

Taking pain medication regularly, especially early in your recovery, will help you tolerate and perform your exercises. You should be able to gradually reduce the amount of pain medication that you need over time.

A combination of medicines will likely be used to control your pain after surgery. This normally would include acetaminophen (e.g. Tylenol™) plus an anti-inflammatory (e.g. celecoxib or Cerebrex™) and/or a narcotic (e.g. hydromorphone). By taking a combination of these medicines, you may be able to reduce the side effects of any one of these medicines alone and have improved pain control. It is important to talk to your healthcare team to understand how and when to take these medicines to best control your pain and symptoms.

Constipation can be very common after surgery. It can be a side effect of some medications that are used during and after surgery. Talk to your Nurse if you are constipated. Some other side effects of pain medications are: nausea, vomiting, drowsiness, and being itchy. Tell your Nurse if you have any of these symptoms.

Pain Scale Ruler



What is a pain scale ruler? A pain scale ruler is a simple tool to measure how much pain you are having. Your healthcare team may use this ruler to measure your pain.

Why do we measure your pain? We measure your pain frequently so that we can be sure that your pain medication is working.

What does a pain scale ruler look like? One side of the ruler has numbers from 0 to 10. The other side has colors from white to deep red.

How does our pain scale ruler work? Our ruler is numbered from 0 to 10, with 0 being no pain as shown with a clear face with 10 being the most severe pain you can imagine as shown with a deep red face.

You will be shown the ruler and asked to choose a number or colour.

Nausea/Vomiting

Nausea/vomiting can be a problem after surgery, especially within the first 24 hours. It is most likely due to medication(s) given during and after surgery. Nausea/vomiting are common side

effects of narcotics such as hydromorphone (Dilaudid™). There are several medications available for nausea/vomiting. Speak to your nurse if you feel nauseated.

Anticoagulant Medications

After knee replacement surgery, you are at risk for developing a blood clot in your leg (see “Complications” page 38). It is important to prevent these clots from forming and from travelling to the lungs. Blood clots can cause death if untreated. Many people are given a daily dose of a blood thinning medicine to reduce this risk.

GOING HOME

- If you stay overnight after your surgery, you will be discharged home once cleared by the team including your surgeon, nursing staff and physiotherapy/
- You will need to continue your physiotherapy exercises at home for at least 3-4 months. An outline of the home exercise program is shown in the physiotherapy home exercise section of this booklet (see Appendix 2). Be sure to continue to manage your pain at home so you are able to move around and exercise.
- The Physiotherapist will fax your referral to your desired outpatient physiotherapy location – either a local hospital or private clinic. Please let us know your preference during your re-habilitation appointment.
- You must make arrangements for someone to pick you up when you are discharged.
- You may not drive yourself until your Surgeon agrees that you are able (usually 6 weeks after surgery). You may want to check with your insurance company for guidelines. If you are taking narcotics, you should not drive a vehicle.
- **Arrangements for private convalescent care, if desired, should be made before your surgery. The Social Worker is available; please ask the nurse on the Surgical Unit to speak with the Social Worker.**
- Be aware that artificial joints sometimes make grinding or clicking noises. Do not be alarmed – this is normal.

Follow-Up Medical Appointments

Before leaving the hospital, plan the following appointments:

- Your Surgeon: _____
- Your Physiotherapist: _____
- Have your clips removed from your surgical incision (your Surgeon will tell you before you go home where and when this will occur):

- You should make an appointment with your Family Doctor once you are back on your feet to review your general health

AFTER SURGERY

In this section, you will learn about:

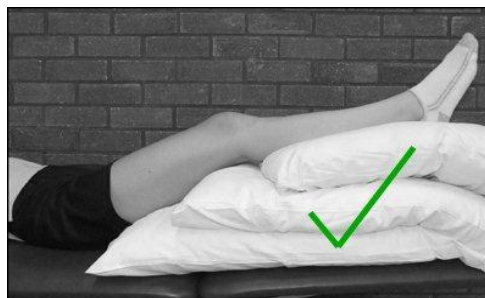
- Pain management at home
- Outpatient physiotherapy
- Transportation
- Activity guidelines
- Sexual activity guidelines
- Complications
- Dental work and medical procedures
- Returning to work

PAIN MANAGEMENT AT HOME

Most people have less and less pain over the next 6 to 12 weeks after surgery. If pain is preventing you from caring for yourself, sleeping, and/or exercising, talk to your Physiotherapist or Doctor. **If your pain becomes increasingly worse, or if you have pain in a new part of your body, seek medical attention immediately.**

Here are some ways to manage your pain:

- Take **pain medicine** as directed. It is normal to have some increased pain or symptoms during physical activity or physiotherapy sessions. It may be helpful to take a dose of pain medicine 1 hour before engaging in these activities in the first weeks after surgery. It is better to take medicine **BEFORE** the pain is severe.
- Ice can reduce pain and inflammation. Place an ice pack wrapped in a towel on your knee as directed by your Physiotherapist. For optimal results, elevate your leg on several pillows before applying ice.



- Pace yourself. Do not push yourself. Regular rest is an important part of your healing process.
- Relax. Use relaxation techniques such as breathing exercises or progressive muscle relaxation. Progressive muscle relaxation is when you tighten and relax each part of your body, starting with the toes and working up to your neck.
- Distract yourself. Listen to music, visit with friends, write letters, or watch TV.
- Think positively. You will become more and more comfortable as you recover from your surgery.

Outpatient Physiotherapy

A referral will be sent to Outpatient Physiotherapy or to Community Care Support Services for follow-up after your surgery. You will be contacted for an appointment. This appointment will occur approximately 7-10 days after your surgery.

If you attend Outpatient Physiotherapy at the Pembroke Regional Hospital:

- Your first appointment will be an individual session lasting 45-60 minutes and then you will be placed in one of our group programs.
- You will continue to attend group classes twice a week. Each class lasts 1 hour and classes are available in both the morning and the afternoon. We try to arrange a mutually-convenient time for appointments.

If you wish, you can have private physiotherapy follow-up, but you need to advise your hospital Physiotherapist before discharge so they can provide you with a signed referral from your Surgeon.

Your Physiotherapist will give you exercises to stretch and strengthen your joints and muscles and improve your walking and balance. As you recover, the exercises will progress. Doing the exercises assigned by your Physiotherapist will help you to move your new joint and enjoy greater independence. It is important to continue with the exercises for at least 1 year after your surgery.

Talk to your Physiotherapist if you have questions about your exercises or concerns about your progress. Also ask when you can resume leisure activities.

Transportation

There are many different ways to get around after surgery. Here are some options:

- Friends/family vehicle
- Taxi
- Volunteer drivers with Community Support Services agencies

Talk with your healthcare providers about completing the necessary forms for these services before surgery.

Air Travel

After surgery you may have some extra challenges when travelling by plane. Be sure to give yourself extra time when flying. Your new joint may set off metal detectors at the airport. While on the plane, do ankle exercises every hour to help reduce the risk of blood clots. If you are flying home from the hospital, check with your air carrier to see if medical documentation is needed.

Driving

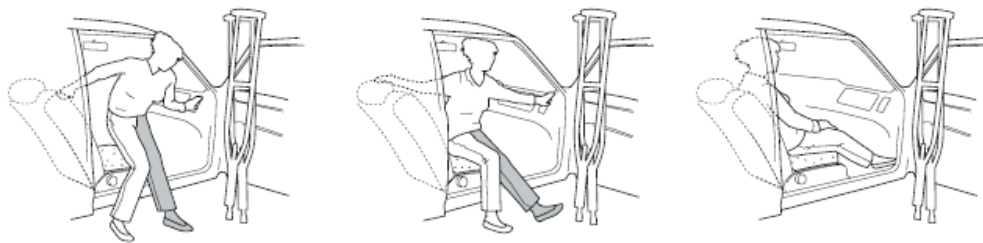
You may be a passenger in a car but driving a vehicle is restricted after knee surgery. There are a number of factors that can impact your ability to safely return to driving. These include using mobility aids and taking prescription pain medicines (narcotics). Talk to your Surgeon before driving. Most people start to drive approximately 6 weeks after surgery. Your insurance company may also have some driving guidelines post-surgery. Ultimately, your Surgeon will decide when it is appropriate for you to return to driving.

Car Transfer

It can be challenging to protect your knee while getting into some cars. Talk to your Physiotherapist if you have questions about car travel. Please practice these techniques before your surgery:

- Park away from the sidewalk or curb so you are not stepping down from the curb to the car. However, if you have a high truck or sport-utility vehicle, you may need to park near the curb so that you do not have to climb up to the seat.
- Move the seat as far back as possible.
- Recline the seat.
- A cushion on the seat may be more comfortable.
- Back up to the seat until you feel the back of the seat on your legs.
- Extend your operated leg.
- Hold onto the back of the seat and the car to stabilize yourself
- Lower yourself to the seat.
- Slide back and lift your legs into the car.
- A piece of plastic or a large garbage bag over the cushion or seat may help you to slide into the car seat more easily.

Shaded leg is the surgical leg



ACTIVITY GUIDELINES

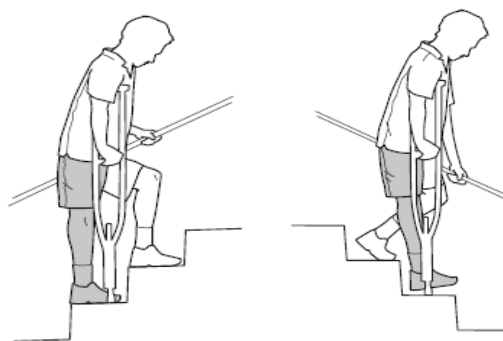
Walking

- You can expect to use walking aids such as a walker, crutches, or cane for up to 3 months or longer after surgery.
- Crutches are not to be used when getting up the first time but will be introduced by physiotherapy if you are ready. A cane will be introduced when appropriate (i.e. when your muscles are strong enough to prevent the knee from buckling).
- By 4 to 6 weeks after your surgery, you should be walking with more strength and be able to walk longer distances.
- Regular physiotherapy after your surgery will help you to get the most out of your new joint. Physical activity will help you have a faster recovery and will get your blood moving. This will also reduce your risk of developing a blood clot.
- Your weight-bearing status will be determined by your Surgeon. A common restriction is partial weight-bearing.
 - Partial weight bearing means that you can put 50% or less of your body weight through your affected leg. When walking with a standard walker (no wheels), lead with the walker, then your operated leg, and then the other leg.
 - Please use a gait aid until your first outpatient physiotherapy session.

Stairs

You will practice the stairs with the Physiotherapist prior to leaving the hospital so that you are able to manage stairs safely and independently. If you have had both knees replaced (bilateral), your Physiotherapist will practice a technique with you that allows you to alternate your surgical legs when going up and down the stairs.

Shaded leg is the surgical leg



Getting Into Bed

A firm mattress is recommended for sleeping. Avoid waterbeds, futons, or low beds.

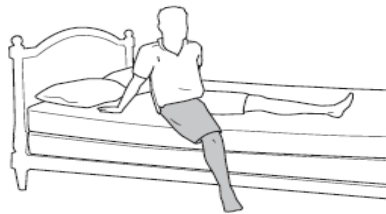
- Sit at the side of the bed. It may be easier to get into bed on your stronger (non-operated) side.
- Slide back across the bed using your arms for support.
- If necessary, a half bed rail can allow you to get in and out of bed more easily. A half bed rail consists of a handle with 2 long metal rods that are placed between the

mattress and the box spring. A half bed rail can be obtained through a local medical supply store.

- Lift your operated leg into bed or use a “leg lifter” (this may be the belt from your housecoat or a crutch turned upside down) hooked over your foot so that you can help lift the leg using your arms if needed.

Getting Out of Bed

- Slide your body to the edge of the bed.
- Use your arms to push yourself to a sitting position.
- Slide your operated leg off the bed.
- Bring your body to a sitting position at the bedside.



Sitting in a Chair

- Use a firm chair with arm rests.
- Back up to the chair until you feel the edge of the seat behind your knees.
- Move your operated leg forward and reach back for the arm rests.
- Slowly lower yourself into the chair.

Dressing Yourself

- Socks:
 - Follow the instructions provided with your sock-aid to put on your socks.
- Shoes:
 - Comfortable, flat, closed toe and heel shoes with non-slip soles are the safest option.
 - Your shoes should be roomy since you will have some swelling in your feet after surgery.
 - Elastic shoe laces can replace the laces in your regular shoes. This eliminates the need for bending over to tie a bow.
 - A long-handled shoe horn will also be useful.

Bathroom Safety

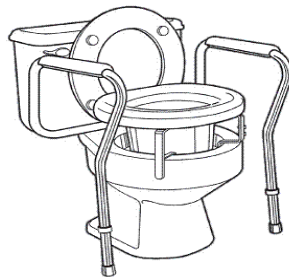
Falls can happen anywhere but are most likely to occur in the bathroom. Here are ways to reduce the risk:

- Do not rush. Plan to use the toilet often to avoid having to rush. Have a bedside commode if needed.

- When bathing, use a bench or chair, non-slip bath mats, grab bars, and/or a removable tub clamp.
- Make sure the route from your bedroom to the bathroom is well lit.
- Wear sensible, non-slip shoes or slippers.
- If you feel dizzy or unsteady, do not get into the bathtub to avoid having a fall.

Using the Toilet

- Your Physiotherapist will help you decide if a raised toilet seat is necessary post-surgery.
- Make sure that the toilet seat has secure armrests or that you can install grab bars to help you stand or sit. DO NOT use towel racks or toilet paper holders to help you stand or sit down.
- Toilet seat should be 2 inches above standing knee height.
- Sit down as you would in a chair (see page 31).



Bathtub Transfer

When you are allowed to bathe or shower:

- Your physiotherapist will recommend what bathtub equipment or shower equipment is best for you
- Sponge bathing is a safe option for those who are unable to get into or out of the tub/shower safely
- Place non-slip bathmats inside and outside the tub, use a bench or chair and use grab bars.

Wound Care

You will have an incision at the site of your surgery. Your Nurse will teach you how to care for your incision at home. While it is normal to have some redness and clear drainage from your incision, watch for signs of infection (page 35). You do not need a new bandage unless there is drainage.

The edges of your skin may be held together with sutures, staples, or Steri-strips™. Staples are metal clips that hold the edge of your skin together while your skin heals. Your staples will be removed 7 to 14 days after surgery. If you have Steri-strips™, leave them alone. Loose ends may be trimmed but they will fall off on their own.

Sexual Activity Guidelines after Knee Replacement

While many people don't feel like participating in sexual activity while recovering from joint replacement surgery, the pain and stiffness from arthritis can affect sexual activity even before surgery. Many people's sex lives improve after surgery because after the joint heals, it is usually free of pain and stiffness that may have previously affected sexual activity.

- You may return to sexual activity when you feel ready and comfortable and the incision is healed. This is often 4-6 weeks after surgery but this is a very individual decision.
- You may need to consider trying some new positions. Talk to your partner.
- As you may have less energy right after the joint replacement surgery, plan ahead to pace your activities and make time for sexual activity when you won't be tired.
- If you have questions or concerns about how to protect your new knee during sexual activity, talk to your Physiotherapist or Surgeon.
- Visit the website: www.aboutjoints.com for illustrations of sexual positions to use after knee replacement.

For the first three months after your joint replacement it is very important to maintain your joint precautions for 6 weeks. The most important position to avoid after knee surgery is kneeling directly on the operated knee. Also, do not squat and do not twist the operated knee.

COMPLICATIONS

After surgery, a few people have complications and need more medical treatment. Here are some possible complications:

- Constipation
- Urine retention
- Deep Vein Thrombosis/Blood clots
- Swelling
- Infection
- Anemia
- Joint loosening

Constipation

Constipation can be a problem after surgery. A change in your diet, less activity, and taking pain medicine (narcotics) may make your constipation worse. Here are some ways to have regular bowel movements:

- Drink at least 8 glasses of water or low-calorie fluids a day.
- Eat fibre such as prunes, bran, beans, lentils, fruits, and vegetables.
- Move around as much as you can – do your exercises!

Your Nurse may give you laxatives and/or stool softeners. You may need to keep taking these medications at home. If you have constipation at home, talk to your Doctor or Pharmacist. Constipation can be a serious problem. Do not ignore your symptoms.

Urine Retention

Some patients have difficulty urinating after their joint surgery. Patients may have a catheter for 24 hours post-operatively. Please talk to your Nurse right away if you are having problems. You may need a catheter to be inserted into your bladder to drain your urine.

Deep Vein Thrombosis/Blood Clots

Deep vein thrombosis (DVT) or blood clots are one of the most common complications in knee replacement surgery. A DVT is a blood clot (thrombus) that develops in a deep vein, usually in the leg. This can happen if the vein is damaged or if the flow of blood slows down or stops. When a clot forms, it can either partially or totally block the blood flow in that vein. A DVT can cause pain in the leg and can lead to serious complications if it breaks off and travels in the blood stream to the lungs.

Symptoms of a DVT can include:

- Swelling of the leg
- Fever
- Shortness of breath, rapid heart rate, chest pain, or light headedness
- Warmth and redness or discolouration of the leg
- Pain that is noticeable or worse when standing or walking
- A knot in the calf that you can feel and that is warm to touch

These symptoms are not always a sign of a DVT, but if you experience them, go to the Emergency Department or call 911 for assistance.

To Reduce the Risk of Blood Clots:

- Remember to take your blood thinner medication exactly as prescribed and instructed by your Doctor, Nurse, and Pharmacist
- Walk short distances at least once an hour when awake
- When you are sitting or lying in bed, pump your ankles and flex your leg muscles

Swelling

It is normal to have some swelling in your leg after surgery and during your recovery. Swelling may increase as you become more active. To help reduce swelling:

- Point and flex your feet hourly when awake.
- Lie down flat and raise your legs by placing pillows under the length of your leg.
- Do short periods of activity. Walk a few steps. Rest. Repeat.
- Place an ice pack wrapped in a towel on your joint. For some people, a “cryocuff” may be used after knee replacement surgery. This is a type of ice pack/compression device

for the lower leg. For more information, talk to your Physiotherapist about using ice at home.

Infection

Less than 1% of people have an infection around their new joint. An infection in the body can reach the new joint through the bloodstream. People who develop joint infections need antibiotics and, on rare occasions, further surgery. To prevent infection or incision problems, it is important to keep the incision and dressings dry. Do not touch or pick at the incision and be sure that the surrounding skin is always clean.

Artificial knees can become infected at any time, even several years after your surgery. It is important that if you have any skin infection or any other type of infection, at any time, you need to see your Doctor for treatment right away.

Tell your Doctor or Surgeon if you have any of these signs of infection:

Incision Infection:

- The area around your incision is becoming more red, there is a red streak, puffiness, and the skin feels warm to the touch.
- New drainage (green, yellow or bad-smelling) from the incision site. It is common for new surgical incisions to have some drainage for the first few (3-5) days after surgery but this will slowly stop and the incision should stay dry.
- There is increased pain, soreness, or tenderness of the incision site and surrounding area.
- Fever above 38°C or 100.4°F.
- A tired feeling that won't go away.
- Remember: call your Surgeon if you think you have a possible incision infection.

Urinary tract infection:

- Pain or burning when you urinate.
- Frequent or an urgent need to urinate.
- Foul smelling urine.
- Fever above 38°C or 100.4°F.
- Remember: call your Family Doctor if you think you have a urinary tract infection.

Sore throat/chest infection:

- Swollen neck glands and pain when you swallow.
- Frequent cough, coughing-up yellow or green mucous, shortness of breath or chills.
- Fever above 38°C or 100.4°F.
- Remember: call your Family Doctor if you think you have a throat or chest infection.

Tell your Family Doctor or Surgeon immediately if you have:

- Pain, aching, heat, tenderness, or redness in your calf area
- Increasing severe swelling in your surgical leg or around your incision
- Fever higher than 38°C or 100.4°F for more than 24 hours
- Any infection (e.g. tooth abscess, urinary, vaginal infection) so antibiotics can be ordered to prevent the infection from affecting your new joint

Anaemia

If you have signs of anaemia, see your Family Doctor. You may need an iron supplement. The signs of anaemia are:

- Feeling dizzy or faint
- Feeling very tired, pale and having no energy
- Shortness of breath
- Rapid pulse

Joint Loosening

Over the years, the bond between the joint replacement and your bone may loosen. This can cause pain and make it difficult for you to move your artificial joint. To reduce the risk of this complication, avoid high-impact physical activities. If you notice increased pain in your artificial joint, talk to your Doctor as soon as possible.

Dental Work and Medical Procedures

It is important to tell your health care professional that you have had joint replacement surgery before having dental work or medical procedures (including procedures with the bladder, prostate, lung, or colon). You may be put on antibiotics to prevent infection from moving through your bloodstream to your new joint. Talk to your Dentist or Doctor about what is right for you.

RETURNING TO WORK

Allow yourself time to recover from surgery and focus on your rehabilitation before returning to work. Some people return to some form of work quickly after surgery but others need a longer time to heal and recover. This depends on factors such as health status and the type of work you do. Talk to a healthcare professional, such as a Physiotherapist, about what is right for you.

We hope you found the information in this booklet useful. We wish you a speedy recovery and many happy years with your new joint.

RESOURCES

The Arthritis Society

www.arthritis.ca

Arthritis Answers Line: 1-800-321-1433

Canadian Orthopaedic Association

www.coa-aco.org

Canadian Orthopaedic Foundation

www.canorth.org/en/patienteducation and Ortho Connect www.canorth.org

“My Joint Replacement” information www.myjointreplacement.ca

Dietitians of Canada

www.dietitians.ca

Equipment

Veterans Affairs Canada

www.vac-acc.gc.ca

Toll Free: 1-866-522-2122

Home Safety

Home Safety Renovations (low income seniors)

www.cmhc-schl.gc.ca

Toll Free:

1-800-639-3938

APPENDIX 1

Total Knee Replacement (TKR) Clinical Pathway, Patient Version

Patient safety is very important to the Pembroke Regional Hospital. This information is provided to patients/families to help inform you of your essential role in your own safety.

The information contained in this booklet is not specific medical advice or a substitute for medical advice. For your safety, it is advised that you speak with your doctor and healthcare team about your particular healthcare needs.

Protect yourself! Clean your hands frequently and ask your healthcare providers and visitors to do the same. Clean hands save lives.

APPENDIX 2

Total Knee Replacement (TKR) Patient Knee Home Exercise Program

Outpatient Physiotherapy TOTAL KNEE REPLACEMENT EXERCISE CLASS

Do the following exercises 10-20 times, 3 times a day.
Apply ice over damp cloth for 10-15 minutes, maintaining your leg elevated, 3-5 times a day.

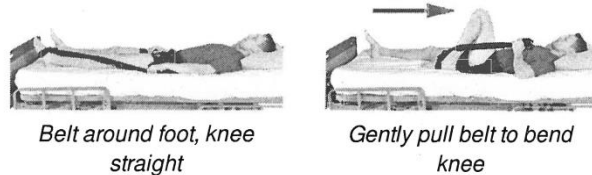
1. Heel Slides (Belt)

Preparation:

- Lay on back with knee straight
- Put a belt or strap around your foot

Execution:

- Gently pull the belt to bend your knee towards your buttock
- Keep your heel in contact with the surface
- Straighten your knee to return to the start



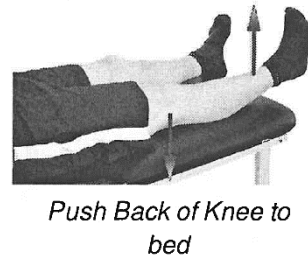
2. Static Quads

Preparation:

- Lie flat on your back

Execution:

- Tighten the muscles on the top of your thigh by pushing the back of your knee into the bed
- Relax



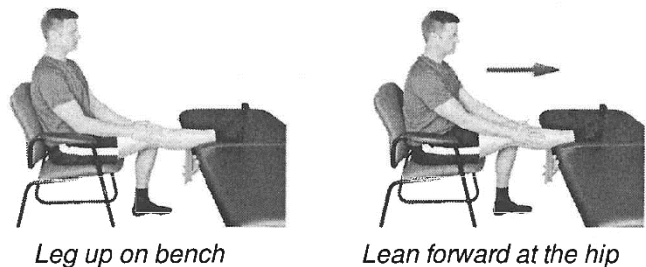
3. Hamstrings Stretch

Preparation:

- Have one leg straight out on a bench
- Sit your lower back up tall

Execution:

- Lean forward at the hip, as able
- Keep your lower back flat



4. Quads over Roll

Preparation:

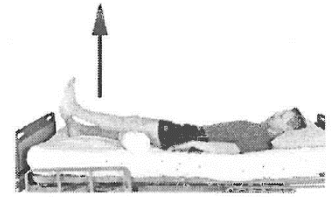
- Place a roll underneath your knee as shown

Execution:

- Straighten your knee, and pull toes up at same time
- Relax your knee back down to the start position



Knee supported



Straighten knee

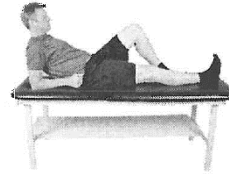
5. Straight Leg Raise

Preparation:

- Lay on your back
- Bend your uninjured knee to 90 degrees, foot flat on the bed

Execution:

- Keeping your knee straight, lift your foot about 10 inches off the bed
- Gently lower your foot back to the bed



Prop up on elbows



Lift leg, knee straight

6. Assisted Knee Flexion

Preparation:

- Sit with good posture, one ankle over the other

Execution:

- Try and bend affected knee, making sure hip & ankle are in line
- Use opposite leg to assist the movement



Start Position



Try and bend affected knee - use opposite leg to assist

7. Knee Extension

Preparation:

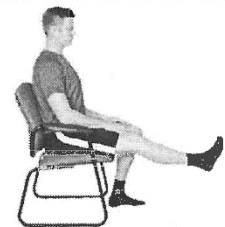
- Sit in chair with good posture

Execution:

- Straighten your knee as much as you can
- Relax your knee to the start position in a controlled manner



Sit with good posture



Straighten knee

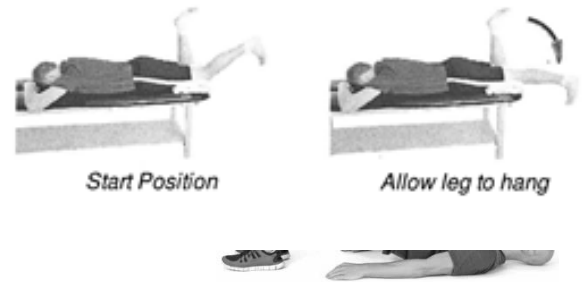
8. Prone Knee Hang

Preparation:

- Lie on your stomach on a table or bed
- Position yourself so that your foot will clear the edge of the bed
- Have your affected knee bent up with a pillow underneath it

Execution:

- Allow your leg to lower down as far as possible



9. Bridge

Preparation:

- Bend your knees and place them shoulder width apart

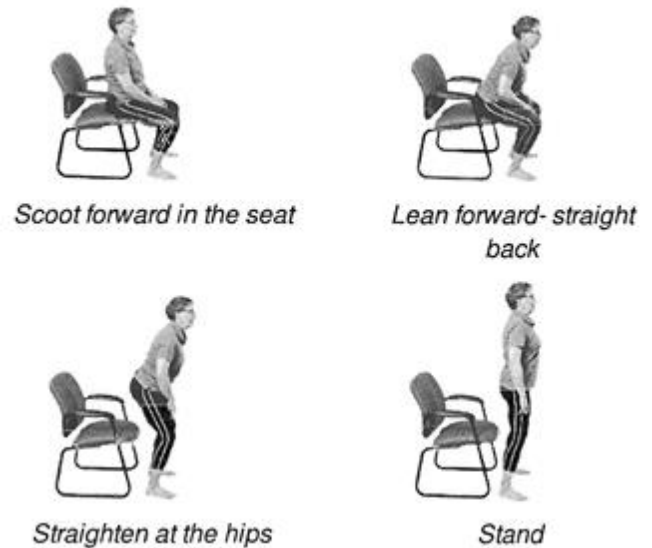
Execution:

- Raise your hips off the bed and squeeze your buttocks

10. Sit to Stand/Squats

Execution:

- Scoot forward in the chair
- Lean forward with a straight back (bend at the hip)
- Rise to standing, using your legs



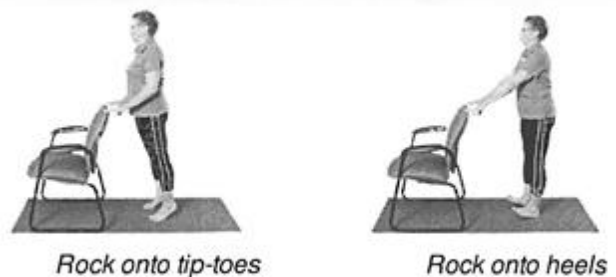
11. Heel Raise/Toe Raise

Preparation:

- Stand facing a kitchen counter (or sturdy chair positioned in front), hands resting light on the counter (or chair back)

Execution:

- Lift your heels, rising up onto your toes
- Lift your toes, rising up onto the heels



12. Calf Stretch

Preparation:

- Stand in front of a wall or at counter for support

Execution:

- Place affected leg behind you keeping knee straight and heel on floor
- Lunge unaffected leg forward
- Hold 5 seconds



Keep back heel on the ground to feel a stretch

13. Hamstring Curl

Preparation:

- Use a chair for support

Execution

- Bend knee



Use a chair for support



Bend knee

14. Hip Abduction

Preparation:

- Stand with good posture
- Hold onto a chair or counter

Execution:

- Lift affected leg out to side
- Return to the start position with control



Stand with good posture, hold support



Lift leg out to side - do not lean with your trunk

15. Lunge on Step

Preparation:

- Go into a lunge stance, with affected leg on a step

Execution:

- Lunge forward to bend knee further. Hold for 5 seconds
- Repeat 10-20 times



Go into a lunge stance

16. Single Leg Stance

Execution

- Stand and balance unsupported on affected leg



17. Tilt Board Touches-Front/Back

Preparation:

- Stand on tilt board so it tips front to back

Execution:

- Try to touch the tip of the board to the ground under control
- Repeat on the opposite side



Notes: