WRHA Surgery Program

Patient Knee Information Manual

“Working with you to optimize your surgical experience”
Table of Contents

WRHA Surgery Program ................................................................. 1
Patient Knee Information Manual ......................................................... 1
Table of Contents ......................................................................... 3
Introduction to Joint Replacement ...................................................... 5
  Types of Joint Disease ................................................................ 6
  Surgical Treatment (Joint Replacement) ......................................... 7
Complications of Joint Replacement and How to Prevent Them .... 13
  Anaesthesia ................................................................................. 13
  Anemia and Blood Transfusion ..................................................... 14
  Blood Clots .................................................................................. 16
  Cardiovascular Complications ...................................................... 17
  Lung Problems ............................................................................. 17
  Delirium After Surgery ................................................................. 18
  Infection ....................................................................................... 18
  Stiffness ...................................................................................... 19
  Pain, Swelling and Fluid in the Knee .......................................... 20
  Nerve and Vessel Damage ............................................................ 20
Before Your Joint Surgery ............................................................... 21
  Hip and Knee Resource Center ................................................... 21
  The Prehabilitation Clinic ............................................................ 21
  Pre-Admission Clinic (PAC) ......................................................... 23
  Pain Management ...................................................................... 25
Get Your Body in Shape.................................................................28
Get Your Home in Shape ..................................................................32
How to Obtain Equipment ..................................................................34
Arranging Transportation .................................................................35
Will I need help at home? ..................................................................36
During Your Hospital Stay ..................................................................39
In the Operating Room: .................................................................39
On the Surgical Unit ........................................................................39
Monitoring and Post-operative Care..................................................40
Pain Management after Surgery .......................................................41
Getting Moving ................................................................................47
Activities of Daily Living After Knee Replacement..........................57
Bilateral Knee Replacements ............................................................65
After Joint Replacement Surgery ......................................................67
A. Caring For Yourself At Home .......................................................67
B. Living With Your New Joint ........................................................73
Community Resources .....................................................................79
Introduction to Joint Replacement

It is common to have some questions and concerns after deciding to have joint replacement surgery. This book will provide you with information on what to expect before, during and after surgery, as well as how to prepare yourself and your home in order to optimize your recovery.

It is important you learn as much as possible about knee replacement surgery as it will allow you to be a prepared and active participant in your care. An optimal recovery requires hard work on your part.

Please take some time to read through this binder before your surgery. Read it at your own pace and write down any questions you may have. These questions can be answered by your surgeon, nurse, physiotherapist or occupational therapist at any time before or after your surgery.

Please review this book prior to all appointments before surgery and bring any questions you may have to the hospital.

If the information provided in this book is different from what your family doctor, surgeon, or orthopedic team advise you, please follow their instructions.
Types of Joint Disease

The most common cause of joint disease is Osteoarthritis.

**Osteoarthritis** is a disease that breaks down the cartilage that covers the ends of the bones. This cartilage provides cushioning to the joint. As the cartilage wears away the ends of the bones become rough and the knee may become painful and stiff.

**Rheumatoid arthritis** is an inflammatory disease that affects the lining of the joints. Breakdown of the cartilage and bone is a result of chronic inflammation (swelling).

**Osteonecrosis** is death of the bone due to lack of blood supply (avascular necrosis).

As the pain in the knee gets worse, you may use your joint less and less. This results in a decrease in motion at the knee as well as loss of strength in the muscles around the knee.
**Surgical Treatment (Joint Replacement)**

Knee replacement surgery will remove the parts of the knee that are damaged and replace them with new components that match the original shape of your knee joint. This will help to:

- ease your pain
- improve your knee joint motion
- correct deformity (e.g. varus (bowing)/valgus (knock-knee))
- improve function such as walking, standing, dressing, bathing, etc.
- enhance your quality of life

**Realistic Expectations of Joint Replacement**

Knee replacement surgery is one of the most common and successful surgeries. While most patients have complete or nearly complete relief of pain following total knee replacement, some patients do continue to experience pain. In many cases, the pain improves with time. In other cases, a specific cause for the pain is identified and treated. This may require additional surgery. Sometimes the knee replacement is functioning well and the pain experienced may be due to changes in the soft tissue and/or muscles around the knee.

The life expectancy of a total knee replacement is between 15-20 years, but this is influenced by the amount of stress placed on the replacement. Controlling weight and adhering to the activity recommendations (see Recreation and Social Activities on page 74) will increase the life of your joint.

September 2014 (Knee)
There are different styles of knee replacement components. The best type of prosthesis is determined based on your age, the strength of your bone, the shape and condition of your joint, your general health, weight and activity level.

In general, the benefits (improvement in your quality of life) after total joint replacement outweigh the risks for most individuals with severe arthritis. Most patients have many years of pain free function. Please review the complication section in detail to assist you in making an informed decision about surgery.
KNEE REPLACEMENT SURGERY

In knee replacement surgery, the damaged bone and cartilage are replaced with metal and plastic surfaces to restore knee movement and function. Most knee replacements done today are cemented into place.

The Total Knee Replacement (TKR) Prosthesis consists of 3 parts:

1. Thigh bone (femur) component- a metal piece that replaces the weight-bearing surface, the thigh bone (femur) and has a groove in which the knee cap (patella) moves.

2. Shin bone (tibia) component- metal and plastic (polyethylene) piece that fits onto the shin bone (tibia) to form a smooth surface. The upper metal component (thigh bone component) can glide on this surface during movement of the knee joint.

3. Knee cap (patella) component- a polyethylene (plastic) button is attached to the back of the knee cap (patella) to provide movement between the button and the groove in the upper thigh bone (femoral) component.
The Surgical Procedure for Total Knee Replacement

A tourniquet (tight band) is used around the upper thigh to prevent bleeding during this surgery. An incision is made over the front of the knee. The ends of the thigh and shin bone are exposed. Specialized cutting jigs are used to remove small amounts of bone from the surface of the thigh and shin bones. This allows space for the metal and plastic components. An important part of the operation is to balance the knee ligaments and straighten any deformity of the joint. The knee components are then put into the knee and tested for movement and stability. The wound is then closed.
Unicompartmental Knee Replacement Surgery

When only one part of the knee joint is damaged, it may be possible to replace just this part of the joint.

The procedure is similar to a total knee replacement, but only one side of the joint is resurfaced. Recovery time is generally shorter following this kind of surgery.

Bilateral Joint Replacement Surgery

When arthritis affects both knees equally, joint replacements of both knees can occasionally be done during the same operation. This is a longer surgery and requires more time in hospital. There is more stress on your body with this type of surgery and it is only offered to patients who are physically fit and in good health. The benefit of this is an overall faster recovery since there is only one hospital stay.
Revision (Re-do) Joint Replacement Surgery for Knees

If for any reason joint replacement surgery fails, revision surgery may be necessary. In revision surgery, some or all of the original joint replacement components are removed and replaced with new ones. Revision surgery is generally more complex and has higher complication rates than primary (first time surgery).

Failure of the joint is most common because the original joint ‘wears-out’ with time and use. Most modern joint replacements are expected to last 15-20 years, but this is influenced by how much stress is placed on it. Controlling weight and adhering to the activity recommendations will increase the life of your joint.

Follow-up visits with your surgeon after your joint replacement are important to allow early identification of problems should they occur. This will often make the revision less complicated.

If you are in need of a revision you will undergo screening for infection. If infection is present two operations are required, the first to clean out the joint and place a temporary knee implant and the second (3-6 months later) to put the final joint in place. The screening usually involves a blood test and if necessary, taking fluid from the joint with a needle. On occasion these tests will be normal and infection is still found at the time of surgery. The final decision to put a new implant into your joint is therefore not made until the time of surgery.
Complications of Joint Replacement and How to Prevent Them

The complication rate following joint replacement surgery is low. Chronic illnesses (diabetes, heart or lung disease) may increase your risk. A complete evaluation of your health is required before your knee replacement to determine your fitness for surgery. This will be done by your family doctor and reviewed at the preoperative assessment clinic where you will have the opportunity to discuss any concerns with the anaesthesiologist or nurse.

If complications occur, they can prolong or limit your full recovery. This section will outline complications and what you can do to prevent them.

Anaesthesia

Most knee replacements are done under regional anaesthesia (spinal or epidural). A spinal involves the placement of a small needle in the back to inject medication into the fluid around the spinal cord. An epidural involves the placement of a small tube in your back to provide ongoing release of medication around the nerves around your spine. You will also be given sedation to help you relax. Some patients may require a general anaesthetic if the regional anaesthetic is not enough. Complications associated with anesthesia are rare. If they do occur, they may include low blood pressure, nausea, headache, infection and bleeding.
Anemia and Blood Transfusion

Blood consists of cells and liquid. Red blood cells contain an important protein (Hemoglobin) which carries oxygen throughout your body. Hemoglobin can be measured with a blood test and has a broad normal range. A hemoglobin level below normal is called anemia. Anemia is defined as a hemoglobin less than 120g/L in females or less than 130g/L in males. Anemia is a common blood disorder. It can be temporary or a long-term condition and can range from mild to severe. People with mild anemia may have minor symptoms or no symptoms at all. Symptoms can include weakness, fatigue, shortness of breath, headache, and difficulty with thinking and concentration. Anemia may be present before surgery in people who have cancer or other chronic diseases. Another cause of anemia before surgery is low levels of iron due to internal bleeding (caused by diseases or medications). Blood thinners and anti-inflammatory drugs can cause blood loss in some patients. Women, children, vegetarians and the elderly frequently have iron or vitamin deficiency anemia. Anemia may occur after surgery as a result of bleeding during and after your surgery. After surgery, you may feel dizzy, weak, short of breath, nauseated, tired or have a headache. Anemia may be one of the reasons for these symptoms. If anemia is the cause, a blood transfusion may be recommended. Your surgeon will discuss this with you.

A blood transfusion is a medical treatment where blood or blood components are given to a patient. A blood component is made when blood is separated into different parts such as red blood cells or platelets or plasma. Red blood cells carry oxygen, platelets and plasma help the blood to clot and stop bleeding. In Canada, the Canadian Blood Services (CBS) collects and tests blood from volunteer donors. Additional information may be found at http://www.blood.ca.
If you require a blood transfusion, before you receive the transfusion you (or your legal designate) will be asked to give your permission or consent. You should be given information about the reasons, benefits, risks and alternatives in your situation. Be sure to ask questions if you do not understand. During a blood transfusion the nurse will monitor your temperature, pulse, blood pressure, and breathing. Some patients may have a reaction to a blood transfusion, such as a rash, fever, chills or shortness of breath. Tell your nurse immediately if you think you might be having a reaction. You should also let your doctor know if you have had a reaction from a blood transfusion in the past.

**Blood Conservation**

The WRHA Blood Conservation Service is a regional service available to assist all health care professionals and patients in understanding and managing the appropriate use of blood, blood products and alternatives to blood.

Elective surgery patients with any of the following may benefit from a consult to Blood Conservation Service prior to surgery:

1) A procedure with an expected high blood loss
2) Anemia prior to surgery
3) Low body weight
4) If you have received a letter and/or a Medic Alert Card from Canadian Blood Services that identifies you as having a rare blood type or antibody
5) If you will not accept a blood transfusion for any reason

Predonation of your own blood is generally indicated when there is a reasonable chance that a blood transfusion will become necessary. You need to be in fairly good health to donate blood, and there needs to be enough pre-operative time to arrange donation. Predonation should be coordinated by the Blood Conservation Service to ensure that you are
not made anemic prior to surgery. Patients can be referred to BCS by self-referral, their surgeon or their family doctor. For further information please view our website at: www.bloodconservation.mb.ca

**Blood Clots**

Blood clots can develop in the deep veins of your leg after surgery. These clots are called Deep Vein Thrombosis (DVT). They could be dangerous as they may break off and travel to your lungs, blocking the flow of blood. This is called a pulmonary embolus (PE).

Let your surgeon know before surgery if you have had a clot in the past. You are at higher risk of developing clots if you are inactive, overweight and have health problems such as heart disease or diabetes.

Preventing blood clots after surgery:

1) **Motion**: Moving frequently helps to improve your circulation. Every hour you are awake, pump your feet up and down. You should be walking a minimum of three times per day once you are able to walk safely on your own.

2) **Sequential Compression Devices (SCD)**: Depending on the site of your knee surgery, your legs may be fitted with inflatable sleeves that you will wear for the first 24 hours after surgery. These sleeves fill up with air and help push the blood and fluid in your legs back up to your heart.

3) **Blood Thinners**: Blood thinners decrease the thickness of the blood which makes it harder for clots to form. After surgery you will be instructed to take the blood thinner best suited for you based on your medical history and other medications (e.g. Xarelto, Coumadin, Fragmin).

***It is your responsibility to ensure that your prescription is filled and that you carefully read and follow all instructions for these medications.***
Cardiovascular Complications

As with any type of surgery there is increased stress on the body’s circulatory system. High blood pressure, diabetes, obesity and age are risk factors for increased cardiovascular complications. Getting in shape before surgery (see chapter Before Your Joint Surgery on (page 21) will improve your cardiovascular fitness and reduce the chance of complications. The overall rates of these complications are:

- Heart attack 0.4%
- Stroke 0.25%
- Pulmonary embolism 0.7%
- Deep venous thrombosis 1.5%
- Death 0.5%

Lung Problems

Complications such as fluid in the lungs or pneumonia may occur due to the anaesthetic and bed rest. To prevent lung complications after surgery:

- Do not eat or drink after midnight on the night before your surgery. Any medications you were instructed to take the day of surgery may be taken with a small sip of water.
- Get up and move. Change your position in bed frequently.
- Take 3-5 big deep breaths every hour you are awake. If you are congested take deep breaths and cough every hour.
- Stop smoking! People who smoke are at greater risk for lung complications.
Delirium After Surgery

Sometimes older people go through a period of confusion or delirium after surgery. Some causes of delirium include lack of sleep, pain, infection, alcohol withdrawal, medication withdrawal, constipation, low oxygen levels and side effects of anaesthetic/medications.

How you can help prevent delirium:

✓ Notify your nurse, surgeon or anesthetist if you had delirium or have been confused in the past.
✓ Ensure you bring your hearing aid and glasses to the hospital.
✓ For six weeks before surgery, limit your intake of alcoholic beverages to one drink per day (8 ounces of beer, 3 ounces of wine, or 1 ounce of spirits). Discuss any concerns about alcohol use with your family doctor.
✓ It is important to tell your surgeon/nurse about all medications you are currently taking including any narcotics, sedatives, street drugs you may be taking.

Infection

Wound infections following surgery occur in less than 1 percent of patients. When infection does occur, it is a very serious complication that may require prolonged antibiotic treatment and further surgery.

How you can help to prevent infection:

✓ Get your immune system strong by eating healthy foods before and after your surgery (refer to Healthy Eating for Healing on page 29).
✓ Wash your hands frequently.
✓ Ask all visitors to wash their hands.
Carefully follow the directions for care of your incision (page 67).

Avoid people who have colds or infections.

If you suspect you have an infection, visit your doctor promptly to see if you require antibiotics.

If you have an infection (e.g. sore throat, infected cut, bladder infection, boils, etc.) a few days before surgery, you must notify your surgeon’s office, as infection from other areas in the body can spread to the new joint.

If you are having a medical procedure, dental fillings, or any major dental work, tell your doctor or dentist that you have had a joint replacement. You may require antibiotics.

Special precautions are taken in the operating room to reduce your chances of infection. Despite these efforts, infection may start in your joint at the time of surgery or during your recovery. It is essential you are well nourished and your immune system is strong going into surgery.

**Stiffness**

A knee joint may stiffen after surgery. Patients who have stiff knees before surgery are more likely to have this problem. It is important to work to maintain your flexibility while awaiting surgery to reduce the risk of stiffness following the operation. Manipulation (stretching of the joint) may be required to correct this problem. This may be done 2-3 months after surgery. If this procedure is required, you will be given an anesthetic.
**Pain, Swelling and Fluid in the Knee**

It is common for knees to be a little swollen, red and warm after surgery. This may last several months. This is different from infection which causes a sudden increase in pain, swelling and stiffness as well as fever and chills. It can take 12-24 months to reach the final result of the surgery.

**Nerve and Vessel Damage**

It is possible, but unlikely, that an important artery, vein or nerve at the back of the knee could be damaged during surgery. This can result in permanent numbness or weakness in the foot. Following surgery, it is common to have a small area of numbness on the outside (lateral aspect) of the knee. This happens because the small sensory nerve that serves this area of skin is cut when the incision for the knee replacement is made. This numb patch will get smaller with time, but usually does not go away completely. This is normal.
Before Your Joint Surgery

**Hip and Knee Resource Center**

This program was developed by the WRHA Surgery Program and opened in November 2011. Its purpose is to help you be both mentally and physically prepared for your knee surgery. Every patient entered on the wait list by their orthopedic surgeon will receive a Hip and Knee Resource Center Pamphlet detailing the group education sessions available. These sessions include a Before Your Surgery Preparation Class, Nutrition and Exercise Class, Pain Management Class, Hip Replacement Class and Total Knee Replacement Class. You are able to decide which groups best meet your needs and register for a time and date based on the recommended timelines outlined in the pamphlet. These group sessions are not mandatory. The Hip and Knee Resource Center is located in the Hip and Knee Institute at Suite 331-1155 Concordia Avenue (across the street from Concordia Hospital, above Shopper’s Drug Mart).

**The Prehabilitation Clinic**

The Prehabilitation Clinic is a health care program to improve your health and daily functioning while you prepare for your joint replacement surgery. If your surgeon feels you would benefit from one on one consultation with a member of the Prehabilitation team, a referral will be sent at the time of your surgeon consult visit. The Prehab Clinic will contact you with appointment dates and times based on your surgeon’s referral.
The Prehab Team includes:

**Nurse** - Acts as the clinical liaison between your surgeon’s office and the hospital. The nurse may contact you to address smoking cessation.

**Social Worker** – Provides opportunity to discuss emotional and social well-being and explore options for support including assessing community resources such as counseling services, income assistance programs and/or resources for housing and transportation.

**Registered Dietitian** - Provides dietary counseling/support to optimize nutritional status.

**Occupational Therapist** - Assesses pre-operative function, home situation and external supports. May recommend equipment to maximize function and safety before surgery. Referrals may be made to other supportive programs in the community.

**Physiotherapy** - Assesses physical function and addresses deficits with an individualized home exercise program and/or mobility aids (walker, cane). Referrals may be made to community programs/ongoing therapy based on need.
Pre-Admission Clinic (PAC)

In the weeks prior to surgery, you will be contacted by the pre-admission clinic (PAC) at Grace or Concordia Hospital with an appointment. When attending your PAC visit please bring:

- All medications in their original containers (including vitamins and herbal products)
- Magazine/book (visit may be 1 to 4 hours long)

At the clinic you MAY be seen by:

**Nurse**
The nurse will go over your medical history and answer any questions you may have about the surgery and the hospital stay.

**Anaesthesiologist**
A member of the anaesthesia team may examine you and discuss the different types of anaesthesia. Further blood work or tests may be ordered. There may be a need to delay surgery while further tests are done to ensure it is safe to proceed.

The anaesthesiologist and nurse will go over your medication list with you. The anaesthesiologist or nurse will tell you which medications need to be stopped prior to surgery. You will need to stop all vitamins and herbal medications 10 days before your surgery date.

Should you require the ongoing use of a CPAP/BiPAP machine for sleep apnea, you will be instructed to bring this to hospital on the day of your surgery. NOTE: This machine must be in good working order. Surgery may be cancelled if the above requirements are not met.
Physiotherapist
A physiotherapist will check the movement and strength in your legs. You will be instructed on exercises to practice before and after your surgery. You will be given information on the mobility aid you will require after surgery.

IMPORTANT:
Please bring your Total Joint Replacement Checklist (page 37) and your Class Attendance Record (the back of the Hip and Knee Resource Center pamphlet) to your Pre-admission Clinic appointments.
Pain Management

It is important that your pain is managed before surgery. When your pain is well controlled you will be more active and stay in better physical condition. The amount of pain you experience can be affected not only by your injury or disease, but also by muscle tension, worry, depression, and even by attention to the pain. The response to pain is very individual and the way it is treated can also be very different. For this reason, it is important that you work with your doctor or pharmacist to find the most effective way to keep your pain under control.

Medications

The following are a list of possible pain medications. Discuss with your doctor which one is best for you:

- **Acetaminophen (Tylenol)** - Acetaminophen can be very effective in controlling chronic pain when taken regularly. Read the directions on the bottle carefully and take only the recommended amount.

- **Anti-inflammatory medications** - Anti-inflammatory medications can also be very effective in managing pain. Some of the traditional anti-inflammatory medications include Ibuprofen, Naproxen, and Arthrotec. These medications need to be used with caution as they may cause discomfort and bleeding in your stomach. If you notice any sign of bleeding such as dark stool or spitting up blood you need to stop the medication and tell your family doctor immediately. Celebrex is a newer anti-inflammatory medication that may cause less stomach irritation. This medication should be used with caution if you have high blood pressure or kidney problems.
• Opioid medications - These are stronger pain medications that may be added to control your pain. Examples are Acetaminophen with Codeine (Tylenol #3), Percocet, Morphine, or Dilaudid. All opioid medications can cause constipation. Drink plenty of water and eat a diet high in fiber to help prevent constipation. You may need to take a stool softener or laxative.

How Will I pay for Medications?
You may require prescription medications at some time during your surgical journey. This may include medications to prepare you for surgery or medications after surgery. One or a combination of health plans may cover your medication costs. In the planning phase for surgery, check on your insurance plans and coverage limitations. All Manitobans are eligible for Pharmacare. Costs for approved prescription medications will be covered once you have met your annual deductible. For information on how to apply for Pharmacare or to determine what your current annual deductible is, visit www.gov.mb.ca/health/ or call Manitoba Health Provincial Drug Programs: in Winnipeg phone (204)786-7141 or toll free 1-800-297-8099. Other government programs such as Employment & Income Assistance and Non-Insured Health Benefits (NIHB) may also provide medication coverage. Private insurance plans such as Blue Cross or Great West Life may cover medication costs within the limitations of the contract. Medication coverage plans will be unique to you. Your plan will depend upon which combination that you have and what coverage limitations are in your plans.

Non-drug Strategies
Pain and relaxation do not occur together naturally. In fact, the body usually responds to pain (or an injury) by tightening muscles. Some patients also experience emotions such as frustration, anxiety, and
anger, which all tend to increase muscle tension levels further. The way a person responds to emotional stress can affect pain severity. It is important to break the cycle between muscle tension and pain. Relaxation exercises are one way to decrease muscle tension, reduce emotional stress, and decrease level of pain.

There are different kinds of relaxation techniques. You can choose which one works best for you. Some of these techniques include: diaphragmatic breathing, autogenic relaxation, imagery, meditation, and progressive muscle relaxation. There are commercial books and tapes/CDs available to help you learn to do it effectively.

In addition to relaxation, there are other techniques that can help with pain management. Some people tend to focus on their pain so much that it is not uncommon for their levels of pain to increase. There are many strategies you can use to help deal with a preoccupation with pain. These include distraction and balanced thinking. Please read more about these different techniques on the web site provided or this information may be discussed in detail with the Prehab Psychologist or other qualified health care practitioner.

Web site: www.chronicpaincanada.org

Recommended reading for patients:


Or please visit:
www.cpa.ca/publications/yourhealthpsychologyworksfactsheets/chronicpain/

September 2014 (Knee)
Get Your Body in Shape

Exercise
To speed your recovery, it is important be in the best physical shape possible for your surgery. While on the wait-list for your surgery, focus on building your strength and staying as active as you possibly can!

- Avoid activities that cause an increase in your joint pain.
- Throw away the slogan “no pain no gain” but keep the slogan “use it or lose it”!
- Choose low-impact activities such as walking, swimming, water aerobics, stationary cycling, or chair aerobics if exercising is new to you.
- Try to perform some type of cardiovascular exercise (walking, cycling, water aerobics) at least every second day.
- When exercising you should be able to carry on a conversation and not feel short of breath.
- The Arthritis Society offers land based exercise programs, water based exercise programs and Tai Chi designed for people with arthritis (See Appendix for list of classes).
- Strengthen your upper body using light weights, resistive tubing or even a can of soup. You will be using your arms and core muscles (the muscles in your stomach and back) to help you get in/out of bed and to use a walker in the first few days after surgery. Strengthening these muscles before surgery is essential in order to have a smooth transition home after surgery. If you are unsure what is safe, the Arthritis Society offers P.A.C.E (People with Arthritis Can Exercise) classes throughout the city or you can speak to a trainer at the gym or a private therapist in your community.

With any type of activity, it is important to begin slowly and gradually increase the amount of time you are performing the activity. At the September 2014 (Knee)
time of surgery, you should be performing a minimum of 20 minutes of cardiovascular exercise 3 times per week. If you are unable to perform 20 consecutive minutes of activity you may break it up into two ten minute sessions throughout the day. If you have pain for more than 2 hours following an activity or exercise session, you have done too much. Reduce the intensity of the exercise or the duration of the activity.

Practice the exercises starting on page 49. It is important to familiarize yourself with these post-operative exercises. If any of the exercises cause you increased pain that lasts greater than 2 hours, reduce the number of repetitions or frequency in which they are performed.

**Healthy Eating for Healing**

Healthy eating helps to prepare your body for surgery. Your body needs to be well nourished to heal the bones, muscles and skin that are affected by the surgery. The nutrients from food provide us with strength, energy and the ability to heal. People who are well nourished are less likely to develop infection.

In addition to adequate calories, there are several nutrients from food that are important to ensure adequate recovery from your surgery.

- **Calcium** is needed to heal your bones and keep them strong. Good sources of calcium include milk, yogurt, cheese, canned salmon and sardines (with the bones), and calcium fortified tofu, soy and rice milk. Smaller amounts of calcium are also found in beans and lentils, broccoli, bok choy and oranges. Calcium fortified foods such as orange juice are also an excellent way to increase your dietary calcium intake. For most adults, aim for at least 1000 - 1200 mg of calcium daily.

- **Protein** is needed to maintain and increase your strength. It is necessary for healing after surgery. High protein foods include beef,
pork, fish, poultry, eggs, milk and dairy products, soy milk, beans, nuts, peanut butter, and tofu.

- **Iron** is a very important nutrient that your body needs to build up the hemoglobin in your blood and prevent anemia. Good sources of iron include meat, fish and poultry, organ meats, canned oysters and clams, beans (legumes), tofu, some green leafy vegetables, and enriched whole grains. The type of iron found in meat, fish and poultry is best used by your body. However, your body can use the iron in non-meat foods better when eaten with meat or foods rich in vitamin C. Examples of Vitamin C rich foods are: citrus fruits and juices, tomatoes and tomato products, cantaloupe, strawberries, and peppers. Remember that certain foods and beverages (coffee, calcium rich foods) can decrease the absorption of iron along with certain over the counter medications (acid reducers e.g. TUMs).

- **Vitamin B12 and folate** are also important nutrients to prevent certain types of anemia. Foods containing vitamin B12 include fish, meat, and poultry, milk and milk products and fortified breakfast cereals, soy or rice milk and meat substitutes. Good sources of folate include green leafy vegetables, dry beans and peas, fortified grains and citrus fruits and juices.

As part of completing your pre-operative package, your family doctor should order a blood test approximately 3 months before you come to the hospital. Ideally, your hemoglobin level should be in the high end of the normal range (see Anemia and Blood Transfusion – page 14). You may need to take an iron or vitamin supplement to bring your hemoglobin level up. Eating well helps to ensure that you have a good hemoglobin level before surgery.
Managing Your Weight
If you are carrying excess weight, talk to your doctor about following a gradual weight loss program. Extra weight can interfere with your recovery by delaying tissue healing, increasing fatigue and decreasing your activity tolerance. Gradual weight loss over a period of time, up to 2 lbs per week, is recommended. Keep in mind that “Crash Diets” can do more harm than good. Gentle exercise will help your weight loss effort and improve your sense of well being.

By eating a well-balanced diet, such as that recommended in Canada’s Food Guide to Healthy Eating, you are preparing yourself for a faster recovery. If you are concerned that you have a poor appetite and do not get enough nutrients, seek advice from your doctor or a dietitian about how you can improve your diet. It may also be helpful to add a daily multi-vitamin mineral supplement and/or a high calorie, high protein liquid nutrition supplement. You can improve what you eat right now.

For more information, please contact your family doctor, Health Links (204-788-8200 or 1-888-315-9257) or a registered dietitian. You can also visit the Dietitians of Canada website for more information at www.dietitians.ca.

Smoking
Smoking significantly increases your risk of medical complications during and after surgery. As a result, your implanted hip or knee may fail early. Modern hip and knee implants require bone to grow on the metal surfaces to stabilize the implants. Bone growth is significantly reduced in smokers and can therefore lead to early failure. If you smoke, cut down or quit. For information on quitting smoking contact your family doctor, Health Links (204-788-8200 or 1-800-315-9257) or the Smokers Help Line at 1-877-513-5333.
September 2014 (Knee)
Get Your Home in Shape

Most patients return home using a walking aid (walker or crutches) after joint replacement surgery. Following your surgery you cannot move like you normally would so it is a good idea to make some simple changes to make it easier and safer to manage at home. Below are recommendations you need to have in place before you come into the hospital for surgery:

Reorganize Your Home

✦ Make sure there is enough space in hallways and between furniture to allow for the use of a walker or crutches.
✦ Remove all area rugs, repair loose flooring and remove clutter and cords that may cause you to trip.
✦ Make sure your home has good lighting, especially at night.
✦ Move items stored in the basement that are used regularly, to the main floor.
✦ **Install railings on ALL indoor and outdoor stairs.** You will be expected to have a rail available wherever you have 2 or more steps to navigate after surgery. Arrange for sleeping accommodations on the main floor in case you are unable to manage the stairs after the surgery.

Furniture

✦ Arrange to have a firm chair with armrests. This will make it easier to get up and down from a chair. Do not sit on anything with wheels or that rocks to improve safety.
✦ Ensure your chairs and bed are the proper height (allow you to get on and off safely and with ease). If your bed or chairs are too low, they can be raised up on blocks.
- Put a high stool in the kitchen for countertop activities.

**Preparing for Personal Care**

- Choose loose fitting clothing.
- Wear shoes and/or slippers which have a non-slip sole. Shoes that you are able to slip on or have elastic laces/Velcro are ideal as there is no need to bend down to tie them. The use of flip flops or open back shoes is not recommended as they do not provide good support and are a tripping hazard. Your footwear must allow for swelling after surgery.

**Meal Preparation**

- Prepare and freeze meals ahead of time so you only have to reheat them following your surgery.
- Stock up on non-perishable and easy to reheat frozen foods before your surgery.
- Reorganize items that are used regularly so that they are easy to reach, preferably between waist and shoulder height. Avoid using the lower shelves in the fridge or loading the lower rack of the dishwasher.
- Clear counters so that you can slide items along them.
- Sit on a high stool when doing dishes or preparing meals.

**Housework & Yard Work**

- You will be able to do light housekeeping such as dusting.
- Arrange to have a family member or friend do grocery shopping, and also assist with heavier house work such as vacuuming, washing floors, laundry, cutting the grass and shoveling snow. If
family or friends are unable to assist you, hire someone to do these tasks. Contact a grocery store near you to see if they deliver.

How to Obtain Equipment

In many situations, people awaiting a knee replacement require the use of a mobility aid before their surgery. The use of a walking aid (walker, cane, crutches) in this time period before surgery can help decrease pain, increase tolerance and help “normalize” your walking pattern. Please speak with a Physiotherapist in the community to be assessed for a mobility aid if you feel it would be beneficial during your wait for surgery.

If you are having difficulty with self-care tasks (dressing, bathing, etc.) during the wait for surgery, you may benefit from the use of adaptive equipment (e.g. bath seat, raised toilet seat, sock aid). This equipment can help you remain independent, increase your energy and improve your safety. Please speak with your family doctor or surgeon for a referral to an Occupational Therapist before surgery if you feel you would benefit from the use of assistive devices while waiting for surgery.

You will be required to arrange your own walking aid (crutches, walker) for your return home from hospital after surgery. If you are currently using a walker or crutches, have someone bring them in to the hospital if and when requested to do so at your Pre-Admission Clinic appointment. If you do not have crutches or a walker, you will be instructed by your physiotherapist as to what type of walking aid you will require for home at your Pre-Admission Clinic appointment or during your hospital stay.
How Will I Pay for this Equipment?

If you are covered under Treaty Status, bring your 10 digit identification number with you to the hospital and your therapist will arrange for your equipment. If you are receiving Employment and Income Assistance you may be eligible for coverage of equipment after surgery. Please bring your case worker’s name and phone number as well as your case number to the hospital.

Many insurance plans (Blue Cross, Great West Life, etc.) and third party payers (Department of Veterans Affairs, WCB, MPIC) cover the full cost or a portion of the cost of medical equipment if recommended by a health professional. Check with your insurance provider before your surgery to find out if you require a prescription signed by your physician, occupational therapist or physiotherapist for your insurance claim.

Arranging Transportation

If you are very limited with your mobility while waiting for surgery, you may be able to obtain a Parking Permit for people with disabilities or be eligible for Handi-transit. Please speak to you family doctor or other health care provider if you are interested in a Parking Permit prior to surgery. This form does require a medical professional to complete a portion. If you would like to apply for Handi-Transit before surgery you can complete a referral without the assistance of a medical professional. This form can be found online at http://winnipegtransit.com/en/handi-transit/. If not, you may be eligible for these services after surgery. If you are unable to drive or do not have someone available to drive for you, talk to your health care provider (doctor, physiotherapist, occupational therapist) for more information on these services.

September 2014 (Knee)
**Will I need help at home?**

Before you come to the hospital it is important to identify a support person who will be available after surgery as required.

- You may require help with shopping, meal preparation, housekeeping, and sometimes personal care.
- You will be assessed by an occupational therapist who will recommend home care services if required.
- Arrange for someone to look after your home while you are in the hospital. This may include watering plants, caring for your pets and picking up the mail.
- Cancel any services you do not need while in hospital such as newspaper delivery, milk delivery, homemaker services, etc.
- You will need to arrange for transportation home from the hospital. **Discharge time may vary throughout the day.** If family or friends are not available to help, you need to contact a private agency. These are located in the Yellow Pages under Home Support Services. Make sure the vehicle has enough space to allow you to sit comfortably and safely in the front passenger seat.

It is important to remember that a majority of patients are able to return home independently after surgery without support. However, identifying a support person who will be available after surgery will decrease your anxiety if support is required.

**Please** refer to the next page for important instructions around the day before surgery and items to bring into the hospital. This sheet can be removed and used as a checklist to help ensure you are prepared for your hospital stay.
Total Joint Replacement Check list

Date of Surgery: ________________

What to do the day before surgery:

- Remove all nail polish from fingers and toes.
- Shower or bath the night before surgery and/or the morning of surgery. Wash the surgical area with a special cleansing sponge (provided at PAC).
- Do not shave the surgical area.
- Do not eat anything after midnight the night before surgery (includes gum, candy). Clear fluids are permitted up to 2 hours prior to advised arrival time at the hospital on day of surgery.
- Take medications as instructed by the doctor or nurse.

Items to Bring on Morning of Surgery:

- Autologous Blood Cards (green card – only if you pre-donated your own blood before surgery –see page 15)
- Dentures & Hearing Aids (dentures will be removed before surgery) - have labeled containers for these items
- CPAP/BiPAP machine if you have sleep apnea (must be in working order)
- Glasses with labeled case
Items for Family Members to Bring the Day of Surgery
(Suggested time to bring in _________ AM/PM):
(Please Label all Equipment)

✓ Overnight case with personal items i.e. toiletries
✓ Light weight knee length house coat
✓ One full set of comfortable clothes (i.e. T-shirt, loose shorts, or sweatpants)
✓ Non-slip shoes or slippers (ensure they allow for swelling)
✓ Cooling Unit (ice machine)(only when indicated)
✓ Specific self-care aids/dressing aids if available (e.g. long handled shoe horn, sock aid, reacher)
✓ Other: ____________________________

***Mobility Aids such as a walker, crutches or a cane will be discussed with you by the Physiotherapist at PAC. They will provide information on what equipment will be required and when/if to bring the equipment into the hospital.

**DO NOT BRING:

✗ Personal Medications (unless instructed by Nurse or Pharmacist)
✗ Large amounts of money, jewelry or any other valuables
✗ Medical Alert Bracelets should be left at home
✗ Electronic equipment

**PAC = Pre-Admission Clinic

September 2014 (Knee)
During Your Hospital Stay

When you come to the hospital the day of surgery, you will need to report to the admitting department. Once admitted you will be directed to the day surgery area. You will be asked to change into a hospital gown. The nurse will start an intravenous. You will then go to the Operating Room.

In the Operating Room:

You will receive an anaesthetic (usually a spinal or epidural). The anaesthesiologist will give you sedation to make you relaxed and comfortable. Most people do not remember the operating room as the sedation affects your memory. The surgery usually takes 45-90 minutes. You will wake up in the recovery room and remain there until you recover from the anaesthesia. This usually takes 2-4 hours. An X-ray MAY be done at this time to make sure the new joint is in correct position. Once you have recovered from anaesthesia, you will be taken to your hospital room.

On the Surgical Unit:

You will be ready to return home when:

- You are able to manage all your medications for discharge
- You are able to perform all transfers safely (on/off a chair, in/out of bed, in/out of the tub, on/off the toilet).
- You can dress yourself with minimal help or by using dressing aides.
- You can walk the distance and perform the stairs you need to manage in your own home.
** There is no longer a set length of stay after joint replacement surgery. Once the above goals are achieved, you will be discharged home.

**Monitoring and Post-operative Care**

- **Dressing** - There will be a bulky bandage over your knee. This dressing is usually left on for a day or two to allow the incision to heal before the dressing is changed to a reduced strip bandage over the incision. After that, the dressing will be changed as needed.
- **Drain** - A drainage tube MAY be coming from under the bandage. The drain removes the blood that collects in the joint after surgery and will be removed the day after surgery.
- **Intravenous** - You will get fluids through an intravenous (IV) line. This will remain in place until you are finished antibiotics and no longer need pain medication through the IV. You should be eating and drinking well before it is removed.
- **Monitoring** - A nurse will take your temperature and blood pressure regularly. Your breathing and heart rate will also be checked. The circulation in your legs will be checked frequently. The nurse will instruct you to wiggle your toes and do foot and ankle exercises to help with blood flow.
- **Deep breathing and coughing** - To help clear your lungs and prevent pneumonia, you should take three to five deep breaths and cough, every hour you are awake.
- **Positioning and turning** - You will be helped to turn and position in bed. This will be done frequently to prevent problems with your skin and breathing.
- **Diet** - At first you need to focus on drinking fluids regularly as your appetite may be poor. You should try to eat as soon as you can tolerate food. If you feel sick, please tell your nurse so it can be treated.

September 2014 (Knee)
Pain Management after Surgery

Controlling your pain is a very important part of your recovery. While every effort is made to minimize your pain, it is normal to experience some discomfort after surgery.

***IMPORTANT: It is important to remember that the medications and means by which these medications are provided are dependent on the site of your surgery as well as your individual medical history and pain levels. This section is providing information on the different techniques and medications used for information purposes only.

How will my pain be managed after surgery?
The management of your pain will start before you enter the operating room. The anesthesiologist and surgeon will decide what is best for you. This will likely involve a combination of medications. Some medications may be given directly around your new joint. Other medications may be given with pain pumps. Pain pumps are used for the following:

- epidurals
- intravenous / PCA (patient controlled analgesia)
- local blocks

All these treatments are safe and very effective in controlling your pain. These will be explained to you more fully by the hospital staff depending on which method of pain control is determined to best suit your needs.
What is an epidural?
This requires insertion of a very small narrow tube, called a catheter into your back. This is done in the operating room before your surgery. Pain medication and numbing medications are delivered by the pump into the epidural space (a space around the nerves in your back). This method gives you continuous pain relief and allows you to be more alert, sit and walk more easily.

What is a PCA?
A Patient Controlled Analgesia (PCA) pump is a pump that injects pain medication into the intravenous (IV) catheter in your arm. This method allows you to keep your pain under control. To receive the medication you simply push a button. The medication starts to work fairly quickly because it goes directly into your blood stream. You can push the button as often as you need to stay comfortable. The machine is programmed so that it will not give you more medication than is safe for you to have. It is important that you DO NOT allow family members or friends to push your PCA pump button for you. You need to be awake enough to know that you need pain medication. Tell your nurse if the medication is not helping your pain even though you have pushed the button a few times. Your nurse will make changes until the pain is controlled. This is usually only in place for one or two days if required.

What is a nerve block?
Pain relief may be provided through a nerve block. With this method a needle (or possible a small catheter) is inserted close to the nerve above the joint where you had surgery. Local anesthetic is injected or infused in this area. This will help keep the surgical area feel “numb” for a period of time after the injection or for the time the catheter remains in place.
What is an injection around the joint?
Several medications are combined and injected around the joint during surgery. This can give excellent pain relief for up to twenty-four hours after surgery.

How long will I have a pain pump?
After one or two days, the pump will be stopped and you will have your pain controlled with pills.

What oral pain medications (pills) will I be on?
Pain medication will be started immediately after surgery. The anesthesiologist will decide which medications are best for you. Once you are on the ward, you will be assessed by your nurse regularly and may be assessed by the pain service. At this time medications will be explained to you and adjusted as needed. If you are already on pain medication before surgery, these may need to be increased or changed to meet your needs after surgery.

The medications most often given are:

- Sustained release opioids (like Hydromorph Contin or OxyNeo) - These medications are given regularly in the morning and in the evening. They are designed to release pain medication into the blood stream over an 8-12 hour period allowing for long acting relief of pain.
- Immediate release opioids (like Hydromorphone or Oxycodone) - These medications are given when you need extra pain relief in between the long acting doses. YOU MUST ASK YOUR NURSE FOR THESE PAIN MEDICATIONS. These short acting medications will last 4-5 hours but you can have them every few hours as needed.
• Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) (like Celebrex, Diclofenac, Naproxen) - This medication is an anti-inflammatory and may be given regularly twice a day.
• Gabapentin – This medication is used for neuropathic (nerve) pain and may be given regularly up to three times a day.
• Percocet - This medication may be given every four hours as needed.
• Acetaminophen (Tylenol) - This medication may be given every four hours.

Giving you smaller doses of a variety of medication controls your pain better and has fewer side effects than if you took just one of these medications. Giving you long acting pain medication along with the Celebrex, Gabapentin and Acetaminophen keeps a constant level of pain medication in your body. This is especially important at night when trying to sleep. If you are still not comfortable, please ask your nurse to give you the extra (short acting) pain medications.

What is the Pain Scale?

0 -------------------------------------------------------------10

No Pain Pain as bad as it could be!

The Pain Scale helps you keep the doctors and nurses informed of how well your pain is controlled. The health care team will ask you to give your pain a number on a scale from zero to ten. Zero means no pain and ten means the worst pain you could ever have. By rating your pain with a number it helps the health care team know how well your medication is working and if they need to make any changes.
There are several reasons why keeping your pain under control is important. Good pain control:

✓ Makes you feel better.

✓ Allows you to sleep better.

✓ Allows you to walk and do your exercises.

✓ May reduce the risk of complications after surgery.

These medications can have side effects such as:

- Nausea and vomiting
- Itchiness
- Constipation
- Drowsiness
- Disorientation

Please let your nurse know if you are having these side effects.

**When should I ask for the extra pain medications?**

Keep in mind you must ask for your short acting pain medication. Do not wait until the pain becomes severe before taking extra pain medications. By taking pain medication every few hours, some medication from the last dose is still working and this gives the new dose time to take effect. Pain is much easier to control if it is managed before it becomes severe. Our goal is to keep your pain at an
acceptable level so you are able to do your exercises, get up in the chair and walk with assistance.

**Will I get addicted to these pain medications?**
Research shows that addiction is extremely rare in people who take pain medication for painful conditions. If you have a previous history of substance abuse (alcohol or drugs), talk with the ward staff and they will monitor your recovery. Also, due to the POTENTIAL addictive nature of these medications, please store all medications in a safe, secure place.

**Can I stop these pain medications suddenly?**

When a person takes pain medications for a week or longer, their body may adapt to these medications. If they suddenly stop taking the medication, they may experience withdrawal symptoms such as headache, sweating and nausea. Withdrawal symptoms do not indicate an addiction but are a possible expected side effect of opioid medications. These symptoms can be prevented by slowly reducing the dose of the drug over time instead of stopping it suddenly. As your pain decreases and your body heals, you will no longer need as much pain medication. Decreasing the amount of pain medication each day, or every couple of days, can prevent the withdrawal symptoms. This can be done by taking one less pain pill every day until you are off all the pain medications. If you have pain from other medical conditions you should discuss the control of this pain with your family doctor.
Getting Moving

Most surgeons want their patients up and moving as soon as possible after their surgery.

The nursing staff may get you up the day of surgery. If this is not possible, the day following your surgery the physiotherapist or nurse will help you into the chair. Most patients begin walking short distances with assistance the first day after surgery. The physiotherapist will also teach you how to move in bed, how to get in and out of bed, and how to use a walker or crutches. Each day the distance you walk will increase and you will require less assistance. Prior to leaving the hospital the physiotherapist will have you practice going up and down stairs if required for your discharge home.

It is not uncommon to feel dizzy, nauseated or even light headed the first few times you are up. It is important to tell your nurse or therapist if you experience these symptoms.

Exercise

After your surgery you are not as active as you normally would be. For this reason it is important to move your feet up and down at your ankles to improve your circulation and prevent blood clots from forming in your legs. With less activity you also tend to take smaller breaths which can lead to a chest infection. Remember to take 3-5 deep breaths and do a minimum of 10 ankle exercises every hour you are awake.

The physiotherapist will assist you with your exercises following your surgery. Do not be surprised if you have difficulty with the exercises initially. As your body heals and the more you practice the easier they will be. As they say, practice makes perfect, so it is important to
perform your exercises with the therapist and also perform the exercises that you are able to do on your own 2-3 times per day. The Knee Surgery Exercise Program (pages 49-56) can be removed from this manual to allow you to use it for reference when completing your exercises at home. The Physiotherapist in the Pre-Admission Clinic may ask you to bring these sheets with you to the hospital for reference when starting the exercises immediately after surgery as well.
KNEE SURGERY EXERCISE PROGRAM
__________ HOSPITAL
Phone: __________

❖ Only do the exercises that have been checked off ✓ by your Physiotherapist.
❖ Do each exercise 5 – 10 times in every session.
❖ Gradually increase the number of times you do the exercise in each session, as you are able.
❖ Gradually work up to ____ repetitions.
❖ Do 2 – 3 sessions each day.

1. Pump both feet up and down as often as possible.

3. Lie on your back. Place a 6” roll under your heel. Tighten your thigh; push the back of the knee towards the bed. Hold 5 – 10 seconds. Relax.

4. Lie on your back. Bend your knee as much as you can, keeping your foot on the bed. Slowly lower your leg.

Your therapist may instruct you to use a towel to assist with stretching as shown.
5. Lie on your back. Put a roll at least 6” thick under your knee. With the knee resting on the roll, lift your heel off of the bed until your knee is straight. Hold 5 seconds. Slowly lower your heel back on to the bed.

6. Lie on your back. Bend your good knee up. Keep your operated knee straight and lift your leg 10 – 12 inches off of the bed. Hold for 5 seconds. Slowly lower your leg on to the bed.
7. Sit on a chair with your thighs supported. Straighten your operated knee. Hold for 5 seconds. Slowly lower your foot.

8. Sit in a chair. Bend your operated knee as much as possible. Keep your foot flat on the floor, lean back and slide your bottom forward on the chair until you feel a stretch in your knee. Hold 20 seconds. Slide hips back in the chair.

11. Stand holding onto a solid object. Step back with your non-operated leg. Bend your operated knee as far as comfortable. Keep the heel of the back leg down and your knee straight. Keep your back straight. Hold 5 seconds. Change legs and repeat the exercise.
EXERCISE/ACTIVITY

Return to activity must be done gradually. If after doing an activity, you have pain or swelling, do less of that activity for a while. If you feel good, try doing a bit more.

Upon return home:

**DO:**
☆ Continue with your exercise sessions at home.
☆ Change position frequently to prevent pain and stiffness.
☆ Remember to wear supportive footwear. Footwear should be flat with a low, wide heel and rubber sole. Footwear should allow for slightly swollen feet after surgery.
☆ Begin with short frequent walks.
☆ Walk longer distances, as you are able.

**DO NOT:**
☒ Lie with your knee bent over a pillow.
☒ Hold your breath while doing exercises or activities.

Report the following to your surgeon or family doctor quickly:
1) A lot of swelling.
2) Skin that looks red and feels hot to touch.
3) Pain at the back of your knee or calf.

Discuss return to work and recreational activities with your surgeon.
MANAGING PAIN & SWELLING

Pain and swelling of the operated knee and lower leg are normal after surgery. Both can be managed by doing the following:

1. Use cold / ice packs

✓ Make an ice pack by wrapping a towel around a bag of frozen vegetables such as peas or corn.
✓ Apply the ice pack to the front of the thigh or over the knee for no more than 15 minutes.
✓ Apply as often as once every 2 hours.

2. Elevate your leg

Lie on your back and support your entire leg on pillows so that your leg is higher than the rest of your body.
**Activities of Daily Living After Knee Replacement**

**Getting Out of Bed**

1. Push yourself up on your elbows.
2. Slowly start sliding your legs over to the side of the bed.
3. Push yourself up so that you are sitting upright and your hands are behind you.
4. Slide your seat to the edge of the bed.
Getting Into Bed

1. Sit at the edge of the bed.
2. Try to move your seat back as far as possible in the bed.
3. You know you are far enough back when your thighs are completely supported by the bed.
4. Then turn your body as you and slide your legs into bed.
5. You can use your hands, your other leg, or the handle end of your cane to assist your operated leg.

Sitting

1. Back up to the chair until you feel it touch the back of your legs.
2. Slide your operated leg out in front of you.
3. Reach back for the armrests one hand at a time.
4. Do not hold onto the walker when sitting.
5. Slowly lower yourself to the chair.

September 2014 (Knee)
Standing Up

1. Slide your operated leg out in front of you.
2. Place your arms on the armrests.
3. **Do not pull up on the walker to stand up.**
4. Slowly push yourself to a standing position without leaning too far forward.
5. As you are standing slide your operated leg underneath you.
6. Once you are standing and have your balance, place one hand at a time on the walker.

To get on and off the toilet, use the same procedure. You should use any equipment prescribed to you in hospital by the Occupational Therapist (e.g. Raised Toilet Seat, Over Arm Toilet Aid, Commode, etc.)
Bathing

The use of a bath seat and/or grab bars may be necessary following your knee replacement surgery.

To get into the tub:

1. Back up to the side of the tub with the bath seat behind you.
2. Reach back for the bath seat and/or grab bar.
3. Lower yourself down onto the bath seat. Keep your operated leg straight and out in front of you.
4. Lift your legs over the side of the tub.

➢ Reverse this method to get out of the tub.
➢ Adjust the water temperature before you get in.
➢ Use a long-handled sponge to reach your legs and feet.

Dressing

✦ Dress your operated leg first and undress it last.
✦ Use the devices prescribed in the hospital by the Occupational Therapist.

September 2014 (Knee)
Home Care

The need for Home Care will be assessed for during your hospital stay. Home Care input is based on your level of independence and safety with functional activities such as dressing and transfers as well as the level of support from family/friends you have available to you at home.

If you feel you would require Home Care services prior to surgery due to your level of pain or functioning, you can contact Home Care directly to be assessed for the need for services. Home Care Central Intake can be contacted directly at (204)940-2655.

Carrying Things

To help you carry things try the following:

✓ A walker basket/pouch/tray can be purchased from a medical supplier and attached to the front of your walker. In some cases a small plastic bag can be attached to the front of your walker to carry LIGHT items. Check with your physiotherapist if this is safe for you.
✓ A fanny pack can be used to carry small items.
✓ A backpack is useful for larger items i.e. groceries, laundry, purse, books.
✓ Wearing an apron or clothes with pockets is also helpful.
✓ Using covered plastic containers is helpful when carrying food.
✓ Use a mug with a lid to move hot liquids.
Getting In and Out of Vehicles after Knee Surgery

1. Move the seat back as far as it will go and recline slightly.
2. Back up with your walking aid until you feel the edge of the seat against the back of your legs.
3. Hold onto the back of the seat and the dashboard for support. Do not hold onto the door as it may move unless it is held by someone.
4. Sit down on the edge of the seat.
5. Lean back and slide yourself toward the middle of the vehicle.
6. Then bring your legs into the vehicle one at a time and turn your body (You may want to try a plastic bag on the seat to assist with turning; this must be removed when the vehicle is moving).

✦ To get out of the vehicle, reverse the procedure.

Driving a Vehicle
If you drive a standard vehicle, or have had a right knee replacement, do not drive until approved by your surgeon.

DO NOT DRIVE if you are still taking narcotic medication.

September 2014 (Knee)
Walking

Initially after surgery the majority of patients use a walker with 2 wheels. When using a walker:

1. Advance the walker forward.
2. Step forward with your operated leg to the middle of the walker. (The physiotherapist will instruct you on the amount of weight you can place on your leg after surgery.)
3. Lean through your hands and then step to the middle of the walker with your non-operated leg.

As your walking progresses you may begin using a 4 wheeled walker, crutches or a cane.
Stairs

**Going Up**
- If 2 railings, use both rails.
- If 1 railing, use the rail in one hand and a cane or crutches in the other hand.
- Place the non operated (good) leg on the stair, and then follow with the operated (bad) leg and the crutches /cane.

**Going Down**
- If 2 railings, use both rails.
- If 1 rail, use the rail in one hand and a cane or crutches in the other hand.
- Place the cane or crutch on the step below then step down with the operated (bad) leg and then the good leg.

*REMEMBER: UP with the GOOD, DOWN with the BAD*

Stairs will be assessed with you during your hospital stay **IF** you are required to do stairs with your discharge home.

As you become stronger and are able to take equal amounts of weight on both legs you may begin to go up and down the stairs using alternating legs.

September 2014 (Knee)
If you have had both knees replaced, the above strategies will work for you, but may take more time to accomplish independently. It is very important to have adequate upper body strength to be able to lift your body weight off of your chair or bed to ensure you will be able to manage these transfers after surgery. Please try these techniques at home before surgery to ensure your furniture (chairs/bed) is at an adequate height to make these transfers achievable. If you have any concerns about heights of chairs/beds or managing these transfers, please discuss them with a therapist in the community, the Prehab therapist or the physiotherapist at your PAC appointment.
After Joint Replacement Surgery

A. Caring For Yourself At Home

Care of Your Incision

Incision healing

Keep the dressing and incision clean and dry. Do not apply ointment or lotion to the incision until the scar is completely closed. Increase your intake of foods high in protein (i.e. meat, dairy products, eggs, fish) and foods high in vitamin C (i.e. oranges, orange juice, grapefruit, strawberries, melon, kiwi, broccoli).

Changing the dressing

Your dressing should be clean and dry. Leave the dressing on until your follow-up appointment for staple/suture removal. If the dressing becomes wet or soiled, it should be changed. If your incision is draining on discharge, the nurse will give you specific instructions to follow.

Staple Removal

Staples will be removed on your first follow-up appointment at approximately 10-14 days after surgery. Information regarding this appointment will be provided on discharge from hospital. For those who live outside the city, this may be done by your family doctor or clinic nurse.
Taking a Shower or Bath

You will be able to shower 2-3 days after your staples are removed, as long as there is no drainage or open areas present. You can resume bathing after an additional 5-7 days. If you wish to shower before your staples are removed, please discuss options for an alternate dressing with your nurse or surgeon. Remember to follow the safety precautions when getting in and out of the tub or shower.

Signs of Infection

Inspect your incision area daily as best as you can. Do not remove the dressing to do this. If a dressing is in place, inspect the area around the dressing.

If you notice any of the following signs of infection, you should call your doctor immediately:

a) Thick yellow, foul smelling drainage from the wound

b) Fever, chills or flu-like symptoms

Pain Management

It is normal to have pain after surgery. As time goes by the amount and intensity of pain you are experiencing will decrease. It may take up to 6 months before all the pain and swelling is gone.

When you are ready for discharge, a decision will be made in discussion with the surgeon regarding the medications necessary for you to control your pain at home.

September 2014 (Knee)
TIPS ON CONTROLLING YOUR PAIN:

- Do not wait until the pain is very bad before taking the pain medication.
- Take your pain medication a minimum of 30 minutes before you exercise or do any prolonged activity.
- Elevate your leg and apply an ice pack to the knee 3-4 times a day. Try applying the ice pack before and after exercises.
- Plan time for relaxation and enjoy hobbies to reduce pain.

Swelling and Blood Clots

Will there be swelling in my operative leg?

Swelling of your foot and leg is normal after surgery. Avoid sitting with your leg down or standing for long periods of time as this will increase the amount of swelling in your leg. Do change positions frequently and go for short walks. Continue with the foot and ankle exercises described to you by the physiotherapist and increase your activity as you tolerate.

When at rest, elevate your feet and legs as often as possible. Remember to maintain your precautions when elevating your leg.

Signs of blood clots

Contact your surgeon if you experience any of the following symptoms as they may indicate a blood clot and need to be treated promptly:

- Increasing pain, swelling, redness and tenderness of the leg that does not improve with rest and elevation.
See your family doctor or go to the local emergency room immediately if you experience the following as it may be a sign of a clot that has moved to your lungs or heart:

❗ Sudden sharp pain or tightness in your chest or shortness of breath.

**Blood Thinners**
Blood clots can develop in your legs for up to a month after your surgery. For this reason most patients will be required to continue with their blood thinners for up to 4 weeks after surgery. The specific medication and directions regarding how to take this medication will be provided at the time of your surgery.

**At what time of day should I take the blood thinners?**
Continue the medication at home around the same time it was given to you in the hospital. Confirm the time with the nurse before you go home.

**Constipation**

Many of the drugs you will be taking for pain relief can cause constipation. Reduced activity can add to this problem.

**What can I do to prevent constipation?**

✓ Drink plenty of fluids (six to eight cups of fluid per day).
✓ Eat foods high in fiber (i.e. whole grain breads/cereals, bran, prunes and other fruits, vegetables, nuts and legumes).
- Keep as active as possible and when you have the urge to move your bowels do not delay!
- Purchase a stool softener at the pharmacy. (Discuss with your Pharmacist what is best for you).

**Activity Progression**

- Continue with a home exercise program as instructed by your physiotherapist.

- Increase your tolerance. Begin with many short walks during the day. As you are able, gradually increase the distance you are walking.

- Listen to your body. Only YOU know how your body is responding to the increase in activity. Use the amount of increased pain and swelling as your guide.

**Follow up Physiotherapy**

Following discharge from hospital most patients are required to attend follow up physiotherapy. You may choose to attend therapy at a hospital or a private clinic. If you attend at the hospital there is no fee. The therapy may be one on one or in a class setting. Therapy consists of exercises to stretch tight muscles, strengthen weak muscles and improve your walking. The amount of time you will attend physiotherapy depends on how quickly your movement and strength progress.

September 2014 (Knee)
Most people continue using the walker for 2-4 weeks after they leave the hospital as it helps with supporting your new knee, balance, and fall prevention. With time you will be able to use a cane.

**Signs you are ready to progress to a cane:**

1. You can stand and balance without the walker.
2. You can place weight fully on both feet.
3. You no longer lean on your hands when using your walker.

When using a cane, always use it in the hand opposite the operated leg. The cane should be the same height as your walker. You can also size your cane by placing it on the ground 6 inches out from your little toe. While you are looking straight ahead (head up and shoulders back) with your arm relaxed at your side, the top of the handle of the cane should touch the creases on the inside of your wrist (where a watch is worn).
B. Living With Your New Joint

Follow-up Appointments
With good care and effort to protect your joint replacement from unnecessary stress, your new joint should last 15 years or more. To ensure the best possible outcome, there are some long term guidelines for you to follow.

Consulting with your Orthopedic Surgeon

It is important that you attend all follow up appointments with your surgeon. The surgeon can often detect wearing of the joint prior to you experiencing symptoms. Early detection may provide an opportunity to repair the joint with a simple revision as opposed to more complex surgery if the wearing is not detected early.

Your surgeon will want to see you regularly following surgery at intervals (e.g. every year or every two years) decided by your surgeon.

If you develop any symptoms related to your joint that concern you, arrange for an earlier follow-up appointment. Symptoms that you should report to your surgeon’s office are the following:

- New pain in your knee or leg that lasts more than a few days
- A limp or pain with weight bearing
Recreation and Social Activities

It is important to return to regular physical activity after your joint replacement. Light to moderate intensity activities done 4 – 7 days per week have numerous health benefits and will help to maintain good strength and movement in your new joint. Appropriate activities should be low impact, allow for periods of rest and not cause joint pain. Ask your orthopedic surgeon about any sports or activities that you may wish to do.

Recommended Activities:

- Walking, using a treadmill
- Swimming, water aerobics, water walking
- Recreational cycling, stationary cycling
- Golf (using a cart initially)
- Traditional dancing
- Low impact aerobic
Possible Activities: (check with your surgeon prior to beginning)

- Hiking easy trails
- Downhill & cross country skiing (green & blue runs)
- Modern dance
- Doubles tennis (avoid running & twisting)
- Step or Rowing machines
- Skating inline and ice
- Gardening /Yard work
- Repetitive lifting (less than 20 kg)
- Lawn Bowling (operated leg back)

Activities to Avoid:

- Running/jogging
- Jumping (skipping rope)
- Singles tennis, badminton, squash
- Contact sports (football, soccer, hockey)
- High impact sports (basketball, volleyball)
- Horseback riding
- Waterskiing
Returning to Work
Your surgeon will determine the date you can return to work based on the type of work you do. If you have a desk job, you may be able to return to work within a few months. If your job is more physically demanding, it may be 3 to 6 months before you can return to work. Concerns regarding financial income need to be considered prior to surgery. Some individuals may require modifications to their job, while others may easily return to their previous activities. Those engaged in heavy manual labor may have to discuss the possibility of vocational/job counseling with their surgeon.

Airport Security
Your new joint may set off metal detecting devices such as those in airports and some buildings. However it is unlikely to set off most modern devices. Tell the security officer that you have a joint replacement and that a hand held wand passed over your new joint will confirm this.

Pregnancy
Young women who have undergone a hip or knee replacement may have some concerns around becoming pregnant and the extra strain this will put on the joint. Keep your weight gain to 25 to 30 pounds. If needed, use a cane in the later stages of pregnancy.

Dental Work after a Joint Replacement
It is important to notify your doctor or dentist that you have a joint replacement if you are having any type of dental procedure. The bacteria that cause infections in the teeth or gums can easily travel through the bloodstream and settle in the artificial joint.
The following guidelines are designed to help doctors and dentists make decisions about preventative antibiotics for dental patients with artificial joints. Health Care Professionals must use their judgment to determine if preventative antibiotics are appropriate.

**You should get preventative antibiotics before dental procedures if:**

- You had a joint replacement less than two years ago.
- You have an inflammatory type of arthritis such as rheumatoid arthritis.
- Your immune system has been weakened by disease, drugs, or radiation.
- You have insulin-dependent (Type I) diabetes.
- You have had previous infections in your artificial joint.
- You are undernourished or malnourished.
- You have hemophilia.
What dental procedures require preventative antibiotics?

You should get preventative antibiotics for the following dental procedures:

- Dental extractions
- Periodontal (gum disease) procedures
- Dental implant placement and reimplantation of teeth that were knocked out
- Endodontic (root canal) instrumentation or surgery
- Initial placement of orthodontic bands (not brackets)
- Injection of a local anesthetic into the gums near the jaw
- Regular cleaning of teeth or implants where bleeding is anticipated

Other Infections

If you develop an infection anywhere in your body it is important to see your family doctor to get antibiotic treatment as soon as possible to prevent infection from travelling to your new knee joint. It is also important to inform your doctor that you have had a joint replacement before any other surgery or procedure, such as a colonoscopy as you may require antibiotic treatment.
Community Resources

The Arthritis Society Manitoba Division (204)942-4892

Or visit their website at www.arthritis.ca

✦ Provides support, information and referrals for people with arthritis.

✦ Water and land based exercise programs

✦ Arthritis Self-Management Program (6 week program) and Pain Management workshops

✦ Pamphlets and education material about arthritis. A library with video tapes, audio tapes, books and magazines available for loan.

Arthritis Center Day Hospital (204)787-1890

✦ Education and Rehabilitation Programs

The SMART (Seniors Maintaining Active Roles Together) Program (204)775-1693 ext. 239

✦ Monitored group exercise programs

✦ SMART In-Home Exercise Program - for homebound adults

Meals on Wheels

✦ 500-283 Portage Avenue, Winnipeg, Manitoba, R3B 2B5
  Telephone: (204) 956-7711. Fax: (204) 956-7722
Exercise & Aquatics Programs

- Water Exercise Program: Arthritis Aquatics (low to moderate intensity)
- Arthritis Aquatics Lite (some impact)
- Land Exercise Program: PACE (People with Arthritis Can Exercise)
- Ai Chi: Water Based (slow broad movements in warm water)
- Introduction to Tai Chi: For people with Arthritis (land based)

***Please contact the facility for detailed information and costs.

Winnipeg Programs

City of Winnipeg Recreation Centres and Pools

To Register at these locations:

Phone: 311 (City of Winnipeg)

Online: www.Winnipeg.ca/leisureonline

<table>
<thead>
<tr>
<th>Pool</th>
<th>Address</th>
<th>Water Programs</th>
<th>Land Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boni-Vital Pool</td>
<td>1215 Archibald Street</td>
<td>Ai Chi, Arthritis, Fibromyalgia &amp; MS</td>
<td>PACE &amp; Tai Chi</td>
</tr>
<tr>
<td>Cindy Klassen Recreation Complex</td>
<td>999 Sargent Avenue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fort Rouge Leisure Centre</td>
<td>625 Osborne Street</td>
<td>Land: PACE &amp; Tai Chi</td>
<td></td>
</tr>
<tr>
<td>Margaret Grant Pool</td>
<td>685 Dalhousie Drive</td>
<td>Water: Arthritis Aquatics Lite</td>
<td></td>
</tr>
<tr>
<td>Sherbrook Pool</td>
<td>381 Sherbrook Street</td>
<td>Water: Arthritis Aquatics, Ai Chi, Seniors’ Lite, Fibromyalgia &amp; MS programs</td>
<td>Land: PACE &amp; Tai Chi</td>
</tr>
<tr>
<td>St. James Centennial Pool</td>
<td>644 Parkdale Avenue</td>
<td></td>
<td>Water: Arthritis Aqua</td>
</tr>
<tr>
<td>St. James/Civic Centre</td>
<td>2055 Ness Avenue</td>
<td>Land: low to moderate exercise programs</td>
<td>Water: Ai Chi/Aquacise</td>
</tr>
<tr>
<td>St. James/Assiniboia Senior Centre</td>
<td>2109 Portage Avenue</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

September 2014 (Knee)
**Other Winnipeg Program Locations & Registration Information**

**Bernie Wolf Pool** – vertical ladder/no wheel chair access  
95 Bournais Drive  
To Register: 204-667-6193  
**Water:** Arthritis & Fibromyalgia programs  
**Good Neighbours Senior Centre**  
720 Henderson Highway  
To Register: 204-669-1710  
**Land:** Tai Chi, PACE

**Gwen Sector Creative Living Centre**  
1588 Main Street  
To Register: 204-339-1701  
**Land:** PACE  
**Louis Riel Arts & Technology Centre**  
5 de Bourmont Avenue  
To Register: 204-237-8951 ; Ext. 311  
**Land:** PACE

**Misericordia Pool** – warm pool/stairs (shallow end)/lift (deep end)  
99 Cornish Avenue  
To Register: Bonnie at 204-942-4892  
**Water:** Arthritis Exercise/Ai Chi/Specialty Aquacise  
**Reh-Fit Centre**  
1390 Taylor Avenue  
To Register: 204-488-8023  
**Land:** PACE, Tai Chi & Osteoporosis

**Rady Jewish Centre**  
123 Doncaster Street  
To Register: 204-477-7510  
**Land:** PACE  
**Wellness Institute** – warm pool/stairs/ramp  
1075 Leila Avenue  
To Register: 204-632-3900  
**Land:** PACE  
**Water:** Arthritis Aqua

**Society for Manitobans with Disabilities**  
825 Sherbrook Street  
To Register: 204-783-4227  
**Land:** Introduction & Advanced Tai Chi  
**YM-YWCA Downtown**  
301 Vaughan Street  
To Register: 204-947-3044  
**Water:** Make Waves (Aqua for Breast Cancer Survivors)

**Manitoba Locations**

**Prairie Oasis Senior Centre**  
241 – 8th Street  
Brandon  
To Register: 204-727-6641  
**Land:** Tai Chi

**Morden 55+ Activity Centre**  
306 North Railway Street  
Morden  
To Register: 204-822-3555  
**Land:** PACE

September 2014 (Knee)
Some of the information in this booklet has been adapted from the Vancouver Coastal Health “Before, During & After Joint Replacement Surgery”

© Concordia Hospital, September 17, 2007
Revised:
© WRHA Surgery Program, February, 2014

Revised by:
Heather Kattenfeld
Physiotherapist, WRHA Surgery Program Prehabilitation Clinic

On Behalf of:
The WRHA Prehabilitation Clinic/Hip and Knee Resource Center

Working Group:
Executive Sponsor: Brock Wright (WRHA Senior VP Clinical Services)
Project Sponsors: Wendy Rudnick (WRHA Surgery Program Director), Wayne Ramlal (WRHA Surgery Administrative Director), Peter McDonald (Orthopedic Section Lead)
Project Manager: Laurie Walus (H&K Resource Center/Prehab Clinic Manager, Concordia Hospital CNO)
Team Members: Lisa Anthony (Orthopedic Quality Manager), Linda Pomeroy (Grace Surgery Program Director), Shelley Keast/Pat Crocker (Grace PAC/Orthopedic Inpatient), Sue Bowman (Grace Physiotherapy), Anne Strock (Grace Occupational Therapy), Tanya Cheetham (Concordia PAC), Sharon Irwin (Concordia Inpatient), Tania Giardini/Jamie Reid (Concordia Physiotherapy), Susan Mair (SW)/Amber Antoniuk (OT)(H&K Resource/Prehab), Elaine Pinette (WRHA Blood Conservation)
Adhoc Member: Eric Bohm (Orthopedic Surgeon)

With gratitude to all staff and surgeons from Concordia Hospital and Grace Hospital for their essential input.

The information in this booklet is solely for the person to whom it was given by the healthcare team.

September 2014 (Knee)
Original Version (2007)
Authorship Team:

David Hedden, MD, FRCSC
Surgical Site Manager Concordia Hospital
University of Manitoba Joint Replacement Group

Ann Reichert, RN, MN
Program Director
Surgery and Critical Care
Concordia Hospital

Chandra Schultz, B.M.R. [PT]
Clinical Resource Physiotherapist
Arthroplasty Program
Concordia Hospital

Mark Bain, B.M.R. [OT]
Profession Lead Occupational Therapy Concordia Hospital

Medora Siemens, BN
Acute Pain Service Coordinator
Concordia Hospital

Louise Campbell, RN
Clinical Manager Concordia Hospital

Janice Hansell, BN
Nurse Educator Concordia Hospital

September 2014 (Knee)