



My Guide to Total Knee Joint Replacement



**London Health
Sciences Centre**

**The following people are acknowledged
for their contributions to the development
and revision of this guide:**

Mary Helen Adams, Physiotherapy

Barbara Berg Troyer, Nursing

Dr. R.B. Bourne, Orthopaedics

Hazel Celestino, Clinical Educator Orthopaedics

Laurie Flodrowski, Occupational Therapy

Bob Harris, Nurse Practitioner

Donna Kalman, Manager Orthopaedics

Dr. S. MacDonald, Orthopaedic Surgeon

Lina Martins, Nurse Educator

George Moogk, Graphic Artist

Allan Murray, Physiotherapy

Steve Newman, Nursing

Tia DiPasquale, Occupational Therapy

Ravi Rastogi, Clinical Specialist, Physiotherapy

Sylvia Simon, Coordinator Orthopaedics

Michelle Smart, Physiotherapy

Cheryl Talbot, Nurse Practitioner

Marg Vaz, Clinical Specialist, Physiotherapy

Pathway to Recovery: My Guide to Total Knee Joint Replacement published by



London Health Sciences Centre

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(Revised January, 2008)

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ISBN 0-9690619-9-4

Additional copies may be purchased from

The office of the Director of Surgery
339 Windermere Road, London, Ontario, Canada N6A 5A5

Telephone (519) 685-8500 ext. 76770

Introduction

This guide will give you and your family information about your total knee joint replacement. It is divided into five sections:

Section 1: General Information About Your Knee and Total Knee Joint Replacement

Section 2: What to Expect Before and After Surgery

Section 3: Things to Remember at Home

Section 4: Exercises Following Total Knee Joint Replacement

Section 5: Final Remarks

Please read this guide and write down any questions you may have in the spaces provided. Please remember to bring this guide with you for your hospital stay and follow-up visits.

For the most current information on Total Knee Joint Replacement, please visit the web-site at

<http://www.lhsc.on.ca/jointreplacement>

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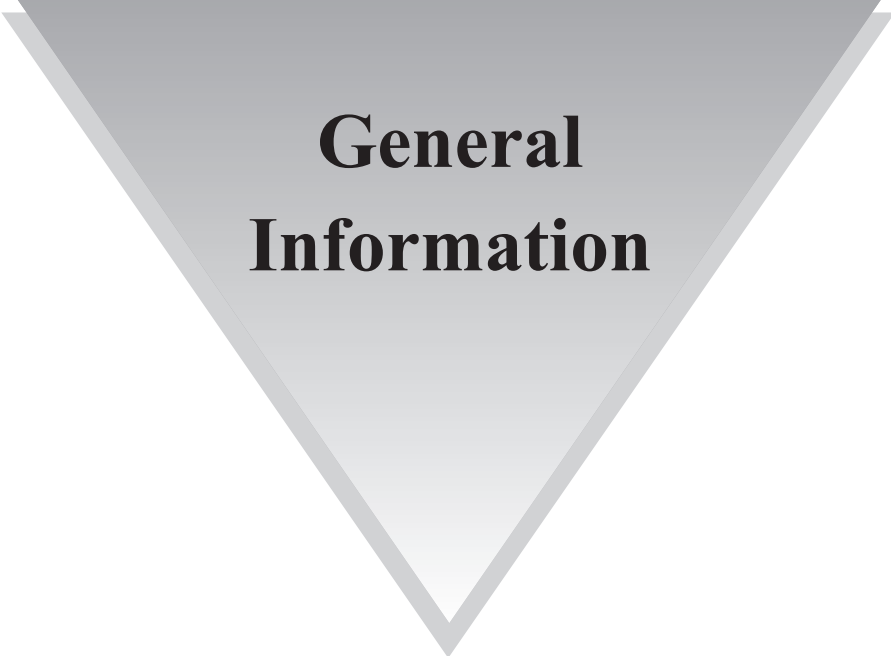
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SECTION 1



**General
Information**

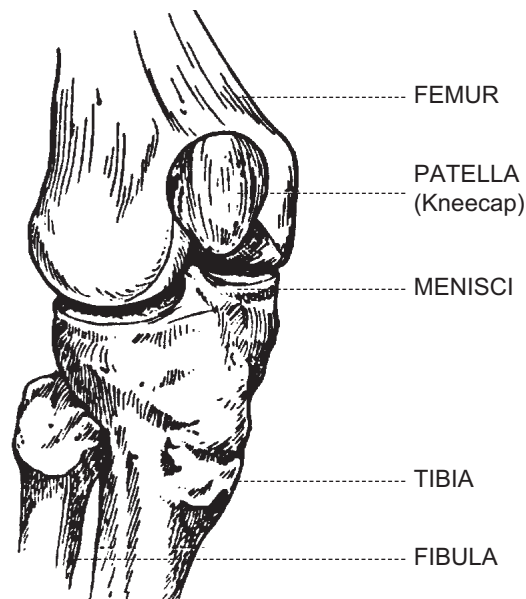
MY GUIDE TO TOTAL KNEE JOINT REPLACEMENT

GENERAL INFORMATION ABOUT YOUR KNEE AND TOTAL KNEE JOINT REPLACEMENT

Structure of the Knee Joint

- The knee joint (Figure 1) is the largest joint in the body.
- The knee joint is made up of the kneecap (patella), the thigh (femur) and shin (tibia) bones of the leg.
- Articular cartilage is a smooth elastic tissue that covers and cushions the surfaces of these bones and allows them to move smoothly.
- Menisci are "pads" of cartilage found between the thigh and the shin bones that act as "shock absorbers" to protect the bone surfaces.
- Ligaments give support to the knee in all directions.
- Muscles move the bones of the leg and provide strength.
- The knee moves like a hinge.

Figure 1 - Structure of the Knee Joint



Function of the Knee Joint

The knee joint allows your leg to:

- straighten (extend)
- bend (flex)

Knee Pain

Arthritis is a common age-related disease leading to knee pain.

The knee becomes painful when:

- cartilage is destroyed
- irregular bone surfaces appear
- muscles weaken and the joint becomes stiff
- swelling occurs in the knee

Changes in the knee joint often result in:

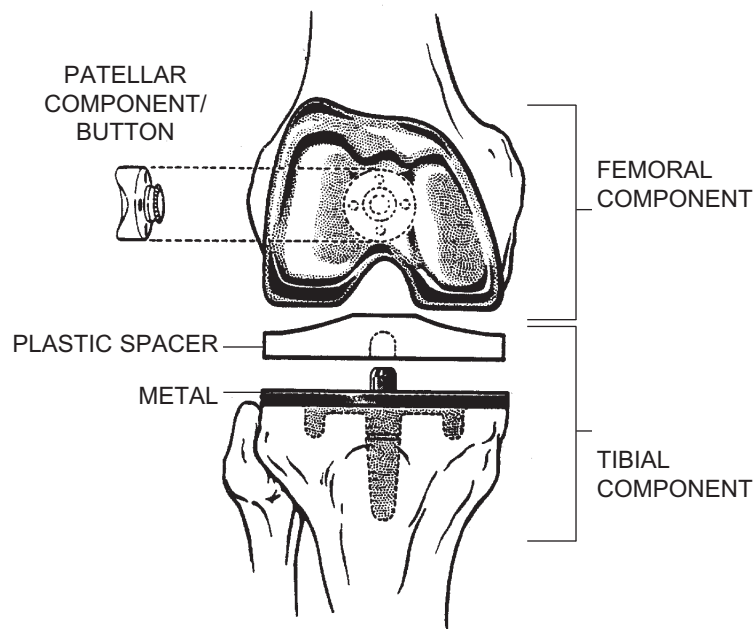
- pain, especially when walking
- swelling, stiffness and deformity
- grinding sensation when bending
- "favoring" the knee and loss of movement
- instability in the knee/leg
- limp

What is a Total Knee Joint Replacement (Arthroplasty)?

It is the resurfacing of the bone surfaces in your knee joint with a low friction metal and plastic spacer. The artificial joint is made up of:

- metal which wraps around the bottom of your thigh bone (femoral component)
- metal or plastic which resurfaces the top of your shin bone (tibial component)
- plastic which resurfaces the underside of your kneecap (patellar component)
- plastic liner on top of the metal tibial component (plastic spacer)

Figure 2 - Total Knee Joint Replacement



Why Have a Total Knee Joint Replacement?

- to end or reduce your pain, stiffness and deformity
- to improve your knee movement and stability
- to improve your quality of life

Risks and Benefits of Total Knee Joint Replacement

With your decision to proceed with total knee joint replacement, you will have already discussed the benefits and risks of this surgery with your surgeon. To date, over six million knee joint replacements have been performed worldwide. They have proven to be extremely durable. Ninety to ninety-five percent success rates at ten to twenty year check-ups are common.

As with any operation, total knee joint replacement has a number of potential but uncommon risks.

These include:

- Anaesthetic complication
- Medical complication
- Deep vein thrombosis and pulmonary embolism (blood clot in legs or lungs)
- Death (0.7%)
- Infection (approximately 0.5%)
- Slow healing
- Technical complication (i.e. damage to skin, muscle, bone, nerve or blood vessel)
- Post-operative stiffness
- Post-operative pain
- Late wear or loosening of the implant needing revision (between 0.5 and 1% per year)
- Limp

Your surgeon will review these with you before your surgery and answer any of your questions.

What Happens in Surgery?

Your knee surgery will take about two hours. The surgeon:

- removes damaged bone from your knee joint
- selects and fits your new joint according to your individual size
- may use surgical bone cement to anchor your new knee to the bone

How Long Will I Be in Hospital?

The goal for our patients is to be able to go home 3 or 4 days after a total knee joint replacement and 4 to 5 days after a revision total knee replacement.

Revision Total Knee Joint Replacement

What is a Revision Total Knee Replacement?

In patients over age 60 years, it is hoped that a total knee replacement will last the lifetime of the patient. Occasionally, implants fail for a variety of reasons such as polyethylene (plastic) wear, loosening, instability or deep infection. A revision total knee replacement often involves removing the implant put in during the first operation, and replacing this with a new total knee device.

What Results Can I Expect?

Revision total knee replacement is a more difficult and lengthy operation than the initial total knee replacement, but can offer extremely good results in terms of pain relief and restoration of function. The chances of an excellent result are slightly lower than those of the primary procedure, but still in the range of 80-90%.

What Are the Risks of Revision Total Knee Replacement?

As with any operation, a revision total knee replacement has a number of potential risks. These would include:

- Anaesthetic complication
- Flaring up of medical condition(s)
- Deep vein thrombosis and pulmonary embolism (blood clot in legs or lungs)
- Death (0.7%)
- Infection (approximately 0.5-1%)
- Slow healing
- Slow convalescence
- Technical complication (ie. damage to skin, muscle, bone, nerve or blood vessel)
- Post-operative instability of the knee
- Knee stiffness
- Late wear and loosening of the implant needing revision (approximately 1% per year)
- Limp

Your surgeon will review these with you before your surgery, and answer any of your questions.

What Happens in Revision Surgery?

A revision total knee replacement usually takes 3-4 hours to perform.

The surgeon must:

- expose and remove the failed implant
- re-insert all or part of a new total knee replacement depending on what had to be fixed

What Happens After Revision Surgery?

The information in the Guide will generally apply to you. However, after a revision total knee replacement your weight bearing and exercises may be more restricted than with your first replacement. You may require a brace while you are recovering. Your physician, nurse and physiotherapist will discuss these restrictions with you.

SECTION 2



**What to Expect
Before and
After
Surgery**

MY GUIDE TO TOTAL KNEE JOINT REPLACEMENT

WHAT TO EXPECT BEFORE AND AFTER SURGERY

My Pre-Admission Clinic (PAC) Visit

- I bring in all of my prescribed medications, vitamins and herbal supplements in their original containers. I take my medications as usual this day.
- I will spend about 4-6 hours in the Pre-Admission Clinic.
- I receive the booklet "My Guide to Total Knee Joint Replacement". If I have already received this booklet, I bring it with me to the Pre-Admission Clinic visit.
- I provide a medical and nursing history and undergo a physical examination.
- I receive information about the Perioperative Blood Conservation Program.
- I may see an anaesthetist or internist.
- I have bloodwork, x-rays, a urine test and any other tests that are ordered by the doctor.
- I may be asked to be a part of a research study.
- I understand what equipment (ie. walker, crutches) I will need after my surgery and where I can obtain it.
- I have received the Same Day Admission Program - Patient Information pamphlet.
- I have my questions about the surgery and my hospitalization answered.
- I understand what to expect of my surgery and post-operative care.
- I purchase two chlorhexidine cleansing sponges from the hospital pharmacy.
- I understand when and how to use the cleansing sponges.
- I agree with the discharge plans that have been discussed.
- I leave the Pre-Admission Clinic satisfied that my needs have been met and will be met during my hospital stay.
- If out-patient physiotherapy followup is required, I understand that I am responsible for making the necessary arrangements in my community.
*I will call to make an appointment for physiotherapy. This appointment should be booked for one (1) week after my surgery. If I have any problems obtaining this appointment, I will notify staff at the time of my admission.
- If I am having both knees replaced at the same time, I will see an occupational therapist.
- I understand that I will be discharged on the 3rd or 4th day after surgery. I will arrange for transportation home and for any additional help that I may require.

Following surgery you will use crutches or a walker for at least 6 weeks. If you have crutches at home please have them brought into hospital after your surgery. Crutches may also be purchased at the hospital. If you need a walker, rental can be arranged from services in your community.

Doctors recommend that you do not drive your car for at least 6 weeks following surgery. It is therefore important that you arrange a ride to physiotherapy by family, friends, or public transportation. In a small number of cases, depending on your medical and physical status, physiotherapy may be arranged through the Community Care Access Centre (CCAC) Program.

What Happens if I Do Not Feel Well?

- I call my surgeon immediately if I develop a cold or my health changes in ANY way as I get closer to my surgery.

Day Before Surgery

- I call my surgeon's office between 2:30 p.m. and 4:00 p.m. to confirm the time of surgery. (If your surgery is scheduled on a Monday, please call the Friday prior to the booked surgery date).
- I remove polish from fingernails and toenails.
- I shower or bathe the night before and the day of surgery.
- I use the cleansing sponges, following the instructions given to me by my pre-admission clinic nurse. There are also printed instructions that come with the cleansing sponges.
- I have nothing to eat or drink after midnight the night before my surgery and on the day of surgery.
- I do not chew gum, have candy or smoke after midnight the night before my surgery and on the day of surgery.
- I follow any special instructions given to me by the doctor or nurse to prepare for surgery.
- I remember not to shave my legs less than 48 hours before surgery.

Day of Surgery

- I pack a small overnight case or bag with 2-3 sets of night clothes, bath robe, slippers, crutches, **knee guide booklet** and personal care items (toothbrush, toothpaste, mouthwash, soap, lotion, razor, comb, deodorant, tissues and feminine hygiene products). I ask a family member to keep this bag and bring to my room after my surgery.
- I have had nothing to eat or drink after midnight the night before my surgery.
- I do not take any medications unless told to do so with a sip of water.
- I may wear dentures, glasses, hearing aids, or hair pieces, but they will be removed before surgery. I will bring containers for these.
- I may brush my teeth the morning of surgery, being careful **not to swallow any water**.
- I do not bring large amounts of money, jewellery, or other valuables.
- I do not wear makeup.
- I do not wear contact lenses.
- I follow any special instructions given to me by the doctor or nurse to prepare for surgery.
 - _____
 - _____

Arriving at the Hospital

- I report to Pre-Admission Clinic and then I will be directed to go to the Surgical Preparation Area, where I will be prepared for surgery.
- I arrive 2½ hours before my scheduled surgery time.

Surgical Preparation Area

- I get dressed in a hospital gown.
- I have my blood pressure, pulse and breathing rate checked.
- I will have an intravenous started.
- The nurse will ask me about medications taken today.
- I may have preoperative medications given to me. This may include a rectal suppository to help control my pain after surgery
- I will speak to my anesthetist or delegate.
- I will speak to my surgeon or delegate.
- I am taken to the operating room.

Operating Room

- My surgery takes 1-1/2 to 4 hours depending on the surgery being performed.
- I am taken to the Post-Anaesthetic Care Unit (PACU) in my bed.

Post-Anaesthetic Care Unit (PACU)

- I have my blood pressure, pulse, and breathing rate checked.
- I receive medication for my pain by pushing the PCA (pain pump) button, or pain medication may be given to me by the nurse.
- I have my circulation, sensation, and pulses checked and I am asked to move my foot.
- I will have an x-ray done of my knee.
- I will have a large gauze bandage over my knee, which my nurse will check regularly.
- I may have a drainage tube in my knee.
- I will be moved to the Post-operative Observation Unit on the Inpatient Unit to be monitored closely for my first post-operative night.

Post-Operative Observation Unit

- In this unit there may be females and males in the same room. Curtains will be used to ensure privacy.
- I am provided with a call bell and shown how to call for the nurse.
- My surgeon speaks with me or my family about the surgery.
- I have my foot, gauze bandage, blood pressure, pulse and breathing rate checked often.
- I ask for and receive pain medication as I need it.
- I use a bedpan or urinal the day and night of my surgery.
- I may start to drink if I wish.
- I ask for medications to settle my stomach if needed.
- I may be given oxygen overnight.
- My family is welcome to stay with me until visiting hours are over.
- I will be moved to a different room the day following my surgery.
- I am reminded not to put a pillow under my knee.
- I may be assisted to sit at the side of my bed and may walk a short distance.

The following may be used as a checklist.

First Day After Surgery (Post-Operative Day 1)

- Visiting may be interrupted to provide appropriate patient care and therapy or restricted if safety and privacy rights need to be protected.
- I will begin to eat solid food today.
- I am given a basin of water and helped with my bed bath.
- I may be moved to another room today.
- My physiotherapist and/or nurse reviews how much weight I may put on my leg.
- My physiotherapist and/or nurse shows me how to use a walker.
- My physiotherapist and/or nurse may help me to sit in a chair.
- My physiotherapist and/or nurse help me walk to the hallway.
- My nurse removes my knee drainage tube and changes my initial bandage. This may produce mild discomfort for a short time.
- I have blood taken.
- My intravenous is taken out if I am drinking well. If I have had a revision knee replacement, my intravenous may be left in for a few more days.
- My oxygen tubing may be removed.
- I receive the medications that I was taking at home.
- I ask for and receive medication as needed for pain, nausea, and vomiting.
- I receive a blood thinner by injection.
- My nurse teaches me how to give myself a blood thinner by injection.
- My temperature, pulse, breathing rate and blood pressure are taken regularly throughout the day and night.
- My circulation, sensation, and pulses are checked. I am asked to move my foot.
- I am asked to deep breathe and cough regularly.
- I am asked to do foot and ankle exercises regularly.
- I have my knee bandage checked regularly for any drainage.
- I am helped to turn from side to side.
- I ask for help to walk to the bathroom.
- My physiotherapist will teach me range of motion exercises.
- I will have my knee iced for about 20 minutes prior to bending (flexing) and straightening (extending) my knee.
- I will ask for my pain medication about 1 hour prior to my exercises.
- My pain begins to ease over the first day or two.
- I report any numbness or tingling in my foot to my nurse.
- I will do my exercises on my own in the evening as instructed by my physiotherapist.
- I will ask my nurse for ice before doing my exercises in the evening.

The following may be used as a checklist.

Second Day After Surgery (Post-Operative Day 2)

- I may have blood taken.
- I bathe at the sink.
- I am helped to the chair for my meals until I can do this alone.
- My nurse teaches me how to give my blood thinner by injection.
- My physiotherapist and nurse help me to progress my walking with the walker.
- I walk to the hall and/or bathroom today with assistance or supervision.
- I will continue to do range of motion exercises for my knee 3 times per day.
- I may have ice put on my knee to relieve pain.
- I have my knee bandage checked regularly for any drainage.
- I receive a laxative at bedtime as needed.
- My plans for discharge are reviewed and I am aware of my responsibilities:
 - Physiotherapy appointment
 - exercises
 - dressings/obtaining gauze for dressings

The following may be used as a checklist.

Third Day After Surgery (Post-Operative Day 3)

- I may go home today.
- I may have blood taken.
- My nurse teaches me how to give my blood thinner by injection or I may demonstrate how to do it.
- I am given a basin of water and helped to bathe at the bedside.
- My plans for discharge are reviewed and I am aware of my responsibilities:
 - Physiotherapy appointment
 - exercises
 - dressings/obtaining gauze for dressings
- I continue to do range of motion exercises for my knee 3 times per day.
- I have my knee bandage checked regularly for any drainage.
- I get in and out of my bed on my own.
- My physiotherapist helps me to progress my walking with the walker or crutches.
- I walk in the hallway today, using my walker or crutches, and without the help of my physiotherapist or nurse.

- I ask for a suppository if I have not moved my bowels.
- I am helped to the bathroom as needed.
- I sit in a chair for all my meals.
- I have made arrangements for my equipment at home.
- I confirm home arrangements for my discharge.
- I confirm my ride home and am aware of my discharge time
- I check the Fourth Day After Surgery activity list.

The following may be used as a checklist.

Fourth Day After Surgery (Post-Operative Day 4)

- I may go home today.
- I bathe at the bedside or sink.
- I demonstrate to my nurse how to give my blood thinner by injection.
- I walk to the bathroom by myself using a walker or crutches.
- My physiotherapist asks me to walk in the hallway and climb stairs with crutches or a cane.
- I continue to do range of motion exercises for my knee 3 times per day.
- I have my knee bandage checked regularly for any drainage.
- I get in and out of bed on my own.
- I sit in a chair for all meals.
- I have made arrangements for equipment for my home.*
- I am given information about my physiotherapy needs when I leave the hospital.
- I am told about problems to watch for when at home (see page 15 and 16, Section 3).
- I am given a staple remover and letter to give to my doctor.
- I am given a prescription for pain medication and my blood thinner.
- If I have any questions about going home, I will ask my nurse or therapist.
- If I have any questions about my medication, I ask my nurse.
- My physiotherapist appointment is confirmed or I have a number to call if not confirmed.
- I am given a card for my wallet that says I have had a joint replacement
- I am given an appointment to come to the orthopaedic clinic on the main floor in six weeks.
- I am taken to the front door in a wheelchair when my ride arrives.

****Note:***

*Some people who have knee replacement surgery have also had a history of problems in other joints. If you find you are having difficulties managing your daily activities because of pain or stiffness in your knee and/or other joints, such as your hips or non-operative knee, you might benefit from seeing an **Occupational Therapist**. For example, if both knees are affected by arthritis you may find a raised toilet seat helpful. You may discuss a referral to Occupational Therapy with any member of your health care team.*

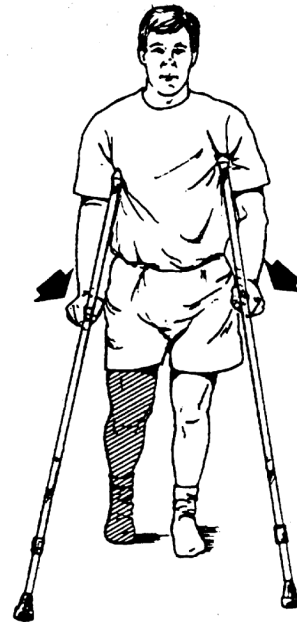
Using Crutches:

When using crutches, I put my weight on my palms, not my armpits. **I do not twist to turn** - I take small steps instead. I am sure to follow the advice given to me about how much weight I can put on my leg.

I follow the sequence of

1. Crutches
2. Sore (Operated) Leg
3. Good (Non-Operated) Leg

My physiotherapist will check my crutches to ensure proper fit and safety before I use them.

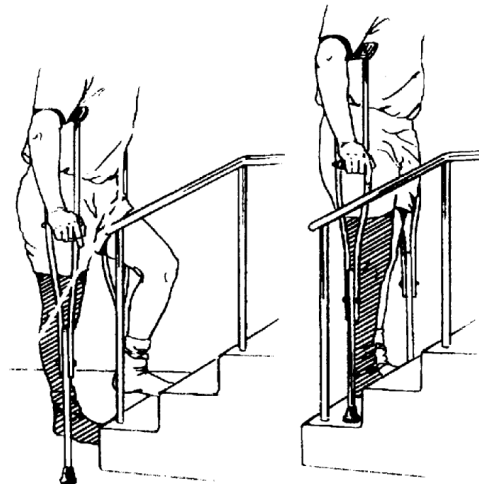


Crutches on Stairs:

Instructions whether to use one crutch or two on stairs will be given by my physiotherapist depending on my individual home setting or needs.

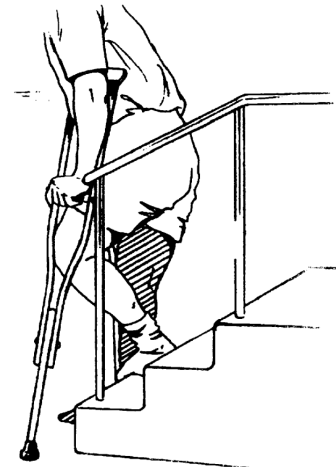
To go **up** the stairs, using my crutches:

1. I put my **non-operated** leg on the stair.
2. I put my **operated** leg on the stair.
3. I put my **crutches** on the stair.



To go **down** the stairs, using my crutches:

1. I put my **crutches** on the stair below.
2. I put my **operated** leg on the stair.
3. I put my **non-operated** leg on the stair.



SECTION 3



**Activities of Daily
Living Following
Total Knee Joint
Replacement**

MY GUIDE TO TOTAL KNEE JOINT REPLACEMENT

THINGS TO REMEMBER AT HOME

The following may be used as a checklist.

At Home

- I call my family doctor to have my staples removed. This appointment is made for two weeks after my surgery.
- I take the staple remover and letter to my appointment with my family doctor.
- My pain and swelling should continue to improve over the next few weeks.
- I do my knee exercises 3 times a day as taught.
- I see a physiotherapist within 1 week of my discharge as arranged.
- I do not drive until my surgeon sees me at the 6-week appointment.
- I sponge bathe while my staples are in and for two days after they are removed. I may shower if staples are removed in hospital.
- I call my surgeon with any questions or concerns I have. My surgeon's number is provided on my wallet card.

Problems to Watch For When at Home

If I experience any of the following symptoms or have any concerns, I will call my surgeon or family physician.

1. Increased pain in calf or thigh of either leg.
2. Increased pain in leg.
3. Decrease in range of motion of my knee.
4. Increased swelling, tenderness, or redness in either leg.
5. Temperature above 38°C taken at least 30 minutes after eating or drinking.
6. Increased drainage from the incision, redness, or opening of incision edges.
7. Increased difficulty with walking.
8. Shortness of breath.
9. Chest pain or tightness.
10. If I develop shortness of breath or chest pain/tightness, I will go to my local Emergency Department.

Prevention of Edema (Swelling):

Edema or swelling occurs as a natural response to surgery and tissue injury. Swelling tends to increase in the affected leg when sitting or standing, but should decrease over time and should be less upon waking in the morning. **Pain and redness should not be present.** If you experience increasing pain or redness contact your physician. To minimize swelling lie down several times per day with your leg slightly elevated. Doing your exercises as instructed by your physiotherapist should also reduce the swelling.

Prevention of Constipation:

Pain pills, reduced activity and changes in your diet can lead to constipation. Adding fibre to your diet such as fruits, vegetables and bran, as well as increasing your fluid intake can all help to prevent this. Some patients may need to take Metamucil, stool softeners, laxatives or even enemas. If you continue to have difficulties, please contact your family doctor or pharmacist.

Care of Your Incision at Home

1. Do not allow your incision to get wet until two days after the staples have been removed.
2. Look at the incision every other day and watch for any redness, drainage or opening of the edges.
3. Change the bandage when necessary and replace it with a new sterile bandage. Bandages can be bought at a pharmacy. Do not touch the incision with your hands.
Remember: Wash your hands before and after incision care.
4. Have the staples removed by your family doctor two weeks after your surgery.
5. **NO** lotions, ointments or creams should be applied over or around the incision area until you have your 6 week follow-up appointment with your surgeon.

Safety Proofing Your Home

1. Install railings along stairs.
2. Remove scatter rugs.
3. Move telephone wires and electrical cords out of the way.
4. DO NOT wax your floors.
5. Use night lights, especially between your bedroom and the bathroom.
6. DO NOT move too quickly. Let people know that it will take you longer to get to the phone or the door.
7. Keep a clear path between frequently used areas.

The following may be used as checklist.

Return Visits

- I return to see my surgeon about 6 weeks after my surgery.
- I go to the orthopaedic out-patient clinic on the 1st floor. If I have had X-rays done on my own, I bring them with me.
- I may be asked to go to the X-ray department on the 2nd floor after I have registered (1 hour before my clinic appointment).
- I then go back to the outpatient clinic on First Floor where my x-ray can be reviewed on computer.
- I bring a list of questions/concerns that I might have.
- I may be asked to fill out a questionnaire while I am waiting to see the surgeon.
- I bring any note from my therapist to my surgeon.
- I am told by the surgeon if I need to follow restrictions any longer.
 - I may now be allowed to drive Yes No
 - I may be given a note by the surgeon to give to my Physiotherapist.
 - I am given an appointment for my next return visit.
 - I will ask my surgeon about return to specific activities (ie. golf, tennis, gardening, etc.)

The London Health Sciences Centre Foundation usually calls discharged patients within 6 weeks of discharge for donations. Please consider directing any donations to the Orthopaedic program (see Page 33).

The following may be used as checklist.

Further Return Visits

- I return to see my surgeon 3 months, and 1 year after my surgery.
- I am seen every 1 to 2 years thereafter.
- I may have x-rays done at each visit.
- I may contact my surgeon for earlier visits if I develop any problems or have concerns.

Long Term Care of Your Knee

1. Do not lift objects more than 50 pounds repeatedly.
2. Avoid kneeling, jogging, downhill skiing, or weight lifting which may wear out your knee or cause injury.
3. There is usually no limit to walking, bicycling, or swimming.
4. Let your knee comfort be your guide to other activity that you do.
5. Remind your doctors and dentists that you have had a total knee replacement. You will need to take a prophylactic (preventative) antibiotic before dental work or surgery for at least 2 years after your total knee replacement surgery.

SECTION 4



**Exercises
Following
Total Knee Joint
Replacement**

MY GUIDE TO TOTAL KNEE JOINT REPLACEMENT

EXERCISES FOLLOWING TOTAL KNEE JOINT REPLACEMENT

The following exercises are designed to improve your range of motion and muscle strength in your knee following your total knee joint replacement. These exercises will be reviewed with you by your physiotherapist (P.T.), and will be started on Day 1 of your hospital stay. You need to continue doing these exercises when you go home.

All exercises should be carried out just as they are written. Any questions should be referred to your physiotherapist.

Exercises should be done

three (3) times daily.

Repeat each exercise ten (10) times.

Continue to exercise at home.

Guidelines For Your Physiotherapy

Icing

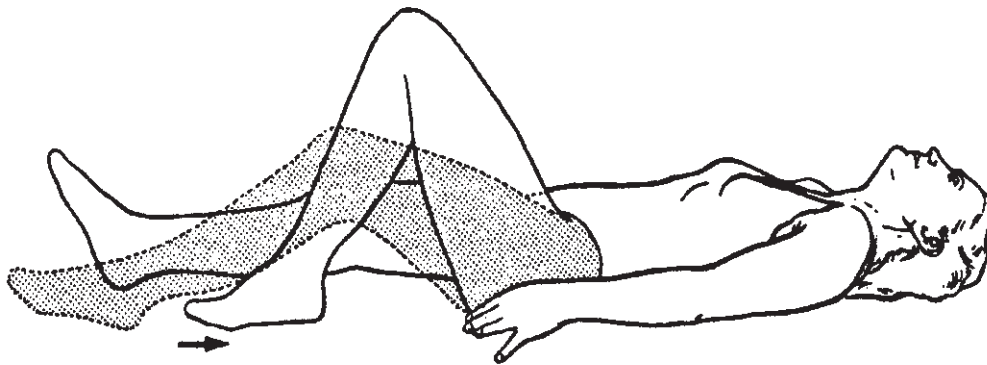
Icing should be done prior to exercising and at any time for pain relief and to decrease swelling. Ice can be applied directly over the knee, front and back, using a bag of frozen vegetables or crushed ice, for 15-20 minutes. Keep your dressings dry by placing saran wrap/plastic over your knee before applying the ice.

Ambulation

Continue to use your walking aid until you return to the clinic, or until you are progressed by your Physiotherapist.

Range of Motion

You should keep your knee moving to prevent it from getting stiff, when you are not exercising. This should be done several times every hour, in sitting and in lying. Bend your knee as far as it will go, then allow it to straighten out as far as it will go. Repeat this 10 times.



Knee Exercises After Your Surgery

Exercises in BED

Exercise #1:

*This exercise improves the bend of your knee.

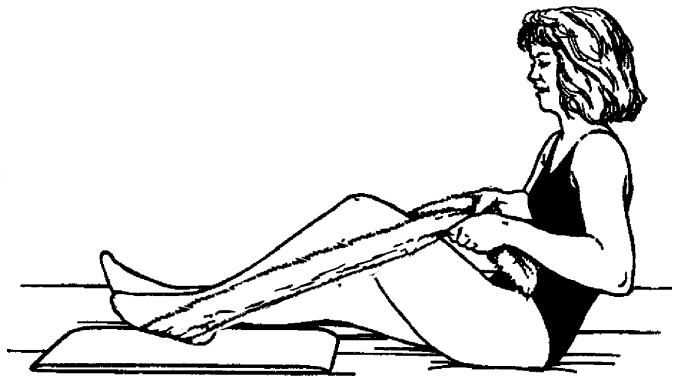
Sitting or lying on your bed, with your operated leg straight out in front of you, loop the strap around your foot. Slowly bend your operated knee, using the strap to assist, until you feel a stretch over the top of your knee.

- Hold for 5 seconds
- Relax
- Repeat exercise 10 times.

OR

- Place a towel or a sling around your thigh. Bend your knee, keeping your heel on the bed or sliding board, using a towel or sling to help.

Pull until you feel a stretch over the top of your knee. Hold for 5 seconds, Relax and repeat 10 times.

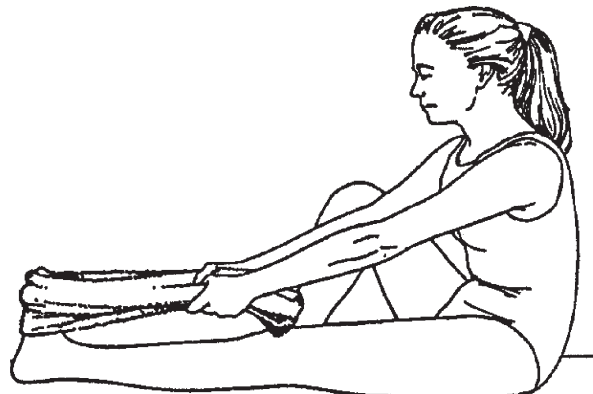


Exercise #2:

*This exercise stretches your calf muscle.

Sit on your bed, with your operated leg straight out in front of you, loop the strap around the ball of your foot. Hold on to the strap with both hands. Keep your knee straight and gently pull on the strap, bringing your toes towards you, until you feel a stretch in your calf.

- Hold for 5 seconds
- Relax
- Repeat exercise 10 times.

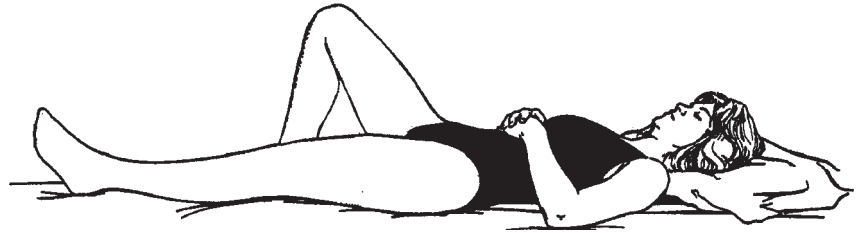


Exercise #3

*This exercise strengthens your thigh muscle.

Sit on your bed, with your operated leg straight out in front of you, pull your toes up, tighten your thigh muscles, and press the back of your knee down on the bed.

- Hold for 5 seconds
- Relax
- Repeat exercise 10 times.

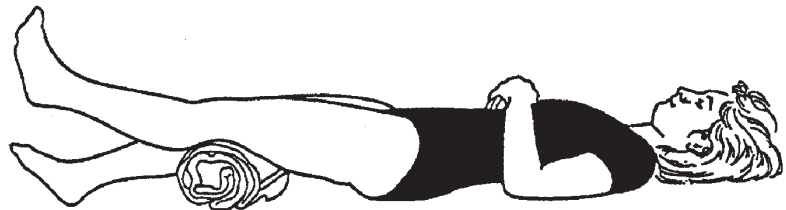


Exercise #4

*This exercise strengthens your thigh muscle.

Lie on your back, place a rolled towel (6 inches in diameter or use a 48 oz. juice can) under your operated knee. Pull your toes up and lift your heel off the bed making sure that your thigh remains supported on the roll.

- Hold your heel up for 5 seconds
- Relax
- Repeat exercise 10 times.



You may use the strap to assist you if needed.

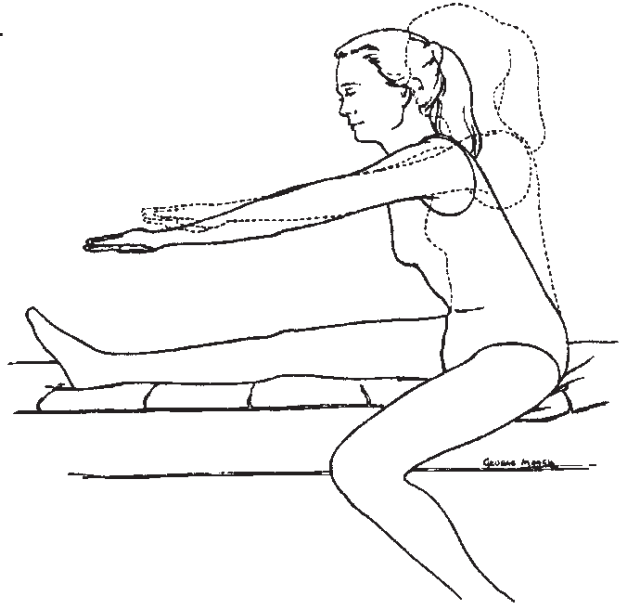
Exercises in SITTING

Exercise #5:

*This exercise stretches your hamstring muscle.

Sit on the edge of the bed, with your operated leg supported on the bed. Your other foot is touching the floor for support. Gently lean forward over your operated leg, until you feel a stretch in the back of your thigh. Your operated leg should remain straight while you stretch.

- Hold for 5 seconds
- Relax
- Repeat exercise 10 times.



Exercise #6:

*This exercise stretches your hamstrings and strengthens your thigh muscle.

Sit in a chair with your feet on the floor. Lift your foot and straighten your knee, keeping your back straight.

- Hold for 5 seconds
- Relax your thigh muscles slowly to a count of 5
- Repeat exercise 10 times



Stage II Exercise Program

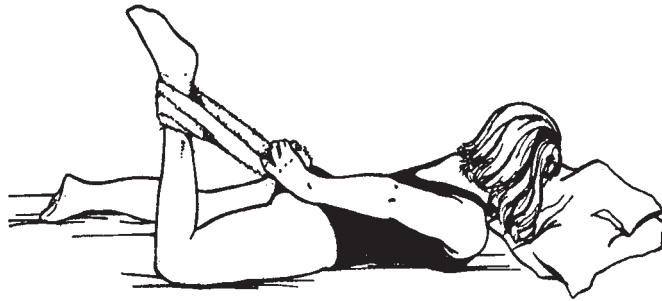
The following exercises are designed to improve your mobility and your muscle strength following your total knee joint replacement.

Exercises should be done 3 times daily.
Repeat each exercise 10 times.

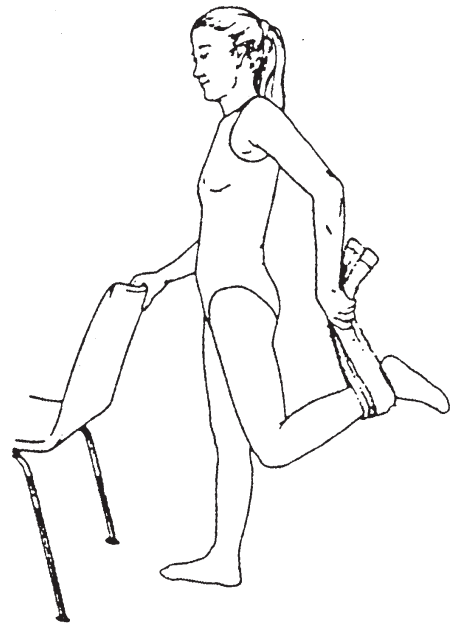
Exercise #1: Quadriceps Stretch

*This exercise stretches the group of muscles in front of your thigh. You may use a towel in around your ankle to assist with the knee bend.

- Lying on your stomach, bend your knee as far as it will go. Using a towel or sling around your ankle pull your heel towards your buttock. Hold for 5 seconds.



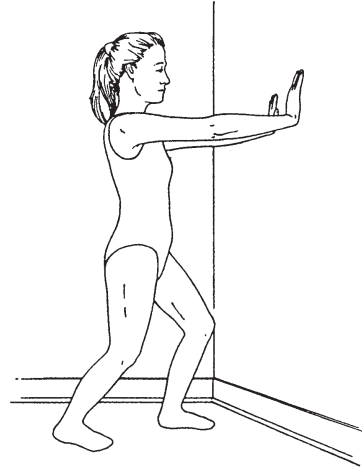
- Stand. Hold on to a table or chair for support. Use a towel around the ankle of the leg being stretched and bend your knee until you feel a stretch in the front of your thigh. Hold for 5 seconds.



Soleus Stretch

Exercise #2

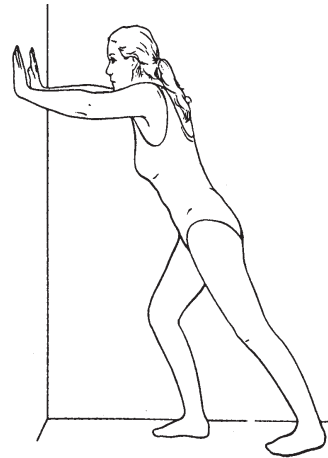
- Face the wall and stand a few feet from it. Place your leg being stretched behind the other leg. Place your hands on the wall. Keep your back heel on the ground and bend this knee slightly. Now lean forward. Hold for 5 seconds.



Achilles Stretch

Exercise #3

- This exercise stretches your calf muscle and heel cord. Face the wall and stand a few feet from it. Place your leg being stretched behind the other leg. Place your hands on the wall. Keep the back leg straight and heel on the ground. Lean forward. Keep your back straight. You should feel a stretch in the back of your calf muscles. Hold for 5 seconds.



Hamstring Strengthening

Exercise #4

- In standing, back straight. Bend your knee and lift your heel up for 5 seconds. Lower your heel down for a count of 5 seconds. As you get stronger, you may use a weight around your ankle to make this exercise harder. Start with one pound and increase this gradually.

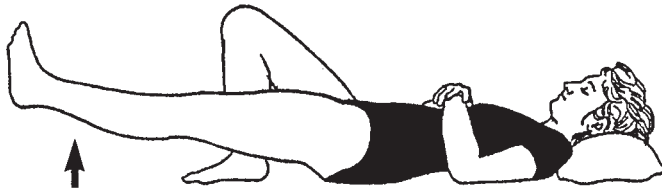


Straight Leg Raises

Exercises #5

- Lying on your back with your non-operated leg bent and the operated leg straight. Lift your operated leg about 6 inches off the bed. Hold for 5 seconds. Return your leg to the bed slowly to a count of 5 seconds. Relax and repeat 10 times.

As your get better control of your thigh muscles try lifting your leg to only 4 and then eventually 2 inches off the bed.



Exercise #6

- Tie an elastic or nylon stocking around the leg of a chair. Place the other end of the elastic around your ankle. Straighten your knee to pull against the elastic.

Hold for 5 seconds, relax to a count of 5 seconds.



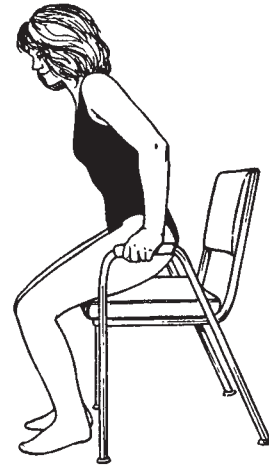
Exercise #7

- Tie an elastic or nylon stocking around the leg of a table that you are facing. Place the other end of the elastic around your ankle. Bend your knee to pull against the elastic. Hold to a count of 5 seconds.



Exercise #8

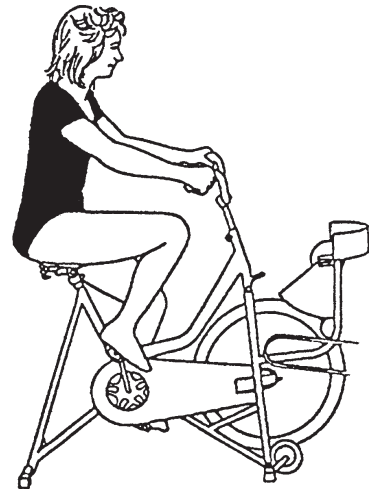
- Find a chair with arm rests. You should be seated at a comfortable height from the floor. Sit at the edge of the chair and gradually stand up to a count of 5 seconds. You may require assistance of the arm rests to begin. As your thigh muscle strength improves, try to use your arms as little as possible. Then gradually progress to lowering yourself into the chair so that you use control of your thigh muscles. As you improve your strength use the arm rests as little as possible.



Stationary Bike

Exercise #9

- You may use a stationary bike to assist you in getting your range of motion. To start, adjust the seat so that it is a comfortable height so that your thigh muscles feel a stretch, not pain. Do not use resistance right away. Keep adjusting the seat height as necessary. As your knee gets stronger, you may gradually increase the resistance.



Strengthening

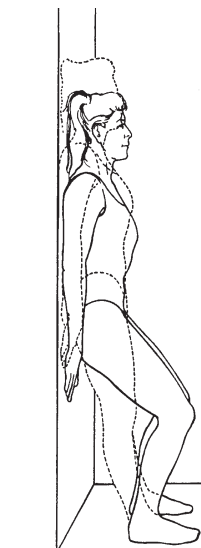
Exercise #10

- It is important that you do not aggravate your condition. You should not experience pain while you are doing these exercises.

Wall Sits:

Start one stride length away from the wall.

1. Your feet should be shoulder width apart
2. Place your back against the wall.
3. Bend your knees to a comfortable level.
4. Be sure your knees are not ahead of your ankles.
5. Hold your position for as long as tolerated.

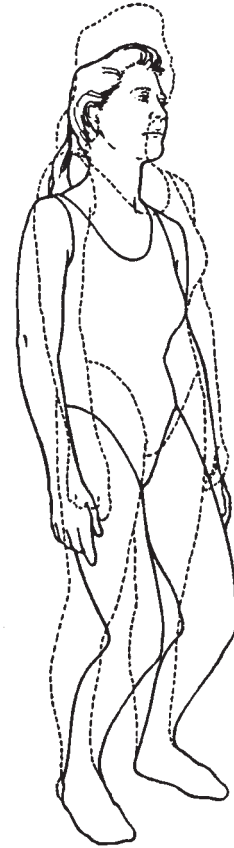


Short Squats

Exercise #11

Start with your feet should width apart.

1. Do a slow knee bend.
2. Keep your knee cap lined up between your second and third toes.
3. Slowly straighten up.
4. Do not lock your knees back between each repetition.
5. Tighten your buttocks and stomach muscles



SECTION 5



**Final
Remarks**

MY GUIDE TO TOTAL KNEE JOINT REPLACEMENT

TELEPHONE DIRECTORY

Here is a list of phone numbers that you might find helpful.

Dr. Bourne's office 519-663-2909
 Dr. MacDonald's office..... 519-663-3689
 Dr. McCalden's office..... 519-663-3049
 Dr. Naudie's office 519-663-3407
 Dr. McAuley's office 519-663-3307
 Dr. Howard's office 519-663-3551



Orthopaedic Inpatient Area 519-685-8500 ext. 32454
 Orthopaedic Outpatient Area 519-685-8500 ext. 32487
 Occupational Therapy 519-663-3502
 Physiotherapy Department..... 519-663-3503
 Pre-Admission Clinic..... 519-685-8500 ext. 34750
 Nurse Practitioners:
 Terry Lyne McLaughlin..... 519-685-8500 ext. 36843
 Ann Whitley..... 519-685-8500 ext. 34859
 Maribeth Witteveen..... 519-685-8500 ext. 36315
 Manager Orthopaedics:
 Donna Kalman 519-685-8500 ext. 34881
 Coordinator Orthopaedics:
 Sylvia Simon 519-685-8500 ext: 34942
 Clinical Educator Orthopaedics:
 Hazel Celestino..... 519-685-8500 ext. 36309
 Community Care Access Centre (London) 519-473-2222
 Arthritis Society 519-433-2191

MY GUIDE TO TOTAL KNEE JOINT REPLACEMENT

SUPPORTING OUR PROGRAM

With the help of our generous community members, the Orthopaedics Program at University Hospital is on the leading edge of medical advances, living its mission of excellence in research, education and patient care.

Government funding is not enough to meet all our needs in advancing health care. We count on generous donations from our community to buy equipment, help improve facilities, advance research and introduce new programs.

Many people give to the London Health Sciences Centre, Orthopaedics Program to say thank-you for the wonderful treatment they or the people they love have received at the Hospital. Others give because they want to know that outstanding health care will be available when they or others need it. To make this easy for you we have developed the form below. **Please place a check ✓ in the appropriate box () below and enter the amount in the column provided on the right.**

	Amount (\$)
Orthopaedic Patient Care:	
<input type="checkbox"/> Nursing	_____
<input type="checkbox"/> Occupational Therapy	_____
<input type="checkbox"/> Physiotherapy	_____
Orthopaedic Research	
<input type="checkbox"/> Dr. R.B. Bourne	_____
<input type="checkbox"/> Knee <input type="checkbox"/> Hip	_____
<input type="checkbox"/> Dr. S. MacDonald	_____
<input type="checkbox"/> Knee <input type="checkbox"/> Hip	_____
<input type="checkbox"/> Dr. R. McCalden	_____
<input type="checkbox"/> Knee <input type="checkbox"/> Hip	_____
<input type="checkbox"/> Dr. D. Naudie	_____
<input type="checkbox"/> Knee <input type="checkbox"/> Hip	_____
<input type="checkbox"/> Dr. J. McAuley	_____
<input type="checkbox"/> Knee <input type="checkbox"/> Hip	_____
<input type="checkbox"/> Dr. J. Howard	_____
<input type="checkbox"/> Knee <input type="checkbox"/> Hip	_____
<input type="checkbox"/> Operating Room Equipment	_____
<input type="checkbox"/> Outpatient Clinic Equipment	_____

Please complete this form and return it with your commitment

London Health Sciences Foundation
 c/o Arthroplasty Program, University Hospital
 747 Baseline Road East, London, Ontario N6C 2R6
 Telephone: 519-685-8409

*Thank you for your continued support
 If there is any more that we can do for you please let us know.*

