

PATIENT GUIDE

TO

KNEE REPLACEMENT SURGERY

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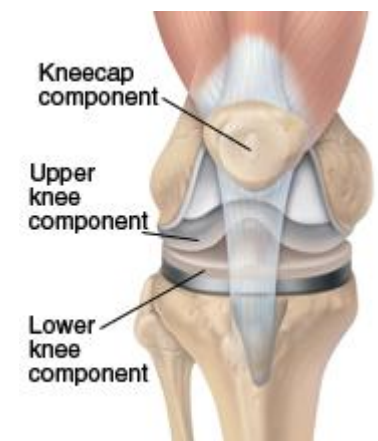


KNEE ANATOMY AND TOTAL KNEE REPLACEMENT

The knee is the largest joint in your body. Three bones make up the knee as well as strong muscles and ligaments for stability. When your knee is bent or straight, the rounded end of your femur (thighbone) rolls and glides across the flat upper surface of your tibia (shinbone) and your patella (kneecap) attaches to the muscles that allow your knee to straighten.

There is a sac filled with lubricating fluid that surrounds the knee joint and a cushioning layer of spongy tissue called cartilage that prevents your bones from rubbing together. When your bones rub together it causes friction, stiffness, and pain. Osteoarthritis, rheumatoid arthritis, traumatic injury, and avascular necrosis (loss of blood to the bone), are all conditions that contribute to deterioration of the bone surfaces.

While in surgery, your surgeon will remove the diseased/damaged bone surfaces by using meticulous instruments. The surfaces of your knee are then replaced with four components including the metal femoral component (thighbone), a metal tibial component (shinbone), a plastic plate to simulate cartilage and a plastic patella to replace the underside of the kneecap.



SCHEDULING AND PREPARING FOR SURGERY

Count Down Checklist

Once you have decided to proceed with surgery, there are a number of things that need to be taken care of before the day of the operation. Following is a checklist. For more specific information, please see the pages following.

- € Select the date for the surgery.
- € Determine appropriate blood replacement program as necessary. Please read pg. 5-6.
- € Stop smoking before your surgery.
- € Have the necessary lab work done. Any difficulty in keeping your PAT appointments, please call the hospital, 585-2418.
- € Have your history and physical done within 30 days of surgery.
- € Have a preoperative office visit (optional) to ask questions and see joint model.
- € Report important observations or changes. If you have any changes in your physical condition, such as fever, sore throat, abscess, ulcers, nausea, vomiting, or diarrhea, and you question your readiness for surgery, consult your primary care physician to assess and treat the problem.
- € Have any dental cleaning or other needed dental work done.
- € Prepare your home and belongings to bring with you.
- € Review exercises and practice as much as possible (pg. 21).
- € Start taking iron, multivitamin supplements, and vitamin C.
- € Stop taking certain medications in the days before surgery. Medications may be taken as instructed by the hospital assessment nurse. If you are on medication for high blood pressure, your heart, or asthma and have not been instructed what to take, please call The Christ Hospital assessment nurses at 585-1720.
- € 10 days before surgery stop Plavix if ok with your cardiologist. Obtain instructions for stopping Coumadin (warfarin) from cardiologist or primary care physician.
- € 7 days prior to surgery stop aspirin or aspirin containing medications, Vitamin E, and Fish Oil.
- € 5 days before surgery stop taking non-steroidal anti-inflammatory medications (excluding Celebrex).
- € 3 days before surgery stop Aggrenox.
- € 2 days before surgery take measures necessary to insure a good bowel movement the day before surgery. Do not drink any alcohol for 48 hours before surgery; it delays emptying of the stomach.
- € The general rule is DO NOT EAT OR DRINK ANYTHING after midnight the night before surgery. As soon as you are awake and your stomach is not upset, you will return to your regular diet.
- € The morning of surgery: You may shower, bathe, and shampoo before coming to the hospital. Remove any fingernail or toenail polish. Wear comfortable loose fitting clothes. Leave valuables, including jewelry, at home.

If you have any questions, please feel free to contact us at the following number:

Office: 513-791-5200

Selecting a Date for Surgery

Your primary care physician (PCP) can help you weigh the risks and benefits of surgery in light of your general health. If you have a condition that is being treated by a medical doctor other than your PCP, you may want to discuss your surgery with this physician. You can choose a date with our office and we will schedule it at the hospital. We will also verify your procedure with your insurance company, provide the hospital form for your pre-anesthetic physical examination, and if needed, fax or mail necessary orders for your blood replacement program.

Blood Replacement for Elective Orthopaedic Surgery

We do everything we can to minimize blood loss during surgery. Your blood pressure is lowered to cut down on bleeding, and cut blood vessels are cauterized. For many routine total knee surgeries blood replacement is **not** needed. With larger more extensive surgeries, your surgeon may ask that you consider certain options in replacing some of your blood loss. If you are not anemic you may be asked to donate one or two units of your own blood before surgery. If you are anemic, you may consider receiving a medication that stimulates your body to mature the blood cells it is already in the process of making. This prepares them to be released when your body needs them after your surgery.

Volunteer donor blood (blood bank blood) is blood donated by a member of the general public unknown to you. Potential donors fill out an extensive health questionnaire and the blood is rigorously tested. There are risks associated with receiving blood. Current data shows the risks and complications to be equal between storing your own blood and receiving it back, as compared to receiving blood bank blood. Sometimes, in emergency situations, even if you have stored your own blood, we may have to use volunteer blood if the amount of blood pre-stored for you is insufficient. We would only do so in a rare, life-saving situation.

Autologous (aw-tol'-o-gus) blood is blood donated by you and later given back to you. It must be donated within forty-two days from the day of surgery. There is no age or weight requirement for storing your own blood. However, if you are anemic (hematocrit 33% or less) the blood bank cannot take your blood. There are also some medical conditions, such as some heart disorders, which might preclude you from donating your own blood.

If you donate, this is done through the Hoxworth Blood Center. Autologous donations are arranged by appointment only. Call **(513) 451-0910**, Monday through Friday (non-holidays) between 8:30 a.m. and 4:30 p.m., to schedule your donations. Donations may only be given at the Clifton, Tri-County, or Anderson location. Please have the following information available when you call:

- your legal name as it appears on your insurance card, address, and phone number
- your social security number and date of birth
- your weight, medication list and medical conditions
- your surgery date and hospital

Erythropoietin (EPO), or PROCRIT, was approved by the FDA in December, 1996, for use with elective orthopedic surgery to help decrease the amount of blood bank blood needed for elective procedures. It is a hormone that we all have in our bodies that

helps regulate how quickly our bodies produce and mature red blood cells. It has been used for a long time to help people who are chronically anemic from disorders such as chronic renal failure, chemotherapy for different cancers, or chronic illnesses such as rheumatoid arthritis. It is given in four weekly injections, starting three weeks prior to surgery, and with the last dose given in the recovery room following surgery. This is only given to individuals with significant anemia prior to surgery.

It is advisable for everyone to take supplements prior to surgery. If you are not donating, start these 2 weeks prior to surgery. If you are donating your own blood, start from the day of your first donation, and if receiving Procrit, start from the day of your first injection. Supplements should include the following:

- a. **Multivitamin containing Folate and B12** – to help your body build up your blood.
- b. **Iron** – There are multiple brands of iron supplements available over the counter. Time-released preparations are better tolerated than plain ferrous sulfate. Check with your pharmacist about the brands your pharmacy has available and use the directions for the full supplementation. Taking iron can be upsetting to your stomach, and may also cause dark tarry stools and constipation. If it is constipating, you need to use a stool softener and a laxative with it.
- c. **Vitamin C** – 250 mg twice a day or 500 mg time-released.

Smokers Should Know

Smoking shrinks arteries, decreases blood flow, speeds your heart rate, raises blood pressure and increases fluid production in your lungs. You will recover faster if you stop smoking before your surgery. Smoking is not allowed anywhere in the hospitals.

Necessary Testing

About a week to ten days before your operation, common medical tests will be ordered and performed at the hospital where you will have your surgery. The hospital nurses will call to schedule these. The results give your surgeon, primary care physician, and the anesthesiologist information they need to plan and manage your operation. We call these tests Pre-Admission Tests (PAT). The basic tests include an electrocardiogram (EKG) of your heart beat if you are over 50 or an insulin dependent diabetic, and an analysis of blood and urine specimens. There is no special preparation for the tests. You should eat normally and take your current medications the evening before and the morning of your tests. Based on your age and medical condition additional tests may be requested. Occasionally special x-rays or CT scans may be required prior to your surgery.

Within 30 days of surgery, you will need to have a physical examination. A current medical history and physical examination are necessary for you to receive an anesthetic. Diseases such as diabetes and heart disease do not keep you from surgery, as long as they are under control. Some conditions may make the risk of joint surgery too great (chronic infection or a recent heart attack or stroke). If you have any infection, (including bladder, prostate, kidney, gums, skin ulcers, or ingrown toenails) it should be treated and cleared up before undergoing joint surgery.

If you have multiple medical problems or a history of difficulty following anesthesia from a previous operation, your surgeon may ask that an anesthesiologist evaluate you prior to your day of surgery. In this case you would be scheduled for an anesthesia consult with your PAT.

Pre-operative Office Visit

One to two weeks prior to surgery you may come to our office for a preoperative appointment to make sure everything is in order. This is an optional appointment for you. People who have had other joints replaced or have gone through the process with someone close may feel it is not necessary. For those who are going through this experience for the first time and have questions, it is highly recommended.

During this visit you will have the opportunity to ask any questions you may have about your surgery. In fact, as you read about your surgery and speak with others, it is a good idea to write down questions that raise concerns so that they may be addressed during this visit. Just bring these with you to your appointment. The nurse practitioner will generally see you first. After addressing your concerns and being sure we know important aspects of your medical history, your planned surgical procedure, a model of the "new joint", the hospital routine, postoperative pain control, and progression of activity will all be discussed. This is also the time to be sure that all of your paperwork and appointments are in order. Generally, this appointment can be made during any business day. If you would like to also have direct conversation with your surgeon it needs to be on a day when he is in the office. If you opt not to have a preoperative office visit, your questions and information can be exchanged over the telephone. It is expected that if you have questions you will call us.

Important Observations to Report

If your physical condition changes before surgery (for example, you could develop a cold, persistent cough, or fever), or if there is an important change to the skin where the surgery is to be performed, notify our office as soon as possible. An important change would be an open draining wound or a localized area with swelling, redness, heat, tenderness to touch, or pain to pressure.

Surgery and Your Current Medications

Traditional non-steroidal anti-inflammatory medications (NSAIDs - pronounced EN-seds) should be stopped 5 days prior to your surgery. These medications are listed on **page 12**. **The Cox-II non-steroidal (i.e. Celebrex) does not need to be stopped.** You need to read the labels of your medicines carefully to be sure you know their contents. Sometimes they are labeled by commercial names and sometimes by their chemical (generic) names. These medications can be re-started after you finish the blood thinner approximately 2 weeks after surgery.

Aspirin or aspirin-containing drugs such as Percodan, Excedrin, or Anacin, should be stopped 7 days prior to your surgery. You must read the product label carefully. If it contains aspirin, acetylsalicylic acid (ASA), or any form of salicylate, it meets the criteria to be stopped. Some of these drugs are listed on **page 12**.

Vitamin E and Fish Oil supplements should also be stopped 7 days prior to surgery.

Plavix, should be stopped 10 days prior to surgery. Please discuss this with your cardiologist or primary care physician.

Coumadin (warfarin) – please check with your cardiologist or primary care physician for instructions regarding when to stop.

Aggrenox should be stopped 3 days prior to surgery if this is ok with the prescribing physician.

Pain medication without aspirin, like Extra Strength Tylenol, Darvocet, Percocet and Tylenol with Codeine may be taken up until the night before your operation.

If you take medicines prescribed for high blood pressure, breathing, heart condition, seizures, or cortisone preparations, the hospital pre-surgical nurse or one of your physicians will instruct you on what to take the morning of surgery. Those who use insulin or an oral agent for diabetes also need special instructions.

You need to have an adequate bowel movement before coming to the hospital. If you have no history of bowel problems, you probably can assure this with your diet. You may take a laxative or suppository of your choice two days before your scheduled surgery if you tend to need this type of treatment regularly or on a periodic basis. Over the counter products are sufficient. The majority of people do not need to give themselves an enema. Unlike stomach surgery you will be given liquids and food as your stomach allows. Most people are back on a regular diet the day after surgery.

Examples of Prescription and Over the Counter NSAIDs

Generic Name	Some Brand Names
Aspirin compounds (acetylsalicylate)	Anacin, Ascripton AD, Bayer
Non-aspirin salicylates	BC Powder, Bufferin, Excedrin, Ecotrin, Zorprin
	Arthropan, Disalcid, Magan, Trilisate
Diclofenac	Voltaren*
Fenoprofen	Nalfon*
Flurbiprofen	Ansaid*
Ibuprofen	Advil, Medipren, Motrin*, Nuprin, Rufen
Indomethacin	Indocin*
Ketoprofen	Orudis*
Meclofenamate	Meclomen*
Mefenamic acid	Ponstel
Naproxen	Naprosyn, Aleve*
Naproxen sodium	Anaprox*
Phenylbutazone	Butazolidin*
Prioxicam	Feldene*
Sulindac	Clinoril*
Tolmetin	Tolectin*

*Can affect liver or kidneys. Need to have blood tests periodically (CBC, Liver Function tests, serum creatinine) by your primary care physician.

Cox II Non-steroidal, **Celebrex, does not need** to be stopped prior to surgery.

Some Commonly Used Pain Medications

Pain Medicine	Generic or Other Names	Comments
Tylenol	Acetaminophen, APAP Phenaphen	*
Anacin, Bayer, Bufferin, Easprin, Ecotrin, Excedrin, Zoprin	Aspirin compounds	ASA, **
Codeine	Codeine	A, Rx, ***
Darvon	Propoxyphene	H, Rx, ***
Darvocet	Propoxyphene & APAP	H, Rx, ***
Emprin (with) Codeine	Aspirin and Codeine	A, Rx, ASA, ***
Fioricet	Butalbital with Tylenol	H, Rx, ***
Fiorinal	Butalbital with Aspirin	H, Rx, ASA, ***
Percodan	Oxycodone, Oxycodan	A, Rx, ASA, ****
Percocet, Roxicet	Oxycodone with Tylenol	A, Rx, ****
Talacen	Pentazocine + Aspirin	H, Rx, ASA, ***
Ultram	Tramadol	A, Rx, ***
Vicodin, Lortab	Hydrocodone with APAP	H, Rx, ***

Legend to Comments

ASA: contains aspirin	A: addictive	* degree of pain relief
APAP: acetaminophen	Rx: needs prescription	H: habit forming

Preparing Your Home

For your safety, do what applies to your situation:

Move all throw rugs out of your path.

Move all footstools, plant stands and other low floor items.

When you get home, keep pets in another area of your house until you are settled.

Remove or tape down any cords or wires.

Have a non-skid mat for inside and outside of the shower.

A handrail is recommended if you have steps leading into or in your house.

Have a chair of recommended height (for example, a dining chair, the seat of which is usually seventeen to eighteen inches from the floor) with arms for getting up and down easily. Recliners, soft chairs, rocking chairs, and low sofas are difficult to get out of for hip and knee patients depending on your height.

Plan to go home in a car with bench rather than bucket seats.

For your convenience, do what applies to your situation:

Move things you might need (magazines, medications, phone, cooking utensils) so you can reach them easily.

Have the supplies you need at home and ready for use.

Have an oral thermometer available.

Have telephone numbers of helpful friends, your doctor, etc. by each phone in case of an emergency. Have paper and pencil by the telephone to take messages and your calendar for noting the dosage of your medication when you come home.

Have a telephone near you in your living area and by your bed.

If your bed is on a separate floor from the bathroom, you may want to consider having a bed temporarily located on the same floor as the bathroom or using a bedside commode. These can be ordered for you while in the hospital depending upon your needs.

Place night-lights in the hallways or have a flashlight handy for nighttime trips to the bathroom.

Have some nutritious meals or frozen dinners available ahead of time.

Be prepared to rest completely for at least one hour, two times each day. Part of this time is with your feet higher than your heart (**see page 20, 21**). You should not allow phone calls, television, or visitors during rest periods.

An apron with pockets is useful to carry small items around the house.

What to Bring to the Hospital

On the day of surgery, bring only what is essential for that day.

Medical insurance card(s) (Medicare and/or other) and Prescription card.

Blood donor card and tag or arm bands, if you have set up blood.

A list of your medication(s) including the name of each medication, its dosage, how many milligrams (mgs) and how often you take each one. Do not bring your own medications, unless instructed to do so by anesthesia. Doing so causes confusion. Nurses prefer to dispense all medication so that they know what you are getting.

A list of important phone numbers, including those of friends you might need to call while you are at the hospital.

If your surgery requires a planned hospital stay, have your family or friends bring your other belongings the next day:

This manual.

Toiletries: Toothbrush, toothpaste, comb, etc.

Eyeglasses, contacts, hearing aids, if needed, and their cases.

Front closing mid-calf to knee-length robe (a longer robe makes walking difficult) with loose fitting arms. Avoid over-the-head styles.

House shoes with non-skid soles, closed heel and toe. Gym shoes are fine.

The hospital will provide you with a gown to wear in bed, but you may bring your own pajamas if you wish.

Underwear and gym shorts or loose fitting pants.

Crutches or walker: if you already have these, have someone bring them to the hospital after surgery. If not, they will be provided for you to take home when you leave the hospital.

Do not bring credit cards, jewelry, valuable items, or more than \$5 in cash.

POTENTIAL COMPLICATIONS OF KNEE REPLACEMENT SURGERY

Like most things in our lives, even the most minor of surgical operations carries some risk of a complication occurring. As you read this you need to keep in mind that knee replacement surgery is very successful, and complications are relatively uncommon, considering the complexity of the procedure.

With any surgery there are the risks of anesthesia, of bleeding too much and of infection occurring. With total knee replacements, the most common complication is blockage or blood clots in the legs, the most serious complication is infection, and the most important long-term complication is loosening of the prosthesis.

Anesthetic complications can occur. When your anesthesiologist sees you before surgery, the risks involved with the type of anesthesia you will have can be discussed and any concerns addressed.

Bleeding complications usually are due to the fact that small blood vessels are cut or a larger blood vessel is injured during the course of the operation. All care and precautions humanly possible are taken to avoid blood loss or injury to surrounding tissues. The small blood vessels are cauterized to control bleeding. Injuries to larger vessels are repaired. Your blood pressure and the amount of blood loss are monitored continuously. Your blood count is checked prior to surgery as well as after for a few days. Bleeding into the wound is drained and monitored.

Any time our skin is cut, bacteria can enter our bodies and is fought off by our immune system. Despite routine surgical procedures, infection from surgery of any type is always a risk. Special precautions are taken to avoid introducing an infection at the time of joint replacement surgery: a special ventilation system is used in the operating room, and antibiotics are given to you before and for twenty-four hours after the operation.

Some individuals are more prone to develop infections: if their immune system is impaired by certain medical conditions, if they need to take certain medications that delay wound healing, if they have had an infection in the affected joint or anywhere else in the body at the time of surgery. Infections of the bladder, prostate, kidneys, gums and skin ulcers should be cleared up by appropriate treatment well before the day of surgery.

The artificial joint can become infected many years after the operation. Bacteria can enter and travel through the blood stream from a source elsewhere in the body, such as from an infected wound, through our mouths during dental procedures, or a gall-bladder infection. For information on preventing infections after surgery, see Follow-Up Care, pg. 31-32.

Blood clots in the veins (DVT, deep venous thrombosis) of the legs are the most common complication of knee replacement surgery. Swelling from the surgery and decreased activity lead to slowed circulation in the affected leg. The speed at which our blood clots varies from individual to individual. If clots develop and remain in the legs, they are a relatively minor problem. Occasionally, they dislodge and travel through the heart to the lungs (pulmonary embolism). This is a potentially serious problem, since (very rarely) death can result from embolism. Ankle exercises, early

mobility, use of blood thinners, and attention to swelling are all aimed at avoiding and preventing blood clots from forming or progressing. Blood clots can occur despite all these precautions. They are usually not dangerous if appropriately treated, but may delay your recovery, your discharge from the hospital, or be a cause for readmission once you have gone home.

Loosening of the prosthesis from the bone is the most important long-term problem. How long the bond will last depends on a number of factors. Ongoing research and technological developments continuously work at advancing what is known about the fixation of the components and how best to accomplish it. Some of the factors are influenced by what the patients do. We know that excessive force on the implant can cause the bond to loosen. The other important factor you control is your weight. For every pound you gain, it adds three pounds of force across the knee with each step you take.

Fracture of one of the bones of the knee rarely occurs during knee replacement. If it occurs, it is more common during revision knee surgery. One of the bones can fracture later from any trauma, such as falling down stairs.

Pressure sores on the tailbone and heels may develop if you stay in one position too long. Normally we move frequently in our sleep and all during the day. This changes the amount of pressure over our bony parts. With the reluctance to move because of the medication or for recuperation in general, this ability to change position frequency on your own is diminished. Pressure sores can be avoided by changing your position every two hours. With orthopedic surgery, this also helps with your pain control. A position that feels really good when you first get there will soon be uncomfortable because your body wants to move. When you need help to change your position, call the nurses to help you until you have learned how to do it on your own.

The primary indication for total joint replacement surgery is pain relief. Regaining the ability to do things and increased motion are added benefits when they occur. Ending up with a stiffer knee is an undesired result. Some individuals regain their motion with little difficulty. Others are stiff and sore and have to work hard to reach the goal of 90° of bending by six weeks. In day to day functioning we need a bit more than 90° to do stairs, get up out of chairs, and get in and out of cars easily. While you are still anesthetized and with the new knee in place, your surgeon checks the amount of motion at your knee, aiming at getting it out straight and with a bit more than a 90° bend.

If after all of your hard work, you have not reached the goal of 90°, your surgeon may feel you would benefit from a manipulation. For this you come back to the hospital, and under anesthesia, he bends your knee for you. Following this, sometimes you stay in the hospital a few days for therapy but usually you go home and have outpatient physical therapy the next day. You may be put into a continuous passive motion (CPM) machine that gently moves your leg back and forth. When you go home, you continue with therapy and the use of the CPM machine until you reach and maintain 90° of bending.

Residual pain and stiffness can occur. This is pain that lasts beyond your recovery. The completeness of the pain relief and the degree of mobility reached is partially determined by your knee problem before surgery. Generally with total knee surgery

people get back the motion they had before surgery. Rarely, patients have pain after surgery that cannot be explained.

In virtually all cases the surgery will make a significant improvement in your pain and mobility. While there is always a risk of complication, every effort is made to prevent them. Should you develop a complication, we will give every effort to ensure a good result. In most cases, you will have a pain-free knee, and it will feel "normal." This transition to normalcy can take up to nine to twelve months.

WHAT TO EXPECT AT THE HOSPITAL

Patients are admitted to the hospital the same day as their surgery. After you register, you are taken to where you prepare for your surgery. The anesthesiologist will see you there and discuss anesthetic options and risks. He or she will discuss the advantages of general, spinal, or epidural anesthesia. If you want more information on different types of anesthesia, please ask for it. You and the anesthesiologist make the final choice of anesthetic. You will typically have general anesthesia with a nerve block.

Before going to the operating room, you will be given sedatives. You will be taken to the operating room about an hour before the operation for anesthesia and other necessary procedures.

After surgery is completed, you will be placed in your bed, which has been prepared and brought to the operating room for you. Then you will be taken to the post-anesthesia recovery room until you wake up. Total time spent in the operating and recovery room will depend on the type of surgery you have.

When the operation is over, your surgeon will meet with relatives or friends in a consultation room at the surgical waiting area to give them a progress report.

Anesthesia and Post-Operative Pain Management

For your surgery your anesthesia is given by an anesthesiologist from The Christ Hospital. Operations as involved as total knee replacements require strong medications in order to relieve postoperative pain. Your surgeon typically orders a nerve block.

Another option may be an epidural or a PCA machine to assist with your postoperative pain control. You will meet with the anesthesiologist at the hospital on the day of your surgery. Prior to this time your history and physical exam, blood work, EKG and chest x-rays have been reviewed. Questions and concerns about your anesthesia or previous anesthesia experiences can be discussed with the anesthesiologist. The anesthesiologist will discuss anesthesia options with you, as well as help choose a method for postoperative pain management. They will continue to monitor and adjust pain modalities as needed after surgery. An anesthesiologist is available 24 hours/day if problems should arise.

Femoral Nerve Block with catheter and infusion of numbing medicine

- A small catheter is placed in the groin by the anesthesiologist using a nerve stimulator and ultrasound machine.
- Numbing medicine is given and a pain ball is connected to catheter delivering numbing medicine for 2 days
- Advantages: less pain, sooner mobility, less narcotic side effects
- Disadvantage: procedure done before surgery, operative leg weakness until the block wears off.
- Ask your surgeon or anesthesiologist for more information

For further information on the block, you may watch the video at the following link:
<https://www.thechristhospital.com/?id=589&sid=1>

An anesthesiologist will attend to any pain-related problems you might have on an as-needed basis. Due to the extra time and personnel that postoperative pain management requires, there is an additional charge for these services. If you are concerned with insurance coverage, please contact your insurance company prior to surgery. Feel free to call and discuss any concerns that you might have regarding postoperative pain relief. The phone number for medical questions is 585-2482, 8 a.m. to 4 p.m., Monday through Friday.

In addition, to help control pain after surgery, you may also be given Celebrex (an anti-inflammatory), Oxycontin (pain medication), and Lyrica. Celebrex and Oxycontin are continued for 2 weeks following surgery and then you will be given a different pain medication as needed. Lyrica will be given during your hospital stay.

What to Expect after Leaving the Operating Room

You will wake up in the recovery room. Many people feel cold when they wake up after surgery so warm blankets are available if you need them. Monitors will measure your blood pressure, heartbeat, and breathing. While you are in the recovery room, a blood sample will be drawn to check your blood count and an X-ray may be taken to check your surgery. You will be in the recovery room for about two hours.

Patients are usually moved to the orthopedic floor. Some patients are admitted to the Intensive Care Unit (ICU) for twenty-four hours before being transferred to the orthopedic floor. This does not necessarily mean that their condition is critical, but the surgeon may feel the need for closer monitoring because of age or preoperative medical problems that increase risk.

Pain Control

You will continue to take Celebrex and Oxycontin from the morning of your surgery for up to 2 weeks to help with pain control.

After about twenty-four to forty-eight hours, the nerve block will be disconnected. With this change, other oral pain medication is ordered. You **must ask** for these. Depending on the medication used, they can be taken every four to six hours if needed.

Anticoagulation

In order to prevent blood clots from forming, most patients with leg surgery are given a blood thinner or anticoagulant. If you have been taking an oral anticoagulant, such as Coumadin, it will be restarted as soon as possible. Once you go home from the hospital, it will be monitored by your PCP or physician who normally monitors it. For those patients who do not normally take a Coumadin, you will be prescribed a blood thinner called a low-molecular-weight-heparin (LMWH). This medication comes as a liquid and is given with a small needle, like insulin. It is usually a once a day dosage and comes already drawn up from the pharmacy so no one has to worry about drawing up the proper dosage. The nurses at the hospital will teach you or a caregiver how to give this injection to yourself in your abdomen. The regular course of this therapy is for fourteen days following your surgery. If an epidural anesthesia is used, the first dosage is delayed until several hours after the epidural catheter is removed.

Everyone's insurance coverage is a little bit different and you may or may not have coverage for the blood thinner. We will call in a prescription for Lovenox (Enoxaparin) 40 mg to your pharmacy 2 weeks prior to surgery. This is to allow us time to get a prior authorization from your insurance company if necessary. **Depending upon your length of stay, you may not need it once you get home. Therefore, DO NOT PICK UP the medication until you go home from the hospital.**

For individuals who have no prescription coverage and a limited income, the manufacturers have a program that you can request to get the medication at a reduced cost. This too requires some time to process the request and to verify the circumstance. If you are in this category, you need to discuss it with your pharmacist or call our office to help enroll you in one of these programs.

While you are in the hospital, please let the nurses or doctors know if you have calf pain, chest pain, or shortness of breath. These may be signs of blood clots. If you were to form blood clots, your physical therapy would be interrupted until you have been diagnosed and treatment started.

Other Medications

Medications are also ordered for fever, blood replacement, constipation, antibiotic coverage, sleep, and nausea.

If you run a fever, you will be given Extra Strength Tylenol (acetaminophen). Please note that practically every patient runs a temperature up to 99.5 or even 100 degrees in the first few days after orthopedic surgery. If your fever goes over 101 degrees, it starts to be a source of concern.

Your blood count (hemoglobin and hematocrit, H & H) will be monitored on a daily basis for a few days, and you will be given iron supplements and blood transfusions as necessary. All patients taking iron also get stool softeners, but many patients still develop constipation and need a mild laxative on the second or third day after surgery. If you need a laxative, ask the nurse for one.

Patients are given antibiotics to prevent infection. They are started just before the operation and continue for twenty-four hours after surgery.

If you are having difficulty sleeping, you may **ask** for sleeping pills. The nurses will not automatically give them.

Some people experience nausea from extensive bone surgery, as well as from the anesthetic or pain medication. If this occurs, there are orders for medication to reverse this effect.

Drainage Tubes

Suction drainage tubes are sometimes placed at the surgical site to remove any excess blood or fluid that collects. These drains are removed the day after surgery.

Without a tube in the bladder (catheter), many patients have difficulty passing urine right after surgery. To avoid the consequences of an over extended bladder, a catheter is inserted in the operating room and is usually removed the second day after your surgery.

Operative Wound and Dressing

Your incision dressings are usually changed on the second day. It is not uncommon to have some seepage from the wound the first week. If there is seepage, the dressing will be changed twice a day or as needed to keep the wound clean and dry and to keep all hand contact off the area. Once your incision has remained dry for twenty-four to forty-eight hours, you may leave it uncovered. If you prefer it covered, it is okay to do so with dry sterile gauze, but avoid using a lot of tape on your skin.

The outer skin edges are held close together with skin staples. These are removed once the incision has healed, usually around ten to fourteen days after surgery. Once the incision is dry for four to five days you may take a shower. If you develop any drainage, do not continue to shower. Do not soak in a tub or pool until all of the scab is off your incision, usually around four weeks after surgery.

Physical Therapy

The physical therapist will get you up on the first day after surgery, and will remind you about the amount of weight to put on your operated leg. Usually you can put as much weight as is tolerated. If your weight-bearing is limited, your surgeon will instruct you when you can put more weight on it. Generally, this decision is made after follow up x-rays and evaluations.

Eating Again

You will be returned to your normal diet gradually after surgery. A good diet is important to hasten the healing process. Drink plenty of fluids to keep your kidneys flushed and your bowels regular.

An Extended Stay

Patients who progress at a slower pace or have no one to help them once they get home, may qualify to go to a rehabilitation unit, a sub acute unit, or a skilled nursing facility for additional therapy and general care. If this is your situation, the length of time for an extended stay depends on your rate of recovery. Members of your healthcare team (physical therapist, nurse, and social worker) will help you and your family decide which of these choices is best for you after surgery. If you have an idea of where you want to stay, you may want to visit that facility before your surgery. You may also call Barbara London, LISW at The Christ Hospital at 513-585-1254 with any questions. You will need to follow-up in our office after your stay. Please call 513-791-5200 and arrange your appointment.

Activities to Promote a Speedy Recovery

To help with a speedy recovery and to help prevent problems after surgery, there are some routines and exercises that you will be taught and reminded to do.

Deep Breathing and Coughing

Your lungs consist of many air sacs, which get larger when you breathe. When awake we periodically take a deep breath and blow off extra fluid from these tiny air sacs. When you are sleeping more because of the anesthesia and pain medications, you do not take these deep breaths. Fluid and mucus tend to build up in the air sacs. If allowed to collect, pneumonia can develop and slow down your recovery. After surgery you must make a conscious effort to “deep breathe and cough” to help prevent postoperative pneumonia by following these steps:

1. While in bed, lie on your back with both legs straight or sit upright in a chair, feet flat on the floor. Have your hands on your rib cage.
2. Take a deep breath in through your nose. Try to make your stomach bulge out and ribs move out.
3. Blow out air long and slow through your mouth. When you breathe out try to make your stomach sink in and your ribs move in.
4. Repeat steps 2 and 3 three times.
5. On the fourth breath, hold your breath for three to five seconds. Then cough deeply three times in a row.

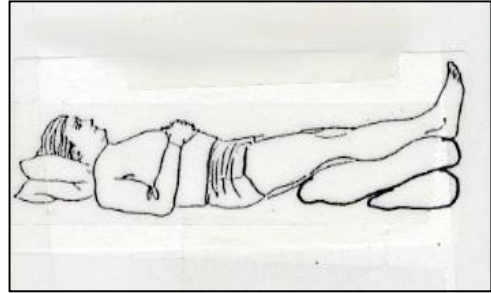
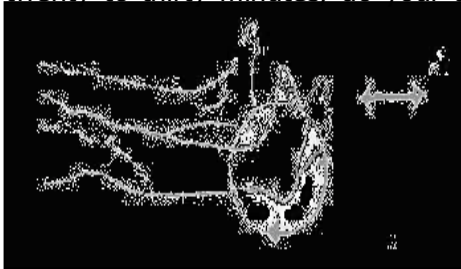
Minimize Swelling

Normally when we are up walking, our leg muscles help our circulation by squeezing on the small blood vessels in our legs. This helps push the blood in the legs back to our hearts against gravity. After surgery you are not walking normally so this assist is minimal and, if you sit for prolonged periods, your whole lower leg will become swollen.

This swelling and inactivity slows the circulation in your leg and leads to other problems such as clots forming (thrombophlebitis) and possibly breaking loose and going to the lungs (Pulmonary Embolus). Either development is considered a complication and slows your recovery tremendously. To help avoid such a

development and to improve the circulation, you need to exercise to improve your circulation and pay attention to the amount of swelling present.

Leg Elevation. As long as swelling is present, you need to position your leg so that your foot is higher than your heart periodically during the day, between breakfast and lunch, lunch and supper and at bedtime. While in this position for twenty to thirty minutes, do your ankle pumping exercises.



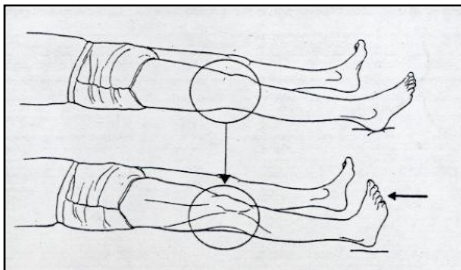
Ankle Pumps. These can be done with your leg elevated or with your leg straight and your heel supported off the mattress by a pillow under your lower leg. Move your foot up and down.

Make circles with your ankle without turning your leg. Make circles to the right and to the left or write the alphabet.

In fifteen to twenty minutes you should notice that there is a release of the tight full feeling of your leg and the skin about the ankle is looser. Your leg should be less swollen in the morning after being in bed all night.

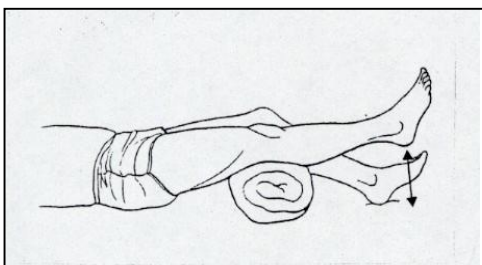
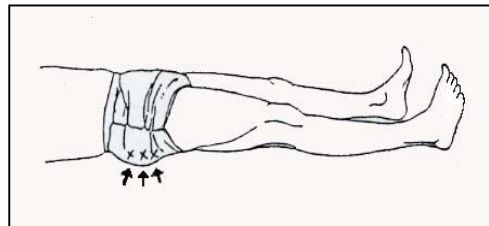
Strengthening Your Leg Muscles

To regain control of moving your leg, you will be instructed in exercises and helped by the staff to start moving very soon after your surgery. The basic exercises are:



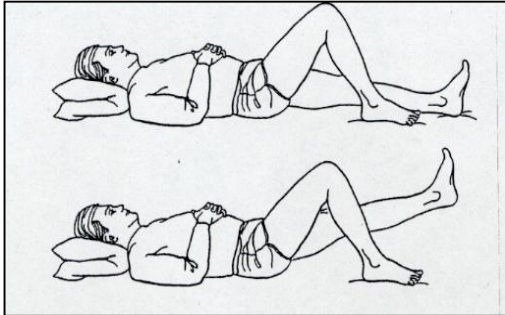
Quad Sets. (Isometric Set of the Quadriceps) Lie on your back with your legs straight. Tighten your thigh muscle by pulling your foot toward your face and pushing your knee down into the bed. Hold for a count of five; don't hold your breath.

Gluteal Set (Isometric set of your buttocks). Lie on your back. Squeeze your buttocks together tightly. Count to five.



Short Arc/Terminal Extension. Lying on your back or sitting propped up, place a fairly firm support six to eight inches high under your knees so they are slightly bent. Keeping your thigh and knee on the support, raise your lower leg (extending your knee fully). Hold your quad (thigh muscle) as tight as possible, pushing

down into the support, for a count of five. Relax, lowering your foot completely. Repeat.



Straight Leg Raises. Lying on your back, with your operated leg straight and your unaffected knee bent, do a quad set. Lift the entire leg up off the bed (mat) about six inches. Do not take it higher than the other knee. Hold it as straight as possible for five seconds. Lower your leg gently and relax. Repeat as instructed.

PREPARING TO GO HOME

You will be allowed to go home when your temperature is normal, when you are able to get in and out of bed, and when you can go to the bathroom by yourself. Most patients reach this goal within three to five days.

It is better if someone can be at home with you for at least portions of each day to assist you with getting things, meal preparation, shopping, etc. Constant nursing care is rarely needed at home.

Before you go home, it is important that many of the things that have been discussed or mentioned are now actually well known to you and implanted in your mind. You need to know:

- How to reach us in case you have concerns.

- When and where your follow up appointments are.

- What medications to take, those from before your surgery, those since your surgery, and, if on Coumadin, when your next blood test will be.

- How to care for your incision. If it has drainage, know how to take care of it and the supplies with which to do so.

- What exercises you are to be doing whether on your own or with a therapist and how much weight you are to be putting on your leg.

- All the equipment you will need in relation to your leg: walker and/or crutches, bedside commode, reacher, sock helper, long sponge, bath bench, and hospital bed with trapeze. These can be ordered while at the hospital.

- What to do if your leg swells (**page 19 – 20**).

- Things to report to us: fever, change in pain, new drainage from your wound or drain site or change in the character of the drainage you are having.

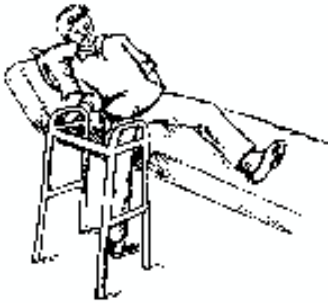
GETTING AROUND AFTER KNEE SURGERY

Positioning and Turning

While in bed, you may lie on your back or on either side; whatever is most comfortable for you. While on your back you will want to keep a pillow under your lower leg, between just below the knee and just above the heel. This keeps your heel off the mattress to avoid a pressure sore and does not hold your knee in a bent position. If the pillow is positioned under your knee, the knee is bent slightly. If it is left for a prolonged period of time it will be difficult for you to get it out straight later. Some patients find that twisting their leg as they turn gives them pain on the sides of their operated knee. To avoid this, tighten your thigh muscle, hold your leg straight, and turn your leg. When on your non-operated side, you should have your operated leg supported on one or two pillows.

When you sit up in bed, walk with the walker, or sit in a chair, your leg may swell because gravity holds fluid in your lower leg. To help control swelling of your lower leg, you will want to periodically elevate it so that your foot is higher than your heart and do ankle pumping exercises (as mentioned on pages 19 – 20). The head of your bed may be up a little, as long as your leg is at a higher level.

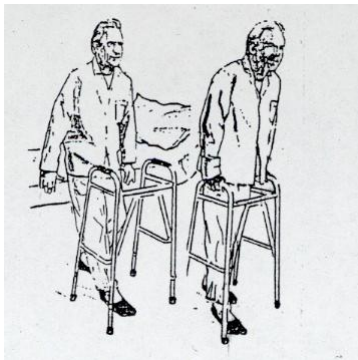
Getting Out Of Bed



The first few times you get out of bed you will still have your bulky postoperative dressing. The ice wrap comes off for getting up and walking. Otherwise, it is likely to slide down around your ankle.

Begin by gradually sliding your legs out to the side, tightening the thigh muscles of the operated leg. Begin to move your legs toward the side of the bed. At the same time, slide your upper body around in the opposite direction.

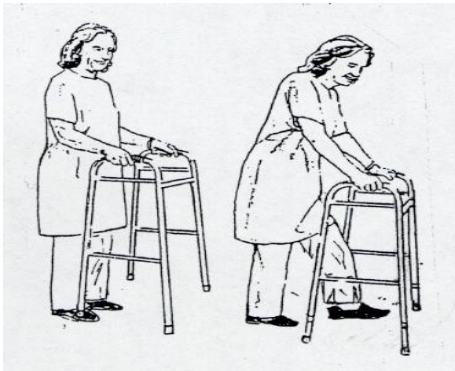
It will take several small moves to work yourself around. Slide out to the edge of the bed until your feet rest on the floor. To do this, bend your non-operated knee and your operated leg will be kept relatively straight by the postoperative dressing. Once the dressing is removed, let both knees bend naturally.



Rising to a Standing Position

Slide toward the edge of the bed. Place your operated leg in front of you keeping it straight or with a slight bend at the knee. Position the walker in front of you. Place both hands on the mattress and push up using your hands and non-operated leg. When able, move the hand from your non-operated side onto the walker, followed by the other hand as you come to a standing position.

Walking



Walk as often and as much as you feel able. Be sure to use a walker or crutches at all times until you are told otherwise. Move the walker forward. Be sure all legs of the walker are firmly on the floor before taking a step. Step with your operated leg. Push on your hands and shift your weight forward as you take your next step with your non-operated leg. Put as much weight on your leg as you are instructed to do.

Sitting Down With a Walker



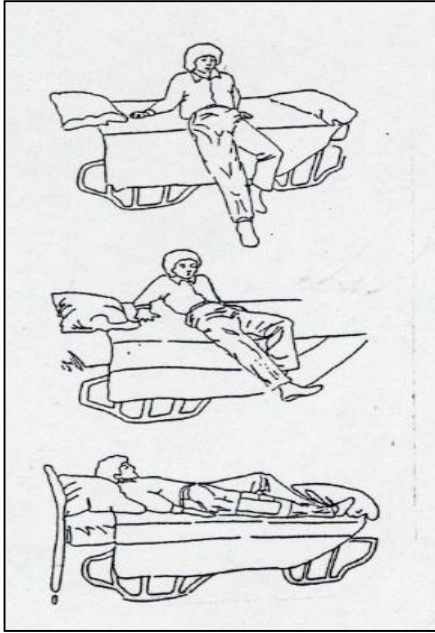
Back up until you feel the chair behind your legs. Place your operated leg out in front of you. Reach back for the arm of the chair with your hand of your operated side, and then reach for the other. Slowly lower yourself into the chair.

Using the Toilet

Sitting on the toilet is much the same as sitting down in a chair or on the bed. Back up until you feel it against the back of your legs. Slide your operated leg forward as you reach back with your hands and grab the safety rails, armrests, or raised toilet seat. Slowly lower yourself onto the toilet using both arms. Getting up you slide your operated leg forward and place both hands on the safety rails or behind you on the toilet seat. Push up with both arms to raise yourself off the toilet, then reach for the walker. NEVER try to pull yourself up from the toilet using the walker.



Getting Back Into Bed

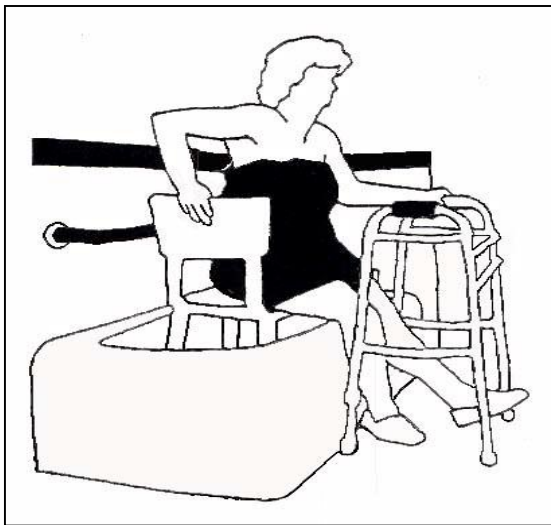


Use the side of the bed that will have your non-operated leg leading your legs into bed. Back up to the middle of the bed until the bed touches the back of your legs. Sit down in the same way you would sit onto a chair.

Straighten the knee of the operative leg and hold it tight. Using your arms for support, slide back onto the bed until your knee is supported on the bed. While still in a sitting position, begin to turn yourself around in bed. Make sure you keep your legs apart. Do not bend forward. When you are in proper alignment with both legs straight on the bed, you can lay back.

NOTE: If your bed at home is too low or too soft, it can make transfers more difficult. A low bed can be modified using wooden blocks or adding a mattress. A large board placed under a soft mattress can provide added firmness.

Bathing



You may take a rinsing shower after your incision is dry for four to five days. Long soaking showers should be avoided until after your staples are removed and your scab is gone. Use a bath bench or shower stool. **DO NOT** sit on the floor of the tub. Back up to the tub so that your legs are touching the side and the tub seat is directly behind you. Slide your operated leg forward and reach back with one hand to the back of the bench or seat. Reach with the other hand to the front edge of the seat and lower yourself slowly, keeping your operated leg forward.

ALWAYS keep both hands on the seat while you are lowering yourself. Leaning backwards in the seat, slowly and carefully lift one leg into the tub at a time, keeping your operated hip in your zone of safety.



Transfer Into and Out Of a Car



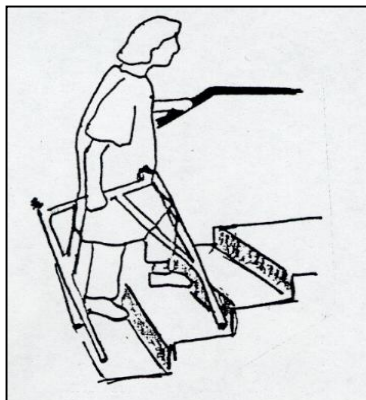
Have the car parked three to four feet away from a curb. If a bench-style car is not available, bring pillows and a blanket to support you in a bucket seat. The important thing is to keep your joint in proper position. Back up to the car with your walker until you feel the car frame against the back of your legs. Keep your back as straight as possible, stretch you operated leg out in front, and using your hands for support, lower yourself slowly to the seat. Back onto the seat in a semi-reclining position. Bring in one leg at a time. Reverse the steps for getting out of the car.

Stairs

There are several ways to climb stairs. The one you select will depend on the type of walking device (crutches or walker) you use, and whether or not there is a handrail on the steps you will be climbing. Your therapist will teach you how to climb stairs with a walker or crutches. In general, remember to lead with your non-operated leg going up, and lead with your operated leg and crutches or walker going down.

These are two examples that may be taught to you:

Going Up



Crutches

- First, strong leg
- Second, operated leg
- Third, crutches

Walker

- First, holding onto handrail, place walker sideways on step you are on and step you are going to
- Second, strong leg
- Third, operated leg



Going Down

Crutches

- First, crutches
- Second, operated leg
- Third, strong leg

Walker

- First, holding onto handrail, place walker sideways on step you are going on and step you are going to
- Second, operated leg
- Third, strong leg

WHAT TO EXPECT AFTER YOU GET HOME

Pain Relief Once Home

Pain medications come in two categories, those that can be called in and those that require a written prescription. Your prescription on discharge from the hospital may have been the type of pain medication that requires a written prescription to be taken to the pharmacy.

When you get down to just over one day's worth of medication you may call for a refill. Please allow 24 hours for refills. If you do not have enough medication to last the weekend, you may call by noon on Friday to assure a refill before the day is over. Narcotic pain medicines are not filled by the on-call physician over the weekend. There are some medications, such as Percocet, that cannot be called in and require a written prescription that someone will need to pick up at the office for you.

It is very helpful when you call the office for medication renewal that you give your name, the date and type of your surgery, the name of your medication, how much you take of it at one time and how often you take it. We need the telephone number for your pharmacy, given slowly so we can get it properly the first time through.

As you get farther out from your surgery, your need for pain medicine will decrease. Instead of taking two tablets at a time, you may find taking one is enough. If two is too much and one is not enough, look at the label of your bottle. The letters "APAP" indicate that your medicine has acetaminophen [Tylenol] in it. The number after these letters indicates how much acetaminophen is in there. For example, 5/500 means you have 5 milligrams [mgs.] of the narcotic pain medicine and 500 mgs of acetaminophen. You may find that taking one prescription pain pill with one acetaminophen tablet helps more than one pain pill by itself. Narcotic pain medicine is very constipating and your stomach will be much more comfortable when you take less of it.

It is important to take the medication as prescribed. Taking more tablets then directed at one time or at more frequent intervals causes some concern. The concern would be that you could be overly medicated, have a fall and injure your surgery as well as get too much acetaminophen. When you have pain pills with 500 mgs acetaminophen, you can take 2 tablets up to four times a day. If the content is 325 mgs., you can take up to 12 tablets in 24 hours. Too much acetaminophen can affect your liver.

When you have finished your blood thinning injections, you may go back on your regular arthritis medication. This helps cut-down on the amount of narcotic pain medication that you need. If you were taking Celebrex before surgery or were given it at the hospital, you may continue it even with the blood thinner.

For total knee replacement patients, it is important to take your pain medication for your physical therapy. Patients usually cut back to taking pain medication for therapy and for sleep at night. Once you have reached your goal of 90 degrees of bend in your knee, you may start to cut back on the pain medication. Getting back on your arthritis medication helps decrease the amount of soft tissue swelling and warmth, while you are working on stretching for your motion, as well as your need for narcotic pain medicine.

Ice is very helpful in pain control. Applying an ice pack for 20-30 minutes at a time can give significant pain relief. You want to put a towel between your skin and the ice pack.

A large bag of peas or corn conforms nicely and can be used and reused several times. After 20-30 minutes your circulation goes back to normal and the therapeutic affect is lost. Putting ice on and off frequently is better than keeping it on continuously around the clock.

Incision Care after Total Joint Replacement Surgery

Everybody heals at a different pace. This pace can be affected by some medications and some medical conditions. It is not unusual for there to be some drainage (sometimes called seepage) from your incision for 7-10 days. It is also not uncommon to have bruising around your knee or throughout your leg.

As long as there is any drainage from your incision, your surgeon wants the dressing (the gauze covering) changed at least twice a day. Remove the old covering and wash your hands well, drying them on a clean towel before proceeding with your wound care. Using a soapless hand gel for handwashing is fine. Once the incision has been dry for 2 dressing changes it may be left open to air. Once the incision is dry for 4-5 days it is okay to shower, even if the staples are still there. Let the water run over the incision without scrubbing it and then pat it dry with a clean towel.

At the hospital the initial postoperative dressing was changed on the second day after your surgery. The incision was cleaned with normal saline (salt water) and it was covered with dry sterile gauze. For dressing changes at home you can follow the same routine as long as there is no change in how the incision looks and the amount of drainage continues to decrease and then stops. Usually the bottle of saline that was used in the hospital has been sent home in your bundle of belongings. If not, you can buy it at the pharmacy.

No creams or ointments should be applied on top of the incision until all of the scab has come off naturally. Usually, all the scab has come off by about four weeks from surgery. At this time you may use any skin preparation you prefer to moisten the skin or soften the scar. Anything with Vitamin E in it is very helpful for both. Also, you may resume water exercise, swimming, or soaking in a bath tub once all the scab is off.

PROBLEMS YOU MAY ENCOUNTER AT HOME

Excessive swelling of your leg and foot. Many people do develop some swelling in the first few weeks after surgery. If this occurs, you should elevate your leg whenever you are not up walking (**page 19 – 20**). However, excessive swelling of the foot and lower leg can be due to thrombosis (blood clots) in the veins in the leg. We should be notified if swelling is associated with pain or tenderness in the calf muscles, if it seems excessive, if it doesn't respond to elevation, or you are just as swollen in the morning as the night before.

Chest pain or shortness of breath may be signs of embolism. Please do not ignore these symptoms. Seek medical attention right away.

Drainage from the wound, or increasing redness around the wound, could signify impending infection. Your surgeon's office should be notified, and in most instances you will need to come in and have it checked. Your dressing change routine and medications may need to be adjusted. In the meantime, clean with saline or water, paint with a betadine (povidine) solution and cover with dry sterile gauze twice a day or as needed. The Q-tip, or cotton-tipped applicator, should be taken from a freshly opened package, not one that has been sitting open for an unknown length of time. Let the solution air dry momentarily and then cover the area with dry gauze. If you have drainage, do not shower.

Occasionally a pocket of fluid (a hematoma if bloody fluid; a seroma if clear fluid) develops under the closed incision. This collection of fluid can give a hardness to the skin over this area. As the surgical wound heals, the body reabsorbs this fluid most of the time and the area softens. Occasionally this fluid finds an opening in the incision and drains out. Hematomas drain dark maroon colored fluid and seromas drain a clear yellowish fluid. If a hematoma happens to drain while you are still on the anticoagulant (that is within the first 2 weeks after your surgery) the initial darkish fluid may be followed by bright red bleeding. This occurrence can be startling if you are caught by total surprise. The majority of fluid that has collected can drain out in a short time and it may seem like it is an endless amount of fluid that is coming out. Sanitary pads are very good at absorbing seemingly large amounts of fluid. If this is occurring you need to keep the area clean and call us.

High fever could also be a sign of impending infection. If you feel you have a fever, take your temperature. If you get two readings, at least three hours apart, of 101 degrees or more, you need to notify us. Your pain medication may have acetaminophen in it that helps keep your fever down. If you need to call, we will want to know when you last took your medication and what it is you are taking.

Increasing joint pain. Pain should be decreasing from day to day. If it seems to be steadily increasing, let us know.

Staples and Subcutaneous Stitches

Staples hold the outer skin edges together. Your surgeon leaves them in place for 10-14 days. Toward the end of this time period you may notice some redness in the skin around each staple. This is common and considered a normal reaction. If the redness

should extend beyond a half inch from the staple and there is increased tenderness, rather than decreased, then you should report it. The occurrence of drainage from the incision does not change when the staples are removed.

Underneath the skin the tissue is held together with a dissolvable stitch material. This material doesn't start to dissolve or liquefy until around 4 weeks from surgery. So when the staples are removed from the skin, the surgical wound is still held together by this suturing underneath. At each end and sometimes in the middle of the incision there is a knot of this dissolvable stitch material. If this dissolves and a bubble of liquid ends up close to the surface of the skin as the surgical wound is healing, a bump forms and it may become tender. Usually the liquid gets absorbed and the tenderness goes away. Occasionally the skin opens a little and the liquid drains out. This liquid is white from the dissolved material and has startled some to think that it is pus. If this occurs, keep the area clean and covered. To clean the area you can mix half strength hydrogen peroxide (that is half water and half peroxide) and pour it over the area several times. You pour some, let it bubble up, pour some more, let it bubble up and then do it a third time. Once it stops bubbling, pat dry with a sterile gauze pad or roll it dry with Q-tips (cotton-tipped swabs) from a freshly opened package. Roll once across the open area with each end of the swab. The opening and the skin around the opening (at least a half inch margin around the edges) should be painted with povidone solution and allowed to air dry on the skin. Then cover the area with a dry gauze square to keep it clean. You want to clean and cover the area at least twice a day.

Sometimes there is a piece of stitch material or thread that is visible. If any thread can be seen it needs to be removed. Once this material is exposed to the air it stops dissolving. It will act as an obstruction for the skin to close. Once removed, the area can resume its healing process. It still needs to be cleaned and re-dressed at least twice a day until dry for two changes and then can be left open to air. If you are going to outpatient physical therapy, they may have suture sets there and can help get the stitch material away. Otherwise we have you come to the office for a wound check and be sure that all the stitch material is out so the skin will heal.

ROUTINE PROGRESSION OF ACTIVITY

Once you get home you are not expected to stay in bed. You should be up and about on your walker or crutches most of the time, but rest as much as needed. You should also do the exercises you have been taught and that you can do on your own.

It is not uncommon to have difficulty sleeping for the first one to two months after surgery. It is ok to rest during the day, but try avoiding long naps if you have trouble sleeping at night.

When the scab is completely off your incision, you may find participating in one of the local water exercise programs provides a good workout without stressing your joints. The Ohio River Valley Chapter of the Arthritis Foundation sponsors many of these programs. Call **513-271-4545** for a location listing.

Driving

Driving is individual, but generally is comfortable at four to six weeks after surgery, especially if it is your right leg that has had surgery. You need to be able to bend your knee enough to get in and out of the driver's seat and be off regular doses of narcotic pain medication during the day before returning to driving.

Sexual Relations

You are not alone with your concerns and questions about resuming sexual activity. The physical therapists at the hospital have a printed handout you may ask for and the Arthritis Foundation (**513-271-4545**) has a booklet titled "Guide to Intimacy" that addresses these concerns.

Returning to Work

You will probably not return to work for eight to twelve weeks after the operation. Quite a few patients do return earlier, depending on the nature of their work and how flexible their workplace is for returning on a part-time basis initially. We generally tell employers 8 to 12 weeks, but you may return sooner if you are physically ready. It is easier to return to work sooner than to request more time off. Discuss this with your surgeon if you need to be back at work sooner. Any paperwork required by your employer may be faxed to our office at (513) 791-5229. Please allow 5 business days for these to be completed.

FOLLOW UP CARE

In the first six months after your surgery, you have four routine visits to monitor your healing and progress. Any questions, concerns, or worries can be addressed at these visits. Sometimes it helps to jot down your list of things to discuss so nothing gets forgotten and to make a note if you need a prescription renewed.

1. **10-14 days after surgery:** Staples are removed at this visit. It is a good idea to take pain medication before you leave home and bring a dose with you. We do not have pain medication in the office. You may progress from a walker to a cane or crutch to independent ambulation as you and your therapist feel you are ready. Basic rule: no limping. Limping can aggravate [increase the pain] at your knee and your low back.
2. **6 weeks from surgery:** X-rays are taken to check your healing. Your goal is to have 90 degrees of bending by this visit. Many people are still working on getting full active extension [you bring your leg out to straight position using your thigh muscles] and still have puffiness around the knee.

3. **10 weeks from surgery:** This visit may not be necessary. No x-ray is routinely taken at this point. We check your walking pattern (gait), range of motion, and progression with your muscle strengthening. It is fairly common at this interval that people experience knee swelling related to activities and stiffness related to inactivity. As healing progresses, the knee doesn't swell as much nor does the swelling last as long and the stiffness diminishes as well.
4. **1 year from surgery:** You will have an x-ray taken at this visit.

You should have **an annual visit** and x-ray to monitor the positioning of your new joint. Problems around the surface between the components and the bone show up on x-ray before you have symptoms. Waiting until symptoms occur may lead to a more difficult remedy.

- € You should **inform all of your health care providers** that you have had joint replacement surgery. For all total joint patients it is advised to protect the joint for the first two years after surgery whenever they undergo a procedure that causes bleeding. People who have conditions that challenge their immune system are considered at risk for infections and are advised to take the antibiotic for the rest of their lives. These are conditions like rheumatoid arthritis, systemic lupus, insulin dependent diabetics, cancer patients on chemotherapy or radiation therapy, hemophiliacs, and anyone who has had a previous joint infection. Should you need another procedure, emergent or elective, in two years following your surgery, you should have antibiotics for routine dental cleaning and any other dental procedure. Your dentist may order them for you or you may call our office.

Antibiotics should be taken one hour prior to any dental work, including routine teeth cleaning. This does not include your daily teeth brushing. Urologic (bladder) procedures for patients identified as at risk for infection do need antibiotic coverage. Scopes of the stomach and colon need antibiotics for the first 6 months following surgery. Please ask the physician performing the procedure for the antibiotic.

- € You will be given an identification card stating your surgery and date. It can be used as verification whenever needed. The security systems at the airports and government buildings will likely pick up the metal and set off the alarm.

FREQUENTLY ASKED QUESTIONS

Total Hip/Total Knee Replacement Patients

After Surgery

1. I can't sleep at night, my leg is uncomfortable... what can I do?

It is natural for our bodies to change position while we sleep. Your ability to do this on your own may be limited and you may need someone 'on-call' to help reposition your leg until you are able to do it yourself. Knee patients frequently report that if their knee is twisted as they turn in bed it is very painful. Turning the leg all together, like the way you roll a log on the ground, decreases the twisting effect. Using pillows to support the leg is helpful.

Ice is very helpful in pain control and settling down pain that has been 'awakened' by position changes. You can use bags of frozen vegetables (family size peas or corn) for 15-20 minutes. Place a towel between the ice pack and your skin.

2. I'm having muscle spasms in my thigh especially at night. The pain medicine doesn't really help, what can I do?

People who have maintained a pretty high level of activity prior to surgery sometimes have 'irritable' muscles in the early postoperative period. Now you are spending more time lying down. Yes, you are doing some exercises and getting up out of bed and starting to walk but all of this is nowhere near the amount of moving and walking that your muscles are used to doing. If you find your leg muscles are tightening up on their own or your leg is jerking in your sleep, there is medication we can give you to relax your muscles.

3. I haven't had a bowel movement since surgery and it's been five days now. Should I be worried?

Several changes have occurred that can disrupt your regular schedule. The postoperative pain medicine slows your stomach down tremendously. You need to counteract this by drinking lots of liquids, eating foods that do not sit heavy on your stomach, taking a stool softener and if needed a laxative. Before you worry about it, ask yourself how your stomach feels and if you have been eating a normal amount of food since your surgery. Chances are your appetite has not returned to normal yet and you have been eating considerably less than usual. The pain medicine can also decrease your appetite. Take the pain medicine when you need it, rather than every four or six hours around the clock **in case** you should need it.

4. My knee clicks, is it falling apart?

The clicking is coming from the metal and plastic surfaces tapping against each other. Our knees naturally have a little play in them to allow us to bend them. Your new knee has a plastic button on the back of your kneecap. As you straighten your knee when rising out of a chair, going up stairs, or walking, the knee cap is pulled up against the end of the thigh bone (femur) which now has a metal surface on it. Once

you have regained your thigh muscle strength, there is much less clicking or by then you have gotten used to it. Patients have also reported that they are aware of this clicking if they walk in their yards or on other uneven surfaces. Then it is the plastic tray on the shinbone and the metal piece on the thighbone that are tapping. Unlike the noises experienced in your knee prior to surgery, these noises are not associated with pain. Since you feel the vibration in your body of the tapping, you hear the noise more than the rest of us.

5. My knee is numb on the outside. It wasn't like that before... what happened?

When the skin incision was made down the front of your knee, the small nerves in your skin were cut. These small nerves were the ones that gave you sensation in your skin. The nerves to the tissue under your skin are still intact so there is no change to the bigger nerves in your leg. It could take 9-12 months for this numbness to subside.

8. They gave me a pair of compression stockings the day I left the hospital. Do I have to keep wearing them?

If you were starting to have ankle and foot swelling while you were in the hospital, they get ordered as you leave. You wear them during the day only. Take them off at night and put back on in the morning before you have been out of bed long enough that your legs are starting to swell. Sometimes these are ordered in anticipation that you might need them. They need to be put on so that the fabric is smooth, top to bottom. If they get bunched up they are like rubber bands around your leg and can block your circulation. Rolling down the tops is the same as being bunched up. If the stocking is a bit long, it is better to pull it down at the toes and have extra fabric there then to let the top part roll down.

9. My leg is swollen and it hurts. The pain medicine doesn't help and it is just as big this morning as it was last night. What should I do?

Swelling that comes with decreased walking should go down with elevation. If it does not and if it is the same amount of swelling, or more, in the morning as it was when you went to bed, **call our office**. We will schedule you for what is called a Doppler. It is a non-invasive (that means no needles) study to give us information about how the blood is flowing through your leg. If a blockage has developed, then it needs to be managed a bit differently. This is a problem we watch for and even gave you blood thinning medication to avoid. Still in a certain percentage of people they still develop what we call deep venous thrombosis (DVT). This is a medical problem so, even though we do the test to find out if it is there, we will ask your medical doctor to manage it if the result is a positive one. A negative result means you do not have a DVT and you still need to elevate your leg periodically so that your foot is higher than your heart.
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10. When do I need to take antibiotics?

Please refer to pg. 31.

11. My incision was healed but opened up at the very top this morning. What should I do about it?

Please refer to page 28 – 29, Staples and Subcutaneous Stitches.

12. I am finished with therapy. How long do I need to keep doing my home exercise program?

A routine of regular exercise is an important part of good health maintenance. You want to progress to a program of regular walking, water exercise or your regular activity routine if you were pretty vigorous before your surgery. You have been doing two types of exercise; those exercises that put your joint through its range of motion and those that strengthen your muscles. Continuing to do your range of motion exercises will help to relieve stiffness that comes with sitting or periods of inactivity. Strengthening exercises are the ones you do with weights or rubber bands to make your muscle work harder. You want to build up your strength so that you can walk without limping. Generally this means you have built yourself up to doing 3 to 5 sets of ten repetitions with 5 to 7 pounds of resistance with your strengthening exercises. If you have access to exercise facilities or water exercise classes then you can progress to doing your exercises there once you reach this level.



Biographical Information

Patrick G. Kirk, M.D.

Dr. Kirk is a board certified Orthopaedic Surgeon with primary interest in the surgical and non-surgical management of arthritis of the hip, knee and shoulder.

A graduate of Northwestern University and Rush Medical College in Chicago, he completed his Orthopaedic Residency at the Henry Ford Hospital in Detroit. Additional specialty training was at the University of Michigan, and then as a Fellow in Joint Replacement Surgery at the University of Western Ontario. There he received the Maurice Mueller Scholarship for the study of Diseases of the Hip.

Since starting practice Dr. Kirk has performed over 5000 hip and knee replacements. His current interests include minimally invasive hip and knee replacement surgery. Dr. Kirk has published numerous articles on hip and knee replacements and other aspects of orthopaedics, and has authored a textbook chapter on Revision Total Knee Replacement Surgery.

He is a Fellow of the American Academy of Orthopaedic Surgery, a member of the American Association of Hip and Knee Surgeons, the Mid-American Orthopaedic Society, the Ohio Orthopaedic Society, the Cincinnati Orthopaedic Club, the Cincinnati Academy of Medicine, and the Ohio State Medical Society.

He currently serves on the Orthopaedic Executive Committee of The Christ Hospital. He is on the Board of Trustees of the Arthritis Foundation, Ohio River Valley Chapter. He also serves on the Board of Trustees for the Cincinnati Symphony Orchestra.

Dr. Kirk and his wife, Mary, have two children, Margaret and Caroline.



Biographical Information on Edward V. A. Lim, MD

Dr. Lim is a board certified and re-certified (x2) orthopaedic surgeon with primary specialty interests in joint replacement, reconstruction and trauma. Dr. Lim is currently Chairman of the Department of Orthopaedic Surgery at The Christ Hospital in Cincinnati, Ohio.

He was born in the Philippines and obtained his undergraduate degree at the University of the Philippines in Manila. He completed his medical education (MD cum laude) at the University of the Philippines-College of Medicine in 1977. Following a five-year Orthopaedic Surgery Internship and Residency program at the University of Cincinnati Medical Center, additional training included an AO Trauma Fellowship in Hannover, West Germany and Davos, Switzerland, and a second Fellowship at the University of California, San Francisco – San Francisco General Hospital. He then returned to join the faculty at the University of Cincinnati. From 1992 to 2002 Dr. Lim served as Vice Chairman and Associate Professor of the Department of Orthopaedic Surgery and Director of the Division of Orthopaedic Trauma at the University of Cincinnati Medical Center.

During this period, Dr. Lim had a busy clinical practice at University Hospital, Christ Hospital, and Good Samaritan Hospital. He was responsible for orthopaedic residency education and was actively involved with orthopaedic education in the Philippines where he returned (and continues to do so) several times each year to volunteer his time and service.

Dr. Lim has published numerous articles on orthopaedics and related topics. He continues to be an invited lecturer for educational courses throughout the United States and Asia. In 1995, he completed a Masters of Business Administration at Xavier University in Cincinnati (MBA), as well as a Physician Leadership Program through the Health Alliance in Cincinnati. In the clinical practice of orthopaedic surgery, Dr. Lim has also briefly practiced in Marietta, Ohio (1989-1992) and Richmond, Indiana (2002-2005).

Dr. Lim is a Fellow of the American Academy of Orthopaedic Surgery and an Examiner for the American Board of Orthopaedic Surgery. He also serves as an editor for the Journal of Trauma and continues to be a volunteer Associate Professor at the University Of Cincinnati Department Of Orthopaedic Surgery. He is a member of the Ohio State Medical Association, The Cincinnati Academy of Medicine, Orthopaedic Trauma Association, American Orthopaedic Association, and other orthopaedic-related organizations.

In June 2006, Dr. Lim returned home to Cincinnati to resume his orthopaedic surgery and joint replacement practice at The Christ Hospital. He maintains patient offices at The Christ Hospital MOB and the Jewish Medical offices in Kenwood, Cincinnati, Ohio.

Dr. Lim resides in Cincinnati, Ohio with his wife, Julia, and their three children, Elizabeth, Meredith, and Edward.

The Christ Hospital
2139 Auburn Ave
585-2000

Your Pre-Admission Tests (PAT) are done within 7-10 days prior to your surgery. The Christ Hospital will call and schedule your PAT appointment. An assessment nurse will review your medications and instruct about medications the morning of surgery. Written instructions are given at your PAT visit or faxed to your primary care physician if that is where your PAT is being done. You can reach the assessment nurses at 585-1720.

For PAT, you come to Suite 130 of the Medical Office Building. If you need to contact the PAT desk, their number is 585-2880 or 585-2881.

As results come in from your lab tests, a copy is sent to your surgeon's office. If there are any abnormalities that need medical attention, your surgeon's office will contact your medical doctor.

Changes in EKG's may require a consultation with a cardiologist before an anesthetic can be given. For this reason, it is a good idea to have your tests done earlier rather than within a day or two of your surgery.

If you need to reach Christ Hospital PAT, their number is 585-2418.

The day of your surgery, you check in at Same Day Surgery, B level. You and your family should park on B level of the Same Day Surgery Garage on Mason Street. Directions are on your instruction sheet from the hospital.

There is a Family Surgical Lounge where your family may wait and someone will guide them to it. When your surgery has been completed, your surgeon will come to the lounge and speak with them in one of the consultation rooms. If you need to contact the Family Surgical Lounge, the telephone there is 585-3238.

Once your vital signs are stable and your room is ready, they will notify your family that you have been moved to your room. Your family may see you once you have been transferred to your room. Our patients generally go to the Orthopaedic floor, which is 2 South (585-2553).

Maps and Directions

Driving Directions

From the north (I-75 South)

Take I-75 South to Exit 7, Norwood/Route 562. Take 562 East to I-71 South to the Taft Road exit. Continue on Taft (a one-way street) to the fifth traffic light. Turn left onto Auburn. The hospital entrance is at the third traffic light on the right.

From the northeast (I-71 South)

Take I-71 South to the Taft Road exit. Continue on Taft (a one-way street) to the fifth traffic light. Turn left onto Auburn. The hospital entrance is at the third traffic light on the right.

From downtown (I-71 North)

Take Reading Road-Eden Park Drive exit (on left). Take the Eden Park Drive- Dorchester lane (right lane) of that exit. Turn left at traffic light onto Dorchester. At top of hill, turn right onto Auburn. Hospital entrance is on the left at the second traffic light.

From downtown (Main/Vine/Elm)

Take Main, Vine or Elm north; turn right onto Liberty. Turn left onto Sycamore. At top of hill, turn left onto Auburn. Hospital entrance is at second traffic light on the left.

From Kentucky (I-75)

Take I-75 North to I-71 North to the Reading Road-Eden Park Drive exit (on left). Take the Eden Park Drive-Dorchester lane (right lane) of that exit. Turn left at traffic light onto Dorchester. At top of hill, turn right onto auburn. Hospital entrance is on the left at the second traffic light.

From Kentucky (I-471 North)

Take I-471 North to Liberty Street exit (third exit past bridge). Take Liberty to the first traffic light after the exit and turn right onto Sycamore. At top of hill, turn left onto Auburn. Hospital entrance is at the second traffic light on the left.

Parking

Parking is free in the visitor garage adjacent to the hospital. Enter the garage from the Patient Tower entrance on Auburn Avenue. Park on any level except Level A, which is reserved for physician parking.

To reach patient floors, enter the hospital at the Patient tower entrance.

To reach admitting, testing or surgery, enter the hospital at the courtyard Atrium entrance.

You can reach the medical office building from any level of the garage at entrances located near the Patient tower entrance.

If you'd like more information or directions from another location, call 585-1200.

Valet Parking

The Christ Hospital is offering a new valet service for our guests. We have teamed-up with parking solutions to offer valet parking services for \$3. This service is available from 6:30 a.m. to 6:30 p.m. The last car will be parked at 4 p.m. so all of the cars can be returned by 6:30 p.m. As always there will not be a charge for self-service parking.

Local Street Map

