

Your Total Knee Replacement Surgery



The Knee Replacement Program D. Gordon Newbern, MD

800 Fair Park Blvd, Little Rock, AR 72204
3480 Landers Rd, North Little Rock, AR 72217
(501) 500-3500

Dear Patient:

We're pleased you have chosen me for your Total Knee Replacement. This booklet has been written especially for you to help you prepare for your surgery and recovery.

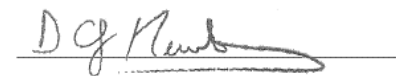
You won't go through surgery alone; it will be a team effort. **You** are part of a team of health care professionals whose goal is to help you.

This team is made up of:

You
Your family and friends
The orthopedic surgeon
The anesthesiologist
The internal medicine specialist
The nurse practitioner or physician assistant
The nurse or medical assistant
The physical therapist
The social worker

Our goal is to help you improve the quality of your life. It is up to you to learn about your knee replacement and to follow the advice of your surgeon and other health care professionals. We care about you and want to follow your progress for the rest of your life.

Sincerely,



D. Gordon Newbern, MD

P.S. Please visit my website (below) to learn more about problems of the hip and knee and their treatment. I've chosen other useful websites for additional information. You can view animations of many procedures for better understanding.

www.JointReplacementArkansas.com

CHI ST. VINCENT JOINT ACADEMY

Congratulations! You are about to embark on a joint replacement experience that is the product of ongoing improvement and evolution over the last 10 years. The CHI St. Vincent Joint Academy was the first such program in Arkansas and continues to lead our state with the quality of our program. The keys to the success of our program have been the use of enhanced preparation and rapid recovery techniques. Very recent advances in pain reduction after surgery using long acting local anesthetic block techniques now provide much lower pain levels and far lower use of sedating narcotic drugs.

This means patients are alert and comfortable on the day after surgery. They are moving well with little or no assistance. Urinary catheters are no longer needed. Cumbersome lines, tubes and machines are no longer attached to patients, and physical therapy can progress rapidly. We emphasize getting patients back into their comfortable home setting soon with the support and encouragement of their family and friends. Early mobilization is key to avoid complications, and this means patients are up moving at least once the evening of surgery. And once home, patients keep on moving.

Range of motion, strengthening and walking exercises will continue 3-5 times each day by the patient. Hip patients do well performing this program on their own. Knee patients need the additional help of outpatient physical therapists to help get the needed early stretch and motion of the knee. For total knee patients this means getting up and riding to outpatient physical therapy the day after discharge home to assure early motion is achieved.

The much improved pain control and reduced sedation allows patients to be ready and eager to go home the following day. Avoiding stays in rehab facilities reduces our patients' exposure to foreign bacteria and resistant bacteria, further reducing the incidence of infection for our patients.

As our program has evolved, it differs considerably from the recovery path even a year ago. The purpose of the Joint Academy Enrollment Agreement form is to make sure our patients understand the program and have in place the family and supportive friends necessary for the recovery process.

Please bring this signed form with you to the Joint Academy Orientation Class.

JOINT ACADEMY ENROLLMENT AGREEMENT

Welcome to the CHI St. Vincent Joint Academy program. Our goal is to provide you with the information needed for you to have a positive experience and an excellent outcome regarding your upcoming joint replacement surgery.

The goal of your surgeon is to send you home with the support of friends/family as soon as it is appropriate (typically the day after surgery). Your surgeon does **not** intend to send you to inpatient rehab, a skilled nursing facility, or home with home health services unless there is an absolute medical necessity.

Knee Patients: Discharge home and go to Outpatient Physical Therapy **daily**. You will need someone to drive you to/from physical therapy.

Hip Patients: Discharge home with a home exercise program. (You will **not** require outpatient physical therapy upon discharge.)

In order to make this happen, the following things will occur:

- You will attend a mandatory Joint Academy Orientation Class. This course will provide you with an understanding of what to expect with your surgery, hospital stay, physical therapy, equipment, and discharge plan of care. *The **only** exception to this is if you have attended this class at this facility within the last 6 months.*
- Your coach (primary caregiver at home) **must** attend this course with you. Your coach must be available to assist you for at least the first 7-10 days after discharge.
- You will have a preoperative evaluation by a CHI St. Vincent hospitalist (internal medicine physician) prior to surgery.
- You will be given phone numbers for multiple resources for any questions or concerns after discharge. Specifically, our CHI St. Vincent Joint Academy Hotline number (**516-986-7846**) will be available to you for any **urgent** issues after hours or on the weekend. This number will get you in touch with one of our orthopaedic surgeons and is provided to you to keep you from having to go to your PCP or local Emergency Department after surgery for issues such as pain, swelling, redness, or concern about infection.

By signing this agreement, you acknowledge that you have received this information, understand the expectations of this program, and agree to form a discharge plan that follows the protocols of your surgeon. Failure to plan for the above will result in postponement or cancellation of surgery until the conditions have been met.

Patient Signature

Date

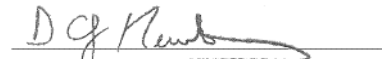
My coach will be _____.

In addition, the following caregivers will be available to assist with my personal needs and driving after discharge:

Thank you for choosing CHI St. Vincent for your joint replacement surgery. We are honored that you have chosen CHI St. Vincent to provide your surgery and appreciate the confidence you have placed in our team's ability to care for you before, during, and immediately after your surgery. We look forward to your participation in Joint Academy.

Sincerely,

Juanita Lindsey
Joint Academy Coordinator



Gordon Newbern, M.D.

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Special Note:

A large portion of this material is borrowed from Dr. Merrill Ritter, my fellowship training mentor, with his permission. It is intended for informational purposes for our joint replacement patients only. Please do not copy or mass distribute this booklet without permission. Thank you!

Chapter 1:

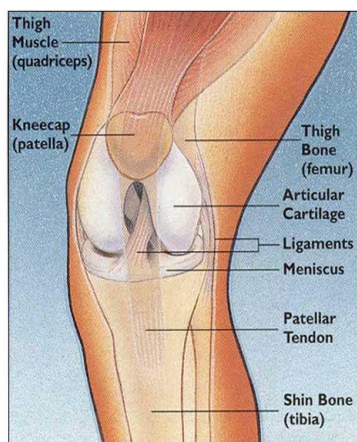
Your Knee And How It Works

When a knee becomes diseased or injured, simple movements can be painful and take the joy out of life. Most people want relief from the pain and disability caused by severe arthritis. Your reasons for having surgery are very personal. Only **you** can finish this sentence: “If I didn’t have pain I would...” You and your doctor have decided that total knee replacement surgery may help relieve much of your pain.

The main benefit you may expect from total knee replacement is pain relief. Most patients will notice some soreness for several weeks or months after surgery. In most cases, however, pain-free motion of the knee joint will follow.

The “Normal” Knee

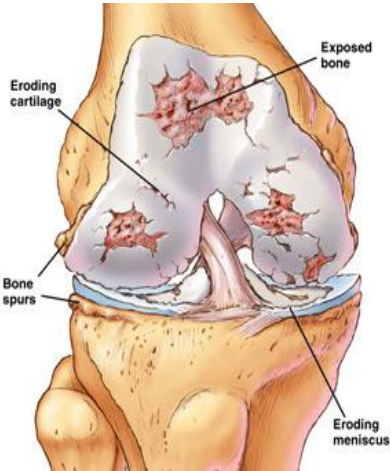
A joint is a special structure in the body where the ends of two or more bones meet. The thigh bone (femur) and the shin bone (tibia) meet to form the knee joint. The knee cap (patella) covers and protects the knee joint. The joint lining (synovium) makes fluid that lubricates the joint. Cartilage covers the ends of the knee bones. This cartilage “cushions” the knee for smooth easy movement. The knee, a major weight-bearing joint, is held together by muscles and ligaments that allow your leg to bend and straighten so you can walk and climb stairs.



Normal Knee Anatomy

The “Problem” Knee

When a knee is diseased, such as with arthritis, the cartilage wears away. The bones become rough and grind together, causing pain.



Osteoarthritis of the Knee

There are many different types of arthritis. One major type is osteoarthritis, which is also called degenerative joint disease, or the “aging arthritis”. Another form, rheumatoid arthritis, is a chronic disease that affects many parts of the body. There can also be joint destruction due to loss of blood supply (osteonecrosis) or from injuries (traumatic arthritis). After your condition has been diagnosed, and if other medical treatments have failed to help you, the orthopaedic surgeon can replace your diseased joint and soon relieve your pain. Total knee replacement is not done for minor arthritis pain.



Total Knee Replacement

Your New Knee

Total knee replacement surgery involves removing and reshaping the diseased portion of the knee joint. An artificial knee, known as the prosthesis, replaces it. There are three parts (components) to an artificial knee. The **femoral** part fits on the bottom of the thigh bone. The **tibial** part fits on top of and covers the shin bone. These parts are usually cemented in place. The **patellar** part covers the underside of the kneecap. These parts are made of metal and plastic. Special instruments are used to shape the bones for an exact fit, which is important for smooth, pain-free movements as the knee bends and straightens. Your orthopaedic surgeon will decide whether you will need just one or all three of these parts. The surgery usually takes between one and one-half hours for one knee joint or two and one-half hours for two knee joints, depending on the condition of your knee.

Chapter 2: Identification of Risks



A hospital practicing internal medicine specialist will examine you on pre-admission screening day to help us identify your health risks.

Pre-Operative Evaluation Day

The key to our program is the identification of risks and the prevention of complications. As with any major surgery, there are certain risks. If your family care physician takes care of patients in the hospital, he or she will perform your pre-operative evaluation and follow you along with your orthopaedic surgeon while you are in the hospital. Otherwise, the hospital based internal medicine physician will be requested to assess you one to two weeks before your surgery and then that physician will follow you along during your days of hospitalization after surgery. If the risks are high, the decision to have or not have surgery will be discussed with you by the doctors. We may recommend:

- You have additional special testing, which may or may not delay your surgery.
- You may not have surgery at all until the risks are brought under reasonable control.

Examples of increased risks are obesity, heart and lung disease, tooth and gum disease, infection, or other health problems. However, you can reduce your risks before surgery!

Preparing for Surgery at Home

Before entering the hospital, you must be aware of several factors that can affect the success of your knee replacement.

Tooth and Gum Problems

Tooth and gum problems, a frequent source of infection, can allow bacteria to enter the blood stream. If you haven't had a dental checkup for the past six months and are having trouble, you should see a dentist and have any needed dental work completed before going into the hospital. Continue to brush and floss regularly to keep your teeth and mouth clean.



You should STOP smoking!

Smoking

We recommend that you STOP smoking 4 weeks before surgery to decrease the chances of lung and wound healing complications during and after surgery. The hospitals are smoke-free facilities. There is no smoking allowed within the hospital buildings. A nicotine screen will be obtained before surgery and if positive could result in cancellation of your surgery!

Nutrition

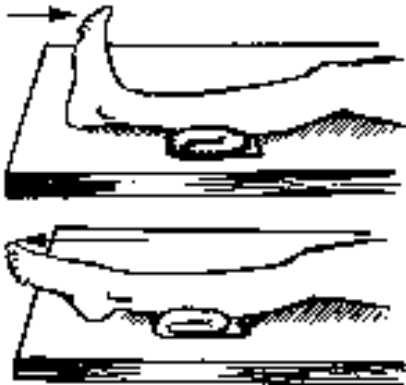
Being overweight increases your chance of having complications such as infection, poor healing, or blood clots. You may have been told to lose weight; however, crash dieting will not reduce your risks. We recommend a nutritionally sound diet including the four major food groups: dairy products, meats and fish, grains and cereals, and fruits and vegetables.



You increase your chances of having a surgical complication if you are overweight.

Exercise

Physical activity is good for everyone. Daily exercise helps you control your weight by burning calories. It improves your overall health, and makes you feel both physically and emotionally better. Physical activity can also reduce daily tension and stress. You can begin doing the following exercises at home before surgery to stretch and strengthen your muscles. We recommend that you begin with ten repetitions for each leg, two to three times a day if it does not aggravate your pain.



Ankle Pumps

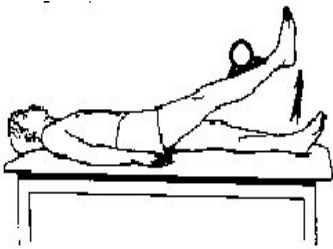


Hip and Knee bending

1. Ankle Pumps
 - A. Lie on your back or sit in a chair.
 - B. Slowly move your feet up and down by bending at your ankles.
2. Quadriceps Set
 - A. Lie on your back with your legs straight.
 - B. Tighten your thigh by pushing the back of your knee into the bed.
 - C. Hold the muscle contraction for a slow count of five.
3. Gluteal Set
 - A. Lie on your back.
 - B. Tighten your buttocks together.
 - C. Hold the muscle contraction for a slow count of five.
4. Hip and Knee Bending
 - A. Lie on your back with your knee straight.
 - B. Bend your knee by sliding your foot toward your buttocks as far as you can.
 - C. Then return to the starting position with the knee straight.

5. Terminal Knee Extension
 - A. Lie on your back with a pillow or rolled towel under the knee.
 - B. Tighten your thigh muscle and lift your foot off the bed until your knee is straight.
 - C. Slowly lower heel to bed.

6. Extension Stretch
 - A. Lie on your back.
 - B. Prop your ankles up on a 6" blanket roll.
 - C. Tighten the muscle on the front of your thigh to push the back of your knee down toward the bed and make your knee as straight as possible.
 - D. Hold the contraction for a count of five (5).
 - E. After doing 10 repetitions relax your knee and let it hang straight for 5-10 minutes.



Straight Leg Raise

7. Straight Leg Raise
 - A. Lie on your back.
 - B. Tighten your thigh to lock your knee, and then lift your straight leg up one foot from the bed.
 - C. Slowly lower your leg, keeping your knee straight.
 - D. You may bend the opposite knee if the exercise bothers your back.
 - E. Do as many repetitions as needed to get a burning sensation in the thigh muscles and do 5 more repetitions while the muscle is burning.

Complications Associated with Total Knee Replacement

As with all surgical procedures, there can be complications. Infection, pneumonia, and blood clots are some of the possible, although unlikely, complications that can occur.



The laminar flow operating room and special hoods help prevent infections.

INFECTION occurs in slightly less than 1 out of 200 patients.

Prevention:

1. Using a special sterile operating room environment (laminar flow).
2. Using pre-operative antibiotics
3. Pre-operative nasal swabs to identify carriers of *Staphylococcus aureus* (both sensitive and resistant strains)
4. Pre-operative Sage wipes for all patients to cleanse the operative site the night before surgery
5. Using antibiotics when undergoing future dental work or surgical procedures

Treatment:

1. Bactroban (Mupirocin) nasal ointment and Hibiclens (chlorhexidine) soap to use 5 days prior to surgery for all positive nasal swab patients
2. Oral or IV antibiotics for early or superficial wound infections
3. Additional surgery and possible removal of the prosthesis for deep infections.



Medication (aspirin, Coumadin, Xarelto, or Heparin) and/or compression stockings after surgery helps prevent blood clots.

BLOOD CLOT in the deep veins of the leg (deep vein thrombosis) occur in approximately 5 out of 100 patients (5%)

Prevention:

1. Walking as soon as possible after surgery
2. Using anticoagulation (oral or injectable) during the first 2-6 weeks after surgery
3. Using a compression stockings up to 6 weeks postop to control lower extremity swelling
4. Ankle pump exercises
5. Riding in a car no longer than 1 hour without stopping to walk and stretch

Treatment:

1. Observation
2. Blood thinning medicine
3. Elevation of legs in bed

BLOOD CLOT that occurs in the thigh or pelvis may break loose and travel to the lungs where they can cause breathing difficulty or death.

Treatment:

Requires hospitalization



Frequent circulation checks can help prevent nerve damage

NERVE DAMAGE may occur in 25 out of 10,000 patients (0.25%). This is observed as a complaint of numbness or weakness in the foot.

Prevention:

1. Frequent nerve function and circulation checks by nurses
2. Frequent changes in position

Treatment:

With time, these nerves will usually function normally again.

LOOSENING OF THE PROSTHESIS occurs in 2% of patients over a 20-year period of time.

Prevention:

1. Maintain ideal body weight
2. Follow the lifetime movement restrictions listed in Chapter 12

Treatment:

Will probably require surgery at some time

DISLOCATION OR FRACTURE of the kneecap occurs in less than 3% of patients.

Prevention:

Follow the physical therapy exercise program.

Treatment:

1. Physical therapy
2. May require further surgery

ALIGNMENT

All attempts will be made to realign your knee into a straight (neutral) position. In some cases, however, the surgeon may feel that realigning your knee to neutral would require too much surgery for the circumstances. Therefore, the alignment of your knee may not be in a perfectly straight position after surgery.

MANIPULATION

To improve your knee's range of motion (the amount your knee bends), your surgeon may have to perform a manipulation of your knee replacement. This procedure may be necessary 4 to 16 weeks after surgery. A manipulation is done in the operating room, with the patient under general anesthesia. There is a less than 1% chance that a manipulation will become necessary. You can greatly reduce your chance of having to undergo a manipulation by strictly following the exercise regimen you will learn in the hospital after your knee replacement surgery.

REVISION SURGERY

This is surgery performed to replace a loose knee replacement. When you have surgery to replace a loose total knee replacement, your chances for experiencing a complication are increased. With revision surgery the complication rates are increased as follows: infections 2-5%; blood clots 10-15%; nerve damage 2%; bone fractures 1-2%; dislocation 15-20%; loosening over 10 years 10-15%.

PAIN

There is a 2-5 % chance that your pain will not be relieved or that you may develop a different type of pain following your surgery.

Despite the complications above, there is still a 98% success rate for knee replacement surgery.

Chapter 3: Consent Forms



Consent Forms

You will be asked to sign the following consent forms to show that you have been given and understand the information you need to decide to have surgery. We want you to be informed before you sign these forms. If you have any questions, please ask.

1. **Informed Surgical Consent**-This is for the hospital record.
2. **Informed Consent for Blood Product Transfusion**-This is your consent for you to be given a blood transfusion should one become necessary.
3. **Authorization of Medical Care**-This is general permission to care for you while you are a patient in the hospital.

Chapter 4: Pre-Operative Evaluation Day



**You will participate in
the Joint Academy
education class.**

This half-day program is designed to prepare you physically and emotionally for surgery and recovery. Included in this program are:

- A physical exam by the hospital practicing medical specialist, who will document your medical history and help us follow you in the hospital
- Laboratory tests, chest x-ray, and EKG (heart test)
- Discussion/explanation of discharge plans
- An education program (Joint Academy) explaining total knee replacement and what to expect from your surgery

How to Prepare

- Fill out and bring a current list of any prescription medications, with doses, and any supplements that you take
- You may eat breakfast and take your medication before arriving. You may want to bring your pain medicine
- Wear comfortable, easy to change clothing for your physical exam and EKG (**avoid back zippers and panty hose**)
- Write down any questions and bring them with you

- Bring a list of all your allergies
- Bring a family member or friend who will be your “Coach”. This will help them help you!
- Arrive promptly at your designated time for preoperative testing and for your medical evaluation
- You should expect this process to take 3 to 4 hours before completion

Chapter 5: Admission Day

How to Prepare

- Bring this booklet to the hospital with you
- While in the hospital, the physical therapy department will provide a walker or crutches for you. Do not bring your own to the hospital.
- You may bring your own sleepwear. Some nice but not mandatory items are a knee-length robe, low-heel shoes and loose-fitting clothes that are easy to put on.
- Bring personal care items: a toothbrush and toothpaste, shaving equipment, deodorant, and a comb. (ALL electrical appliances must be checked with our maintenance department prior to use.) DO NOT bring valuables such as credit cards, cash, or jewelry. Lock boxes are available upon request at no charge. DO NOT bring your medication unless it is eye drops, inhalers, or nasal spray.
- Notify family and friends that you may be reached through the hospital switchboard from 7:00am to 9:00pm at St. Vincent (501) 552-3000.

The hospital address is:

St. Vincent Infirmary Medical Center
2 St. Vincent Circle
Little Rock, AR 72205

At St. Vincent, private rooms are provided for total joint replacements. A chair will fold out to allow one family member or caretaker to stay with you overnight, if you desire.

Checking In

Please arrive promptly at the scheduled time at the **registration** desk located in the 1st floor lobby. This will be two to three hours prior to your scheduled surgery time to allow adequate time to prepare you for surgery. You will receive an identification bracelet and will be escorted to the preparation area.

The operating room staff, anesthesia staff, and other hospital personnel will visit you and confirm the planned surgery, prepare you for surgery, and answer questions.



A nurse will measure your vital signs



The dietetic staff will serve you meals

Nursing Assessment/Teaching

Once you are in your room, a member of the nursing staff will orient you to your room. A brief history and physical exam will be done by a nurse to permit the hospital staff to better care for you. This will include measuring your height, weight, and vital signs (blood pressure, respiration, pulse rate and temperature). You will be shown how to use a breathing machine (incentive spirometer). The incentive spirometer is an exercise tool for your lungs to help maximize airflow and prevent pneumonia after surgery. The nurses will also review with you the information you were taught on Pre-Operative Evaluation Day.

You will have an intravenous catheter started in the preparation area. Through this IV, you will be given an antibiotic before surgery. Everyone will have an IV after surgery, through which fluids, antibiotics, and pain medicine will be given.

Meals

On the evening before your surgery, you should eat a regular meal, but you should not eat or drink anything, even water after 12:00 midnight the day before your surgery.

On the morning of your surgery, **DO NOT EAT and DO NOT DRINK**. You may have a sip of water with any medications you have been instructed to take, but otherwise, **no morning coffee, no candy, no chewing gum, no water-NOTHING by mouth.**

While in the hospital, your meals will be prepared to order by your choices from the

“room service” menu. You and your family member will phone in your order each day.

Social Work Visit

While you are in the hospital, you may request a visit from a social. The social worker can assist you in your rehabilitation outside the hospital with information about outpatient physical therapy and special equipment.

A part of your rehabilitation will be dealing with the variety of emotions you may experience by the change in your physical health. A social worker can provide objective listening and support contacts for you after you leave the hospital.

Chaplain services are also available upon request.

Helpful Note

Providing your insurance company phone numbers, the name of case managers and any other benefit information will assist us should you need post-hospital services.

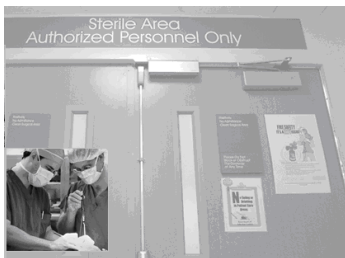
Chapter 6: The Day of Surgery

Surgery Preparation

A shower may be taken the evening before surgery.

On the morning of surgery, do not use deodorants, perfumes, shaving or skin lotions. You should remove all hairpins, nail polish (fingers and toes) or artificial nails, and jewelry. Wedding rings may be left on, but must be taped. Please give all your valuables to your family; we cannot be responsible for them.

About one hour before surgery you will be asked to empty your bladder, you will then return to bed. You will remain in bed until surgery personnel arrive to take you to the operating room on a bed. Dentures, hearing aids, and glasses should be removed at this time. Your family may stay with you in the holding area until time for surgery. From there they will be directed to the surgery waiting room where they should stay until your operation is over so your surgeon can talk with them. The family should notify the waiting room receptionist if they leave the area.



**Operating room
entrance**

Post Anesthesia Care Unit Recovery Room (PACU)



**Your family can
check on you
during recovery
by calling the
PACU**

After your surgery, you will be moved from the operating table to your bed, and the anesthesiologist will take you to the PACU. In PACU, the patient must be “settled in” by the specially trained nurses. Your blood pressure, heart rhythm, and dressings will be checked frequently. There will be other patients in PACU. It may be one or two hours from the time the surgeon talks to your family before you will be ready to leave the PACU and transported to your hospital room at which time you will be able to see your family.

Your family can call PACU at St. Vincent’s (501) 552-2495 anytime and talk to the nurse taking care of you. If your family is large, one or two members should do the calling and share the information with the rest of the family. This allows the nurses to give all of their attention to the care of their patients. You will spend approximately 1 ½ -2 hours in PACU so you can be closely observed and receive immediate attention when needed.



When you wake up from surgery, you should expect to feel tired and groggy. Your knee will be covered with a waterproof dressing and an ice pack. This helps to control bleeding and swelling. You will now have the compression stockings on both helping to prevent blood clots. Your operated leg will be placed in a knee immobilizer/brace. This helps hold your leg in the proper position and helps prevent pressure sores on your heels. If at any time your heel begins to burn, or if you have difficulty moving

or lose feeling in your toes, you should tell the nurse **immediately**.

In most cases, urinary catheters are no longer needed. If you've had an epidural anesthesia, when you wake up in PACU, you will notice that a catheter (a flexible tube) was placed in your bladder. This is to drain urine and will be in place for less than 24 hours.

Pain Control



The PCA machine

Postoperative pain control continues to improve. In 2013, we adopted the use of a long-acting local anesthetic, a “ropivacaine” cocktail, which is infiltrated all around the joint tissues at the time of surgery, dramatically reducing pain and the need for narcotic pain medications! Patients are more alert and feel better without the side effects of strong narcotic usage. Often only supplemental pain pills are needed. This has dramatically removed the early postoperative pain to the extent that patients are comfortable and ready to go home after their physical therapy session the day after surgery.

We will also use intravenous *Toradol* (a non-steroidal pain reliever), acetaminophen (Tylenol), and oral narcotics to supplement pain relief as needed. The long-acting local anesthetic, “ropivacaine” cocktail, is so effective that we rarely use older modalities of epidural, spine catheter, or intravenous pain-controlled analgesic (PCA narcotics).

With current trends and much improved pain management, we anticipate some patients may be able to discharge home same day or usually no longer than 1 overnight.

Chapter 7: The Nursing Unit

When your condition in PACU is stable, you will transfer to your hospital room on the nursing unit. The nurse will check your vital signs.

The waterproof dressing placed over the incision during surgery will stay in place for 7 days. We will then ask you or your family member to change to a fresh waterproof dressing given to you before you discharge home. This second dressing will stay in place until your first post-operative appointment.

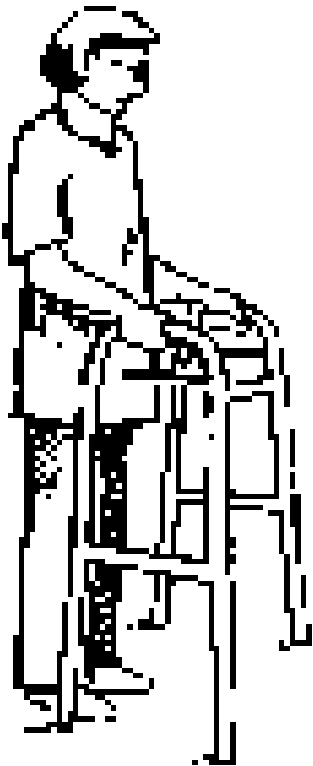
Following your surgery, if it becomes necessary for your surgeon to be out of town, his able physician associates will always be present to take personal care of you. Your specific needs will always be discussed between your surgeon and the medical team seeing you on a daily basis.

Each day, your surgeon, physical therapist, social worker, nurse, and nurse practitioner/Physician Assistant (PA) will visit to review your progress and plan your on-going care. Use this time to ask questions.

Chapter 8: Physical Therapy



**Physical Therapy
begins the afternoon
or evening of your**



**The physical
therapist will show
you the proper way
to use a walker**

Physical therapy will begin on the nursing unit the morning after your surgery day to help strengthen and reactivate the muscles of your knee and help you regain your knee's range of motion. Your physical therapy is never done for you, but along with you. The physical therapist will treat you and be responsible for guiding your rehabilitation efforts. You will be expected to continue the rehabilitation program as an outpatient.

During your first treatment, you will be assisted to sitting on the side of the bed. If you are able to sit up without severe dizziness or nausea, the therapist will help you stand and walk with a walker. A walker is always used on the first day to provide more support. A walker will be provided for your use while you are hospitalized.

On the day after surgery, you will probably be able to sit, stand, and walk with assistance. These activities will be to your tolerance and you will not be instructed to do something you are physically unable to do, but you should know that the therapy will not be easy. It takes a lot of hard work on your part, but you can do it. Your sitting time and distance walked will be increased at each therapy session. You will be encouraged to sit up for meals and at other times during the day, but you should not sit longer than 45-60 minutes at a time without standing to change positions.

The therapist will give you a list of exercises and will explain how to do them. You should do all of your exercises 3-5 times each day when not attending outpatient therapy. Exercise helps you stretch and strengthen your muscles, and also helps you become confident in your ability to use your new knee joint.

We recommend outpatient physical therapy daily for the first 5 visits and then Monday, Wednesday, and Friday for 4 weeks further.

You're Making Progress!

Your recovery will continue to progress and you should be gaining a bit more independence each day. Your gait (the way you walk) will improve, and when your balance is good on the walker, you may be able to try crutches or a cane. This transition typically occurs after your initial post-op visit.

The choice between a walker or crutches depends, in part, on your preference, but also on what the therapist feels is the best option for you based on your age, strength, balance, and medical history.

The therapist will adjust your crutches and/or walker to fit you. These will be provided for you. If you already have a walker or crutches to use, we ask that you bring them in one time for the therapist to adjust them for you.

Chapter 9: Discharge Information



**Before discharge,
you should be able to
transfer in and out of
chairs without help**

Short Term Goals for Hospital Discharge

1. You should have relief from joint pain. You may still experience some discomfort from the incision and the swelling, but this will improve with time.
2. You should be able to bend your knee 75 to 90 degrees. The ability to bend your knee at least 90 degrees is necessary for you to sit in a chair and rise from it comfortably. You may eventually be able to bend your knee 110 degrees.
3. You should be able to transfer, without help, in and out of bed, in and out of chairs, and on and off the toilet.
4. You should be able to walk while using your crutches or walker on level surfaces (without help) and on steps (with help).
5. You should understand the lifetime movement restrictions listed in Chapter 12. If you have difficulty in any of these areas, the therapist will instruct the person who will be helping you at home in ways to assist you.
6. Often, family members can provide the necessary assistance. Your surgeon will recommend that you have live-in assistance for at least 5 days after your hospital discharge.



Discharge Day

Discharge Day

Your surgeon, therapist, and the rest of the hospital team will make sure that you have made expected progress to be ready for discharge.

You will be given a prescription for pain medication and any other medicine your doctor has prescribed. You may take pain medicine before you leave the hospital to make your trip home as comfortable as possible.

The following equipment will be helpful after surgery:

1. Crutches and/or walker
2. Bedside Commode

These items may or may not be covered by your insurance. Our case managers at the hospital and help you with this information prior to discharge. Insurance and/or Medicare will normally pay for 80% of **their approved** cost of either a walker or crutches, but not both.

The supplier for these items will file a claim with your insurance and send you a bill for the remaining amount. This bill is separate from the hospital bill. Of course, if you already have these items you will not need to buy them again.

Chapter 10: Home Instructions



Simple meal preparation is a good activity to ease into after surgery

With current trends and much improved pain management, we anticipate some patients may be able to discharge home same day or usually no longer than 1 overnight.

The recovery period after surgery depends on you, your health, and the knee that has been replaced. You may see and feel immediate benefits; however, you must continue to follow your rehabilitation program for several months to get the total benefit your new knee joint.

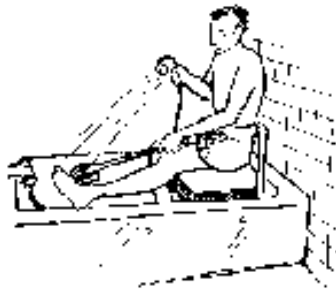
Activities of Daily Living for the First Eight Weeks after Surgery

Your activity level should **gradually** increase on a daily basis over the next eight weeks, beginning at the same level as in the hospital. Be careful not to overtire or overdo. Good activities to ease into are simple meal preparation, dusting, or washing the dishes.

DO have someone help you with grocery shopping, family meal preparation, and laundry.

DO NOT vacuum, mop your floors, or lift heavy laundry.

DO NOT do strenuous yard work such as lawn mowing, raking, or bending, kneeling and stooping in the garden.



Bathing

DO shower as long as the special shower-proof dressing is in place.

DO shower with **no dressing** after your staples or stitches have been removed and the steri-strips have been placed over your incision for at least one day.

DO watch your balance. Have someone with you the first time you shower, if possible.

DO sit in a chair in your shower if you do not feel comfortable standing.

DO NOT sit in the bathtub.

Sitting

DO sit in a firm, straight-backed chair with arm rests. You may sit in a recliner, but only if extra pillows/ blankets under the calf **KEEP THE KNEE FULLY STRAIGHT**. Avoid resting the knee in a flexed or bent position. Though more comfortable, it will make it harder to fully straighten the knee at the end of healing.

DO sit up for meals and during the day.

DO work at straightening and stretching your knee when sitting. To do this, you will need to rest your feet on a stool that is slightly lower than the seat of your chair. Position yourself so your knee is not touching the chair's edge. The kneecap should be pointing toward the ceiling. If you are positioned correctly, you will feel a stretch behind you knee. This may be tolerable



Be sure to stand and stretch after sitting 45-60 minutes

to you for only a few minutes, but you should try to do this stretch many times during the day.

DO sit with your feet six inches apart.

DO NOT sit for longer than 45-60 minutes at a time without standing and stretching.

Walking

In order to protect your new knee joint and allow for healing during this eight-week period, you must walk with crutches and/or a walker for 3-4 weeks then progress to a cane in the opposite hand for the second 3-4 week period.

If both knees are replaced, walker use for 3-4 weeks is followed by use of crutches or 1-2 canes for 3-4 weeks.

DO stand tall with good posture. Walk with your head up, your feet pointing straight ahead, and stretch your knees as straight as possible.

DO walk frequently during the day. This is more important than walking long distances.

DO bear weight on the operated leg as ordered by your physician.

DO NOT stand or walk with your toes turned in.

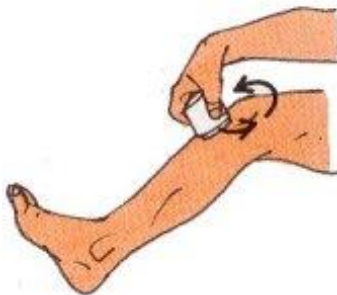
Climbing Stairs

The therapists will show you how to go up and down stairs with your crutches or walker.

DO NOT go up long flights of stairs during this eight-week period.



Lie down for short rest periods during the day



DO ice your knee several times a day

DO have someone with you the first time you go up a long flight of stairs after the first eight weeks.

Sleeping/Resting

DO lie down flat on your back 5 times a day for short rest periods to prevent fatigue and to do your bed exercises.

DO NOT put any kind of pad or pillow behind your knees unless you are elevating the entire leg and keeping your knee straight.

Daily Exercises

The exercises the physical therapist taught you should be continued as instructed until you return for your evaluation with the surgeon. To get the total benefit of knee replacement and to regain the quality of life that was once yours, you need to make a serious commitment to exercise and you must stay active. Consistent exercise is the key. You should continue your exercise program even on those days when it may seem difficult.

DO use an ice pack on your knee for soreness or pain for 20 minutes, several times a day.

Meals

DO eat a well-balanced diet so that your body has proper nutrition to help it heal and to restore strength. It is not unusual to have a decreased appetite following surgery. If you do notice a change in your appetite, you might find food more appealing by eating five small meals spaced throughout the day. Protein shakes are also an option to help boost wound healing.



We encourage you to participate in recreational activities

Recreational Activities

We encourage you to go out to eat, visit friends, go to church, and do those things that are part of your normal daily life as long as you are comfortable and not having pain. We ask that you wait until after your ten week evaluation and your doctor's "ok" before you return to such activities as golfing, swimming, riding a bicycle, bowling, dancing, boating, or horseback riding.

DO NOT participate in any sports that require any jumping, jerking, pulling, twisting, or running.

Riding in an Automobile

When getting INTO a car:

DO enter from street level rather than from a curb.

DO have the front seat moved back as far as possible. You may be more comfortable sitting on at least two pillows. This allows you to sit with your knees flexed and makes it easier to stand after sitting.

Do walk toward the seat then turn around so that your back is to the seat and your knee is touching the seat. Then sit down. Turn your body as someone helps you lift your legs into the car. Keep your knees moderately apart.

When riding in a car:

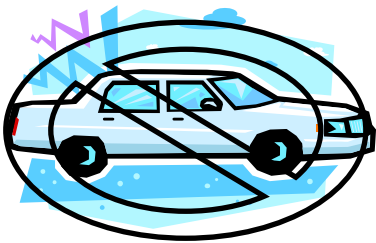
DO stop and rest. Stand up after 1 hour of riding during the first car ride home.

DO take your pain medication before your first ride home.

DO NOT ride in a car for longer than 1 hour without stopping and stretching.

When getting OUT of a car:

DO turn your body as someone helps you lift your legs out of the car. Scoot and lean forward. Stand up on both legs to get your walker or crutches.



DO NOT drive during the first 3 weeks after surgery or until you are off all narcotic medications

Driving

We recommend not driving until at least 3 weeks after surgery or when you are off all narcotic medications. Although the motions involved in driving are not harmful, twisting while getting into the car, as well as the risk of getting in an accident with sudden stopping, could have harmful results. We also recommend that you are all off of all narcotic medications before driving.

Blood Thinners

There are different types of blood thinners used post-operatively. Most patients will be placed on a daily 325 mg aspirin twice a day for 6 weeks plus compression stockings for 10-14 days after surgery. Other options are Xarelto, Coumadin or injectable medications. This regimen may be adjusted depending on your medical history and allergies.

Sexual Activity

Sexuality is an important part of life. Illness, surgery, medications, and stress can temporarily alter sexual function. We strongly advise against intercourse for four to six weeks after surgery to allow your joint capsule and muscles to heal. When you resume sexual intercourse, those positions that were comfortable to you before surgery will probably be most comfortable to you now. Sometimes you may be more comfortable taking the bottom position until your knee is less sore. If you have additional questions or concerns, please ask.

Chapter 11: Lifetime Movement Restrictions



Lifting heavy objects may cause injury to you new knee joint

The following restrictions should be followed for the 3 month recovery period and for the **rest of your life**.

DO NOT twist the operated leg inward with quick or with exaggerated movement.

DO NOT pivot when standing. Instead, take small steps to turn around.

DO NOT jerk the operated leg. For example, if your foot is stuck in mud, do not forcefully pull it out. Take your foot out of the shoe and let someone else pull the shoe out of the mud.

DO NOT lift and carry anything that weighs more than 50 pounds on a regular basis. Once you are recovered, you may lift heavier objects as needed but remember that the more weight the knee replacement has to support, the faster it can wear out or even loosen. For example, if you lift 50 pounds, the amount of weight your knees are supporting is approximately 250 pounds. This can be too much stress for an artificial knee joint. Some objects that might be too heavy to lift early on include: groceries, laundry, garbage, toolboxes, children, pets, luggage, and full golf bags. This idea includes your own body weight. Keep within your normal weight limit.

DO NOT participate in sports that require any jumping, jerking, pulling, twisting, or running.

It is foolish to take chances with your activities because you could put your artificial knee joint at risk. While there is no guarantee for any type of artificial joint, following these rules will certainly increase your chance for a more successful result. And remember, you are the one who will benefit from a good result!

Chapter 12: Returning to Work



Returning to Work

You and your surgeon will discuss when you can return to work. This decision will be based on:

1. The type of work you do. An office worker can return work two to four weeks after surgery; a skilled worker can return to work three months after surgery.
2. Your physical stamina
3. Other medical information

We recommend that you avoid making any major changes in your work or retirement plans until your recovery is complete.

Chapter 13: Common Problems



**You may have a loss
of appetite after
surgery**

Appetite

After surgery, you might have less of an appetite. This could be caused by your medicines, or it may be that you are not used to the hospital food and your appetite will improve when you return home. You should call the office if you are vomiting or not able to eat at all. You should also call if after one or two weeks your diet is not back to normal.

Depression

It is not uncommon for you to feel somewhat sad and depressed once you have returned home from the hospital. You may cry easily and be more irritable. Don't worry, this will improve with time. It is important for you to talk openly about your feelings with your health care provider, supportive family members, or friends.

Incision care

Your incision may be warm, itchy, and slightly red for several weeks after surgery. Extensive bruising is sometimes present; however, excessive redness or soreness and any drainage should be reported to your surgeon or his nurse.

Leg and Ankle Swelling

You will have some swelling in your operated leg, but excessive swelling should be reported to your surgeon. If activity makes the swelling worse, plan to elevate your legs several times during the day. Sometimes we will recommend the use of compression stockings to help manage the swelling.

Pain and Numbness

You may expect to feel numbness, pain, and discomfort in your incision after surgery.

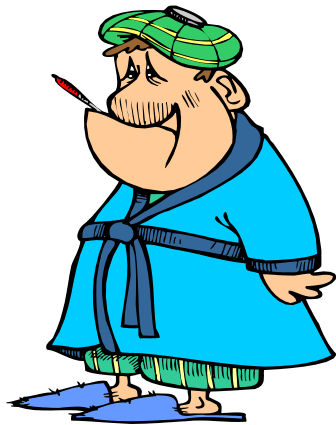
DO take the pain medication that has been prescribed for you. As the pain lessens, alternate the pain medication with regular or extra-strength Tylenol.

DO pay attention to how much Tylenol you are taking. Most pain medications also have Tylenol in them. You must not exceed 3000mg of Tylenol per day.

DO try an ice pack on your incision for 15-20 minutes, several times a day.

DO report to your surgeon any numbness or tingling down the back of your operated leg.

Chapter 14: When to Call a Doctor



**Please call us if you
have any problems
associated with your
surgery**

If you have having any problems associated with your surgery, please call your surgeon's office at (501) 666-2824. You may also call the Joint Academy hotline after hours at (516) 986-7846. Call if you have:

1. A temperature above 101 degrees after the first week of surgery that does not respond to tylenol
2. Drainage from your incision
3. Excessive redness around the incision
4. An increase in incisional pain
5. Excessive leg swelling
6. Pain and swelling in the calf of the leg
7. Numbness or tingling down the back of the operative leg

Your family doctor should be called for chronic problems, such as heart conditions, thyroid problems, or diabetes. After surgery, it is common for your blood pressure (BP) to be lower than usual. You may not need to take your BP medicine when you first arrive home and we will advise you on this. However, as you recover and become more active, your BP may need to be controlled with medication again. Your family doctor may need to monitor your BP once you return home. Your family doctor may also be the closest source for advice if you develop a cold, flu, nausea, vomiting, diarrhea, or constipation. If you are unsure which doctor to call, contact your surgeon's office to be directed to the proper source.

Chapter 15: Home Safety Precautions



**Be sure to use
handrails and non-skid
mats in your bathtub
or shower**

- DO** use non-skid rugs (no scatter or area rugs).
- DO** use non-skid mats on bathtub/shower floors.
- DO** use handrails in the shower or bathtub.
- DO** keep stairs, walkways, and hallways free of objects and clothes.
- DO** wear shoes or slippers with non-skid soles.
- DO** keep emergency numbers near your phone.
- DO** keep phone and lamp cords short or tucked away so you can't trip over them.

Chapter 16: Your 1st Post-Op Knee Evaluation



**X-ray of knee joint
prosthesis**

This evaluation will help you proceed to the next level of your rehabilitation.

During this visit, your knee will be x-rayed, your x-rays will be reviewed, and the physician assistant or surgeon will see you. You will be measured for the amount of motion you have in your knee, gently test your strength, evaluate your walking ability, and check for swelling. It is very normal to still be swollen at this time. Some swelling may persist for several weeks to several months.

The staples or stitches will be removed at this visit and steri-strips placed along your incision.

You will be asked questions concerning your activities during the past two weeks and about any difficulties you may have encountered. You should also feel free to ask questions.

It may take several months before you incorporate the knee prosthesis as a part of yourself. Your next evaluation day will be 10 weeks from the day of surgery (unless there is a problem). It is very important for you to attend each follow-up evaluation so that your surgeon can follow your progress.



You may use a cane 4 weeks into recovery.

Walking with a Cane

Towards the end of your physical therapy, the physical therapist will graduate you to and teach how to use a cane properly.

If you do not have a cane, you may purchase one at most large pharmacies, medical supply stores, or our office. The therapist can help you adjust the length of the cane to the proper height.

You should understand that all total knee replacement patients may have periods during the rest of their lives when a cane may be required. For example, you may need a cane when you go on vacation and do an excessive amount of walking or when you take part in an activity that is not part of your normal routine. At this time you may note some soreness in your knee. You should use a cane until the soreness disappears.

Remember your **lifetime movement restrictions** – they are important to the life of your joint! Carelessness only puts you at risk for more surgery.

Post-Surgery Follow-Up Evaluation

You will be expected to attend regular follow-up visits after your knee replacement surgery. The schedule for these post-surgery visits is as follows: 2-3 weeks, 3 months, 1 year, 4 years, 8 years, 12 years, 15 years, 17 years, 20 years, and 25 years.

It is important for you to understand the necessity of attending ALL of your post-surgery follow-up evaluations. Even though you may be feeling fine, it is still vital for you to come in for these regular check-ups. Having your knee replacement(s) checked every 3-4 years is necessary for your continued good health and pain-free daily living.

Chapter 17: Your Future Dental & Medical Care



You will need to take an antibiotic before and after dental and medical procedures

Since you have an artificial knee joint in place, you must take care to protect it from infection. Before having dental work or certain medical procedures performed, it will be necessary for you to take an antibiotic. The antibiotic will help prevent bacteria from getting into the blood stream and thus into your knee.

Amoxicillin is the antibiotic commonly given before dental work. You may take Clindamycin if you are allergic to Penicillin. Or, you may take another antibiotic as recommended by the American Heart Association.

For routine and extensive dental work, such as teeth cleaning, fillings, extractions, or root canals, you should take:

- Four Amoxicillin (500 mg) one hour before the procedure

If you are allergic to Penicillin then you can take Clindamycin

- Two Clindamycin (300 mg) one hour before the procedure

When making your dental appointment, make sure the dentist knows you now have a joint replacement and that you will need him to phone in an antibiotic prescription before your appointment.

Antibiotics given for other medical procedures may vary. It will also be necessary for you to be treated with a full course of antibiotics if you develop an infection such as an abscessed tooth, pneumonia, bronchitis, skin or urinary infections. See your family doctor to be placed on the correct antibiotic treatment for medical problems such as these.

Please contact your dentist with further questions.

To Reduce Swelling



Use the ice packs given in the hospital to ice the operated knee. This will help reduce swelling in the newly operated knee. Keep the ENTIRE leg elevated when resting. Please continue to wear the knee immobilizer (except for skin checks and dressing changes) until the first post-op visit.

Upper Extremity Exercises

Shoulder Flexion

- A. While sitting in chair with back and elbow straight
- B. Raise arm out in front of body
- C. Slowly lower arm back down to side



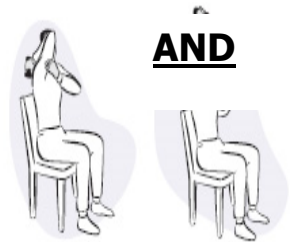
Biceps Strengthening

- A. Sitting in chair with elbow at your side and a small soup can in hand
- B. Slowly bend elbow bringing hand toward shoulder
- C. Slowly lower arm down to straighten elbow



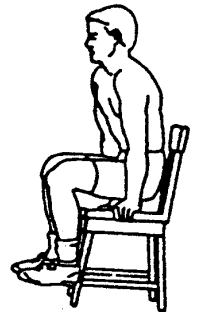
Triceps Strengthening

- A. Lying on your back with elbow pointed toward ceiling and small soup can in hand
- B. Slowly bend and straighten elbow, be sure to keep elbow pointed to ceiling



Sitting Press-Up

- A. Sit in a chair with palms flat on seat or on arms or chair
- B. Lean forward slightly and push up so that buttocks comes up off chair
- C. Slowly lower buttocks back down to chair



***** THESE EXERCISES NEED TO BE PREFORMED ALONG WITH
LEG EXERCISE IN PREPARATION FOR
YOUR SURGERY. *****

Important Phone Numbers

Surgeon's Office _____
Joint Academy Hotline (Urgent/After Hours (516)-986-7846 _____.
Family Doctor _____
Ambulance _____
Pharmacy _____
Other _____

Doctor Appointments

Initial Visit _____
Pre-Admission Screening Day _____
Surgery Date _____
Two Week Evaluation _____
10 Week Evaluation _____
1 Year Evaluation _____
4 Year Evaluation _____
8 Year Evaluation _____
12 Year Evaluation _____
15 Year Evaluation _____
17 Year Evaluation _____
20 Year Evaluation _____
25 Year Evaluation _____

