

Your Pathway to Recovery



A Guide To Total Knee Replacement (TKR) Surgery



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FirstHealth
OF THE CAROLINAS

A Guide to Total Knee Replacement Surgery

Dear Patient,

Welcome to FirstHealth of the Carolinas (FHC). We are very pleased that you have chosen FHC for your knee replacement surgery and we are committed to making your recovery a comfortable and successful one. It is with great pleasure that we provide you with a comprehensive overview of your upcoming experience. This manual is your guide. We urge you to read and refer to it frequently and bring it with you during your hospital appointments and visits. Additional information and patient education materials are available for your review on our website at www.firsthealth.org.

We are always looking for ways to advance patient care and education. We encourage you to offer suggestions for how we may improve in these, or any other areas of our service.

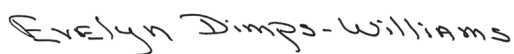
Once again, thank you for choosing FHC. We look forward to caring for you during your surgical experience. This is a major step in your life and we feel very proud to be a part of that journey.

Respectfully,

David Kilarski, CEO
FirstHealth of the Carolinas



Evelyn Dimps-Williams, R.N., BSN, MHA
Orthopaedic Service Line, Co-Chair
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IMPORTANT TELEPHONE NUMBERS

Moore Regional Hospital

FirstHealth Moore Regional Hospital Main	(910) 715-1000
Pre-Registration	(910) 715-2778
Admitting	(910) 715-1145
Outpatient Department	(910) 715-3086
Pastoral Care	(910) 715-1955
Clara McLean House (Hospitality House)	(910) 715-4220
Case Manager (Orthopaedics)	(910) 715-2176
Discharge Planning	
Orthopaedic Nursing Unit	(910) 715-2150
Evelyn Dimps-Williams, RN, BSN, MHA Clinical Director, 2C Surgical Services	(910) 715-2154

Richmond Memorial Hospital

FirstHealth Richmond Memorial Hospital Main	(910) 417-3000
Registration Services	(910) 417-3625
Case Manager (Orthopaedics)	(910) 417-3279
Discharge Planning	
2nd Floor Surgical Nursing Unit	(910) 417-3270
Jan Scholl, RN, MSN Clinical Director Medical/Surgical	(910) 417-3161

Before You Come to the Hospital

Total knee replacement can enhance your quality of life by providing many years of improved mobility and reduced pain. Each year, over 300,000 Americans benefit from total knee replacement. In the last decade, remarkable advances in technology have transformed total knee replacement into an efficient and widely performed procedure.

Before, during, and after your hospital stay, the physicians and staff of FirstHealth of the Carolinas are committed to your well-being and satisfaction. Each attending surgeon is supported by a large staff of physician assistants, anesthesiologists, radiologists, nurses, physical and respiratory therapists, social workers, and administrative personnel.

In bringing you the latest advances in total knee replacement, FirstHealth combines world-class professionalism with personalized care. The hospital's outstanding diagnostic, surgical, and rehabilitation divisions offer a complete array of services.

The members of the FirstHealth Team are here to serve you. Help us help you; any medical concerns should be discussed with your surgeon and unresolved administrative issues with your surgeon's office manager. A patient's active participation in treatment, with full understanding of all issues and realistic expectations, is vital to a patient's full and uneventful recovery.

Advanced Directives

In the state of North Carolina, medical decisions will be made by next of kin in the setting of an incapacitated patient that does not possess an Advanced Directive. In the case of patients without a surviving spouse, decisions would be passed to surviving children, parents, grandchildren, siblings – in this order with 2/3 majority of the group ruling. An Advanced Directive allows a patient to outline their wishes well in advance, protect their rights regarding decisions for their medical care and alleviate potential stress on family during hospitalization or emergency situations.

Advanced Directives - A legal document that conveys a patient's wishes to family, friends and medical care providers with regard to medical care the patient would wish to receive if he/she were unable to verbalize his/her wishes for his/herself due to his/her medical condition. This may come in many forms – Living Wills, Power of Attorney, pre-formatted forms, etc. These wishes are modifiable at any time and discussion of this directive ideally begins long before the directive will be needed to direct medical care.

Living Will – a written legal document outlining what types of medical or life-sustaining treatments a patient would want if they were to become seriously or terminally ill. Often this document will address such issues as (but not limited to): life sustaining equipment (dialysis, respirators/ventilators), do not resuscitate (DNR) orders, artificial hydration and nutrition (tube feeding), palliative care/comfort care, organ/tissue donation, when not to pursue aggressive medical treatments.

Health Care Power of Attorney – a legal document naming a patient's Health Care Proxy, the person designated to make medical decisions for the patient if he/she is unable to verbalize his/her wishes. This form of Advanced Directive allows the patient's wishes to be respected when a Living Will may not be in effect due to a non-terminal situation and allows medical decisions to be made in real time in actual circumstances.

DNR (Do Not Resuscitate) – a legal document stating that a patient does not wish for resuscitation efforts to begin in the event of cardiopulmonary arrest.

Advanced Directives may be changed as a patient's wishes change. Also, these documents are not in effect unless a patient is not able to communicate their wishes themselves.

Things To Do

1. Before your surgery, the surgeon's office staff may have you **make an appointment with your primary care physician and possibly your dentist** who will:
 - Review and/or perform any necessary diagnostic tests
 - Provide medical optimization and clearance for the surgical procedure
2. Unless you are told otherwise, continue to take medicines already prescribed by your own physician.
 - Fish oils should be **discontinued seven days prior to surgery**.
 - Anti-inflammatory medications, nutritional supplements (vitamins, minerals, iron, and calcium) should be **discontinued seven days prior to surgery**.
 - Consult your physician regarding aspirin products. ***Patients with cardiac stents should continue to take their aspirin (81 mg).***
3. The surgeon's office staff will also make an appointment for you for pre-surgical testing and completion of your history and physical examination. This should be done within 30 days of your surgery date and will include the following:
 - Routine diagnostic testing may be done so you can be cleared for surgery—including taking a blood sample for testing, a urine specimen, and an electrocardiogram (EKG).
 - You should bring a list of current medications and a detailed account of prior medical, surgical and family health history.
 - The nursing staff will request information as part of a comprehensive medical history to add to your patient care profile.
 - The nursing staff will provide instruction on preparation for surgery.
4. The surgeon's office staff will make an appointment for you to attend the pre-operative patient education class. The class is approximately 2—2 ½ hours long. During the class, patient educators will:
 - Review the surgical process
 - Discuss patient safety, pain management, and the prevention of complications (blood clots and infection)
 - Provide instruction on skin preparation
 - Review equipment used during your hospital stay
 - Begin creating your discharge plan

- Discuss physical therapy expectations, to include some exercises that may be done prior to surgery and the timeline for therapy after surgery
 - Discuss safety tips to help prepare for your return home
5. Before your admission, please discuss your wishes regarding Advanced Directives with family or another designated person (see p. 10 for more information).
 6. For patients who have **Sleep Apnea and use a CPAP device**, please bring your machine, your mask attachment and a record of the settings you normally use.
 7. The night before surgery, please use the CHG (Chlorhexidine gluconate) wipes as instructed during the pre-operative patient education class. Repeat the process the morning of your surgery at home before coming to the hospital.
 8. The use of nicotine products (i.e., cigarettes, cigars, gums, or patches) has been shown to increase risk of complications following surgery. They can inhibit bone and wound healing by decreasing blood flow to the surgical site. They can also increase the risk of deep vein thrombosis (blood clots). We recommend smoking cessation to every patient. If you need more information or need assistance to quit smoking, please talk with your doctor and remember, all FirstHealth campuses are smoke free.
 9. **NOTHING TO EAT OR DRINK AFTER MIDNIGHT THE NIGHT BEFORE SURGERY!**

When to arrive at the hospital

All Moore Regional patients must call the **Outpatient Department at (910) 715-3086 the day before surgery (Friday for Monday surgeries) between the hours of 3 p.m. and 6 p.m.** to find out your scheduled time for surgery and what time you need to arrive at the hospital on your day of surgery.

To find out your surgery time and what time you should arrive for surgery, Richmond Memorial patients should **call (910) 417-3803 between the hours of 3 p.m. and 5 p.m. if they have not received a call from the Operating Room or their surgeon's office before 3 p.m. the day before surgery. (Friday for Monday surgeries.)**

DR. JOHN MOORE'S PATIENTS WILL BE CALLED BY HIS OFFICE WITH THE TIME THEY ARE TO ARRIVE FOR SURGERY. PLEASE DO NOT CALL THE HOSPITAL FOR A TIME.

Safety Tips for Preparing Your Home Before Surgery

Making changes at home can reduce hazards and limit stair climbing. This can help prevent falls and make daily tasks easier. Your physical therapist (PT) or occupational therapist (OT) can give you more tips about making your home safer. Ask a friend or family member to help you by making some of these changes before you come home with your walking aid.

Home Tips

To make your home safer and your recovery easier:

- Remove objects that could cause you to trip, such as loose rugs, electrical cords, etc...
- Stock up on foods that are easy to prepare.
- Store foods and other supplies between waist and shoulder level. This makes it easier to stay balanced as you reach for things.
- Arrange things so you don't have to use the stairs more than once a day.
- Prepare a bedroom on the main living level if you normally sleep upstairs.
- Install handrails along stairs.
- Watch for pets or small objects on the floor.
- Make sure rooms are well lit.
- Keep items within easy reach, such as reading glasses, drinks, books, etc...
- Add pillows to a low chair.

Bathroom Tips

Which tips you follow depends on your physician's instructions, type of surgery, age, and overall health:

- Make bathing easier by using a long-handled sponge and a shower hose.
- Prevent slips and falls by installing handrails and grab bars in the shower.
- Use a nonslip bath mat to help keep the floor dry.
- Sit on a bath bench or shower chair while you bathe.
- Use a commode chair or elevated toilet seat to raise the height of your toilet.

A Closer Look at Total Knee Replacement (TKR)

To understand TKR, you should be familiar with the structure of the knee, a complex joint consisting of three bones: the femur (thigh bone), the tibia (shin bone), and the patella (kneecap). When you bend or straighten your knee, the end of the femur rolls against the end of the tibia, and the patella glides in front of the femur.

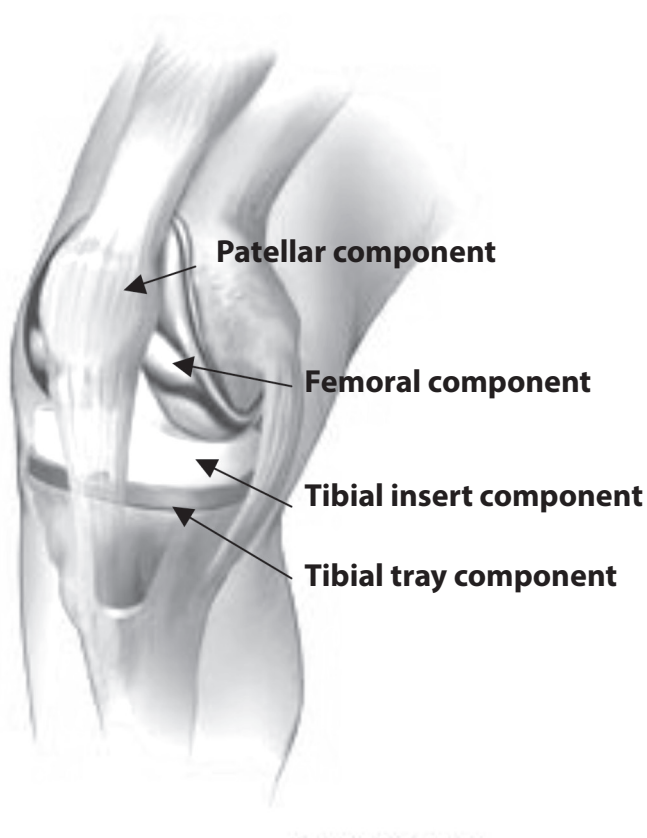
With a healthy knee, smooth, weight-bearing surfaces allow for painless movement.

A membrane lines the joint. Cartilage acts as a cushion between the femur and tibia and is lubricated by synovial fluid.



With an arthritic knee, the cartilage cushion wears out. The bones rub together and become rough. The resulting inflammation and pain cause reduced motion and difficulty walking.

The weight-bearing surfaces of a TKR are smooth, as in a normal knee. A femoral component covers the end of the thigh bone, a tibial component covers the top of the shin bone, and the patellar component covers the underside of the kneecap.



- Most femoral components are metal alloys (cobalt chromium) or metal ceramic alloys (oxidized zirconium).
- The patellar component is plastic (polyethylene).
- The tibial insert component is also plastic (polyethylene).
- The tibial tray component can be made of the following materials:
 - cobalt chromium (metal alloy),
 - titanium (metal alloy), or
 - polyethylene (plastic).

Clinical and biomechanical research has steadily refined knee replacement methods and materials. Prosthesis durability can vary from patient to patient because each patient's body places slightly different stresses on the new knee. However, the average patient can expect to obtain greater mobility and freedom from pain, which will, in turn, improve ability to walk.

Your Surgery and Hospital Stay

The Day of Surgery

o Surgery

You and your family, or the person accompanying you, should come to the main desk in the Registration Department. When you arrive, the admitting/registration staff will process your admission and issue you an identification bracelet. They will then escort you to the Outpatient Department located just around the corner.

The Outpatient nursing staff will complete your admission process and assist you with changing into our hospital gown. Your belongings will be gathered, labeled, and secured by our Outpatient Department, Security Department, or they will be given to your family depending on your preference. You should ask family to hold onto your eyeglasses and hearing aids to return them soon following surgery.

The Outpatient nursing staff will wash, scrub, and prepare the surgical site area. They will also start an intravenous (IV) line. The IV provides a route for fluids, medications, and blood products if necessary. It is also the main route for your antibiotics to prevent and reduce the risk of infection. Your IV will be in place for approximately 48 hours and will be removed when your medication is complete and when your normal diet is resumed and tolerated.

A member of the Operating Room staff will greet and escort the patient to the pre-surgical holding area and direct the family to the Surgical Waiting Room. The Surgical Waiting Room is a lounge area and central hub where family members wait for information following surgery. It is equipped with comfortable chairs, offers television services, has Wi-Fi and cell phone use is allowed.

Members of your surgical team will take your latest information and perform some additional safety cross checks and tasks. They will review the surgical consent, your surgeon will confirm your identity, review, and then sign your surgical site with a surgical marker. These steps are an important part of the process designed to increase patient safety.

Members of your Anesthesia team will review and explain the plan for anesthesia, including the type of anesthesia, your level of sedation, and your post-surgical pain management. A majority of our TKR patients will receive IV sedation and a regional (spinal and/or femoral nerve block) anesthetic, in which a narrow catheter (tube) is inserted in the lower spine and/or thigh and allows a continuous flow of anesthetic medication to block pain and optimize the patient experience. The level of sedation and anesthesia is tailored to your specific needs and will allow for you to awaken very soon after the surgical procedure is completed.

After rechecking that all of the appropriate paperwork and tasks have been performed, members of the OR staff will then escort you on a stretcher down the hall and into one of the operating room suites.

TKR surgery generally takes approximately 1 to 1 ½ hours, but the actual elapsed time from operating room to post-anesthesia care unit (PACU) is usually longer. Your surgeon will provide more specific details and will make arrangements to speak with your family in the Surgical Waiting Room following surgery or will make other arrangements to contact them. **Please provide the surgeon with specific contact information as to where and how your family can be reached.**



o After Surgery

In the Post-Anesthesia Care Unit (PACU), also called the Recovery Room, you may be given oxygen, and your vital signs (respirations, heart rate, temperature, and blood pressure) and IV will be monitored. The team will also focus on managing your pain. Once in the PACU, your family and friends will be provided an update. To maintain patient privacy, as well as to reduce the risk of infection, PACU visits are severely limited, but may be facilitated through patient liaisons only when absolutely necessary.

When the anesthesiologist determines that you are sufficiently recovered, you will be transported to the orthopaedic inpatient unit.

Spiritual Support—FHC formally recognizes the role that spiritual support can play in coping with and recovering from physical illness. To help meet your spiritual and emotional needs, FHC provides a Chaplaincy Service as an integral part of the healthcare team. The chaplains are here to serve you and your family and can provide pastoral support in any faith. Please call (910) 715-1955 to contact the Pastoral Care Office.



Recovering in the Hospital

The knee will have a large, bulky elasticized bandaged dressing. You may have a thin tube inserted at the surgical site during the operation and attached to a drain and suction device to prevent accumulation of blood around the muscles and bones of the knee. The tube and drain are removed the second day after surgery, and the bandage is removed the second post-surgical day.

The IV will remain connected to you for approximately 48 hours. Some surgeons will recommend the use of a continuous passive motion machine (CPM), which helps the knee bend and flex. The CPM may begin on the day of surgery or on the next day. Members of the nursing staff will position you in bed and help you turn until you are able to move on your own. Regional anesthesia may temporarily inhibit bladder function after surgery. If needed, a catheter may be inserted into the bladder. When a patient regains bladder function, this catheter is removed.

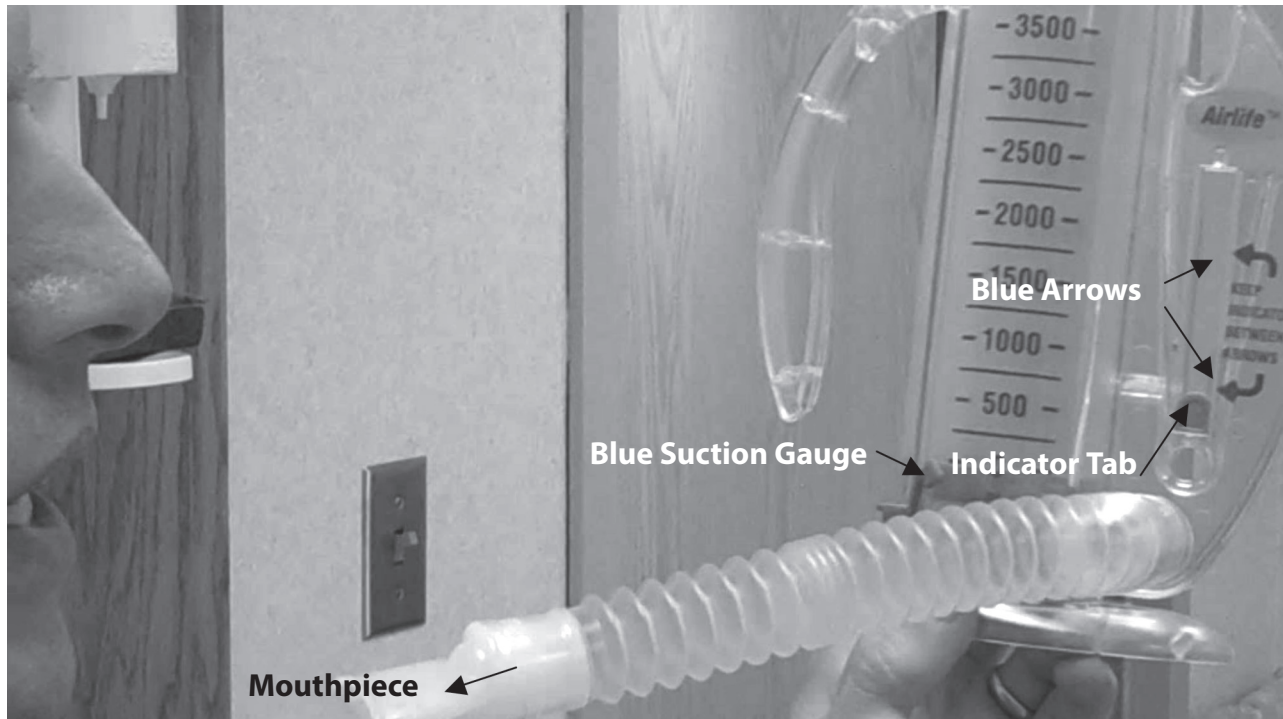
o Exercise

Gentle exercises to improve your range of motion can help prevent circulation problems as well as strengthen your muscles. Very soon after surgery, a physical therapist will teach and review your exercise program.

o Deep Breathing

It is **extremely important** to perform deep breathing exercises after surgery to rid your airway and lung passages of mucus. Normally, you take deep breaths almost every hour, usually without being aware of it, whenever you sigh or yawn. When you are in pain or are drowsy from anesthesia or pain medication, your breathing may be shallow. To ensure that you breathe deep daily, the nursing staff will provide you with a device called an incentive spirometer, along with instructions on its use.

How to Use the Incentive Spirometer



1. With the unit in an upright position, place your lips tightly around the mouthpiece and exhale normally.
2. To achieve a deep and sustained breath, inhale at a rate sufficient to raise the blue suction gauge in the chamber to the highest number possible and at the same time, keep the indicator tab between the two blue arrows.
3. Exhale. After performing the exercise, remove the mouthpiece from your lips.
4. Relax and breathe normally for a moment after each deep breath.
5. Repeat this exercise 10 times every hour.

The goal is to get the large blue suction gauge higher each time you do it. But, you want to keep a slow, steady breath at all times.

(Think of drinking a very thick milkshake.)

Managing Pain

o How Does it Feel?

Recovering from any surgery involves pain and discomfort. The hospital's team approach to pain management can help reduce your discomfort and thus speed your recovery. Pain management, however, begins with you. Since no objective tests exist to measure what you are feeling, you must help the staff by describing the pain, pinpointing its location, and judging its intensity, as well as reporting any changes. Pain may be constant or sporadic, as well as sharp, burning, tingling, or aching. A pain scale is used to help you and the staff gauge the level of pain and effectiveness of treatment.

People used to think that severe pain after surgery was something they "just had to put up with." While it is reasonable to expect some discomfort following surgery, the current treatment options greatly reduce the level of pain most patients have.

Your description will help us provide you with a plan of care. Even under your personal pain management program, your pain level may change at times. Be sure to tell your nurse if it becomes worse.

You will be asked to rate how much pain you have on the Pain Scale below:



o Your Treatment Plan

Pain control following surgery is an important part of your care. We will use a multi-faceted approach to manage your pain. This may include a combination of nerve blocks, oral medications, injections, IV medication and catheters connected to computerized pumps that are controlled by the patient (Patient Controlled Analgesia or PCA). We try to refrain from giving injections, but sometimes this is unavoidable. The goal is to try to recognize and treat your pain quickly, which allows you to participate in the exercise program.

The goal is to transition you to oral pain medications. Usually the oral pain medication is an opioid or narcotic, but may include an anti-inflammatory medication if needed. This transition is usually a smooth one, enabling you to progress with your activities with minimal discomfort.

Every patient's experience is unique. So, if you need pain medication, tell your nurse as soon as the pain starts. **Keep in mind that your pain is easier to control if you do not allow it to become severe before taking pain medication.** Usually medications are available every four to six hours as needed.

Regardless of which pain relief method is started, **if you are not getting pain relief, please notify your nurse or doctor.** We want you to be as comfortable as possible while you heal. Being able to participate in your own recovery activities is a goal of the recovery process.

It is extremely important that you inform your anesthesiologist about any problems encountered with medications of any type in the past and if you are currently using prescription medications for pain.

o What is Patient Controlled Analgesia (PCA)?

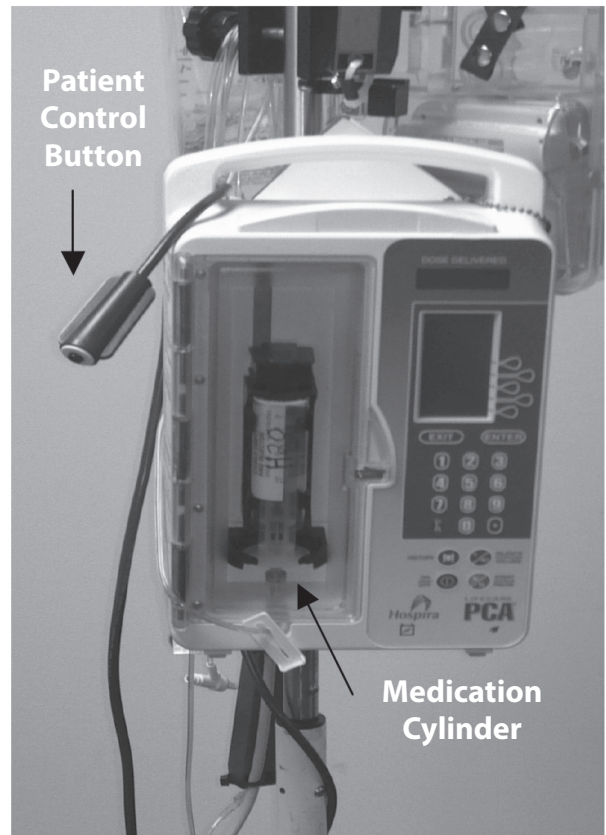
PCA is a type of pain medication delivery system which utilizes a microprocessor (computerized pump) to administer a prescribed amount of medication at desired intervals. This pump is prepared and programmed for you by your nurse.

The pump is programmed to deliver a pain medication either when you push the button (demand dose) or by a continuous flow (basal rate). It will be attached through your intravenous line. It is called "Patient Controlled" because, if needed, you can press a button attached to the pump to give yourself a dose of pain medication.

Precautions against an overdose have been incorporated into the PCA. The pump is programmed not to deliver the dose of pain medication requested if it is not time to safely do so. There is an hourly limit of medication available.

The PCA system automatically records both the doses delivered and denied. Your nurse checks this machine frequently and records the amount of medication used. If you are having pain after using your PCA hourly limit, tell your nurse. The nurse can call your surgeon to adjust the medication or PCA settings as needed.

The nurses regularly check on you to evaluate your level of pain relief and assess for side effects. If any problems arise, there is always a physician on call 24 hours a day, 7 days a week.



PCA PUMP

o Epidural

Patients who have surgery on the hips, knees, or ankles may have epidural anesthesia. After a local anesthetic injection, a catheter (very thin tubing) may be placed between the bones of the back for administering the anesthesia for your operation. Afterwards, pain relief can be continued into the post-operative period.

o IV PCA

After the epidural catheter is removed, or if the medication in the epidural does not contain an opioid (narcotic), or if you did not have epidural anesthesia, the PCA pump will be attached to IV tubing. This means that the PCA pump will be programmed to inject pain medication directly into your blood stream. Again, you can give yourself an extra dose of medication, if needed, just by pressing the button attached to the PCA pump. This should keep you comfortable most of the time.

o Femoral Nerve Block

Your anesthesiologist may include a femoral nerve block and catheter insertion as part of the pain management regimen. A femoral nerve block is an injection into the upper aspect of the thigh near the groin area with a long-acting numbing medication similar to Novocain. If a catheter is placed, the numbing medication will be continuously applied to the area through the tube. The medication numbs the front of the knee and temporarily weakens the thigh muscles. Your nurses and therapists will need to assist and support you while standing during the first day after a femoral nerve block or after the catheter is removed as you may have a tendency to buckle your knee.

It is important for your safety that you do not try to get out of bed on your own.

o Oral Medication

You may be given oral pain medication to help off-set any break-through pain not controlled by PCA, epidural, or femoral nerve block/catheter. About 24 to 48 hours after surgery, as pain decreases and your activity level increases, you will be changed over to only oral medications. These will control discomfort without restricting activity or mobility.

o Side Effects with Pain Medication

Some common side effects associated with pain medication are as follows:

- o Nausea and vomiting
- o Changes in blood pressure
- o Constipation—***You should take a stool softener or laxative daily while on any pain medication.***
- o Drowsiness

All of these side effects are very common while taking pain medication. Your nurse may be able to help alleviate these symptoms, so please make sure she is aware if you are experiencing any side effects.

Please notify your nurse **right away** if you are having:

- o Severe Itching
- o Rashes
- o Difficulty breathing

These symptoms could signify a serious reaction to a medication. Your nurse should be made aware immediately if you experience any of these symptoms.

o Cold Therapy

The application of cold has been shown to reduce swelling and pain associated with inflammation associated with the surgical site. Ice packs or cold pads will be used continuously for the first 24 hours after surgery and should be applied for 15 minute intervals every 3 to 4 hours on a daily basis for the first few weeks following surgery.

o What Else Can You Do?

There are many other techniques that have been shown to help reduce or better control pain.

- o Get lots of rest.
- o Use music or TV shows to relax and take your mind off the pain.
- o Turn the lights down in your room to help you rest.
- o Take deep breaths and place a pillow against the painful area.
- o When your pain is under control, you should try to move around. The more you move, the more it helps to work out your soreness.
- o If you ever feel like your pain is out of control, let your surgeon or nurse know.

Rehabilitation in the Hospital

o Your Daily Physical Therapy Session

You will be seen by a physical therapist on the day of surgery or the next morning after surgery. Your therapist will instruct you in your exercise program, which is directed toward increasing range of motion and strength of your legs. For the first few days after surgery, patients benefit from taking pain medication thirty minutes prior to their therapy session. You should discuss this with your nurse and/or therapist.

o Beginning to Walk

Your therapist or nurse will assist you in sitting up with your feet over the bedside (we call it dangling). You will then stand with the use of a walker and the continued help of your therapist. As soon as possible, you will be allowed to bear full weight on the operated leg and then attempt walking.

As the days progress, you will increase the distance and frequency of walking.

o Stair Climbing

You will practice stair climbing prior to discharge. You will use steps with the physical therapist on the Orthopaedic unit.

o Looking Ahead

Before leaving, you will be instructed in an exercise program for home to use until you meet with your home health therapist for the first time.

o Remember, You Make the Difference!

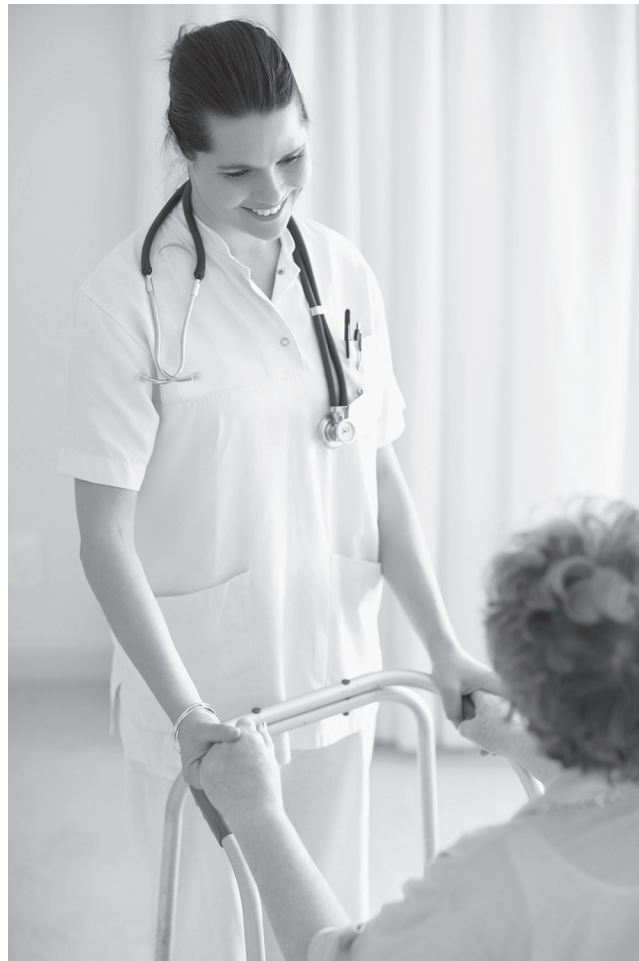
It is extremely important that you understand that your motivation and your participation in your physical therapy program is a vital element in the speed and success of your long-range rehabilitation as well as getting ready to go home.

Your participation in a physical therapy program is essential to the success of your surgery. The more committed and enthusiastic you are, the quicker your improvement will be.

Soon after surgery, a physical therapist will visit you with an exercise program to increase range of motion and strength in your leg muscles.

The physical therapist will assist you in the following activities:

- Sitting at bedside with your legs dangling
- Transferring in and out of bed safely
- Walking with the aid of a walker
- Climbing stairs
- Performing muscle strengthening and range of motion exercises with or without the CPM



Tips for a Successful Recovery at FHC...

Physical Therapy

- Participate in physical therapy daily.
- Our physical therapists are available by 8:30 a.m. seven days a week. Your nurse should be able to communicate with your therapist to get an approximate time for your therapy sessions to better coordinate your pain management program.

Patient Safety and Falls Prevention

- Always ask for assistance when getting out of bed.
- Please make sure items you may need (phone, TV remote, water, etc...) are close by so you have easy access to them. Ask your nurse for assistance if needed. That's what we are here for.
- **Remember—Call! Don't Fall!**

Pain Medication

- Take pain medication at regular intervals throughout the day, not just before physical therapy. Don't wait until your pain is bad.
- You must ask your nurse for your pain medication. It will not be brought to you automatically.
- You are not expected to recover without using pain medication...if you need it, ask for it!
- As pain medication can cause constipation, it is very important that you have a bowel movement before you leave the hospital.

Bathroom Privileges

- Once you are able to tolerate being out of bed for at least 20 minutes, you will be safe to use the bathroom with assistance.
- Bedside commodes or bedpans are alternatives to getting out of bed to use the bathroom. However, we encourage you to get up and move to the bathroom!

Do's and Don'ts After Your Total Knee Replacement

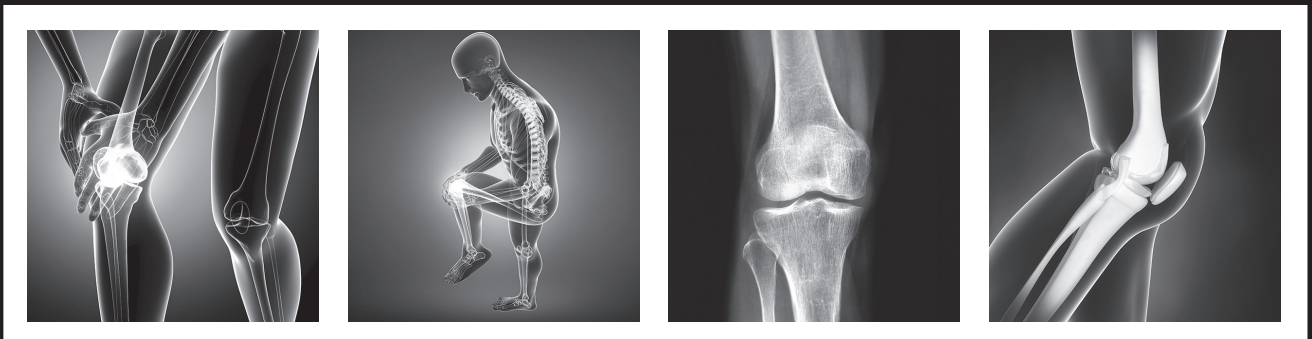
Below is a general list of precautions to follow after your total knee replacement. If additional precautions are warranted, the staff will provide instructions.

Do

- ☑ Position your knee comfortably as you go about your daily activities.
- ☑ Walk and perform range of motion exercises every day.
- ☑ Use an ice pack if your knee begins to swell.
- ☑ Elevate your leg one hour twice a day if your knee, calf, ankle or foot begins to swell.
- ☑ At home, you can use a grab bar or shower chair for added safety, comfort, support, and stability.

Don't

- Twist your knee. Turn your entire body instead.
- Jump or otherwise put sudden, jarring stress on your knee
- Never put a pillow or a roll directly under your knee. Always keep the knee out straight while lying down in bed.



Preventing Blood Clots

After total knee replacement surgery, clots, called deep vein thromboses (DVT), may form in the leg veins. In rare cases, these leg clots travel to the lungs where they may cause additional symptoms. To prevent and reduce the incidence of clot formation, mechanical devices (foot or leg pumps) are used while you are in the hospital to squeeze the leg muscles, thus maintaining blood flow in the veins. Also, a medication to minimize clot formation, such as Coumadin (warfarin), Lovenox (enoxaparin), or Aspirin, will be prescribed.

o Leg Swelling

Following total knee replacement, most patients develop swelling in the operated leg. Although the amount of swelling can vary from patient to patient, the swelling itself, in the leg, knee, ankle, or foot, is normal and may be accompanied by “black and blue” bruising that will usually resolve gradually over several weeks.

For the first month after your operation, prolonged sitting with your foot in a down position tends to worsen the swelling. You should not sit for more than 30 to 45 minutes at a time. Periods of walking should be alternated with periods of elevating the swollen leg. When elevating the leg, the ankle should be above the level of the heart. Lying down for an hour in the late morning or afternoon helps reduce swelling.

To prevent or reduce leg and ankle swelling:

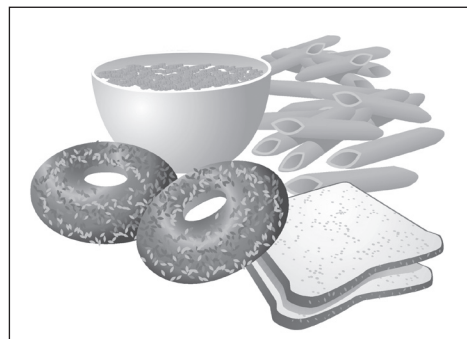
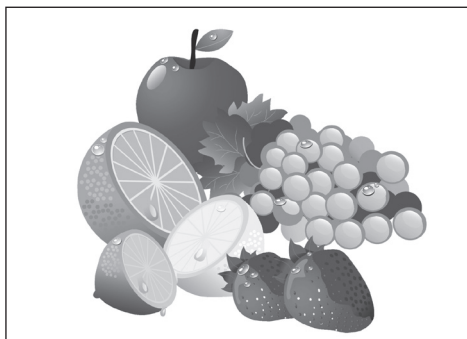
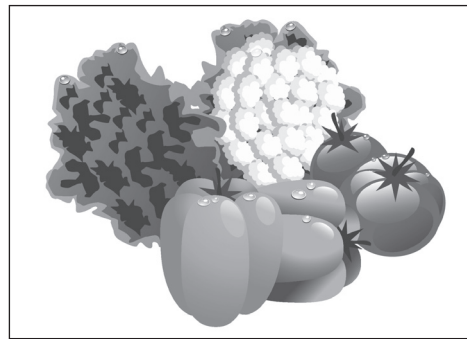
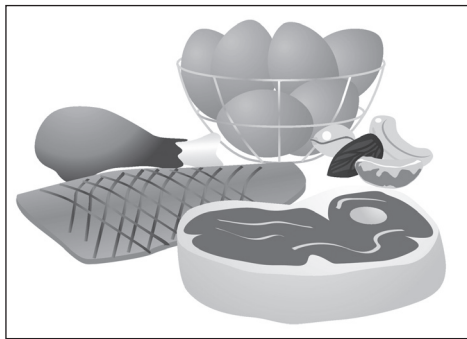
- Elevate operated leg
- Avoid sitting for more than 30 to 45 minutes at a time
- Perform ankle exercises
- Apply ice for 20 minutes a few times a day (before and after exercises)
- Take a nap every afternoon and elevate your legs.

Diet

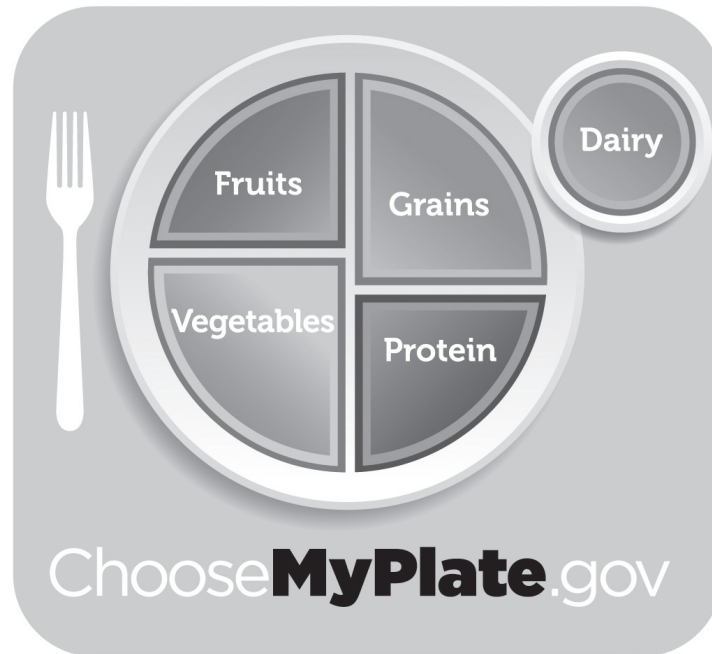
During your hospital stay, eat balanced, nutritious meals with adequate calories and protein to enable your body to replenish proteins depleted by surgery, and to reduce the risk of complications such as infection or poor wound healing. Being adequately nourished is an important component of your overall health and promotes your recovery.

During your hospitalization, your physician is responsible for ordering the appropriate diet for you. There is no special diet for total knee replacement patients.

After surgery, most patients will be placed on a liquid diet for the first 1 or 2 meals, as appetite may be poor and the effect of anesthesia on intestinal function can last a few days. We encourage you to eat only when you feel hungry to prevent nausea. Not having a bowel movement for 1 to 2 days following surgery is normal, however, ***you should be sure to have a bowel movement prior to your discharge from the hospital.***



MyPlate Dietary Guidelines



The new guide, USDA's MyPlate, was introduced in 2010, as the new guidelines for proper dietary nutrition. These guidelines, developed by the USDA in conjunction with the Department of Health and Human Services are designed to serve as the "cornerstone of Federal nutrition policy and nutrition education activities" (USDA Dietary Guidelines, 2011).

Evidence based, authoritative advice for Americans ages two and up regarding calorie consumption, physical activity to obtain optimal health, informed decisions about choices of food and their nutritional value, as well as ways to reduce chronic conditions and promote overall health are provided as a part of the My Plate guidelines.

Why the change to MyPlate?

According to the key developers of the MyPlate Dietary Guidelines, changes were made in the federal nutrition program because more than two-thirds of American adults and more than one-third of America's children are determined overweight or obese. The Dietary Guidelines for Americans, 2010 also recognizes and acknowledges that approximately 15% of American households have been unable to secure adequate food to meet their needs (Nord, Coleman-Jensen, Andrews, & Carlson, 2010). Moreover, the plate model was chosen as it is easier for individuals to understand; as the pyramid model proved to be somewhat difficult for many average Americans to comprehend.

Choose MyPlate – Make smarter Food Choices

The goal of My Plate is not to provide a specified dietary program to address any particular physical or health related condition. Rather, the goal of My Plate is to help Americans make smarter food choices from every food group represented, strike a balance between food and physical activity that helps to use the food for energy, stay within suggested daily calorie needs, and to get more nutrition from the calories that are consumed.

MyPlate describes a healthy diet as one with a focus on vegetables, fruits, fat-free or low-fat milk and milk products, as well as whole grains. MyPlate guidelines suggest more lean meat consumption, nuts, eggs, beans, fish, and poultry; and a diet that is low in trans fats, saturated fats, cholesterol, added sugars and salt.

The SECTIONS in MyPlate

MyPlate is made of four sections with the colors orange, green, blue and red, plus a side order in blue. Each color represent a specific food group and provides certain nutritional benefits. This plate model illustrates the importance of a varied diet with foods from each food group. The purpose with this design is to help people make healthier and smarter food choices. Let's see what each color in MyPlate represents:

- **The grain group – “Make at least half your grains whole.”**
- **The vegetable group – “Vary your vegetables.”**
- **The fruit group – “Focus on fruits.”**
- **The protein foods group – “Go lean with protein.”**
- **The dairy group – “Get your calcium rich foods.”**

You are encouraged to have a source of protein with each meal or snack to help prevent loss of lean body mass. Protein is found in meats, but is also in legumes, milk, cheese, yogurt, eggs, and nuts (to include peanut butter or almond butter).

10 Tips for a Great Plate

In addition to the general information provided by My Plate, there are 10 tips to a great plate that are easy guidelines for everyone to be able to follow. They are:

- 1. Balance Calories:** Determine how many calories you need per day as a first step in diet management. Physical activity also helps to balance caloric intake.
- 2. Enjoy your Food, But Eat less:** There's nothing wrong with enjoying your food as you eat it. When your attention is somewhere else or when you eat too fast, there is a greater possibility of consuming too many calories and overeating. Pay attention to fullness and hunger cues before, during and after you have eaten. Use these cues to recognize when to eat and when you have had enough.
- 3. Avoid Oversized Portions:** Use a smaller glass, bowl and plate. Determine portion size before you eat and when eating out, choose a smaller size option such as the lunch portion for dinner. Share your dish with those you eat with and take home a portion of your meal.
- 4. Foods to Eat Often:** Increase the number and amount fruits, vegetables, whole grains and low and fat free dairy and milk products. These foods tend to be nutritionally packed and include specific healthful nutrients including fiber, vitamin D, calcium, and potassium. Make these food stuffs the basis not just of meals but of snacks as well.
- 5. Make Half your Plate Vegetables and Fruit:** Choose colorful vegetables such as sweet potatoes, butternut squash, tomatoes, and broccoli in addition to other vegetables. Make fruit a part of side dishes as well as dessert.
- 6. Switch to fat free or low fat milk:** The same amount of calcium is available in these options as you would find in whole milk, but there are fewer saturated fats and fewer calories.
- 7. Make Half Your Grains Whole Grains:** Substitute refined grain products for whole grain products; for example, substitute wheat for white bread, and brown for white rice.
- 8. Reduce foods that are high in added sugars, salts and solid fats.** These foods include ice cream, candies, sweetened drinks, pizza, cakes and pies and fatty meats such as hot dogs, bacon sausage, and ribs. It's okay to have them every now and then, on occasion, but not as a part of everyday meals.

9. Compare Sodium in Foods: Review the nutrition facts label available on every food product with the exception of fresh vegetables and fruits. Select canned items that are “no salt added”, “low sodium”, and “reduced sodium”.

10. Drink Water instead of Sugary Drinks: Reduce calories by changing what you drink. Calories can be significantly reduced with unsweetened beverages or water. Soda, sports and energy drinks are a significant source of calories and added sugar in many Americans diets.

References:

Choose MyPlate, “10 Tips to a Great Plate”.

<http://www.choosemyplate.gov/downloads/TenTips/DGTipsheet1ChooseMyPlate.pdf>

Nord, M, Coleman-Jensen, A, Andrew, M., & Carlson, S. (2009). Washington D.C.

US Department of Agriculture, Economic Research Service, 2010. Nov.

Economic Research Report No. ERR-108. Available from

<http://www.ers.us.da.gov/publications/err108>

Nutrition Plate Unveiled, Replacing food Pyramid. The New York Times. 2 June 2011

REMINDER...

IF you begin taking the blood thinner Coumadin/Warfarin, you should limit dark green, leafy vegetables for the entire time period you will be taking that medication.

Your nurse will go into much more detail during your hospital stay.

Preparing to Return Home

The majority of patients who undergo a total knee replacement are usually discharged from the hospital within two to three days after the surgery and many of them are able to return to their home environment.

- **How the Hospital Can Help**

As soon as you decide to have a total knee replacement, you must look ahead, and plan for discharge and home recovery. Preparing enables you to concentrate on your main task—getting well. To help you plan for discharge and home recovery, the Orthopaedic Department’s Case Manager is available to you by calling (910) 715-2176 (Moore Regional Hospital) or (910) 417-3279 (Richmond Memorial Hospital).

A Case Manager, or Discharge Planner, is available to you to address any concerns you may have about your discharge from the hospital. The discharge planner will review the alternatives available to you based on your medical condition, home and healthcare needs, care arrangements you have already made, geographic location, insurance coverage, and financial situation. Your options may include Home Health follow-up, Outpatient therapy, short-term placement in a nursing facility, or acute Rehab (this option is only available for patients that have both knees replaced at the same time). Your Discharge Planner will help you make the best choice for you and your situation.

The Discharge Planner/Case Manager will discuss your post-discharge needs in consultation with your surgeon and other members of your primary healthcare team. Your involvement is essential in formulating a discharge plan that will suit your needs.



o Filling Your Prescriptions

For the convenience of our patients, FirstHealth of the Carolinas, Moore Regional Hospital has opened an outpatient pharmacy to help make your transition home as smooth as possible.

Our Outpatient Pharmacy is located on the Lobby Level, near the Parking Deck entrance.

The Outpatient Pharmacy can be accessed by patients, families, and staff between the hours of 9 a.m. and 7 p.m., Monday through Friday and 9 a.m. to 2 p.m. on Saturday.

In order to process your prescriptions, we will need the following information:

- 1) Your insurance or prescription coverage card/information
- 2) Your written prescriptions
- 3) Someone to pick up the prescriptions before you leave



This is a service we provide for the convenience of our patients. We hope to save you the time and frustration of having to make an additional stop on the way home, and it will ensure you have your pain medication available when you need it.

If your anticipated discharge date is after hours for the Outpatient Pharmacy, please let your nurse know that you wish to have your prescriptions filled by early Friday afternoon, and he/she will make sure to get

you or your family the written prescriptions to have filled. They will then be locked in a secure location until you are discharged.

For any questions regarding our Outpatient Pharmacy, please feel free to call and speak with a pharmacy staff member at **(910) 715-4250**.

Final Steps: At Home

Guidelines for Recovering at Home

Please do not hesitate to contact your surgeon with any questions you have about the following instructions.

o What's Normal

- Some pain and discomfort in the area of your surgery
- Small water blisters on the operated leg
- Some bruising around the area of your surgery
- Low energy level that requires rest periods

o What's Not Normal...Call Your Surgeon

- Pain in your knee that does not get better after your pain medicine
- Redness and/or swelling around your incision
- Fever over 100.5°F (taken by mouth)
- Bad odor or drainage coming from your incision
- Enough bright red blood coming from your incision to soak and leak from your dressing/bandage.
- Shaking chills
- Pain in your calf that does not improve with elevation
- A lot of swelling in your leg and foot that does not improve with elevation
- Chest pain
- Problems breathing while at rest, chest congestion, or coughing

- **During office hours, call your surgeon's office first (see p. 5 for a listing of numbers).**
- **After office hours, call FirstHealth Moore Regional Hospital at (910) 715-1000 and ask for your surgeon.**
- **After office hours, call Richmond Memorial Campus at (910) 417-3000 and ask for your surgeon.**

o Getting Into Your Car

1. Prepare your car by having the front seat moved back as far as possible.
2. A pillow or folded blanket may be placed in low, bucket seats.
3. You may also want to recline the backrest of the seat slightly if this is available. This will give you room to bring your legs into the car.
4. Back yourself up to the side of the car seat.
5. Reach back for the dash with one hand and the back of the car seat with the other. Then sit down.
6. Once seated, scoot back to allow room for your legs to be lifted into the car.
7. As you lift your legs into the car, turn your body to face the front.
8. Reverse the process to get out of the car.

o When to Begin Driving

Most patients are able to resume driving about six weeks after surgery. It depends upon which leg was operated on, your range of motion, strength, and coordination. Always check with your surgeon before you resume driving. You should not be driving if you are still taking pain medication.

o Caring for the Surgical Site

- o A dry, sterile dressing can be applied over the incision until your staples or sutures are removed.
- o If your surgeon allows you to bathe/shower, do so with the dressing on, then remove the soiled dressing and apply a new dry, sterile dressing with NO WOUND CARE.
- o After suture or staple removal, leave the incision uncovered unless instructed otherwise.
- o Please inform your surgeon if you notice increasing redness or drainage from your incision.

Steps for Changing Your Dressing

The person changing the dressing should wash his/her hands before and after changing the dressing.

- 1) With your current dressing on, you should shower or bathe and dry off with a clean towel.
- 2) Remove the old dressing carefully, pulling gently from top to bottom.
- 3) Open outside wrapper of new sterile dressing.

- 4) Hold dressing lightly on each end.
- 5) Do NOT touch the center, white portion (it is sterile and should remain so).
- 6) Center the dressing along the incision.
- 7) Start at one end and apply the dressing over the wound.
- 8) Rub along the outer area of the dressing to seal edges (for adhesive bandages only) or use elastic, mesh covering (for 4x4 gauze dressings).

o Getting In and Out of Bed

Getting in and out of bed can be difficult until you get some strength back in your leg. In general, you can get in and out of either side of the bed, but if you have a choice, it is usually easier to move in the direction of your “good” (non-operative) leg.

For example: If the right knee is operated on, then move to the left to get off the left side of the bed. Then get back in bed on the right side so that the “good” (left) leg is moving onto the bed first.

These are the steps you will follow when getting out of bed:

- 1) First, shift your hips over to the very edge of the bed. Shift your hips by using your “good” leg (bent at the knee) and shoulders to help lift your hips up and over toward the edge of the bed. You will need help to move your operative leg.
- 2) Once you are at the edge of the bed, you must then get both feet off the bed. Once both feet are off the bed, use both arms to push yourself up to a sitting position on the side of the bed.
- 3) To get back into bed, you may need assistance to lift your operative leg up onto the bed. Once in the bed, use your “good” leg (bent at the knee) and shoulders to shift your hips back toward the center of the bed.
- 4) There are several ways to get the operative leg back up on the bed. These techniques include:
 - a. Having someone help by lifting the leg for you.
 - b. Using the “good” leg to assist by hooking the foot under the operative leg at the ankle.
 - c. Using a rolled sheet or long belt/rope sling around the bottom of the foot and lifting the leg onto the bed while holding both ends of the sheet/belt/rope with one hand.
 - d. When you have enough leg strength, stiffen the leg and raise it up onto the bed.

o Summary

- 1) Shift over to edge of bed.
- 2) Get both feet off the bed.
- 3) Push up to sitting position using both arms.
- 4) You may need some form of help to get your operative leg back up onto the bed until the leg has regained strength.

o Pain Medication

- Take your pain medication as prescribed.
- Take pain medication with food and plenty of fluids.
- To control pain, take your pain medication before the pain becomes severe.
- If your pain medication seems weak or you are experiencing unpleasant side effects, do not hesitate to call your surgeon's office.
- If you are taking pain medication, avoid alcoholic beverages.
- It is important to notify your surgeon's office if you require additional pain medications. It will take a few days to mail you a new prescription if necessary, so call the surgeon's office before your supply runs too low. Call when you have a one week supply to be safe.
- Constipation is a very frequent side-effect of pain medication. ***Be sure to take a stool softener or laxative daily while taking pain medication.***

If you experience discomfort during your ongoing physical therapy, take your pain medication at least 30 minutes prior to your therapy sessions. This will allow enough time for the medication to take effect.

Preventing Infection (Antibiotic Prophylaxis)

It is very important that you protect your artificial joint from potential infection. Some patients have increased risk following total joint surgery as an infection can spread to the new joint through the bloodstream (the medical term for this is “hematogenous” spread) from another source in your body. Please tell all of your health providers that you have an artificial joint as they may need to prescribe antibiotics before treatment. This is especially important before dental procedures and invasive urinary procedures. If you are not sure whether a procedure you are having is invasive, play it safe and inform your surgeon, who will provide additional instructions.

Before having any of the following procedures, make sure you tell your dentist that you have an artificial joint. They, along with your orthopaedic surgeon, may have you take an antibiotic to help prevent infection.

- Dental extractions
- Periodontal procedures including surgery, sub gingival placement of antibiotic fibers/strip, scaling and root planning, probing, recall maintenance
- Dental implant placement and re-implantation of avulsed teeth
- Endodontic (root canal) instrumentation or surgery only beyond the apex
- Initial placement of orthodontic bands, but not brackets
- Intraligamentary local anesthetic injections
- Prophylactic cleaning of teeth or implants where bleeding is anticipated.

Please be sure to tell your internist and dentist that you have an artificial joint so that they can prescribe antibiotics prior to the above procedures. If you have any questions or concerns, please call your surgeon’s office.

All total joint replacement patients should adhere to this regimen for a minimum of two years following joint replacement surgery. Some surgeons will prefer, and may recommend, using antibiotics for longer than two years. They will communicate that to their patients. Immuno-compromised patients, including those with inflammatory arthropathies, rheumatoid arthritis, drug or radiation induced immuno-suppression, insulin-dependent diabetes, or any other major medical problems, should follow this antibiotic routine indefinitely.

Antibiotics may reduce the risk of infection but cannot completely eliminate that risk. Preventing infection must be the concern of you the patient and all the healthcare professionals who treat you.

Sports Activities

After full recovery, some patients enjoy light sports activities. Activities you can enjoy after total knee replacement include walking, bicycling, bowling, swimming, golf, and doubles tennis. Skiing may be allowed but likely on green and blue trails only. Avoid high-impact activities, such as jogging, running, or jumping.

Your New Knee is Different

Recovery from surgery takes time. You will likely feel tired and fatigued for several weeks and this is a normal response. It is important to plan periods of rest throughout the day. You may experience skin numbness around your incision and knee stiffness, particularly with excessive bending activities such as getting in and out of a low chair or a car. This is normal. Though possibly uncomfortable, kneeling is not harmful. At times, you may notice clicking. This is common and is due to the plastic and metal implant surfaces rubbing together. These symptoms will gradually improve over several weeks and months. The benefits of total knee replacement usually become fully evident six to eight months after surgery.

Rehabilitation After Total Knee Replacement

Gradually increase your walking distance daily over the next few weeks after surgery and remember not to walk with a “stiff” knee. Bend it as you normally would when you walk. When you are sitting, it is important to sit with your knee flexed or bent to a comfortable range of motion. Do not sit for an extended period of time. After 30-45 minutes, it is recommended that you get up and walk around to avoid stiffness.

Safety Checklist

- Reduce Clutter
- Remove loose wires & cords
- Rugs should be smooth & anchored to the floor
- Place non-skid tape or mats at the sink
- Use a night light in the bathroom
- Turn on lights when you get up at night
- Secure rugs and treads on the stairs

Stair Climbing

Your physical therapist will teach you how to properly go up and down stairs prior to being discharged home

There are several important considerations to keep in mind when attempting to go up or down stairs following your total knee replacement:

- 1) You must have support on both sides. This support could be:
 - Two people assisting at each arm
 - One person assisting with a railing to use on the other side
 - A railing on one side and a crutch or cane in the other hand
 - Two crutches with someone standing behind you for safety
- 2) You take one step at a time, always stepping **“up with the good”** when going up steps, and **“down with the bad”** when going down.
- 3) If the knee feels weak, it may be necessary to **wear the knee immobilizer for safety.**
- 4) As you go up or down stairs, it is very important that you go slowly, carefully, and that you **concentrate on “locking” the operated knee** as you put weight on that leg. You do not want the operated knee to “buckle” as you move the other foot. Whoever will be helping you at home should practice steps with you and your therapist before you go home.

Summary for Managing Stairs (Up with the good, down with the bad)

One Total Knee Replacement

Upstairs:

1. The non-operated (good) leg goes first.
2. The operated (bad) leg goes second.
3. The walker, crutches, or cane go last.

Downstairs:

1. The walker, crutches, or cane go first.
2. The operated (bad) leg goes second.
3. The non-operated (good) leg goes last.

Bilateral Total Knee Replacements

Upstairs:

1. The stronger leg goes first.
2. The weaker leg goes second.
3. The walker, crutches, or cane go last.

Downstairs:

1. The walker, crutches, or cane go first.
2. The weaker leg goes second.
3. The stronger leg goes last.

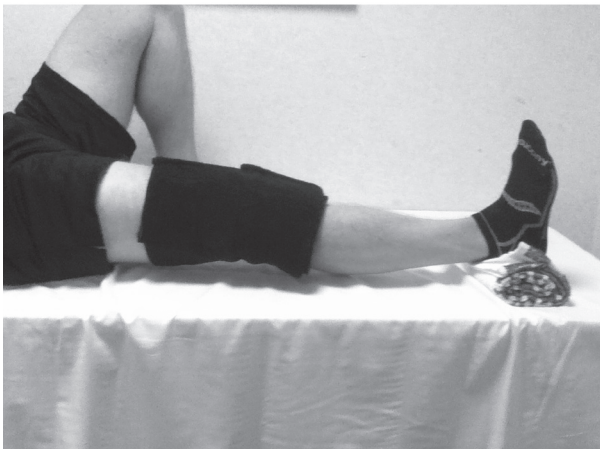
Don't forget to move slowly and carefully and "lock" the knee before moving the other foot. Concentrate!

Physical Therapy Exercise Program

Post-operatively, it will be important to perform the following exercises. Your goal is to improve the overall strength of your operated leg, minimize swelling, and obtain full range of motion. Therefore, it is critical that you work on bending and straightening your knee throughout the day. Please perform the following exercises with the appropriate number of repetitions as instructed by your physical therapist.

The following is a list of the exercises you should do at home. Your physical therapist will instruct you in which exercises are appropriate for you. It is normal to experience some discomfort while doing your exercises. Take your pain medication prior to doing your exercises in order to make it easier for you.

1) Passive Extension While Resting in Bed (for Mobility)

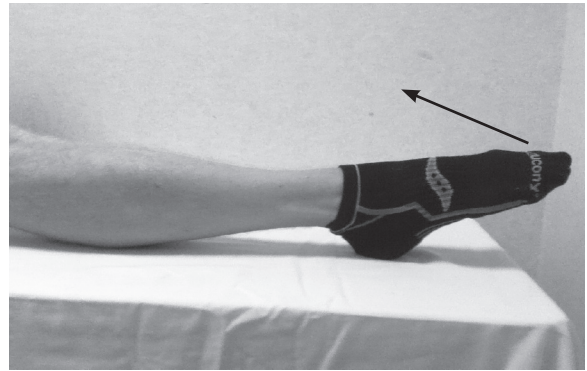
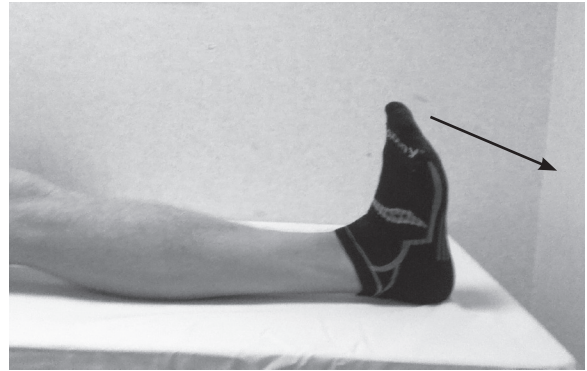


- Lie down with a towel roll under your ankle. Allow your knee to stretch into full extension
- Place an ice pack on your knee.
- Stay in this position as tolerated while in bed.

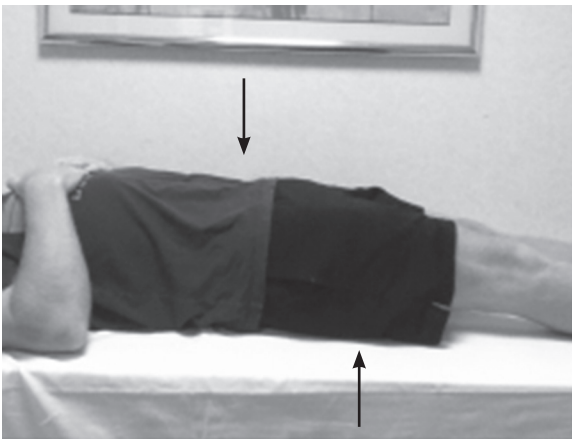
It is important to get your knee fully straight after surgery. While in this position, it is important to keep your toes and kneecap pointing up towards the ceiling.

2) Ankle Pumps (for Circulation)

- Lie on your back and keep legs flat on the bed, then move both your ankles up and down.
- Repeat **10** repetitions with **10** sets done daily.



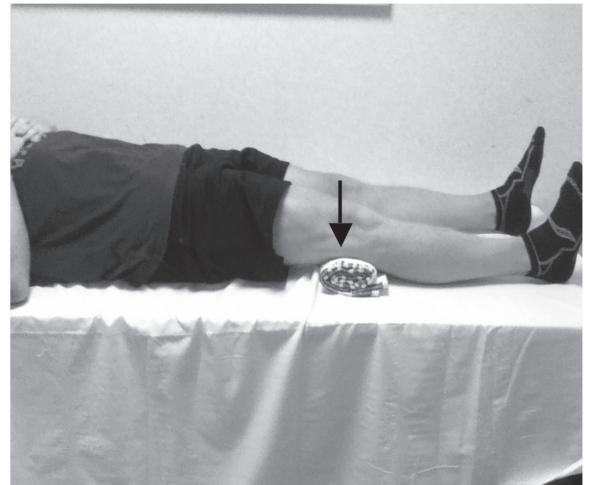
3) Gluteal Set (for Muscle Strengthening)



- Lying on your back, squeeze buttocks together and tighten your abdominal (belly) muscles.
- Hold for **3-5** second (do not hold your breath)
- Relax
- Repeat **10** repetitions with **3** sets done daily.

4) Quadricep Set (for Muscle Strengthening)

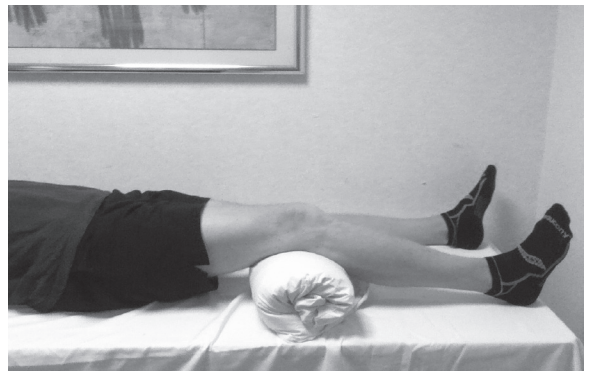
- Lie on your back and place a small towel roll under your operated knee. ★
- Press the back of your knee downward and tighten thigh muscle.
- Hold for **3-5** seconds.
- Repeat **10** repetitions with **3** sets done daily.



After 1-2 days, progress to doing this exercise without the towel roll.

5) Short Arc Quadricep Set (for Muscle Strengthening)

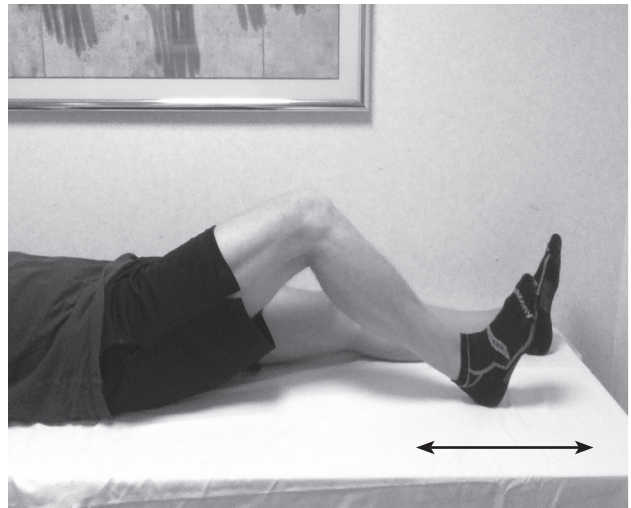
- Lie on your back and place a folded pillow under your operated knee. ★
- Extend your operated leg up by tightening your thigh and pulling your toes up. Try to lift foot off bed and fully straighten your operated knee.
- Lower foot back to the bed and relax.
- Repeat **10** repetitions with **3** sets done daily.



★ This is the only time a towel roll or pillow should be placed under your knee.

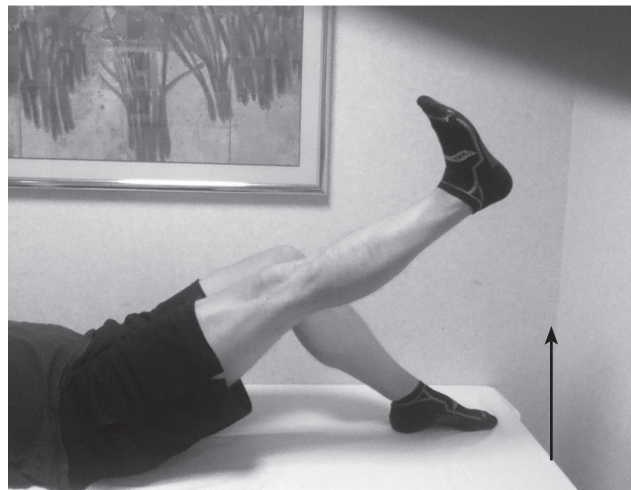
6) Gentle Knee Flexion / Heel Slides (for Motion/Mobility)

- Lie on your back with both legs extended.
- Gently bend and straighten the operated knee, sliding the heel on the bed.
- Relax.
- Repeat **10** repetitions with **3** sets done daily.



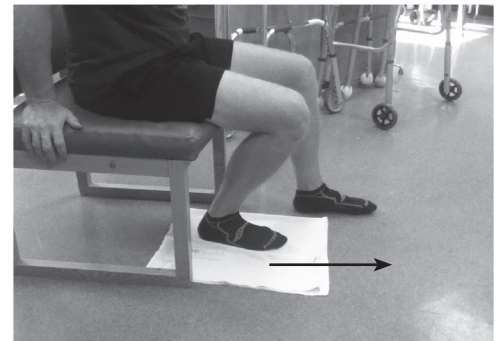
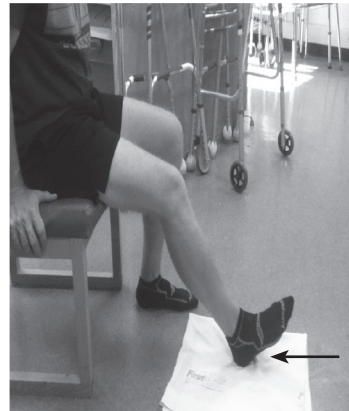
7) Straight Leg Raise (SLR) (for Muscle Strengthening)

- Lie on your back with the operated knee straight and the other knee bent as shown.
- Tighten the thigh and raise the operated leg up to the level of the other knee. Keep your operated knee completely straight.
- Repeat **10** repetitions with **3** sets done daily.

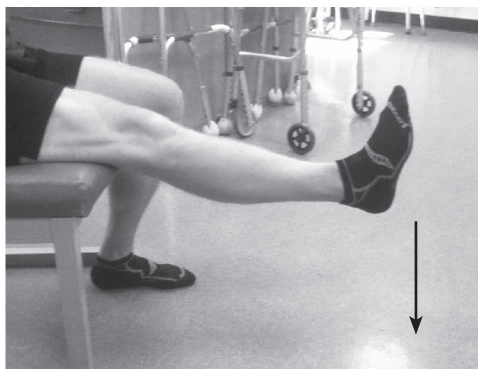
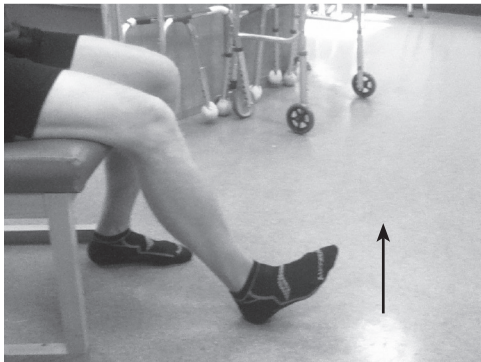


8) Active Range of Motion (AROM) (for Motion/Mobility)

- Sit in a chair, rest your foot on the floor on a paper towel or pillow case to allow your foot to slide more easily.
- Bend operated knee as far back as you can using your muscles.
- Repeat **10** repetitions with **3** sets done daily.

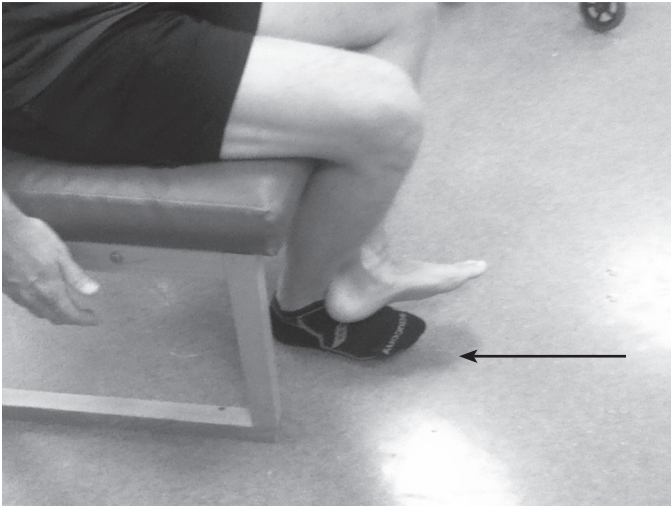


9) Active Knee Extension (for Motion/Mobility)



- Sit on Chair or bed with your thighs supported on the surface.
- Extend your operated leg up by tightening your thigh and pulling your toes up. Try to fully straighten your operated knee.
- Your thigh should maintain contact with the surface you are sitting on.
- Repeat **10** repetitions with **3** sets done daily.

10) Active Assisted Range of Motion (AAROM) (for Motion/Mobility)



- Sit in chair and allow operated leg to dangle or you may sit with your foot on floor as described in exercise #8.
- Bend operated knee as far back as you can using your muscles.
- Then cross your non-operated leg on top and give it a gentle stretch back. Keep your pelvis level and do not lift your hip off the surface you are sitting on.
- Hold for **3-5** seconds.
- Repeat **10** repetitions with **3** sets done daily.

Outpatient Physical Therapy

Some patients may require outpatient physical therapy. This may start immediately after discharge or after their need for home health services has ended, depending on your needs. We can make a referral for outpatient physical therapy at a physical therapy center in your community. To obtain services at these facilities, you will need a prescription from your surgeon, and in most cases, authorization from your insurance provider.

Remember, You Make the Difference!

It is extremely important that you understand that your motivation and your participation in your physical therapy program is a vital element in the speed and success of your long-range rehabilitation.

Using Ice Therapy During Rehabilitation

Ice therapy, the use of cold to treat your Total Knee Replacement, is an important element of your post-operative rehabilitation. Ice therapy can help decrease pain while reducing swelling and inflammation.

Swelling is common after knee surgery. It is important to minimize the harmful effects of swelling to enhance your recovery. If you advance your activity too quickly or “over do it,” your operated knee or leg may become more swollen. The more swelling you have in your leg/knee, the more pain you may have, the more difficult it may be to bend, straighten or even lift your leg and it may be more uncomfortable to weight bear. Monitor the swelling and evaluate your leg if this occurs. Also, you should continue to pump and move your ankles up and down while lying in bed. Please discuss with your surgeon or physical therapist if you have any specific concerns regarding post-operative swelling.

Ice may be in the form of ice wrapped in bags or towels, commercial cold packs or cold compression cuffs.

Showering/Dressing

Most surgeons will not allow you to take a bath or shower until your staples or sutures are removed which is generally 7-10 days after your surgery. Some surgeons may require you to wait a longer period before you can shower or bathe. It is, however, okay to sponge bathe immediately after surgery and until you are allowed to begin showering or bathing in the tub. Your surgeon’s office will give you specific instructions.

Do not stand up while getting dressed. You may prop your leg up on a stool for comfort and to reach your feet easier.

For lower body clothing, dress your operative leg first. Undress your operative leg last. Slip-on shoes will be easier to get on and off. Wear low-heeled, non-skid shoes.

Showering in a Tub/Shower

Transferring in and out of the shower may be difficult initially after surgery. However, in both the short and long run, you should be concerned with safety as you enter and leave a tub/shower. You may want to equip your tub/shower with safety handrails and a non-slip surface to maximize your safety. Please arrange for this to be done before your surgery, if possible.

o Getting Into Your Bathtub or Shower

You should use a plastic chair or stool while bathing. Your 3-n-1 commode would work well in this situation.

If you have a **bathtub / shower combination**, you will need to:

1. Back up to the side of the bathtub
2. Reach back for stool and sit down
3. When seated, lift your legs into the bathtub
4. Turn your body to face the shower controls
5. To get out of the bathtub, reverse the process

If you have a **walk-in shower**, you will need to

1. Back up so your heels touch the edge of the shower
2. Then proceed to reach back for the chair and sit down
3. Turn your body to face the controls
4. Reverse the process to get out of the shower

As you know, much of what you normally do each day does not require bending your knee(s) to its maximum. However, both showering and dressing do require extra bending of your knee(s). So please take advantage of this situation to repeatedly work the range of motion of your knee as a normal part of your daily routine.

Continuous Passive Motion Machine (CPM or PMM)

Some, but not all, surgeons will order a continuous passive motion machine to use while in the hospital after your total knee replacement.

While the CPM is a great tool that allows you to work on the range of motion, or bending in your knee, it is passive motion. This means that you are not using the muscles of the leg to move your knee—the machine moves it for you. Evidence supports the finding that in order to help your muscles heal and increase your range of motion, you must actively participate in the exercises included in your physical therapy program to strengthen the muscles damaged during surgery.

All TKR patients will perform physical therapy exercises while in the hospital and after returning home. So, even if your doctor does not order a CPM for you to use, you will still do the work required to strengthen and heal your knee and leg muscles appropriately.

THE CPM IS NOT A SUSTITUTE FOR PHYSICAL THERAPY!



- The Continuous Passive Motion machine promotes knee flexion after surgery. The CPM should be used between four and six hours a day in 1 ½ to 2 hour increments. This should be spread out throughout the day.
- If you are having bilateral knee replacement (both knees replaced) it is recommended that you use the machine for 3 hours on each leg.
- Your head should be flat or slightly elevated when on the CPM machine.
- Do not use the CPM machine when you are sleeping at night.
- To increase the flexion (knee bend), press the FLEX button and then press the increase (▲) sign in 2-3 degree increments. To decrease the angle, press the FLEX button and then the decrease sign (▼).
- The machine should be stopped when your operated leg is straight and the angle is at or near zero. You should not leave the machine on your leg when you are not using it.
- When you are out of the CPM, a towel roll should be placed underneath your ankle with your knee straight as tolerated to promote knee extension.

At Home Instructions for the CPM

- Some surgeons may recommend that you use a CPM at home after your TKR. This will be ordered by the doctor, and the PT and Case Manager can help arrange it.
- The CPM should be placed in the middle of the bed and be propped against a head- or footboard or a wall to prevent the machine from sliding out from under your leg.
- If you have any questions regarding malfunction of the unit, please call the company providing the CPM. The name and number will be given to you prior to discharge from the hospital. Please call the company when you are done using the machine and a representative will arrange pick up.



Additional Discharge Instructions

- You may have physical therapy at home if it is prescribed by your surgeon. If so, the physical therapist will come to your home and will advance your exercises and walking program as tolerated.
- Gradually increase your walking distance daily. A daily walking program on levels surfaces is an essential component of your home exercise program. Avoid hills, steep ramps, and uneven surfaces.
- You can stop using your assistive device when you can walk relatively pain-free and without a limp, or when advised to do so by your physical therapist or surgeon.
- If you have protective weight-bearing status and were instructed by your surgeon to limit the amount of weight you can put through your operated leg, then you **MUST** use your assistive device until you are told you can resume full weight-bearing through your operated leg.
- Loosening of knee joint replacements can be a problem over the years. To help prevent loosening from excess stress on your knee joint:
 - Maintain your weight as close to normal as you can.
 - Avoid heavy lifting (objects that weigh more than 40 pounds)
 - Avoid falls
 - Keep rooms well lit
 - Keep objects out of traffic paths in your home
 - Wipe up spills
 - Watch out for pets that may run in your path
 - Be careful in icy or other slippery conditions

Sexual Relations

The following questions and answers respond to the common concerns of patients and their partners after knee replacement surgery.

● **Will I be able to resume sexual relations now that my knee has been replaced?**

The vast majority of patients are able to resume safe and enjoyable sexual intercourse after knee replacement. Patients whose sexual function has been impaired by preoperative knee pain and stiffness usually welcome their new pain-free mobility. However, gaining full confidence with your new knee may take several weeks.

● **When can I resume sexual intercourse?**

In general, intercourse can be resumed safely approximately 4 to 6 weeks after surgery. Though individual recovery time varies greatly, this timeframe allows the incision and the muscles around the knee to heal. If you recuperate rapidly, you will be able to resume sooner, as long as you are free of pain.

● **What positions are safe during intercourse?**

Total knee replacement precautions need to be observed during all daily activities, including sexual intercourse. In general, follow the don'ts on page 27.

Most patients, male and female, prefer passive intercourse, in the bottom position, an option some find less fatiguing. As your knee heals, you may resume a more active role. After a few months, patients can resume sexual activities in any comfortable position.

● **What should I tell my partner?**

As good communication is essential, you may want to share information in this booklet with your partner. In addition, you can discuss the knee precautions that the hospital staff reviewed with you.

Conclusion

The administration, physicians, and staff of FirstHealth of the Carolinas hope that you find this booklet helpful on your journey to recovery. The process of a total knee replacement is indeed a journey; its endpoint—improved health and mobility—is well worth the effort.

We stand ready to assist you every step of the way. If you have any questions, please feel free to ask any member of our staff. Your well-being is our first concern. We encourage you seek out additional information that is located on the FirstHealth website at www.firsthealth.org.

There will be many opportunities to review the material provided in this booklet. During each encounter, staff members will be reinforcing the information and will likely provide additional and more specific instructions. In addition, our staff will review the information during the pre-operative education class and will respond to any questions that you may have.

Providing Feedback to FirstHealth of the Carolinas

FirstHealth's Orthopaedic and Joint Replacement Department has achieved a reputation for excellence in patient care. We arrived at this position through excellence in individual performance and teamwork.

Feedback from our patients has been a critical component in achieving this excellence. We listen. And we respond...especially when we learn of new opportunities for further improvement.

But another important part of achieving excellence is to know when things go right! Knowing when our staff members—anyone, or all—have performed to your satisfaction.

When you have a moment to reflect, we would appreciate your feedback. You can, of course, send a letter or note to any FirstHealth staff person or to your doctor. You already know your doctor's address. He appreciates hearing from you.

To address a specific hospital staff person, you can write to that person at the hospital's address below (please include the name and department—Outpatient, Discharge Planning, Orthopaedic Post-Op, Operating Room, etc.). Or, you can contact us through the Hospital's website (www.firsthealth.org). Otherwise, please feel free to address your feedback to:

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Thank you for choosing FirstHealth for your healthcare and surgical needs.

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Working Together, First in Quality, First in Health