TOTAL KNEE REPLACEMENT

Patient Education Manual

naon National Association of Orthopaedic Nurses
Advancing the Art and Science of Orthopaedic Care

MMG Memorial Medical Group
a service of Comanche County Memorial Hospital

Joint Replacement Center

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WELCOME

You have made an important decision to undergo elective knee replacement surgery. Your decision will help you to regain quality of life and move you toward a healthier lifestyle. We want your experience to be a good one and your outcome to be excellent.

Comanche County Memorial Hospital Knee Replacement Program is a comprehensive program which involves a multidisciplinary healthcare team. The program is designed to walk you through the process and return you to an active lifestyle as quickly as possible. Here are just a few features of our program:

- Pre-habilitation (Pre-hab) exercises to perform prior to surgery.
- Educational material for you and your coach/support person.
- Individualized assessment of equipment that is specific to your needs.
- Dedicated nursing staff that specializes in orthopedic care after your surgery.
- Physical therapy assessment and recommendations.
- Coordinated care throughout your process (before and after surgery).
- Written instructions for exercises, precautions and discharge care.
- A program coordinator who will follow your progress through your rehabilitation phase.

Please review this booklet with your family before your elective total joint replacement surgery. This information includes information about the surgical procedure, pre- and post-operative care, risks and benefits, as well as rehabilitation.

Our goal is to help restore you to a functional status while making sure your experience is beneficial, informative and comfortable as possible. The more you know, the better you will be able to face the challenges and changes that your knee replacement surgery will make in your life. Most importantly, we encourage you to ask questions and/or share your concerns with us.

MEET YOUR CARE TEAM

The CCMH Knee Replacement Program is a multidisciplinary team that includes your surgeon, nurse practitioner, clinic staff, OR staff, physical therapist, nurses, patient care technicians, case managers, program coordinator and you.

CLINT KIRK, DO

Dr. Kirk is a Board Certified Orthopedic Surgeon who is a pioneer in this surgical field. He is the first orthopedic surgeon in Oklahoma to perform such procedures as: Reverse Total Shoulder Replacement, Computer-Navigated Total Knee Replacement and Wave Countersinking Patella-Femoral Groove Replacement. Dr. Kirk graduated from the Oklahoma State University of Osteopathic Medicine and trained under Richard E. "Dickey" Jones, MD in Dallas, Texas for joint replacement surgery. Dr. Kirk has performed thousands of joint replacement surgeries over his 25+ years of experience.

MICHAEL YOST, DO

Dr. Yost is an Orthopedic Surgery Specialist and board certified with over 23 years of experience. Dr. Yost received his Bachelors degree in biology and his Graduate degree at the University of Colorado at Colorado Springs. Dr. Yost graduated from medical school from the University of Health Sciences College of Osteopathic Medicine in Kansas City. Dr. Yost did his residency training at St. Anthony Hospital in Oklahoma City and completed a shoulder and elbow surgery fellowship at the University of South Florida in Tampa, FL for sports medicine.

Nurse Practitioner/Physician Assistants

One of our advanced practice practioners might assist your orthopedic surgeon in your case and your inpatient care.

Clinic Staff

Our speciality trained office staff are dedicated to assisting you with your needs.

Anesthesia Provider

The Certified Registered Nurse Anesthetist (CRNA) administers medications required to keep you asleep and comfortable during your surgery.

Surgical First Assist/SFA

The SFA has extensive knowledge and experience in the orthopedic surgical arena. They coordinate care with the representatives of the companies that manufacture and supply your joint replacement implants and assist your surgeon during the procedure.

Orthopedic Coordinator

Serves as your personal advocate to support, guide and coordinate care for you, your family and caregivers as you navigate through the joint replacement journey.

Registered Nurses (RN)/Licensed Practical Nurses (LPN)

Nurses will be involved in preparing you for surgery, assisting in the operating room, and caring for you after surgery, under the direction of your surgeon. Nurses also provide care during your hospital stay.

Nursing Assistants (NA/CNA/AUA)

Nursing Assistants work with your nurses and help you with activities like showering, dressing, and getting to the bathroom during your hospital stay.

Dietitian

Dietitians are available for nutritional counseling to help you make healthy food choices and understand the connection between diet and healing.

Case Manager

Case Managers coordinate your discharge plan with you, your family and the rehabilitation team to ensure that you have an appropriate care plan and the services needed when you are discharged.

Coach/Support Person

Our program encourages each patient to identify someone to assist them through the joint replacement journey. The coach's duties include:

- Attend pre-operative class
- Attend inpatient therapy session(s).
- Provide encouragement and support as you recover at home.

Physical Therapist

The Physical Therapist evaluates you following surgery and plans your therapy postoperative.

Primary Care Provider (PCP)

We work closely with your PCP to ensure great follow-up care.

Chaplain

A chaplain is available to visit with you regarding emotional or spiritual matters.

UNDERSTANDING JOINT REPLACEMENT SURGERY

Osteoarthritis

Osteoarthritis (OA) is a disease of the joints. It is caused by the breakdown and eventual loss of the cartilage of one or more joints. Cartilage is a protein substance that serves as a cushion between the bones of the joints. OA commonly affects the hands, feet, spine and the large weight-bearing joints. Most cases of OA have no known cause, however, it is related to aging. Other related conditions that may lead to OA include obesity, trauma, surgery, gout and diabetes. Repetitive use of the worn joints can irritate and inflame the cartilage causing joint pain and swelling.

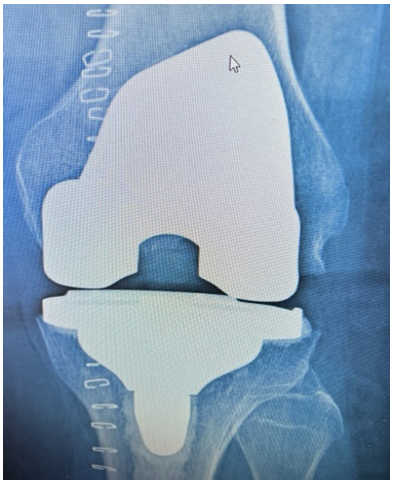
What is a joint replacement?

A few millimeters of arthritic or damaged joint surface is removed and replaced with an artificial joint called an "implant."

Benefits of joint replacement surgery

Pain relief that does not respond to other treatment options is one of the most beneficial aspects of joint replacement surgery. Other benefits include improved motion and use of a joint, as well as improved alignment of deformed joints. Surgery replaces and/or stabilizes the joint allowing easier motion and improves the function of the joint. For those people

with an impaired quality of life due to pain, this may be the best treatment.



WHAT IS INVOLVED IN TOTAL KNEE JOINT REPLACEMENT?

How is a total knee joint replacement performed?

The materials used in a total joint replacement are designed to enable the joint to move as smoothly as a normal joint. The tibial implant is typically composed of a metal piece that has a plastic insert which fits into the tibial component.

In an arthritic knee, the damaged ends of the bones and cartilage are replaced with metal and plastic surfaces that are shaped to restore knee movement and function. Joint replacements can be implanted with or without bone cement.

Is a total joint replacement permanent?

More than 90% of modern total knee replacements are still functioning well over 15 years after the surgery. Following your orthopedic surgeon's instructions and taking care to protect your knee replacement will result in the longevity of your new knee.

Total knee replacement surgery is done to replace parts of the knee and relieve pain.

- Damaged parts of your knee will be replaced with artificial parts.
- The artificial parts are usually made of metals, ceramics, or plastics. The parts are either cemented or press fit into the bone.
- One part of the replacement fits over the end of the upper leg bone (femur) and the other fits over the top of your lower leg bone (tibia).
- The underside of the knee cap (patella) might or might not be replaced. The incision is closed with stitches, staples, and/or glue. Pain should lessen and function improves over time.

MAKO® Robotic-Arm assisted surgery

Our surgeons received specialized training with the MAKO® Robotic-arm which enables you to have a more predictable surgical experience when performing joint replacement surgery. MAKO® Robotic-arm assisted surgery provides:

Enhanced planning

Patient specific preoperative plan enables more accurate implant positioning. Pre-surgical CT data is segmented to create a 3D model of your bony anatomy. An individualized preoperative plan is created and reviewed prior to the MAKO® procedure.

Dynamic joint balancing

Surgeon-controlled intra-operative adjustments can be made to optimize implant placement. Kinematic and soft tissue data are collected during surgery and applied to the virtual CT model. Your surgeon can review the preoperative plan

and can modify it if necessary based on the intra-operative data to virtually balance the joint and achieve individualized placement.

Robotic-arm assisted bone preparation

Your surgeon performs the individualized intra-operative plan using robotic-arm assisted bone preparation to achieve exacting implant positioning as well as enhance safety to duplicate the exact preoperative plan. The robot does not actually do the surgery itself without your surgeon's guidance. It does not function autonomously.

WHAT ARE POSSIBLE COMPLICATIONS?

This list covers only the most frequent problems encountered during knee replacement surgery. Just as every patient is unique, so are many problems and complications.

Infection

An infection can occur in the wound (superficial) that is usually treated with antibiotics, while infections inside the joint (around the prosthesis) might require additional surgery. Antibiotics are given before and after surgery to decrease the risk of infection, but an infection can still occur immediately or even years after the surgery. Patients who smoke, take some form of corticosteroids, or have chronic health problems (like diabetes or liver disease) have a higher risk of infection.

Instability/fall risk

After surgery, the knee might feel a bit unstable thus increasing your risk for falls. This will improve as muscles surrounding the knee regain strength.

Blood clots

It is possible for blood clots to form in your leg veins after any surgery on the lower extremities. The main danger of blood clots is if they dislodge and travel to the veins in your lungs. This is called a pulmonary embolism (PE) and can result in respiratory difficulty, chest pain, or even death. Several measures might be used to reduce the possibility of blood clots including early mobilization, blood thinners, exercise (foot pumps) and compression stockings. Blood clots are more common in patients who are older, obese, smoke, have cancer or a history of blood clots.

Bleeding

Blood vessels around the knee are rarely damaged by the surgery, however, if excessive bleeding does occur during or after surgery, you might require a blood transfusion and could possibly return to the operating room to correct the issue.

A small amount of drainage can be expected. You will be scheduled for regular wound checks and dressing changes.

Hematoma

Occasionally, blood gathers in the knee even if no major blood vessel is damaged. Acute pain and swelling can occur and the hematoma might have to be drained or washed out in surgery.

Wound healing

Your surgical incision might heal more slowly if you are a smoker, take corticosteroids or have a disease that

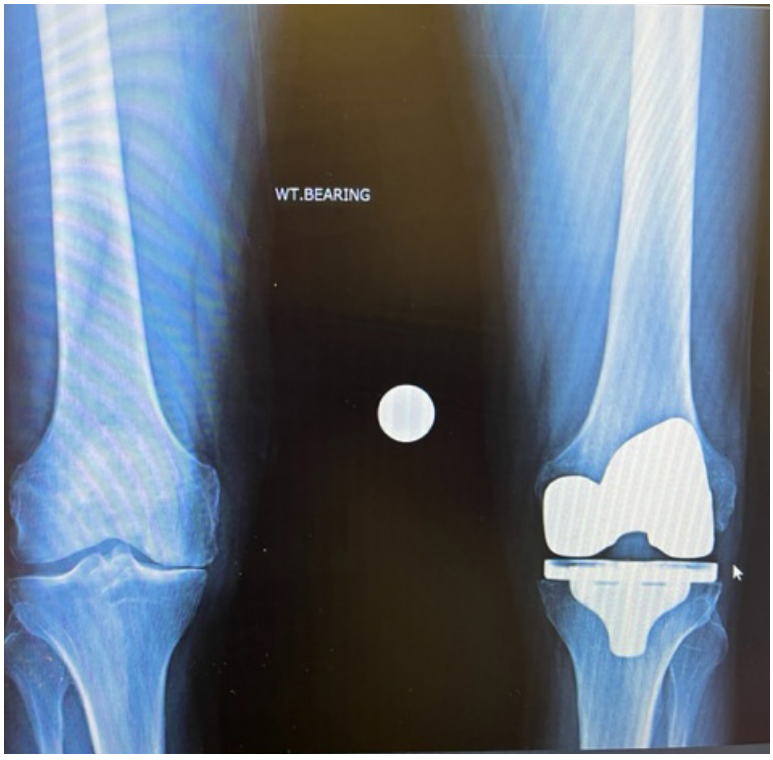
affects the immune system such as rheumatoid arthritis or diabetes.

Stiffness/limited range of motion

Patients might experience stiffness in the knee joint after surgery. Usually, a stiff knee before surgery is more likely to remain stiff after surgery. Within a day of surgery, you will begin exercises to help improve the flexibility of your knee. It is imperative you work hard with the physical therapist after surgery to prevent the knee from getting stiff. Occasionally, patients have knee manipulation under anesthesia to regain the motion lost in the postoperative period.

Limp

The limp that most people have before the surgery usually persists until the muscles become stronger after surgery. In some cases, it never goes away and sometimes the surgery creates a new limp. Most people's gait (walk) is greatly improved by joint replacement surgery.



Dislocation

The femoral component rarely dislocates from the tibia component. Knee replacements with a rotating platform (mobile bearing) can dislocate if the bearing surface rotates more than it should. If your total knee dislocates, your leg would be manipulated under anesthesia or sedation to place the components back together. Occasionally, unstable knee replacements need to be revised to correct this condition if reoccurrence continues.

Fracture

The femur, patella, or tibia can crack when preparing the bone for insertion of the components, while actually inserting the components, or even years after the surgery. Fractures are usually treated with screws and plates, and usually heal. Sometimes, the knee components loosen when a fracture occurs and then the components have to be revised.

Nerve/ligament injury

Although extremely rare, damage to the surrounding structures in the knee can occur. Over time, the nerve injuries often improve and can completely recover. If they do not, you might need a brace for your knee, and your walking ability could be limited. A ligament injury can usually be repaired during the surgery, but it can change the post-operative course. A brace might be required to help protect the ligament as it heals after an injury.

Component loosening

Occasionally, when the tissue grows between the artificial joint and the bone, the implanted components could loosen

from the bone and change position. Component loosening can occur years after the surgery. The motion of the loose component might cause pain with activity and require another surgery to revise the components.

Component wearing out

A knee replacement consists of a metal femoral component, a metal tibial component, and a plastic insert. The plastic insert can wear out over time, usually 15-20 years. Just like the tires on a car, the more miles a patient puts on their total knee replacement, the sooner the plastic insert might wear out. The plastic insert can be replaced, if necessary.

Osteolysis

Polyethylene bearings can wear over many years and cause osteolysis - the body's response to the plastic wear debris from the knee replacement. The body tends to attack the tiny plastic particles and inadvertently causes the bone around the knee joint to weaken. The weakened bone can lead to fractures or component loosening.

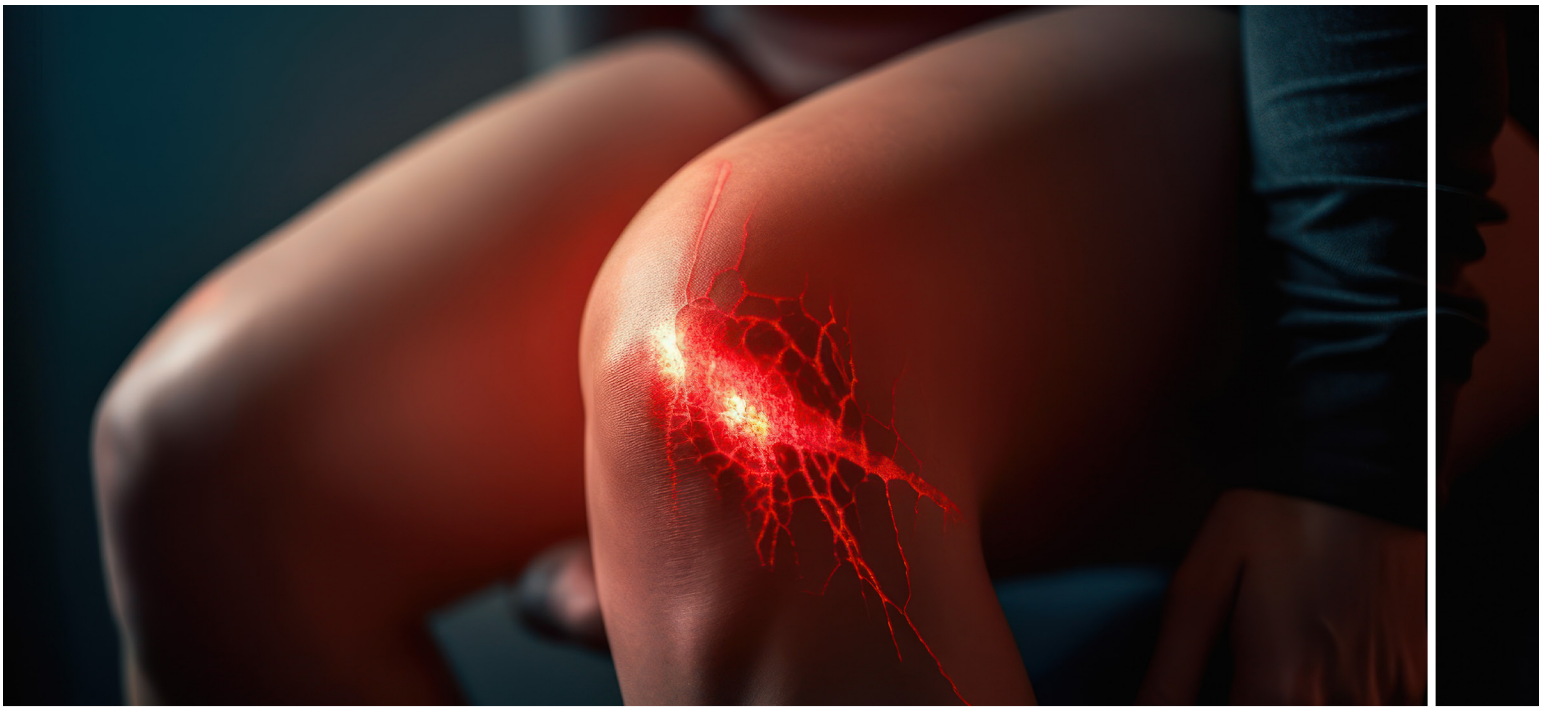
Need for further surgery

Though uncommon, knee replacements occasionally fail sooner than expected. Some other problems can also make further surgery necessary, including abnormal bone formation and irritation of the soft tissues.

BEFORE YOUR SURGERY

Medical clearance

- If you have not seen your medical doctor recently, you should make an appointment with him/her as soon as possible. Your surgery can then be performed once your medical doctor clears you for it.
- If you see a medical specialist (e.g., a heart or lung doctor), have him/her also send a note to your surgeon's office



stating that you are medically fit for your surgery.

- If you have no medical doctor and you do have medical problems, we will refer you to a medical doctor prior to any surgery.
- Preoperative testing includes an EKG and blood work.
- You ***must*** inform our office ***immediately*** about any ***infection*** anywhere on your body, especially in the skin over your operative site. This can include a pimple or scratch, or infection in your fingernails, toenails, teeth (toothache), or urine.
- If you have any ongoing dental problems or even old infections, you must see your dentist before the operation, and have him/her contact our office.

Metal allergy

- If you cannot wear jewelry because of irritation or have a known metal allergy, you will need to be screened for the exact type of metal that causes your allergic reaction.
- These tests are typically not covered by insurance and will be an "out of pocket" expense. The fees are set by the few facilities in the United States that perform these tests for metal allergies.

Body mass index (BMI)

- BMI is a measurement for human body fat based on an individual's weight and height. BMI does not actually measure the percentage of body fat.

- A BMI of 20 to 25 might indicate optimal weight; a BMI lower than 20 suggests the person is underweight while a number above 25 can indicate the person is overweight; a number above 30 suggests the person is obese (over 40, morbidly obese).
- BMI limits for joint replacement:

Knee replacement: BMI of 40

- Elective surgeries with BMI's that exceed these limits are at much higher risk for infection, loosening of prosthesis and subsequent need for repeat surgeries.

Blood and blood products

Your blood work will show your blood count status. If you are anemic, we will let you know your options regarding blood building agents, banked blood and blood donation. Banked blood is screened for major diseases prior to being accepted for use in transfusions. If you are profoundly anemic, you might require a blood transfusion before to your surgery.

Patients are welcome to donate their own blood at the Oklahoma Blood Institute prior to surgery with the intention of receiving their own blood after surgery should the need arise.

Medicines

- Certain medications need to be stopped before your surgery; however, before stopping medications, please talk with your prescribing physician to make sure it is safe for you to stop the medication.
- You should stop all aspirin 14 days before the surgery unless you have a cardiac history in which case you need to ask your doctor.
- Stop all "non-steroidal" anti-inflammatory drugs (such as Advil, Motrin, Aleve, Naprosyn, Celebrex etc.) 14 days before the operation.
- Stop taking fish oil supplements 14 days prior to surgery.
- If you take Coumadin or other blood thinners (such as Plavix), please contact your medical doctor to find when it is safe to discontinue these drugs. If your medical doctor feels it is unsafe to stop these drugs, you must inform the clinic of this as soon as possible.
- All other medications should be continued unless your medical doctor instructs you otherwise. You should ensure that you bring a list of all your medications and their doses to our office at the pre-surgical visit and to the hospital with you on the day of surgery.

Nutrition

- A healthy diet helps your body heal. You should eat a variety of foods like protein and vegetables.
- Drinking water and eating fiber helps prevent constipation. Eat high fiber foods like fresh fruits, vegetables, and whole grain breads and cereals.
- Some people do not feel like eating after surgery. Although not hungry, try to eat healthy foods and snacks, such as nuts and yogurt.

Coach/support person

Support, encouragement and companionship can make a big difference in your recovery. Your support person can be a spouse, family member or friend who is willing to support you throughout the process.

Pre-op education class

A free in person class is provided to help you better understand the process and what to expect after you are medically cleared for surgery. Topics include:

- Pain management
- Nutrition for healing
- Post-op expectations
- Infection prevention

It is highly recommended your support person attends the class with you.

Infection prevention

To reduce the chance of developing a postoperative infection, you will be required to shower with an antiseptic skin cleaner for 5 days (1 shower per day) prior to the day of surgery. Please see page 28 for instructions.

Tips for preparing your home

- Purchase a non-slip bath mat for inside your shower/tub.
- Eliminate tripping hazards - remove throw rugs, electrical cords, etc.
- Make sure that items regularly used are at a comfortable level so you do not have to stretch, bend or reach extensively. These can be items from the dresser, in cabinets, or on a high shelf in the refrigerator.
- Obtain an apron or belt with pockets to carry things while you are using a walker.
- Ensure stairs have handrails that are securely fastened to the wall.
- If you have pets, consider having someone else come to help care for them for a few days.
- A chair with a firm back and arm rest is recommended for recovery. Higher chairs will help you stand more easily. Avoid chairs with wheels as they can increase your chance of falls. A recliner works well for replaced joints.
- Set up a "recovery center" where you will spend most of your time. Things like the phone, television remote control, radio, facial tissues, wastebasket, pitcher and glass, reading materials, medications and snacks (nuts, fruit) should all be within reach.
- Purchase or prepare and freeze meals in advance. While cooking before surgery, make double batches of everything. Freeze half, and you will have ready-made meals when you get home.
- Install night lights in bathrooms, bedrooms, and hallways.
- Do laundry ahead of time and put clean linens on your bed before surgery.
- Arrange for someone to collect your mail and newspaper.
- Make arrangements for someone to do your outdoor yard work for at least 4 weeks after surgery.

Your safety is our primary concern. We recommend that someone stay with you after your surgery until you are able to perform daily activities which should occur between 3 days to 1 week after you return home.

Other assistive devices

- Dressing sticks – to help you put on and take off your pants or underwear
- Long shoe horns – to help you put on your shoes
- Elastic shoe laces – to make your laced shoes into slip-ons
- Hand-held grabber – to help you pick up things without bending over, reach items from high and low shelves, get clothes in an out of front loading washers and dryers, etc.
- Long-handled sponge – to help reach without stretching inappropriately
- Soap on a rope – to prevent bending to retrieve items in the shower
- Raised commode seat – to put your knees in proper position below hips

DAY OF SURGERY

Patients are asked not to eat anything for 8 hours before their surgery, which typically means nothing after midnight the night before surgery.

At your preoperative appointment, you will be instructed on which medications to take the morning of surgery with a small sip of water.

Patients report to the Surgicare Unit on the First floor (1R). A nurse will get you prepped for surgery and confirm information such as:

- Medications that you take and last time taken
- Health and medical history

Your surgeon will visit with you in the holding room before the operation and answer any additional questions you may have.

Family members can wait in the family surgical waiting room on the first floor when you go to the operating room. After the surgery, your surgeon will update your family how the operation went and how you are doing.

You will typically spend approximately 2-3 hours in the recovery room before being taken to their hospital room on the fourth floor. Once you are assigned a room, family members can wait in the room for you to arrive.

DURING YOUR HOSPITAL STAY

- Your surgeon might have you stay in the hospital overnight (or up to 2 nights). However, if you need a longer hospital stay, you will remain in the hospital until it is safe for your discharge.

- Either your surgeon or Advanced Practice Provider will see you in the hospital every morning but at times, this visit occurs later in the day. If you remain in the hospital over the weekend, it is possible that you will be seen by another orthopedic surgeon from the clinic.
- Pain medicine is custom tailored to your individual needs.

- Hospital patients might receive IV antibiotics for 24 hours after surgery while in the hospital.
- You will receive a blood thinner for up to 3 weeks after surgery.
- Patients are encouraged to walk as soon as possible after surgery unless otherwise specified.
- Physical therapists will work with you to help you learn how to safely walk and work on range of motion.
- A case manager visit will help determine how much help you need at home, and contact your insurance company to see what help is covered.
- You can either have your prescriptions delivered to your room prior to discharge (Meds to Beds) or they can be sent electronically to your preferred pharmacy.
- Your follow-up visits will be listed on your discharge instructions.

RETURNING HOME

Weight bearing status

- Your weight bearing status will be discussed with you post-operatively by your physical therapist. Knee replacements are typically full weight bearing immediately after surgery.
- You will use a walker for assistance until otherwise instructed by physical therapy and/or your surgeon.
- Patients are followed on a yearly basis for 2-3 years.

Dressing change

- Your dressing will be changed by the clinic staff.
- If you have stitches or staples, they will be removed in two to three weeks during one of your post-operative appointments. It is important to keep the dressing clean and dry.
- Once instructed by your surgeon, you may shower but DO NOT soak your wound in the bathtub or in a hot tub. Remember to thoroughly dry your incision after it gets wet.

Swelling

Some swelling over the incision, as well as in your legs and feet is normal. Usually you will notice more towards the end of the day. To minimize this you can:

- Elevate your feet on a footstool whenever you are sitting up in a chair.
- Use ice packs/"ice man" anywhere, anytime you like; these also relieve pain. Do not use a heating pad, as it can aggravate swelling.
- Perform your ankle pumps and circles whenever you are sitting still.

Blood clot prevention

Surgery can cause the blood to slow and coagulate in the veins creating a deep vein thrombosis, (blood clot). This is why patients take blood thinners after surgery. If a clot occurs despite these measures, you might need to be admitted to the hospital to receive intravenous blood thinners. Prompt treatment usually prevents the more serious complication of pulmonary embolus.

Signs of blood clots:

- Pain, heat and tenderness to the calf, back of the knee or groin area.
- Increased swelling in the thigh, calf or ankle that does not go down with elevation.
- Severe redness and tenderness above or below your knee

Pulmonary embolus

An unrecognized blood clot could break loose from the vein and travel to the lungs. This is an emergency and you should call 911 if this is suspected.

Signs of a pulmonary embolus:

- Sudden onset of chest pain
- Sudden increased shortness of breath
- Difficult and/or rapid breathing
- Unexplained sweating
- Confusion

Other preventative measures

- Before any dental procedures be sure to call and get a prescription for antibiotics.
- Always tell any doctor performing an invasive procedure that you have had a total joint replacement.

For any questions, please contact our office.

WHAT TO EXPECT DURING RECOVERY AND REHABILITATION

Bony stress pain

Perhaps the biggest surprise after surgery is the bony stress pain that patients feel for the first 3 months. A knee replacement entails removing about 6-8 mm of bone and replacing it with metal. The metal is about 100 times stiffer than the bone that it is replacing. Therefore, the knee joint has to adjust to the new stiffness of the metal replacement. Bone is constantly remodeling itself, but this is a slow process (fracture remodeling takes 3-6 months). The bone around the new knee replacement remodels according to the new stress it sees, but this process also takes a few months. Knee replacement patients feel this remodeling pain typically as a delayed activity related throbbing or achy pain deep in the knee joint. A typical example is 4 weeks after surgery, a knee replacement patient might walk for 30 - 45 minutes through a grocery store without much discomfort, but later that night they feel like their knee is pounding and they have a hard time getting to sleep. This delayed pain usually disappears by the next morning. As the bone remodels over the 3-4 months after surgery, the amount of activity required to generate the pain increases and the intensity of the pain decreases. The factors that cause the bony stress pain are typically related to the quality of the bone and the stress across the joint, but not the surgical technique. Patients with weak bones and/or heavy set patients are at greater risk for bony stress pain. Patients who try to do too much activity too quickly are also at a greater risk. All surgeons have some patients that have little to no stress pain, while others have a considerable amount of stress pain. The occurrence of this stress pain is difficult to predict and explains the large variation in recovery between patients. It also makes short term comparisons between surgeons' outcomes difficult.

Lateral numbness

Most knee replacement incisions are vertical. A small patch of skin to the outside of the incision (lateral) is typically numb following the surgery. Numbness seldom bothers patients and often returns to normal. There is nothing that can be done during surgery to prevent this minor numbness.

Activity level

Knee replacements allow a patient to resume all normal daily activities. Sports like swimming, biking, golf and doubles tennis are also possible after 6 months or so. Vigorous activities like basketball, water skiing, jogging, running, and football are not recommended.

Temperature

A low-grade temperature is 100.5°F. or more as measured orally. If this occurs you should drink plenty of fluids, take Tylenol and do coughing and deep breathing exercises every two hours while awake. This will help to expel any mucous that is present in the lungs. When doing the coughing and deep breathing exercises, you should slowly take 5 deep breaths and on the last breath hold it for two seconds and then cough forcefully a few times. If your temperature is higher than 100.6°F, please call the Orthopedic Coordinator.

Wound appearance

A small amount of pinkness in the area of the incision is normal.

Sore throat

Sore throat following surgery. This might be related to a tube used to help you breathe during surgery. If you experience a sore throat you should gargle with warm salt water 3 to 4 times a day to help relieve the discomfort. If it does not improve after one week from surgery, please contact your physician.

EXERCISES FOR RECOVERY

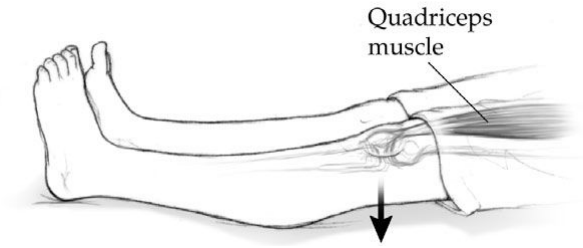
Do each exercise slowly, gently and without pain. If you experience pain while doing an exercise, stop the exercise immediately and relax. If the pain goes away, repeat the exercise with reduced speed and intensity. If the pain continues after you have stopped exercising, talk with your healthcare provider before resuming the exercise.

General exercise instructions:

- Lie on your back on a firm, flat surface such as a bed, mat, or floor.
- Do _____ set(s) of _____ repetitions.
- Repeat exercises _____ times a day.
- Maintain a normal breathing pattern. Avoid holding your breath.
- If possible, avoid dragging your heel on the surface to prevent excess pressure on your heel. This is particularly important if your skin is fragile or you have a wound on your heel.
- Have a caregiver help you with these exercises if needed.

Quadriceps sets (Figure 1)

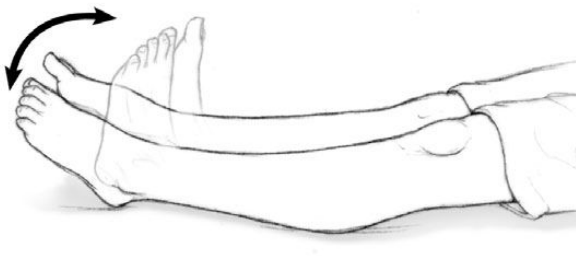
- Keep both legs straight on the surface. Exercise both legs together or separately.
- Press the back of your knees down into the surface by tightening the muscles on the front of your thigh.
- Hold the position for 5 seconds.
- Relax your legs to return to the starting position.



(Figure 1)

Ankle pumps (Figure 2)

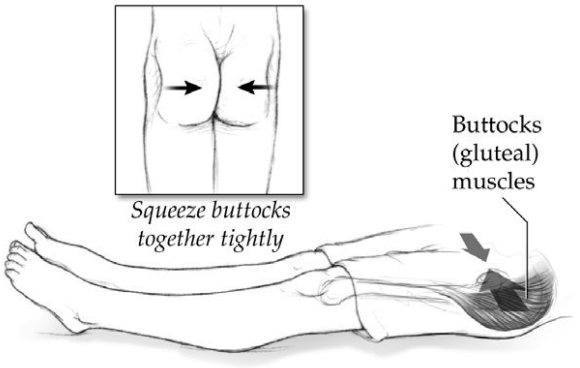
- Keep both legs straight on the surface. Exercise both feet together or separately.
- Bend at your ankle, pointing your toes away from you Quadriceps sets (Figure 2) and then toward you.



(Figure 2)

Gluteal squeezes (Figure 3)

- Keep both legs straight on the surface.
- Squeeze the muscles of your buttocks together tightly.
- Hold the position for 5 seconds.
- Relax your buttocks to return to the starting position.



(Figure 3)

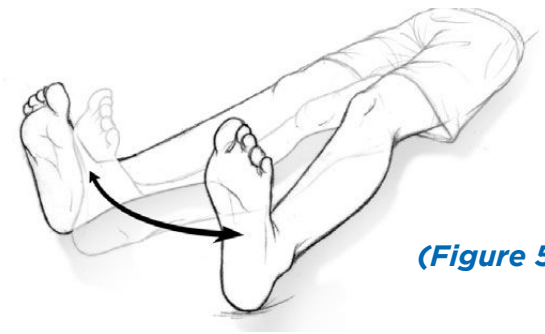
Hip flexion (Figure 4)

- Start with both legs straight on the surface.
- Bend one leg at the hip and knee, bringing your foot up toward your buttocks.
- Slowly straighten your leg to return it to the starting position.
- Repeat the exercise with your other leg unless instructed otherwise by your healthcare provider.

(Figure 4)

Hip abduction (Figure 5)

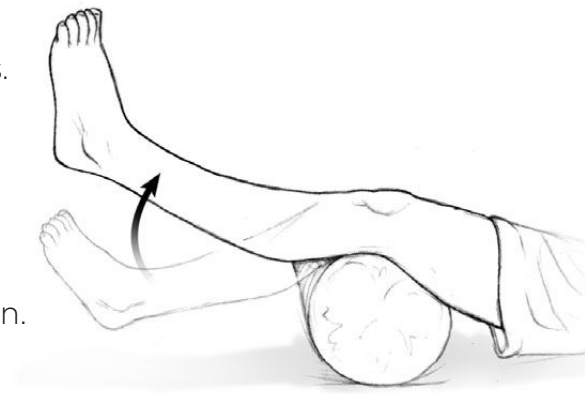
- Start with both legs straight on the surface.
- Move one leg out to the side, keeping your knee straight and toes pointed upward.
- Return your leg to the starting position.
- Repeat the exercise with your other leg unless instructed otherwise by your healthcare provider.



(Figure 5)

Short arc quadriceps (Figure 6)

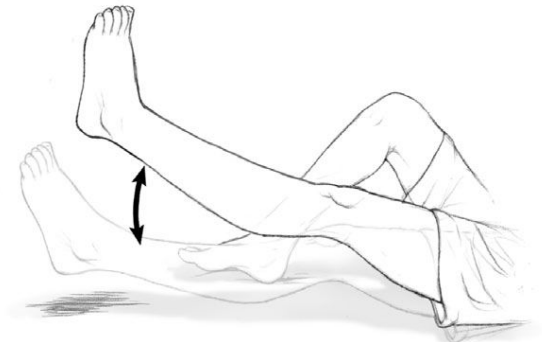
- Place a bolster or rolled towel under your knees.
- Lift one foot up to straighten your knee, keeping your knee resting on the bolster or towel.
- Hold the position for 5 seconds.
- Slowly lower your leg to the starting position.
- Repeat the exercise with your other leg unless instructed otherwise by your healthcare provider.



(Figure 6)

Straight leg raises (Figure 7)

- For stability and to decrease strain on your back, bend your non-exercising leg at the knee so that your foot is flat on the surface.
- Straighten the knee of your exercising leg.
- Lift your leg five to 10 inches, keeping your knee as straight as possible.
- Hold the position for 5 seconds.
- Slowly lower your leg to the starting position.



(Figure 7)

- Repeat the exercise with your other leg unless instructed otherwise by your healthcare provider.

Sitting in a chair: Active knee range of motion (Figure 8)

- Sit on a chair with most of your thigh supported.
- Bend your knee as far as possible.
- Hold for 5 seconds.
- Straighten your knee as far as possible.
- Hold for 5 seconds.
- Repeat this exercise 10 times.

Do this exercise 2 to 3 times a day.

(Figure 8)

WALKING WITH A WALKER

There are several types of walkers. Talk with your healthcare provider or physical therapist about the type of walker that best fits your needs.

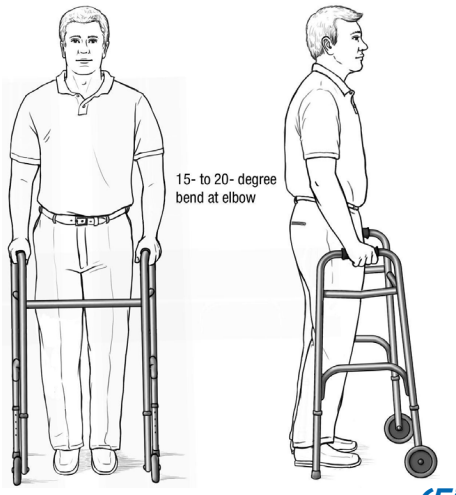
To make sure your walker fits correctly: (Figure 9)

- Wear the same style shoes that you will wear when you use the walker.
- Lock the walker open if it is the kind that folds.
- Stand tall inside the walker and look ahead, not down at your feet or the walker. Your heels should be even with the back of the walker.
- With your arms straight down at your side, the hand grips should line up with the crease in your wrists.
- When your hands hold the hand grips, your elbows should be bent at a 15- to 20-degree angle.

Your physical therapist will show you how to walk with a walker and how to sit down and stand up. You may practice going up and down stairs. If you have questions about fitting or using a walker, talk with your therapist.

Walking with a walker (Figure 10)

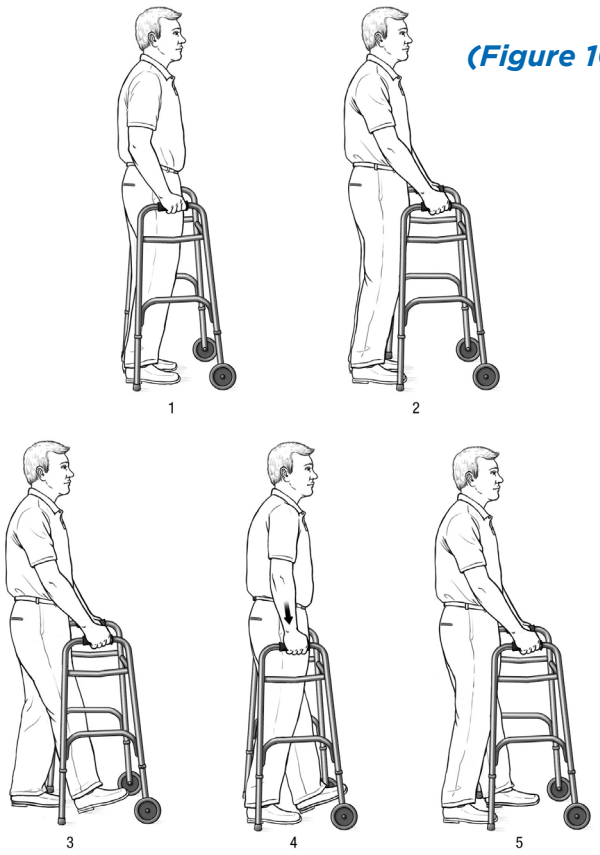
- Stand tall inside the walker and look ahead, not down at your feet or the walker. Your heels should be even with the back of the walker.
- Move the walker forward a comfortable arms' length.
- Put your operated foot lightly on the floor, just inside the walker.



(Figure 9)

- Push down on the hand grips to support your weight as you step forward with your good foot.
- Repeat steps 2, 3, 4.

Take normal-sized steps while you walk. Keep your feet behind the front legs of the walker.

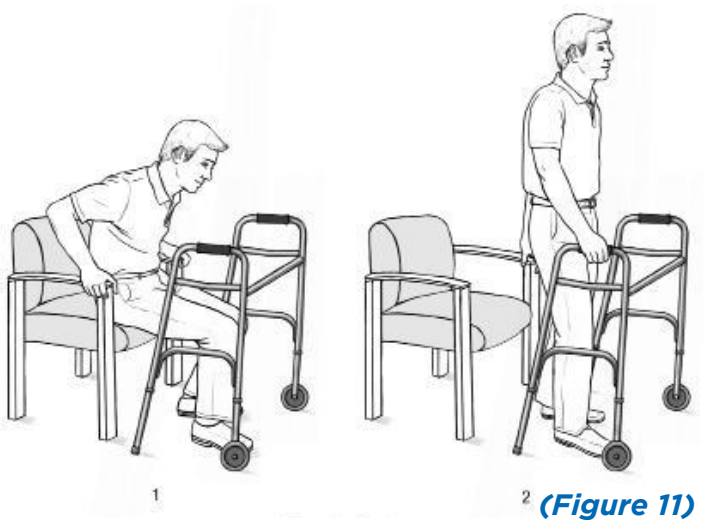


(Figure 10)

STANDING (Figure 11)

Before you stand up, make sure the chair cannot move.

- When sitting, put the walker in front of you or ask someone to put it in front of you.
- Keep the weight off your operated leg and slide to the edge of the chair. Put your good leg beneath you.
- Lean forward and push up with your hands on the armrests or chair seat for support and balance.



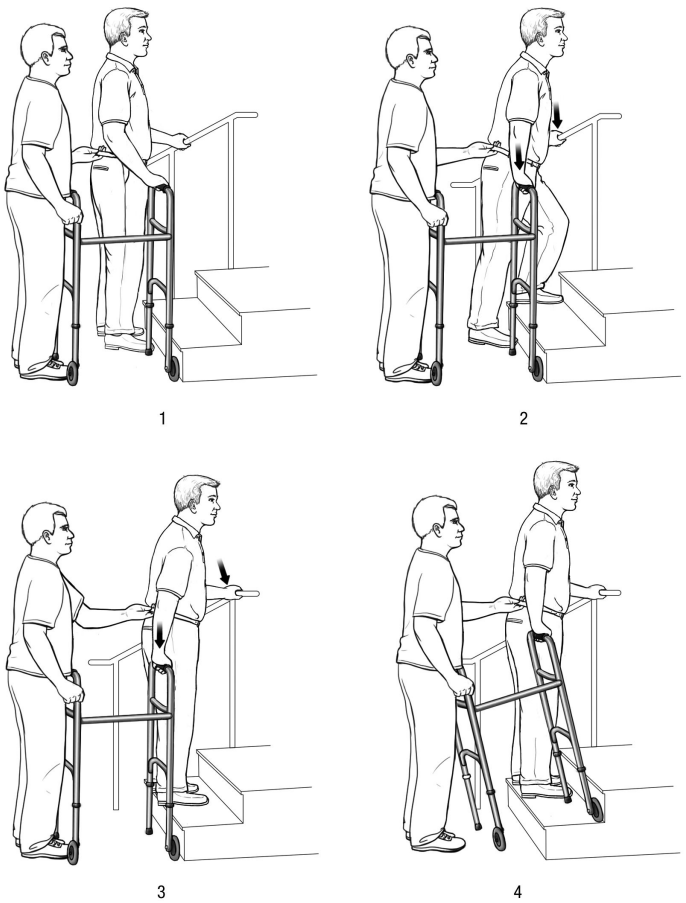
(Figure 11)

- Stand on your good leg and balance yourself before you grasp the walker.

GOING UP STAIRS (Figure 12)

Remember to step up with your good leg first.

- Stand in an upright position with your toes touching the front of the step. Turn your walker sideways so that a front and back leg touch the front of the step. Put one hand on the handrail and the other on the handgrip of the walker.
- Your helper should stabilize the walker against his or her body. Your helper should also hold onto your back or belt, ready to support you.
- Put your weight on both hands as you put your good leg up on the step.
- Bring your operated leg up to the same step.
- You and your helper should then move the walker up one step. Your helper should again stabilize the walker against his or her body.



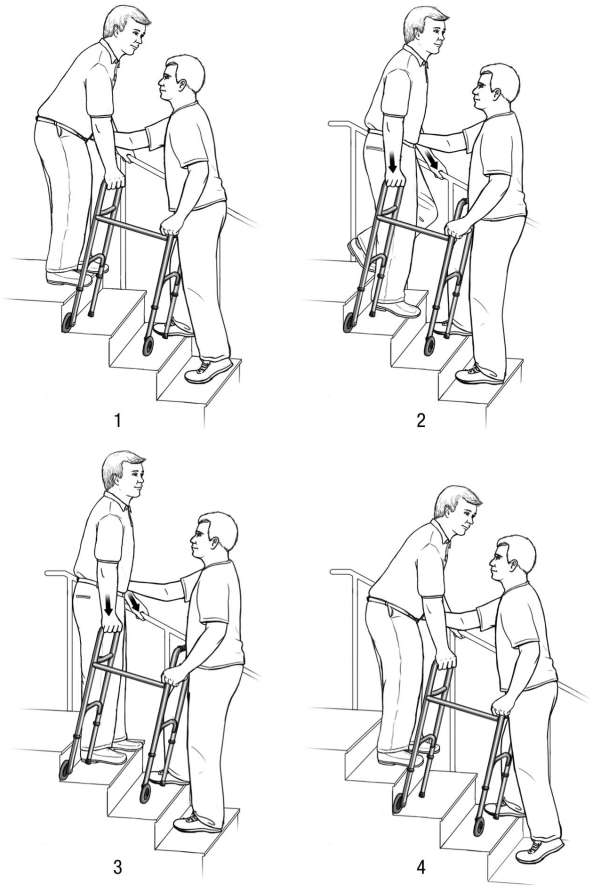
(Figure 12)

GOING DOWN STAIRS

(Figure 13)

Remember to step down with your operated leg first.

- Stand close to the edge of the step. Turn your walker sideways so that a front and back leg are one step down from where you are standing. Put one hand on the handrail and the other on the handgrip of the walker.
- Your helper should stabilize the walker against his or her body. Your helper should also hold onto your hip or belt, ready to support you.
- Put your operated leg onto the lower step.
- Put your weight on both hands as you bring your good leg down to the same step.
- You and your helper should then move the walker down one step from where you are standing. Again, your helper should stabilize the walker against his or her body.



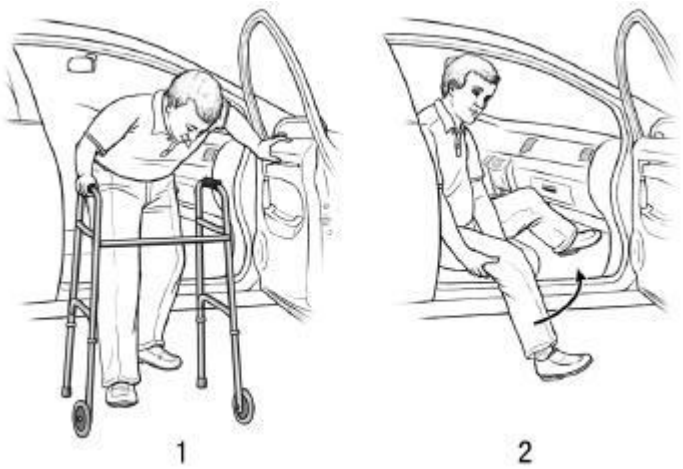
(Figure 13)

CAR TRANSFER

Getting into a car (Figure 14)

Move the front seat back as far as possible before you get into a car.

- Turn your back to the car seat. Move back until your legs touch the seat.
  - a) Keep one hand on the walker and put your other hand on the car to steady your balance.
  - b) Keep your operated leg slightly in front as you lower to the edge of the seat.
  - c) Sit on the edge of the seat. Use your good leg to push yourself back into the car seat.



(Figure 14)

- Lift one leg at a time into the car. Ask for help, if you need it, to lift your operated leg into the car.

Getting out of a car (Figure 15)

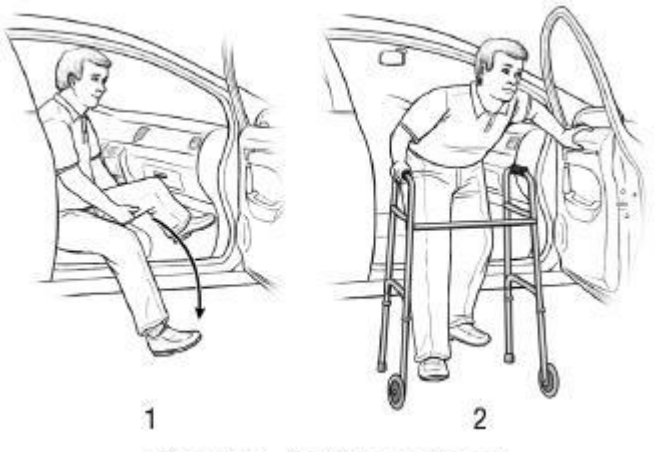
Move the front seat back as far as possible before you get out of a car.

- Keep your weight off your operated leg and slide to the edge of the car seat.

  a) Lift one leg at a time out of the car. Ask for help, if needed, to lift your operated leg out of the car.

  b) Put one hand on the walker and your other hand on the car to steady your balance.

- Push yourself up to stand on your good leg.



(Figure 15)

PRECAUTIONS FOR YOUR WALKING AIDS

- Be careful when you walk on waxed, slippery, or wet surfaces, and floors with carpet, rugs or floor mats. They can cause the walker or your feet to slip. Take smaller steps. It is best not to have rugs and floor mats in your home if you use a walking aid.
- Watch for uneven surfaces. Move carefully when you go from one level to another.
- Wear low-heeled shoes that fit well and that have good grips on the soles, such as athletic shoes. Do not wear slippers, sandals, or clogs that may cause you to fall.
- Allow plenty of time to get around.
- Stop to rest when you are tired.
- Make sure the rubber tips of your walker, crutches or cane are clean and not worn out. Replace the tips as needed.

Canes

Be very careful.

- When you walk on uneven ground
- When you walk on ice
- In wet weather
- In other slippery conditions

Walkers

- Do not place your walker too far ahead of you, or it could slip out from under you.
- Do not walk too far into the walker, or you could lose your balance.
- Do not use your walker on an escalator.
- Watch for objects under your feet. Keep electrical cords out of the way. Tuck in the corners of bedspreads. Clean up spills.

OTHER THINGS TO THINK ABOUT

Before you leave the hospital, ask your physical and occupational therapists all your questions about your activities as you recover from knee surgery. Make sure you understand how to use your walking aids or any other equipment.

Remember:

- Do not put pillows under your knees when lying in bed or sit in a chair with your leg elevated on a footstool because you could lose the ability to straighten your leg.
- Gradually increase your activity as you are able. Let knee symptoms guide you. How active you were before surgery can influence how quickly you get back to your former activities.
- To get the most use of your knee, activity and exercise must be part of your daily routine.
- Follow your physical therapist's instructions for how much weight to put on the operated leg.
- Look at the Hospital Summary given to you when you leave the hospital for instructions on when you can switch from a walker to a cane. If no specific instructions have been given by your healthcare provider, switch to a cane when you are steady on your feet and can walk pain-free without a limp. If you are limping when using a cane, return to using the more supportive gait aid.
- Walk at least three times a day. As you feel able, increase the distance and number of times you walk each day.
- Consider using a toilet seat riser to raise the height of your toilet seat. This can help you sit down and stand up more easily. In public restrooms, use the handicapped-accessible stall with a raised toilet.
- Before you get into a car, have someone move the seat back to give you more leg room.
- If you have questions about this information or about your activities after knee surgery, talk with your orthopedic surgeon.
- This material is for your education and information only. This content does not replace medical advice, diagnosis or treatment.
- New medical research can change this information. If you have questions about a medical condition, always talk with your orthopedic surgeon.

MEDICATION TRACKER

Use the chart below as an example to help you track how much medication you take.

Remember these precautions when taking pain medication:

DO:

- Have someone you trust help you keep track of how many pain pills you take each day.
- Tell your doctor if you still have a lot of pain even after taking your pain medication.
- Tell you caregivers to CALL 911 if your breathing slows down or stops, or if they cannot wake you.

DON'T:

- Take any additional medications or sedatives while you are taking your prescribed pain medication unless your doctor says it is ok.
- Take more medication than your doctor has prescribed, even if you still have some pain.
- Have your caregivers wake you to take pain medication or give you pain medication if you cannot stay awake to eat or do daily activities.

MEDICATION NAME	DATE	TIME TAKEN	TIME OF NEXT DOSE	PAIN LEVEL (Circle a number, 0-10, where "0" means "no pain" and "10" means "very severe" pain).
				0 1 2 3 4 5 6 7 8 9 10
				0 1 2 3 4 5 6 7 8 9 10
				0 1 2 3 4 5 6 7 8 9 10
				0 1 2 3 4 5 6 7 8 9 10
				0 1 2 3 4 5 6 7 8 9 10
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HOW TO SHOWER USING HIBICLENS®

Hibiclens is an antiseptic, antimicrobial skin cleanser; proven to kill MRSA and other staph organisms; most effective for prevention of Surgical Site Infections.

This information explains how to shower using chlorhexidine gluconate (Hibiclens) It contains a strong antiseptic (liquid used to kill germs and bacteria) called chlorhexidine gluconate (CHG).

Do not use Hibiclens® if you are allergic to CHG or any other ingredients.

If you have irritation or an allergic reaction when using Hibiclens®, stop using it and call your doctor.

How to use Hibiclens®

Each 4oz bottle has enough cleanser for five showers. Start using Hibiclens® 4 days before your surgery.

1st use _____

2nd use _____

3rd use _____

4th use _____

1. Use your normal shampoo to wash your hair. Rinse your head well.
2. Use your normal soap to wash your face and genital area. Rinse your body well with warm water.
3. Open the Hibiclens® bottle. Pour a small amount (about 1 TBSP) of solution into your hand or a clean washcloth. Do not dilute (mix) the Hibiclens® with water before doing this.
4. Move away from the shower stream to avoid rinsing off the Hibiclens® too soon.
5. Rub the Hibiclens® gently over the surgical site area/side, cleaning a wide area.
6. Wait 3 minutes.
7. Move back into the shower stream to rinse off the Hibiclens with warm water. Rinse your body well.
8. Dry yourself off with a clean towel after your shower.

Morning of surgery

_____

Use the rest of the bottle of Hibiclens to wash the entire body from your neck to your feet. After your shower, do not put on any products. Many products can keep the Hibiclens® from working. For example, do not put on lotion, cream, deodorant, makeup, powder, perfume, or cologne.

Do not put the Hibiclens® on:

- Your head or face (including your eyes, ears, and mouth).
- Your genital area.
- Wounds or scrapes that are deeper than the top layer of skin. If you have a wound and are not sure if you should use Hibiclens®, ask your healthcare provider.

What to do if you get Hibiclens® in your eye

- Do not rub your eye.
- Rinse your eye with lots of cold water right away. Keep your eye wide open while you are rinsing, and make sure to rinse under your eyelids. If you are wearing a contact lens, take it out, if you can. Keep rinsing for 15 to 20 minutes.

- If your eye is still irritated after 1 hour, go to an urgent care center or emergency room.

What to do if you get Hibiclens® in your mouth

- Rinse your mouth with cold water right away.
- Drink plenty of water. But, never give an unconscious person anything to drink or eat.
- Do not make yourself vomit (throw up).
- If you swallowed any Hibiclens®, get medical help or contact Poison Control (800.222.1222) right away.

What to do if you get Hibiclens® in your ear

- Rinse your ear with cold water right away.
- For more information, read the product label on the outside of the Hibiclens® package or visit the Hibiclens® website at www.hibiclens.com.

If you have any questions, contact a member of your care team directly.

YOU DO NOT HAVE TO LIVE WITH KNEE PAIN

Questions?

Please list any questions you have and bring them to your pre-op visit.

YOU DO NOT HAVE TO LIVE WITH KNEE PAIN

Questions?

Please list any questions you have and bring them to your pre-op visit.

ORTHOPEDICS & PODIATRY

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