Total Knee Replacement Surgery

North Kansas City Hospital
This planning guide provides you and your family with information about what to expect before, during and after surgery.

To prepare you for your upcoming procedure, North Kansas City Hospital offers a free total joint replacement class.

By attending the class, you will be better prepared to participate in your plan of care, which will positively impact your recovery and help you get back to your normal routine as soon as possible.

The class is offered every Tuesday. If you have not already registered, please visit nkch.org/Joint or call 816.691.1690.

You also will find our total joint replacement video at nkch.org/Joint. Please watch the video and answer the 5-question quiz to confirm your understanding of the complete process.
Welcome to North Kansas City Hospital.
Your decision to have a joint replaced is an important step toward better health.

Joint replacement surgery is highly successful in helping people with severe knee pain get back on their feet. Depending upon your age and activity level, replaced joints may keep you moving the rest of your life without any problem.

At North Kansas City Hospital, our ultimate goal is to provide excellent care and service while helping you maintain your independence as you recover from surgery. Clinical and support staff members work together to make your hospital experience as comfortable as possible.

During your hospital stay, you will spend time on the Orthopedics Unit and attend therapy sessions to learn basic self-care skills for use at home. We will also provide education about your medications and what it takes to return to your optimal level of activity. Recovery varies from person to person, so we personalize your discharge plan to suit your individualized needs.

We are committed to providing a positive hospital experience. If you have any concerns or questions, please discuss them with your nurse. If needed, you may reach the charge nurse at ext. 1997. Please communicate any problems immediately so we can help resolve them.

North Kansas City Hospital participates in the CMS Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey process. You may be contacted about your hospital stay shortly after discharge. Your feedback regarding your experience is very valuable to us as we work toward fulfilling our mission to Provide Hope and Healing to Every Life We Touch.
How a Knee Replacement Works

A joint is a moveable connection between the ends of two or more bones. The ends are covered by a smooth material called cartilage and connected to each other by flexible ligaments. The joint is lined with a tissue called synovium, which produces a lubricating substance called synovial fluid. Muscles and tendons surround the joint and power its movement. For the human body to have free and easy movement, all of these components must work well.

Arthritis breaks the fine-tuning between bone, cartilage, synovium, ligament and muscle. Just how the arthritic process works is still not clear, but researchers do know its effects on the joints. In osteoarthritis, the smooth cartilage covering the joint becomes so rough and worn thin that the bones rub directly against each other, causing pain and inflammation. In rheumatoid arthritis, the synovium becomes inflamed and attacks cartilage.

In both cases, the joint can become stiff and painful. Eventually, arthritis sufferers avoid moving the joint to prevent the pain. Lack of movement weakens the structure adjoining the joint and intensifies the condition, making movement increasingly difficult.

Total Knee Replacement Surgery

The knee joint consists of three parts: the femur (the end of the thigh bone), the tibia (the top of the shin bone) and the patella (the knee cap).

The end of the femur has two curved portions that work with the two cuplike portions of the upper end of the tibia. Together, the ends of the femur and tibia allow smooth motion in the normal knee and make up the hinge joint. The kneecap is held in place in front of the knee joint by muscles and tendons, and increases the efficiency of the thigh muscles. It works with the knee joint by sliding along a groove between the curved portions of the femur.

Total knee replacement is a common procedure that replaces one or both sides of the knee joint to relieve severe pain, increase joint motion and improve joint mobility. The procedure replaces damaged cartilage and bone with new surfaces.

In joint replacement surgery, the worn-out joint ends are replaced with a prosthesis, or artificial knee, made of metal and strong plastic. The diseased bone ends are cut away and the prosthesis is implanted in their place. The artificial knee is attached to the bone with a cement-like material or an absorbent coating into which, over time, the bone can grow directly.
Pre-surgery Preparation

Before Surgery
Before your surgery, you will receive a health evaluation that includes a medical history and physical exam.

Your pre-operative preparation may also include blood studies, a nasal swab, an electrocardiogram (EKG) and X-rays. If you have recently had an infection or cold, have an allergy to antibiotics or other medications, have taken steroids in the past year or are taking blood thinners such as aspirin, tell your doctor.

Unless otherwise instructed by your surgeon or anesthesiologist, you should not eat or drink anything after midnight, including chewing gum.

Check with your doctor to find out if you should take your usual daily medications on the day of surgery. You may be instructed not to take some of your home medications before surgery, particularly nonsteroidal anti-inflammatory drugs or blood thinners.

Register for the joint replacement class at nkch.org/Joint.
ITEMS TO BRING TO THE HOSPITAL

The following checklists will help you prepare for your hospital stay. Please bring only items that are absolutely necessary.

- Contact lenses and supplies
- CPAP machine (if used at home)
- Dentures, denture cup
- Eyeglasses with hard case
- Full set of loose-fitting, comfortable clothing (socks, elastic waist pants or loose-fitting shorts, underwear, etc.)
- Hearing aid with extra batteries
- Important phone numbers
- Incentive spirometer (if you have one)
- Insurance cards/information
- List of current medications with dosages (include name of medicine, dosage, frequency, vitamins, over-the-counter medicine, and dietary supplements such as herbal products)
- Notepad to write down questions/concerns or important information from your healthcare team
- Personal care items such as your toothbrush, comb or brush
- Shaving equipment (an electric razor is necessary if you take blood thinners)
- Sturdy, flat slippers or comfortable shoes with an enclosed back and non-skid soles. No flip flops or scuff/slide slippers.
- Walker (if you have one)

ITEMS TO LEAVE AT HOME

- Credit cards
- Jewelry (all patient rooms have a clock, so a watch will not be needed)
- Money
- Purse
- Valuables
Recovery Exercises

To help speed your recovery, practice these exercises BEFORE your surgery (within pain limitations).

Breathing Exercises
Breathing exercises help protect you from pneumonia, and the muscle exercises assist in preventing blood clots and speed healing. You may use your incentive spirometer to practice these exercises.

- Breathe in as deeply as you can.
- Hold for 1-2 seconds.
- Breathe out completely.

*Repeat steps 1, 2 and 3 several times.*

- Breathe as deeply as you can.
- Cough deeply from your abdomen (not a shallow throat cough).

*Repeat this exercise every hour while you are in the hospital, and continue it throughout your recovery.*

Calf Pumping (Ankle Exercise)
Calf pumping promotes circulation and helps tone and strengthen the lower leg muscles.

- Lie flat in bed or with the head of the bed slightly elevated.
- Point your toes toward the foot of the bed.
- Point your toes toward your head.

*Repeat the exercise 10 times an hour, one leg at a time or both legs together, while you are in the hospital and continue it throughout your recovery.*
Quadriiceps Setting Exercise (Quad Sets)
Quad sets help you maintain and strengthen the quadriceps muscles, which are the muscles on the top of the thigh you use to straighten your leg. Put your hand on your thigh, and you will feel the muscle move as you do this exercise.

- Lie flat in bed or with the head of the bed slightly elevated.
- Press the back of your knee downward against the bed and tighten your thigh muscle.
- Hold this position for five seconds, then release.

_Repeat this exercise 15 times, one leg at a time or both legs together, three times a day._

Straight Leg Raises
Straight leg raises maintain and strengthen the knee and hip muscles. Before surgery, do the exercise on both legs, if tolerated.

- Bend one leg. Keep the other leg as straight as possible and tighten the muscles on top of thigh.
- Slowly lift the straight leg 10 inches from the bed and hold this position for two seconds.
- Lower your leg, keeping your muscles tight for two more seconds, then relax.

_Repeat this exercise 15 times, three times a day._
After Surgery

Your activity level will be less than normal for several weeks after your knee replacement surgery. It’s important for you to do several activities while in bed.

- Continue deep breathing and coughing to prevent lung congestion. Take a slow, deep breath, hold it for 1-2 seconds, then let it out. Repeat 10 times every hour while you are awake and at night if you awaken.

- Do the exercises you learned prior to surgery (see pages 6-7). They enhance the return of blood to your legs and keep your muscles strong. Move your feet up and down 10 times every 1-2 hours while awake to keep the circulation active and decrease the chance of blood clots.

- You may be fitted with white elastic stockings, sequential compression devices and/or foot pumps to prevent blood clots during hospitalization. Your nurses periodically remove the devices. Never put a pillow under your knee.

- Immediately following surgery, you receive IV fluids. When you can take liquids by mouth, it is essential to drink a reasonable amount each day to maintain good kidney function. Don’t postpone urination, as this could lead to overfilling your bladder and difficulty in passing urine. Call your nurse for assistance.

- Change your position in bed frequently to prevent skin irritation. Tell your nurse if your buttocks or heels feel sore or hot. Several options are available to relieve your discomfort.

On the day of surgery when you arrive in Pre-Op, you will meet the anesthesiologist and discuss the anesthesia that will be used. Let the doctor know if you desire a particular type of anesthesia or if you’ve experienced any negative reactions to anesthesia.

In Pre-Op, you will also wash your hip a second time with antibacterial soap. If necessary, excess hair will be removed from your hip area. A nurse starts an intravenous line (IV) to provide you with fluids during surgery and gives any medications you and the anesthesiologist discussed. Then, you go to surgery.

During surgery, your family and friends may wait in the surgical waiting area. The receptionist will update them on your progress and inform them when you return to your room.

When you awaken in the Recovery Room, you will have a bulky bandage on your leg and a drainage tube (hemovac) coming from the bandage. The tube allows excess fluid to drain from the area to minimize swelling. You will also have the IV.

After you have recovered from the anesthesia, you will be transferred to your hospital room where your nurse continuously monitors your vital signs, circulation and comfort level.
Getting Out of Bed
The care staff will show you the correct way to get out of bed while keeping the operated knee straight and to the side. Tell your nurse if you become dizzy. Dizziness is common and passes as you adjust to being up.

Keeping your knees apart, move your legs toward the edge of the bed. Prop yourself up with your elbows.

Keeping your knees apart, continue moving your legs toward the edge of the bed, using your elbows and hands to push your upper body upright.

Continue with the same motion until your legs are over the edge of the bed and your feet are flat on floor.
Medication
During the postoperative period, you may experience pain in your knee. Medication, ice bags, position changes and relaxation exercises can relieve your discomfort.

Once you can eat and drink, oral medicine helps minimize your discomfort. Your nurse helps identify which medications can make you most comfortable. Other medications that may be prescribed include:

- An anticoagulant to help prevent blood clots
- A laxative to soften the stool and promote regular bowel function. Medication, inactivity and diet can cause constipation.

Your Incision and Bandages
Your nurse will give you instructions for how to care for your incision.

Therapy After Surgery
The nurse and your physical therapist will review your postoperative instructions. Physical and occupational therapy will begin the day of surgery.

Physical Therapy
The day after surgery you are ready to get out of bed and sit in a chair. You also start physical therapy and begin learning to walk with a walker. As you progress, your physical therapist introduces you to walking up and down stairs and other exercises that increase the knee’s strength and motion. You will gradually increase your ability to bend and straighten your knee.

Between therapy sessions, some exercises (as designated by your therapist) can be practiced from bed.

Occupational Therapy
In Occupational Therapy, you learn how to perform self-care activities such as how to bathe and dress and use a reacher, sock aide, long-handled shoehorn and long-handled sponge. Assistive devices can be purchased at area pharmacies or medical supply stores, and your occupational therapist can recommend appropriate equipment.

Stair Climbing
The technique you use to go up and down stairs depends on the type of steps. You will practice going up and down stairs before going home.

- **Going Up Steps**: Step up first with the non-surgical leg then follow with the operated leg.
- **Going Down Steps**: Step down first with the operated leg, then follow with the non-surgical leg.

Exercise
Perform exercises either sitting or lying down. In addition to the exercises you began prior to surgery, you also work toward bending and straightening your knee and moving the hip out to the side and back. As you progress to outpatient therapy, you also may perform these in a standing position.

Your therapist will provide you with instructions on which exercises to perform and how often. There may be circumstances when exercises are not indicated or need to be modified, so wait for instructions before beginning.

Getting In and Out of the Car
A four-door sedan will make getting into and out of a car easier. Slide the front passenger seat all the way back and recline the seat, if possible. Back up to the car and sit down, then gradually put your legs in the car.

Your therapist will help you practice getting in and out of a car during therapy.

Continuous Passive Range of Motion Machine
The continuous passive range of motion (CPM) machine moves your knee while you are in bed. The movement keeps your knee from getting stiff; yet, does not strain the knee muscles during healing.

Your doctor may prescribe a CPM machine for use several times a day. On a daily basis, the bending progression of your knee is evaluated and settings adjusted. The nursing staff teaches you how to properly use the CPM machine.

It’s important to put a pillow under your heel to get full extension of the knee. Never put a pillow under the knee or leave your leg in the CPM when it is not running. This can increase the risk of blood clots.
While most people are in the hospital for no more than a day after surgery, some need another care option. To help your transition go smoothly, plan your next step before surgery.

Discharge Options

**Outpatient Therapy**
Most patients begin outpatient therapy within three days of having surgery. NKCH has a rehab facility on campus. Most people start with three sessions each week. That number decreases as you regain mobility. At the end of your outpatient therapy, your therapist can help you move to NKCH’s Physical Therapy Transition Program so you can continue your recovery. **Call 816.691.1795 before your surgery to schedule your first post-surgery outpatient therapy appointment.**

**Home Health**
If you live alone or have limited access to transportation, home health therapy may be an option, if you qualify. A home health physical therapist usually visits three days each week for up to two weeks. Most insurance providers cover home health services. **Call 816.691.1358 before your surgery to set up home health services.**

**Acute Rehab Facility or Skilled Nursing Unit**
If you will require quite a bit of care after surgery, or if you show lower level functional abilities, an acute rehab facility or skilled nursing unit may be a good option, if you qualify. Insurance providers require medical certification for coverage, or you may pay out-of-pocket. **NKCH has an Acute Rehab Unit on its campus. Call 816.691.1451 for more information.**
Preventing to Return Home
If you live alone, some additional help may be needed. Before your discharge, make the necessary arrangements regarding your release from the hospital (including help at home and a ride home).

Case Management/Social Services can provide you with information and help you obtain any equipment you need at home. Coverage for home equipment depends on your insurance.

You leave the hospital on the medications you took before you were admitted. Your doctor may prescribe additional medication such as a blood thinner.

As you prepare for your discharge, plan to leave the hospital after lunch, prior to 2 p.m. You receive a comprehensive discharge session with therapy staff in the morning.

Hints for Home
Remember these tips during your daily activities and for 6-8 weeks after you go home. The therapist can provide suggestions for your particular needs.

- A firm chair without wheels and with sturdy arms may be easier to use initially after you leave the hospital.
- Keep frequently used items within easy reach.
- Sit on a stationary, high stool or firm armchair when working in one spot, especially if you tire easily.
- Keep pathways between the living area, bedroom and bathroom clear so they are wide enough for a walker to pass easily.

Dressing
- If you cannot reach your feet and no one is around to help, use a sock donner to put on socks.
- Use a long-handled shoehorn to help slip on shoes.
- Wear well-fitted shoes with a back and no heels.
- Elastic shoelaces help slip shoes on and off without tying or untieing.
Safety
- Wear good, sturdy shoes with an enclosed back when walking.
- Throw rugs and slippery floors are a hazard. Remove all throw rugs from floors.
- Watch for hazards such as wet spots or electrical cords.
- Use your walker for any walking.
- Use safety rails in your bathroom.
- Be especially cautious outside your home or in unfamiliar places.
- In the winter, wear rubber-soled boots for walking in the snow.
- Use handrails when walking up/down stairs.

Driving and Travel
You can be a passenger in a vehicle for 1-2 hours at a time. Check with your doctor to determine when you can drive. The metal hardware in your knee may activate airport detection devices.

Follow-up Care
Your doctor will want to see you to follow your recovery progress. Consider making this appointment before you leave the hospital. Call your doctor with any questions during your recovery.

Infection Prevention
Do everything possible to prevent infection. If you have a fever (temperature above 101° F), swelling, redness or tenderness around your incision or drainage or if you suspect an infection anywhere else, call your doctor immediately.

Prior to dental appointments or any invasive procedures, remind your doctor or dentist of your joint replacement. In all these circumstances, your doctor should determine whether antibiotics are necessary to treat and/or prevent infection.

Pain
You may feel some discomfort in your knee area for some time after surgery. Use ice therapy as needed to reduce pain and swelling. As long as the pain does not increase or become severe, it is usually nothing of concern. If your pain increases after you go home or persists for a long time, call your doctor.

Activity Level
An artificial knee is composed of mechanical parts subject to wear and tear. To get the maximum life from your knee, don’t expose parts to excessive stresses and strains. Don’t run or jump or take part in activities that place excessive stress or wear on the joint.

Sexual Activity
With proper precautions, sexual activity is possible. Remember the position of your replaced knee is very important during the first three months after surgery. Ask your doctor, nurse or therapist if you have questions or concerns.
Preventing Falls

By increasing your awareness of safety issues around the home, you can prevent falls.

How Do You Prevent a Fall?

Proper use of a walker or an assistive device.

- Do not carry any objects in your hands. Use a walker basket, walker bag or utility cart to transport objects.
- Make sure the legs of the walker or other assistive device are on the floor.
- Keep your walker or other assistive device with you at all times. Do not hold on to furniture. It may not be firm enough to support you.

Proper hand placement while standing up and sitting down.

- When getting up from a chair, push up from the arms of the chair, get your balance and then reach for the walker. Don’t pull on the walker. It will fall on you.
- When sitting down, reach back with both hands for the arms of the chair before sitting.

Other Considerations

- Wear well-fitting shoes with non-slip soles.
- Wear glasses (if you use them).
- Call for help if you feel dizzy or weak when getting up.
- Remove throw rugs and other objects from walkways. They could catch in walker legs.
- To clean up spills, use a reacher, or sit in a chair and use your feet.
- Use a night light to guide your way to the bathroom at night.
- Follow your doctor’s recommendations for exercises to keep your arms, legs and bones strong.
- If someone helps you walk, wear a gait belt.
- Use a nonslip bath mat, traction strips and/or grab bars in the tub or shower stall.
- Take extra care if your medications have changed. You don’t know how new medication may affect you.

How Do You Get Up After a Fall?

First, check for injuries.

- Do not panic. Think!
- Make sure you can move all four limbs without pain.
- If you cannot move one or more limbs, call for help. Keep a cell phone in your walker bag or robe pocket.

Second, follow these steps for getting up.

- In a seated and slightly reclined position, scoot over and back up to a sturdy piece of furniture.
- Place your hands on the furniture behind you.
- Bring the knee of your nonsurgical leg forward so your foot is flat on the floor.
- Using the nonsurgical leg, push yourself up so you come to a seated position on the furniture behind you.
- You may need the help of a second person.
- If you feel intense pain at any time or if you are unable to get to the furniture, stop and call for help. Please do not try to get up.

WHEN TO CALL YOUR DOCTOR

Contact your doctor if you experience:

- Fever above 101°F when you take your temperature by mouth. Check your temperature every evening for 7-10 days after you leave the hospital.
- Signs of infection, which may include an increase in redness, swelling, drainage or warmth around your incision.
- A sudden increase in pain, the inability to walk or difficulty straightening your leg. A mild amount of pain is normal.

In case of a fall, contact your doctor for further instruction.
Managing Your Pain

Work with your doctors and nurses to prevent or relieve pain. You don’t have to “put up with it.”

Pain is a sensation that hurts enough to make you uncomfortable, whether you feel distress or severe discomfort.

Pain control can help you:
- Enjoy greater comfort while you heal.
- Get well faster. With less pain, you can start walking sooner, breathing better and regaining strength. You may even leave the hospital sooner.
- Improve your results. People with well controlled pain seem to do better.

Measure your pain
- You may be asked to rate your pain on a scale of 0 to 10 (using the chart below) or to choose a word that best describes your pain.
- Reporting your pain as a number helps the doctors and nurses know how well your treatment is working and whether to make any changes.
- You will work with your nurse to set a pain goal (such as keeping your pain level below 4 on the scale).

Are there general guidelines to relieve pain?
Try to prevent pain before it starts or gets worse by using a pain-relief method on a regular schedule. If pain begins, don’t wait for it to worsen before doing something. Often it is necessary to take pain medication around the clock.

Will I become addicted if I use opioids for pain relief?
No. Opioid addiction is defined as dependence on the regular use of opioids to satisfy physical, emotional and psychological needs rather than for medical reasons. Pain relief is a medical reason for taking opioids. Opioids work on the pain. Constipation is a common side effect of taking opioids. If you become constipated, tell your doctor or nurse.

Tell the doctor or nurse about any pain that won’t go away.
- Don’t worry about being a “bother.”
- Pain can be a sign of problems.
- The nurses and doctors want and need to know about it.

![PAIN SCALE](image)

![DISTRESS OR ANXIETY SCALE](image)
Food helps promote healing, so it is important to eat after surgery. A healthy diet also is an essential part of your overall health.

During your hospital stay, a dietitian may visit you to answer your nutrition questions. The following information will help you continue your healthy diet once you go home.

For more information or individual calorie needs, go to choosemyplate.gov.

Protein
After surgery, it is especially important to eat enough protein to heal.

What is protein?
Protein is a nutrient the body needs for normal growth, wound healing and building lean body mass to fight off infections.

How much do you need?
You should strive to eat two servings (6-8 ounces total) of protein per day. A piece of meat the size of a deck of cards is approximately 3 ounces. One ounce is equivalent to one egg, 1/4 cup beans or peas, or 1 tablespoon of peanut butter.

Tips for getting a variety of protein in your diet
Vary your protein choices by eating nuts, beans and fish. Eat fish at least twice per week.

Choose lean or low-fat meat and poultry. Chicken and fish have the least amount of fat in them. If you eat beef or pork, choose leaner cuts such as rounds and loins.

Eat an egg. Research now shows an average of one egg per day doesn’t increase your risk for heart disease. Remove the yolk to reduce the cholesterol and fat content.

Experiment with different cooking methods. Try grilling, broiling, roasting or baking to avoid extra fat.

Try nuts and seeds. Snack on unsalted nuts/seeds or add them to salads.

Fiber
A high fiber diet helps prevent constipation after surgery.

What is fiber?
Fiber is a carbohydrate the body can’t digest. It assists with digestive health, keeps you regular and makes you feel full longer. Fiber also has the potential to lower bad cholesterol (LDL).

How much do you need?
Strive to get 25-35 grams of fiber daily. If you don’t currently get this much fiber, increase your intake slowly. Drink plenty of fluid and exercise to help your body adjust to a high fiber diet. Drink at least 8 cups of water per day.

Tips for adding fiber to your diet
- Eat whole grain cereals and breads.
- Choose cereals with more than 3 grams of fiber.
- Aim for 5 daily servings of fruits and vegetables.
- Eat fruit instead of drinking juice.
- Add beans to soups, chili, salads and casseroles.
- Double vegetables in stews, soups, casseroles and spaghetti sauce.
- Add ground or milled flaxseed to your diet as a great source of Omega-3 and fiber.

HIGH-PROTEIN FOOD SOURCES
- Beans
- Fish
- Peanut butter
- Beef
- Milk
- Poultry and eggs
- Cheese
- Nuts
- Yogurt

HIGH-FIBER FOOD SOURCES
- Beans
- Nuts
- Bran cereal
- Oatmeal
- Fresh or frozen peas and lima beans
- Vegetables (especially broccoli, carrots and spinach)
- Fruit (especially apples, peaches, pears, raisins and strawberries)
- Whole-wheat bread, crackers and pasta