Northwestern Medicine®

Joint Adventures
Knee Replacement

Northwestern Medicine Central DuPage Hospital
Northwestern Medicine Delnor Hospital

Welcome to Northwestern Medicine

Hello and welcome to the Joint Adventures pre-op program at Northwestern Medicine Central DuPage Hospital and Northwestern Medicine Delnor Hospital. By now you have met with an orthopaedic surgeon and set a date for your joint replacement surgery.

From this point on, the orthopaedic care team will be with you every step of the way. We look forward to giving you excellent care and service.

There are 2 important things to do before your surgery: read this book and attend a Joint Adventures class. We will cover the information in this book, plus much more, in detail during the class. Knowing what to do before your surgery and knowing what to expect afterwards can help reduce the stress or fear you might have.

Besides reading this book and attending a class, we recommend that you watch a web-based Emmi® education program about your joint surgery. Your surgeon's office can give you the web address and access code you will need to view the video. Please contact your surgeon's office for this information.

This book, the Emmi video, and attending a Joint Adventures class should answer most of the questions you might have. If you still have questions about your surgery schedule, physician appointments or medication, please call your physician's or surgeon's office.

Again, welcome to Central DuPage Hospital and Delnor Hospital. The orthopaedic care team looks forward to helping make your joint adventure a pleasant one.

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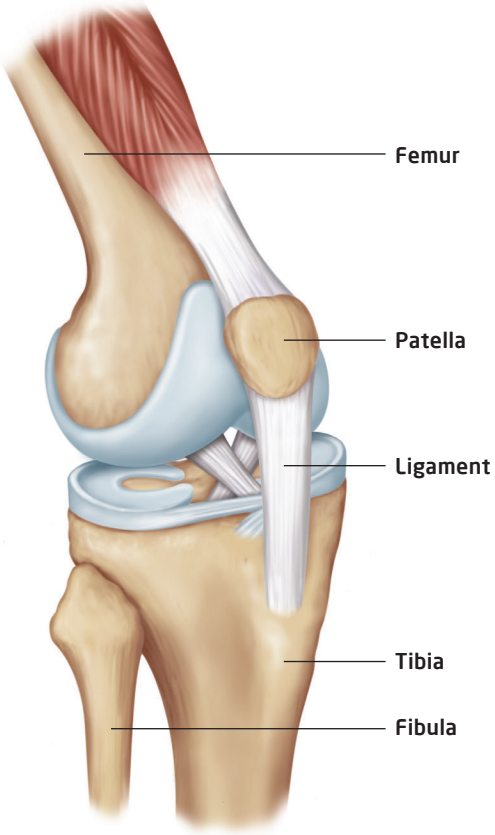
Getting Started

Getting started

To help you better understand the process of knee replacement, it may be helpful to know more about your knee and how it works.

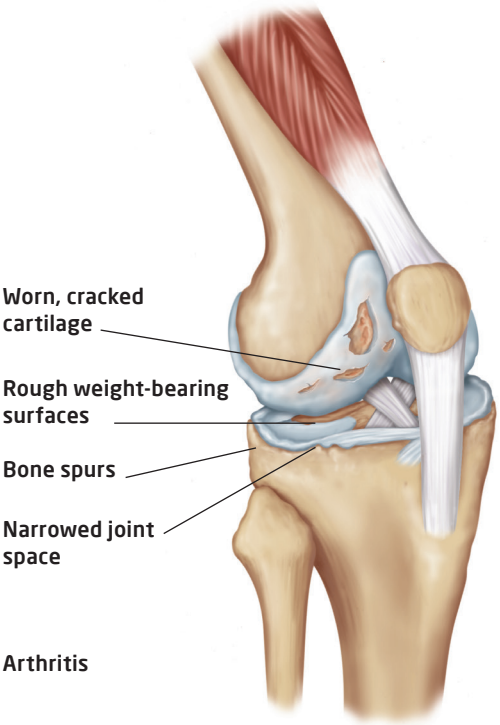
> The knee is the largest joint in the body.



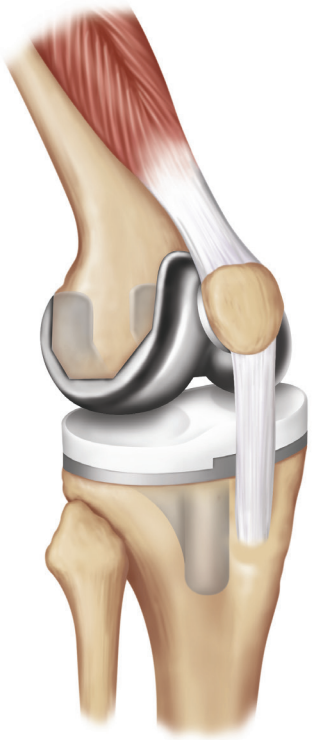
About your knee

The ability to walk easily depends on the specific way the thigh bone (femur) meets the shin bone (tibia).

Cartilage separates these bones and acts as a cushion and allows movement. In front of these bones, the kneecap (patella) glides in a groove and provides a round, protective shield. Much of the knee's stability and its main movements of bending and straightening depend on surrounding muscles and ligaments.



Arthritis



Knee replacement

Arthritis

The word "arthritis" means joint inflammation. Arthritis of the knee is a disease that wears away the cartilage of the knee joint. Without enough cartilage, the femur and the tibia rub on each other—bone on bone. When this happens, the joint becomes pitted and rough. The result is pain, stiffness and instability.

Osteoarthritis, often referred to as degenerative joint disease, usually gets worse with time. It is most common in people over age 50, but can happen at any age. Large, weight-bearing joints, such as the hip and knee, are the most common joints affected by osteoarthritis. People with osteoarthritis often get bone spurs around the joint. This can make it hard to move.

Rheumatoid arthritis is a disease that attacks any part of the body—including joints. In rheumatoid arthritis, the joint fluid has chemical substances that attack and damage the joint surface. Swelling, pain and stiffness are usually present even when you are not using the joint.

Knee replacement

Knee replacement surgery removes damaged and worn parts of the knee and replaces them with artificial parts called prostheses. This makes the knee strong, stable and flexible again. The prostheses include the same basic parts as your own knee. A surgeon inserts the femoral component into the thigh bone. Then they insert the tibial component into the top of the shin bone. The patellar component replaces the kneecap.

There are 2 ways to secure the new joint. The cemented method secures the knee joint in place using acrylic bone cement that sets within 15 minutes. The uncemented, or ingrowth, secures the new joint by allowing it to be set into place by the body's own bone growth. You should have a discussion with your surgeon about which method to use.

Congratulations. You've taken the 1st step to regaining your active lifestyle.

However, you need to take a few more to make sure you, your home and your caregiver are fully prepared for your joint replacement surgery.

During the next few days and weeks, you will need to:

- Register and attend a pre-operative knee replacement class at the hospital
- Watch educational internet programs as assigned by physician
- Prepare your home for your return
- Complete and return the Care Coordination Form
- Complete lab work or other tests ordered by your physicians
- Select a support person to help you at home for the 1st week after surgery

Pre-operative class

We created the pre-operative class and this book to help patients and family members better understand what to expect before and after joint replacement surgery.

Steps to prepare for the pre-operative class

1. Bring this book with you to class and to the hospital the day of your surgery.
2. Pick a family member or close friend who can be your "support person" (coach); your support person will need to attend the pre-operative class with you to learn and understand how to help you.
3. Register for class 2 to 6 weeks before to your surgery by calling the Information and Physician Referral Line at 630.933.4234 (TTY: 711).

Before your surgery, watch educational web-based programs as assigned. You can access Joint Adventures patient education videos using this QR code.

Preparing for Surgery

Preparing for surgery

Joint replacement is an elective surgery. Therefore, it is important that your care team evaluates your state of health before the procedure.

Physician visits and lab tests

Before surgery, most patients will complete an evaluation. This may include a pre-operative physical exam, lab tests, EKG and X-rays. Please be sure to speak with a pre-admission review nurse before you go for testing. Anesthesia guidelines may call for more tests. Your physician also may discuss temporarily stopping the use of some medications, such as aspirin or other anti-inflammatory medications, about 1 week prior to surgery. These medications tend to make your blood thinner and could cause more bleeding during your surgery.

Dental care

Any invasive dental work, including routine cleanings, cavity filling, extractions, root canals or implant work, can introduce bacteria into the bloodstream. If you are scheduled to have dental work within the 6 weeks prior to your joint replacement surgery, please tell your surgeon's office staff. Your surgeon may give you specific instructions or guidelines to follow. Consult your surgeon about the length of time to wait after surgery before scheduling any future dental appointments.

Infection prevention

Infection is a rare complication of joint replacement surgery. **If you have any signs or symptoms of infection prior to surgery such as an open sore, flu symptoms, a cut, infected teeth or a bladder infection, tell your physician immediately. Your surgery may need to be delayed until you get appropriate treatment.**

While in the hospital, you will get antibiotics before and after surgery to reduce your risk of infection.

If you have any signs or symptoms of infection prior to surgery, tell your physician immediately.

Keep your incision clean and dry until it has healed. Your new joint is artificial and does not have your body's natural protection against infection, so it is possible to develop an infection years later. Bacteria can enter your bloodstream and invade your new joint causing it to become loose and painful. **Call your physician immediately if you experience signs or symptoms of infection such as temperature more than 100.4 degrees F, chills, pain, redness or drainage.**

Common infections include sore throat, urinary tract infection, deep cuts or an ear infection. Your physician may prescribe antibiotics.

Health history

Once you have a confirmed surgery date, you will need to provide a complete health history. One of our pre-admission nurses will call you to get your detailed health history.

After the phone interview they will give you instructions for the next steps (such as what tests you need and where to go for testing). Based on your history, we will schedule required testing at the Pre-op Clinic at Central DuPage Hospital, the Pre-admission Testing Clinic at Delnor Hospital or a Northwestern Medicine Immediate Care center.

Pre-op telehealth visit at Central DuPage Hospitall

We encourage you to speak to your care team prior to the day of surgery. You will receive a phone call from a pre-admission testing nurse to make sure you have completed all appropriate testing and consultations before your surgery.

You will receive a 2nd phone call with a case management team member. They will help you arrange care and therapy needs after your surgery..

Pre-admission Testing at Delnor Hospital

You will meet with a member of our Pre-admission Nursing Team. One of our nurses will draw blood for labs and other testing, if required. The nurse will provide any pre-operative education. During this time, one of our anesthesiologists will meet with you. The pre-admission testing also gives you the opportunity to ask questions in person and become familiar with the hospital before surgery.

Your surgery time

We will be able to confirm your surgical time after 2 pm the business day before your scheduled procedure. A member of the Surgical Services staff will call you and tell you when to arrive and inform you of any day-of-surgery tests your surgeon ordered.

For patients at Central DuPage Hospital

If you will not be home, or you miss our call, please contact us at 630.933.2647 (TTY: 711) after 5 pm, Monday through Friday, to confirm your surgery time.

For patients at Delnor Hospital

If you will not be home, or you miss our call, please contact us at 630.208.4038 (TTY: 711) after 5 pm, Monday through Friday, to confirm your surgery time.

When you call, you will learn:

Your scheduled surgery time

What time you need to arrive at the hospital

What time to stop eating and drinking the night before surgery

What medication(s) you are to take, if any, the morning of surgery (including insulin), and any medications you should bring with you to the hospital

What to bring to the hospital

Although you'll be in the hospital for a few days, you do not need to pack much. In fact, we recommend you pack as lightly as possible.

Suggested items to bring to the hospital

Insurance and Medicare cards

A list of all your known allergies (medication, food and environmental) and a description of your allergic reactions to each

Toiletries: toothbrush, toothpaste, comb, brush, deodorant, lotion, contact case or eyeglasses case, denture case, etc.

Your CPAP mask if you use it at night when you sleep

List of any special dietary requirements

Underwear, socks, loose comfortable pants or shorts, button-down shirts, and shoes to wear during therapy (can be the same clothes you wear to the hospital the day of surgery)

This book and any materials your surgeon gave you

The "Do Not" list

Do not wear makeup the day of surgery

Do not bring cash or personal items such as jewelry or items of great value

Insurance coverage

Healthcare insurance is ever-changing. We suggest you call your insurance provider to discuss your coverage. It is much easier to plan for services and care when you know in advance what your insurance covers.

Care coordination

About 2 to 4 weeks before your surgery, a nurse will contact you to discuss a discharge plan designed to promote a safe and successful outcome. You will receive a call from either a Pre-procedure Case Management nurse or from an orthopaedic nurse navigator.

Home health post-surgery care

If you are discharged to your home, you may need visits from a home health nurse and physical therapist. If you do not have Medicare, we recommend you check with your insurance provider to see which agencies are in your "network" of providers.

A Northwestern Medicine care coordinator (discharge coordinator) will help make the final arrangements with the home healthcare provider of your choice.

Choosing a coach

As you prepare for surgery, another important thing to decide is who will be your coach or support person once you are home. This can be a family member or friend. Whomever you choose should plan to attend the pre-op class with you, watch any assigned web-based programs and help prepare your home. Most important, your coach needs to be with you at least the 1st week after you return home. You may need help with meal preparation and daily activities. Your coach will also encourage and remind you to do your home physical therapy exercises.

Notes:

Health and Nutrition

Health and nutrition

Your diet and lifestyle habits play a key role in the healing process.

Calcium

Your bones and teeth store most of the calcium in your body. The rest is used in your blood, muscle and fluid between cells.

Benefits of calcium
Regulates muscle contraction, including heartbeat
May help control blood pressure

Recommended Daily Allowance (RDA)	
Adults aged 19-70	15 mcg (600 IU)
Adults over 70	20 mcg (800 IU)

Tolerable upper limits	
Age 19-50	2500 mg
Age 51 and over	2000 mg

Osteoporosis

Osteoporosis is a disorder in which bone becomes weak and brittle. People with osteoporosis have an increased risk for broken bones. Osteoporosis may develop if your body does not get enough calcium.

Osteoporosis risk factors
Post-menopausal women
Small-boned women
Fair-skinned women of northern European origin
Physically inactive individuals
Family history of osteoporosis
People who drink alcohol and caffeine
People who use tobacco

Factors that increase calcium absorption	
Enough lactose in diet	Calcium deficiency
Adequate vitamin D	Pregnancy and lactation

Factors that decrease calcium absorption	
Lack of fiber	Vitamin D deficiency
Lack of oxalate	Menopause
Alcohol consumption	Old age

Calcium supplements

Some people may need a calcium supplement because they do not get enough calcium from the foods they eat. Calcium carbonate is the least expensive supplement, and it has the highest amount of calcium per tablet. Calcium carbonate is available under the brand names OS Cal® and Caltrate® or generic calcium carbonate. Tums®, an over-the-counter antacid also contains calcium.

The ingredient label on the back of the product lists the calcium content. Your body only can accept 500 milligrams of calcium at a time, so do not take more than 500 milligrams in 1 serving.

FOODS RICH IN CALCIUM	CALCIUM (MILLIGRAMS)	DAILY VALUE (%)
Yogurt, plain, low-fat, 8 ounces	415	42
Yogurt, fruit, low-fat, 8 ounces	245-384	25-38
Sardines, canned in oil, with bones, 3 ounces	324	32
Cheddar cheese, 1½ ounces, shredded	306	31
Milk, non-fat, 8 fluid ounces	302	30
Milk, reduced-fat (2% milk fat), no solids, 8 fluid ounces	297	30
Milk, whole (3.25% milk fat), 8 fluid ounces	291	29
Milk, buttermilk, 8 fluid ounces	285	29
Milk, lactose-reduced, 8 fluid ounces	285-302	29-30
Mozzarella, part skim, 1½ ounces	275	28
Tofu, firm, made with calcium sulfate, ½ cup	204	20
Orange juice, calcium-fortified, 6 fluid ounces	200-260	20-26
Salmon, pink, canned, solids with bone, 3 ounces	181	18
Pudding, chocolate, instant, made with 2% milk, ½ cup	153	15
Cottage cheese, 1% milk fat, 1 cup unpacked	138	14
Tofu, soft, made with calcium sulfate, ½ cup	138	14
Spinach, cooked, ½ cup	120	12
Instant breakfast drink, various flavors and brands, powder prepared with water, 8 fluid ounces	105-250	10-25
Frozen yogurt, vanilla, soft serve, ½ cup	103	10
Ready-to-eat cereal, calcium-fortified, 1 cup	100-1000	10-100
Turnip greens, boiled, ½ cup	99	10
Kale, cooked, 1 cup	94	9
Kale, raw, 1 cup	90	9
Ice cream, vanilla, ½ cup	85	8.5
Soy beverage, calcium-fortified, 8 fluid ounces	80-500	8-50
Chinese cabbage, raw, 1 cup	74	7
Tortilla, corn, ready to bake/fry, 1 medium	42	4
Tortilla, flour, ready to bake/fry, one 6-inch diameter	37	4
Sour cream, reduced-fat, cultured, 2 tablespoons	32	3
Bread, white, 1 ounce	31	3
Broccoli, raw, ½ cup	21	2
Bread, whole wheat, 1 slice	20	2

Vitamin D

Vitamin D is a fat-soluble vitamin. It is stored in the body's fatty tissue. It's also known as the sunshine vitamin because the body makes vitamin D after being in sunlight.

Vitamin D helps:
Promote calcium absorption
Form and keep strong bones
Maintain the proper phosphorus levels in blood
Prevent rickets

Recommended Daily Allowance (RDA)	
Adults aged 19-70	15 mcg (600 IU)
Adults over 70	20 mcg (800 IU)
Tolerable upper limit for any age	4000 IU

Risk factors for vitamin D deficiency
Age 50 and older
Inadequate exposure to sunlight
Darker skin tones

Vitamin D supplements

Your body needs vitamin D to help it absorb calcium. If you are not consuming the RDA for vitamin D, you should talk with your physician about taking a daily supplement.

Vitamin D supplements are available over-the-counter from your local drug or vitamin store.

FOODS RICH IN VITAMIN D	INTERNATIONAL UNITS (IU) PER SERVING	DAILY VALUE (%)
Cod liver oil, 1 tablespoon	1,360	340
Salmon, cooked, 3½ ounces	360	90
Mackerel, cooked, 3½ ounces	345	90
Sardines, canned in oil, drained, 1¾ ounces	250	70
Tuna fish, canned in oil, 3 ounces	200	50
Milk, non-fat, reduced-fat, and whole, vitamin D fortified, 1 cup	98	25
Margarine, fortified, 1 tablespoon	60	15
Pudding, prepared from mix and made with vitamin D fortified milk, ½ cup	50	10
Ready-to-eat cereals fortified with 10% of the DV of vitamin D, ¾ cup to 1 cup servings (servings vary according to the brand)	40	10
Egg, 1 whole (egg yolks contain vitamin D)	20	6
Liver, beef, cooked, 3½ ounces	15	4
Swiss cheese, 1 ounce	12	4

Day of Surgery

Day of surgery

We have a few recommendations to help ensure the day of surgery goes smoothly for you and your family.

Arrival and parking at Central DuPage Hospital

Use Entry 1 on Jewell Road and enter the hospital at the East Entrance. Valet parking is complimentary and recommended the day of surgery. Wheelchairs are available if needed. Valet service is available starting at 5 am.

Arrival and parking at Delnor Hospital

Use Entry 1 on Williamsburg Road and take Delnor Drive to the South Entrance. Wheelchairs are available if needed. Valet services are available at the South Entrance starting at 7:30 am.

Check-in and registration at Central DuPage Hospital

The Surgical Services check-in and registration area is on the 2nd floor. You and your family and friends will wait there until someone takes you to the pre-operative holding area. We ask that only 1 family member accompany you to this area.

Check-in and registration at Delnor Hospital

The surgery registration desk is located near the South Entrance through the right corridor. There is a concierge at the South Entrance to direct you. You and your family and friends will wait there until someone takes you to the pre-operative holding area. We ask that only 1 family member accompany you.

Waiting room at Central DuPage Hospital

During your surgery, your family and friends may wait in the surgery waiting room. The patient tracking board provides up-to-date progress information to your family. Your surgeon will speak with your family when your surgery is over.

Waiting room at Delnor Hospital

During surgery, your family and friends may wait in the surgical waiting room. The family liaison, our volunteers, and the patient tracking board will provide up-to-date progress information to your family. Your surgeon will speak with your family when your surgery is over.

During surgery

Depending on current visitor policies, your family and friends may be able to keep updated on your progress in the waiting area. Visit nm.org/visitors for current visitor policies.

Recovery room

The average length of stay in the recovery room is 2 hours. The medications used in anesthesia may cause you to have blurry vision, a dry mouth, chills, nausea or a sore throat. You may have a drain near your surgical incision. When you are stable, a member of your care team will move you to your room. Once awake, we will encourage you to breathe deeply and cough. This will help clear out your lungs and prevent pneumonia.

Food and fluids

After surgery, you will be able to have ice chips if you can tolerate them. You can progress to solid food when you and your surgeon feel you are ready. You will have intravenous (IV, into the vein) fluids for 1 to 2 days after surgery. You will get antibiotics, fluids and blood, if needed, through your IV.

Visitors

On the day of surgery, we suggest that you keep visitors to a minimum and limit the amount of time they stay. You will feel very drowsy from the medications.

Privacy

To protect your privacy after surgery, we request that you communicate directly with your family and friends regarding your condition. We will ask you to choose a password to protect your privacy if you are unable to update your family and friends yourself. Please advise family and friends they will need to provide the password to a nurse to get updates on your condition.

Notes:

Your Hospital Stay

Your hospital stay

Our team is dedicated to ensuring you receive excellent care during your time in the hospital.

Post-surgery

Your orthopaedic care team will continue to closely monitor you after your surgery. They will check the color, movement and sensation in your legs. They will orient you to your new environment, where:

A nurse will create a personalized plan of care to meet your individual needs and work with other members of the orthopaedic care team.

A patient care technician (PCT) will help you with activities of daily living such as bathing, turning in bed and toileting.

Inpatient physical therapy

Physical therapy is 1 of the most important parts of your recovery. You will most likely begin physical therapy the day of your surgery. As an inpatient, you will get physical therapy 2 times a day. Your surgeon and the rehabilitation services staff work together to develop an individualized therapy plan for you. We encourage you to take pain medication on a regular basis while hospitalized. It is important to have adequate pain management to complete your rehabilitation.

During your therapy sessions, we will instruct you in exercises to help restore joint motion and strengthen the surrounding muscles. As you become stronger and progress toward your mobility goal, you will learn and practice how to:

- Properly move and turn in bed
- Get in and out of bed and chairs
- Walk and climb stairs—if appropriate to your home setting

Therapy after your discharge will be based on your health status, abilities and the mobility level you achieved in the hospital. Your focus should be to work toward your optimal functional level with your home health therapist.

Bladder and bowel care

Some people may find it hard to urinate after surgery because of the anesthesia, pain medications and decreased mobility. If necessary, your surgeon may request to insert a catheter to drain your urine.

Constipation can become another problem several days after surgery. Drink a lot of fluids and eat foods that are high in fiber. We may give you a stool softener and laxatives to help with constipation.

Incision care

A dressing will cover your incision. Your wound must be kept clean, dry and covered. We will discuss wound care with you before discharge.

Respiratory care

Secretions tend to pool in the lungs and can lead to pneumonia. To prevent this, we will teach you to breathe deeply and cough, as well as how to use an incentive spirometer, which is a breathing device. This allows air to fill the tiny air sacs in the bases of your lungs. The deep breathing also helps to break up the mucus so you can "cough it out."

Circulation

Lack of activity causes the blood to circulate more slowly and pool in the legs. This can lead to the formation of blood clots. To reduce this risk, your surgeon will order sequential compression devices (SCDs) or foot cuffs for you to wear. Your surgeon may also prescribe blood thinners.

Notes:

Managing Your Pain

Managing your pain

You are at the center of your healthcare team.

For the best possible outcome, we encourage you to be an active participant in your health care.

Participation takes many forms and includes:

- Providing information to your team
- Educating yourself about your diagnosis and care plan
- Knowing the medications you are taking
- Expressing your questions and concerns
- Telling your caregivers how you are feeling

People of all ages can experience pain and it can happen anywhere in your body. Feelings can vary from dull aches to severe sensations.

You have the right to have your pain assessed and treated. To help us make you as comfortable as possible, we will regularly ask you to rate your level of pain using a numeric scale. The scale is from 0 to 10, with 0 being no pain and 10 being the worst pain possible. We are committed to helping you manage your pain throughout your stay.

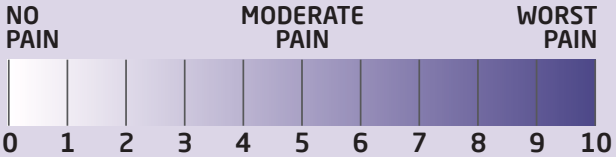
Comfort-function goal

To perform your daily activities, you will need to set a goal for managing your pain. This is known as a comfort-function goal. Your comfort-function goal should be a pain rating that allows you to continue your important activities.

To help set your goal, consider:

- The daily activities you need to do after surgery, such as coughing or breathing deeply, to prevent complications
- The pain rating that will allow you to manage those activities comfortably

Your caregiver will help you with your comfort-function goal and answer questions about the pain rating scale.



Discharge Instructions

Discharge instructions

Preparation for your discharge started the day we scheduled your surgery.

Your orthopaedic care team works with your surgeon and medical physician to ensure a timely discharge. Part of the discharge process includes a class we encourage you and your family and/or your coach to attend. It is very important that everyone involved fully understands the discharge expectations.

Discharge instructions after knee replacement

Before leaving the hospital, we will discuss the following information with you and your family or coach:

Assistive device

- ☐ Walker
- ☐ Crutches
- ☐ Cane

Weight-bearing status for operated leg

- ☐ Weight-bearing as tolerated
- ☐ ____% of weight-bearing
- ☐ Touchdown weight-bearing
- ☐ No weight-bearing

No pillows under operated knee

Keep your appointments

Review teaching tools

- ☐ Incision care at home
- ☐ Prevention of infection
- ☐ DVT sheet

Do not participate in running sports

Resume driving when surgeon approves

Return to work when surgeon approves

Incision care at home after joint replacement

Your surgeon will use 1 of the following to close your incision:

Staples

Dermabond

The bandages (dressing) that your care team used to cover your incision are waterproof and silver impregnated. They are designed to stay in place without removal for the 1st week.

You will need to change the dressing daily after that first week. Please change the dressing every day until your 1st post-op visit with your surgeon.

Here are a few suggestions to help promote healing and avoid infection:

Keep your incision clean and dry. You may not shower until directed by your surgeon.

You may wash the area gently with soap and water and pat dry after your 1st office visit. If you have staples, we may ask you to wait another couple of days after we remove them before showering.

Do not apply lotion or ointments to your incision unless directed by your surgeon.

Let your surgeon know if you notice any of the following:

Separation of incision line at any point

Increased temperature greater than 100.4 degrees F or chills

Increased redness, swelling or warmth of the skin around the incision

More pain at the incision site

Red streaks on the skin near the incision site

Tender bumps or nodules in your armpits or groin

Bad smell from the incision

Pus leaking from the incision

Please call your physician with any questions or concerns.

Infection prevention

Infection is a possible complication of joint replacement surgery. So it is very important to take good care of yourself with preventive care, screenings, tests and procedures. If you ever experience signs or symptoms of an infection such as fever, chills, pain, redness and/or drainage from the incision area, call your surgeon. It's possible an infection could start from a sore throat, urinary tract infection, deep cut or even an ear infection.

Some tests, diagnostic procedures and illnesses can place you at greater risk for developing an infection in your new joint even years after surgery. That's because bacteria can enter your bloodstream in any number of ways. Once in the bloodstream, the bacteria can travel to your new joint and cause an infection because the artificial joint does not have your body's natural protection against infection.

These are 3 of the most common healthcare situations that may cause an infection: dental care, urological care and colonoscopy.

Dental care

Dental care after surgery can introduce bacteria into your bloodstream through cuts and trauma to the gums and gum lines. In anticipation of this risk, most surgeons recommend taking a 1 time dose of antibiotics just before any dental work.

Your surgeon will have specific instructions and how long you will need to follow them after joint surgery. Also, make sure your dentist and dental hygienist know about your new joint.

Urological care

Invasive procedures involving the urethra, bladder, ureters or kidneys are ways that bacteria can enter your system and contaminate your bloodstream. This risk includes needle biopsies of the prostate. Under normal circumstances, the body can usually fight off potential infection associated with these procedures. However, that's not necessarily true after joint replacement surgery.

Make sure to inform any medical personnel about your artificial joint before they perform an invasive urological procedure. More important, talk to your orthopaedic surgeon before undergoing any urological procedure. Your surgeon will provide specific recommendations for you to follow. They will also instruct you on how long to follow the recommendations after the procedure.

Colonoscopy

Colonoscopies can potentially introduce bacteria into the bloodstream and eventually your artificial joint. Speak with your surgeon and gastroenterologist about the precautions you need to take because it is important you have routine colonoscopy screenings. You want to make sure you follow their recommendations to protect you and your new joint.

Deep vein thrombosis

Deep vein thrombosis (DVT) is the formation of a blood clot within a deep vein, commonly the calf or thigh. The blood clot can either partially or completely block the blood flow in the vein.

DVT can result from leg inactivity brought on by:

- Surgery, especially on legs, hips, knees or abdominal area
- Badly broken leg bones or other trauma
- Immobility or being bedridden
- Cancer
- Myocardial infarction (heart attack) or congestive heart failure
- Severe infection
- Pregnancy
- Use of oral contraceptives
- Decreased circulation
- Prior DVTs

Ankle pumps (see page 47) are 1 important way to increase your blood circulation. These involve moving your ankles up and down and tightening your leg muscles. Your physical therapist will show you how to perform these exercises.

DVT signs and symptoms

Because DVT can produce life-threatening complications, it is important for you to know and be able to recognize DVT symptoms.

Any or all the following can be a symptom of DVT. If you notice any symptom(s), you should call your primary care physician immediately.

- Swelling in the calf or thigh area
- Pain in the calf area or behind the knee
- Increased pain with standing or walking
- Warmth/redness/tenderness in the affected area
- A temperature of at least 101.0 degrees F or higher

DVT also can happen without any of the above symptoms.

Pulmonary embolism

The most common and serious complication of DVT is a pulmonary embolism (PE). A PE happens when a blood clot breaks free from a vein wall and travels to the lung where it blocks an artery. A PE is life-threatening and needs immediate medical attention.

Signs and symptoms of a PE include:

- Sudden onset of chest pain
- Sudden unexplained cough or coughing up blood
- Shortness of breath
- Lightheadedness, dizziness or cold sweats
- Feelings of restlessness, anxiety or rapid heartbeat
- Sense of impending doom

Discharged

Once your physicians and orthopaedic care team determine you are ready to go home, you will start on your next level of rehabilitation. You and your physician will discuss your discharge plan. Together you will design your post-discharge plan to meet your needs.

We strongly recommend you have someone stay with you for at least 1 week after your discharge to help ensure a safer recovery.

Safety Precautions

Safety precautions

Your orthopaedic care team will teach you safety precautions. Your incision site and body need time to heal and adjust to the new joint. Your surgeon will instruct you on when you can resume normal activities.

Before leaving the hospital, you will practice walking, transferring from your bed and a chair, and dressing yourself. If your home has stairs, you also will practice climbing stairs.

These basic tasks require you to use safety precautions to prevent injury to yourself and your new joint.

Transfers in and out of bed (Illustration A)

Back up to the bed until you feel the back of your knees touching it.

Place your operated leg out in front of you.

Reach for the bed with 1 arm and keep the other arm on the walker.

Slowly lower yourself onto the bed.

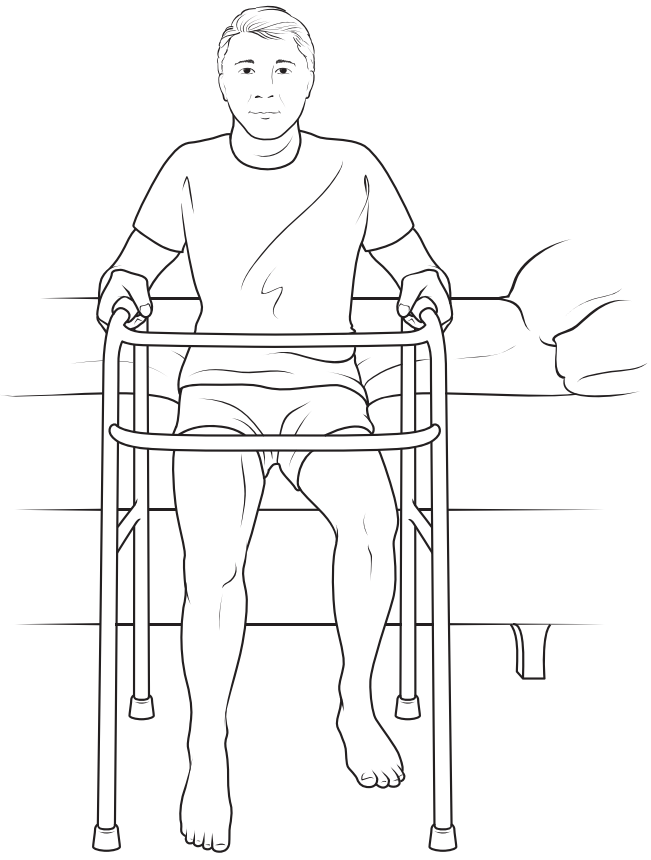
Scoot back onto the bed as much as possible.

Lift 1 leg at a time onto the bed until you have both legs supported.

Continue to move legs to the center of the bed.

Recline back.

To get out of bed, reverse the steps.



A

Transfers into and out of a chair

Into a chair:

Back up to the chair until you feel the back of your knees touching it.

Place your operated leg out in front of you. If using crutches, move both crutches to 1 arm.

Reach for the armrests and slowly lower yourself onto the chair. Continue to keep the operated leg straight.

Scoot to the back of the chair.

Out of a chair:

Scoot forward to the edge of the chair so both feet are on the floor.

Place your operated leg out in front of you and keep it there.

Bend your knee and hip on the non-operated leg and try to keep most of your weight on this leg.

Using your hands on the armrests, push yourself with your arms and non-operated leg to stand.

Do not use a walker to pull yourself up; that may cause the walker to tip and could result in a fall.

If using crutches, move crutches to 1 arm and push to stand with 1 arm on crutches and 1 arm on armrest.

Transfers in and out of a car

Car transfers (Illustrations B and C):

Have the driver open the passenger-side front door for you and make sure the front seat is as far back as possible. You also can have the backrest reclined to maximize your space.

Back up to the car using your walker until the backs of your knees touch the edge of the car.

Place your operated leg out in front of you and keep it straight throughout the transfer.

Place 1 hand on the walker and the other hand on the frame of the vehicle.

Slowly lower yourself onto the edge of the seat.

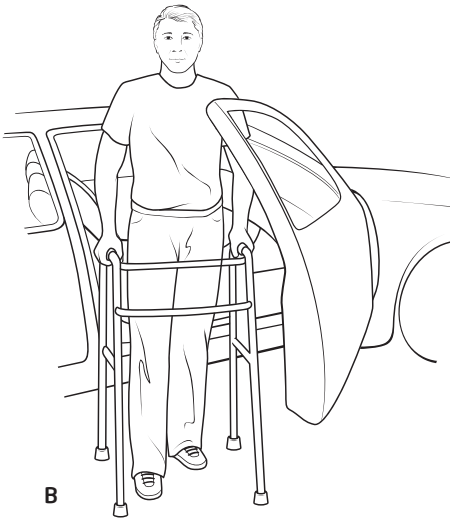
Scoot as far back as possible on the seat.

Turn towards the dashboard (making sure not to bend torso/head forward) as you bring 1 leg into the car at a time.

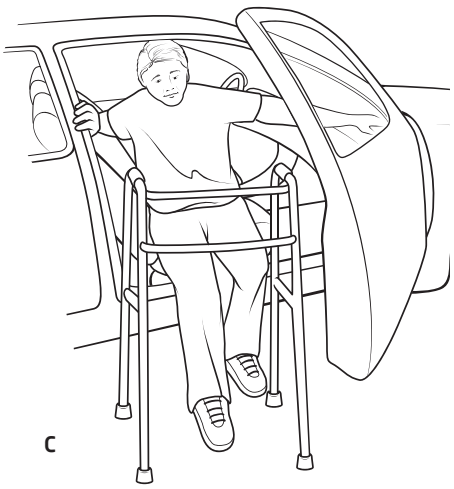
Reposition the seat to allow for proper seatbelt function and comfort.

Have the driver close the door for you.

To get out of the car, reverse the steps.



B



C

Recommendations:

Use a plastic trash bag on car seats for easier scooting and sliding.

Do not drive until your surgeon gives you permission.

Stairs

Going up stairs (Illustration D):

Use crutches or cane in 1 hand and with the other hand hold onto the railing. Support your weight evenly and lift non-operated leg onto the step.

Bring your operated leg up onto step and then bring up cane or crutches.

If no railing, use crutches in both arms.

Going down stairs (Illustration E):

Use crutches or cane in 1 hand and, with the other hand, hold onto the railing.

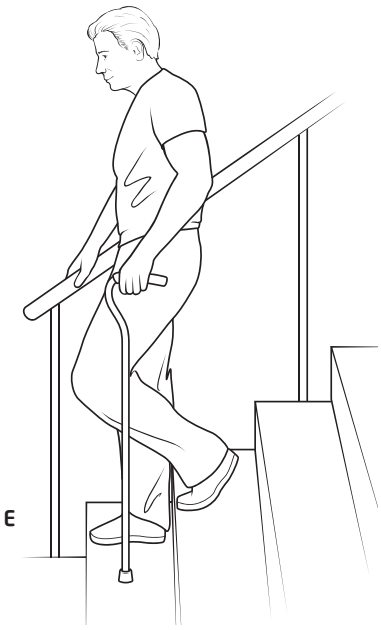
Lower crutches or cane onto step below.

Support your weight evenly and bring down operated leg.

Lower non-operated leg.

If no railing, use crutches in both arms.

D



E

Home precautions

To reduce the risk of falls or injury in your home following surgery, it is important for you to make it as safe as possible. This is easy to do and you can do it before your surgery. Most of the suggested modifications require no extra equipment or expense.

The following are home precautions you should follow:

Check hallways, stairs or traffic areas of your home for potential tripping hazards such as loose carpeting or throw rugs. Remove any clutter on the stairs.

Check the location of extension cords or phone cords to make sure they are not in a pathway.

Remove furniture that may cause a fall such as a rocking chair, glider, coffee table or ottoman.

The bathroom is the most accident-prone room in your home. Use non-slip strips on the bottom of the tub or shower.

Remove all throw rugs around the house and in the bathroom.

Install grab bars by the toilet and in the shower or tub area. Soap dishes, towel bars or doorknobs are not acceptable substitutes for grab bars. Your home care therapist will make recommendations for any other items you might need in the bathroom during the 1st visit after your discharge.

Place frequently used kitchen items in easily accessible places such as on the countertop or tables at or just below waist level, or just at shoulder height.

Do not use a “reacher” for overhead items.

If possible, have your bed accessible from both sides.

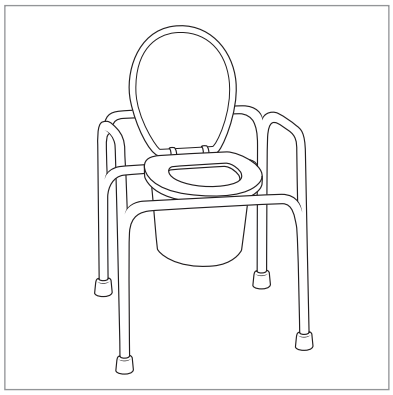
Do not use furniture that has casters.

Place portable phones in rooms where you will spend most of your time and in your bedroom.

Use nightlights in heavily traveled hallways and in bathrooms.

Adaptive equipment

3-in-1 commode

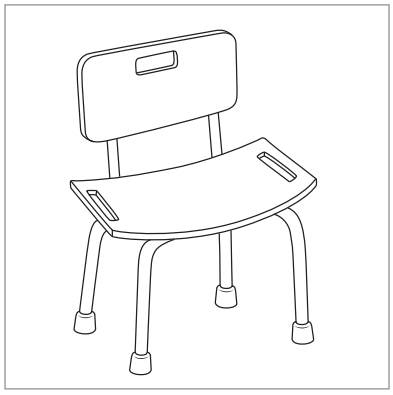


Raised toilet seat

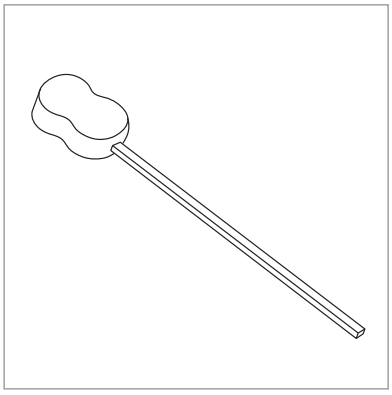
Raised toilet seat with arm and clamp

Toilet safety frame

Shower chair



Bathing sponge



Elastic laces

Spiro elastic laces

Notes:

Outpatient Physical Therapy

Outpatient physical therapy

Physical therapy is the most important part of your joint recovery.

Your surgeon can implant a new joint, but it is your job to do the required physical therapy exercises to ensure your joint returns to an optimum functioning level. We recommend you work with a physical therapist specially trained in orthopaedics and joint replacement.

The physical therapist will instruct you on the correct exercises, as well as how and when to increase your exercise time and repetitions to move your recovery along at a safe and beneficial pace.

In the hospital immediately after your surgery, your physical therapist will:

- Work with you to get you up and walking — in most cases, the same day of your surgery
- Work with you 2 times a day until you are discharged
- Instruct you on the correct exercises
- Explain how and when to increase your exercise time and repetitions

After discharge, your therapy can continue at your home until your therapist and surgeon decide you can progress to outpatient therapy.

Northwestern Medicine outpatient physical therapy

When you are ready for outpatient therapy, you have an important decision to make on where to receive care. You can continue with another member of our orthopaedic care team—a Northwestern Medicine outpatient physical therapist.

Northwestern Medicine has 26 outpatient locations in the western suburbs for your physical therapy. Our licensed physical therapists will work together and communicate with your physician during your rehabilitation process. They also will develop a program to meet your individual needs and goals. Your 1-on-1 therapy sessions can be with the same therapist during your entire outpatient treatment. This helps to ensure continuity and the ability to measure and accurately report your progress to your physician. Plus your medical records are accessible 24/7 to both your physician and therapist.

When deciding where you will go for outpatient therapy, consider the following:

Is the therapist licensed or a trainer/instructor?

Will you be working 1-on-1 with that therapist during your entire therapy session?

Will you have therapy with the same individual throughout your rehabilitation?

How will the therapist communicate your progress to your surgeon?

Will the therapist have access to your medical records?

Ask the following questions about the facility:

What type of accreditation does this outpatient facility have?

How long has it been treating patients?

What is the most common type of treatment performed at this facility?

How much experience does it have with joint replacements?

How many joint replacement patients has it treated?

Does it have evening and weekend appointment times?

Is this facility in your insurance network?

Pain management during physical therapy

It is important to have adequate pain management to reach your optimal functioning level, but still be able to exercise. If you haven't had any pain medication within 3 hours of your scheduled physical therapy session, we suggest you take some at least 30 minutes before you start exercising.

With time, you should be able to decrease the amount of pain medication required. Make sure you talk to your therapist about your pain level and the need for medications if your pain does not decrease after several weeks.

Exercises

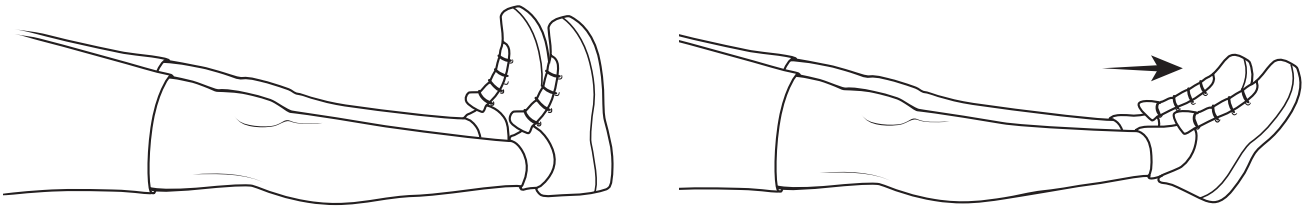
Exercise is very important following your knee replacement surgery.

We recommend the exercises on the next few pages before and after surgery. Your physical therapist also may give you additional exercises not listed in this book. Only do exercises approved by your physical therapist.

Begin with 10 repetitions of each exercise at least 2 times a day. As you get stronger, you can increase the number of repetitions and duration. Remember to do your exercises on a firm surface. Do not hold your breath while doing these exercises.

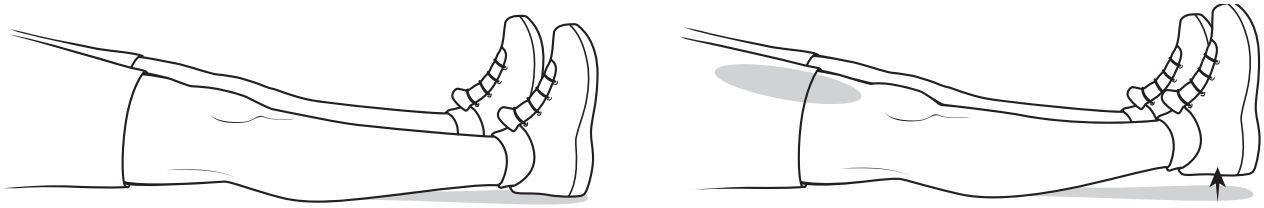
It also is important to have adequate pain management to reach your optimal functional level. Therefore, we recommend you take your pain medication 30 minutes before your therapy session if you have not had any in the past 3 hours.

ANKLE PUMPS



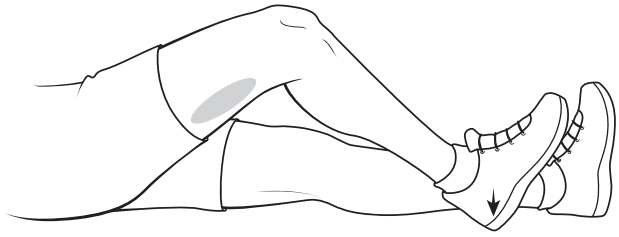
With your legs straight, gently flex and extend your ankles moving through full range of motion.
Repeat 10 times for each leg.

QUAD SET



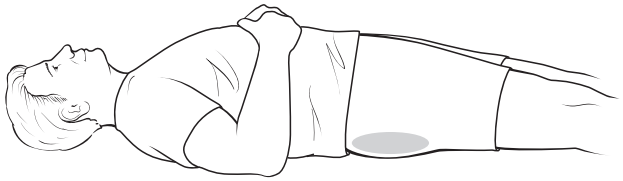
With your legs straight, tighten the top of your thigh to make the knee as straight as possible. Hold the contraction and count to 5. Relax. Do not forget to breathe. Repeat 10 times for each leg.

HAMSTRING SET



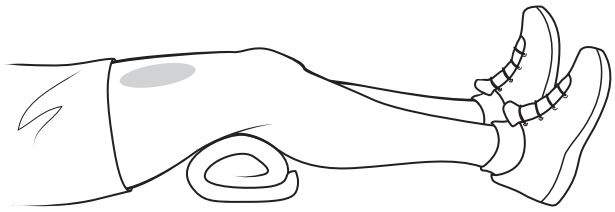
Lie on your back with your operated leg slightly bent; push your heel into the bed. Hold for a count of 5. Relax. Repeat 10 times.

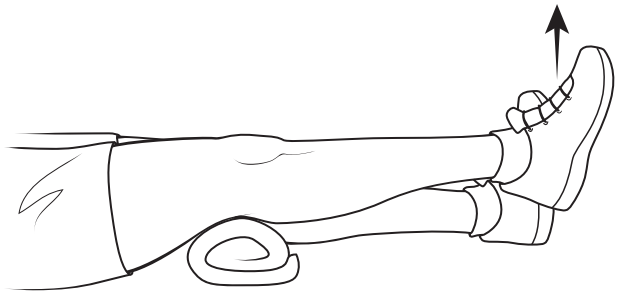
GLUTEAL SET



With your legs straight, squeeze your buttocks together and count to 5. Relax. Repeat 10 times.

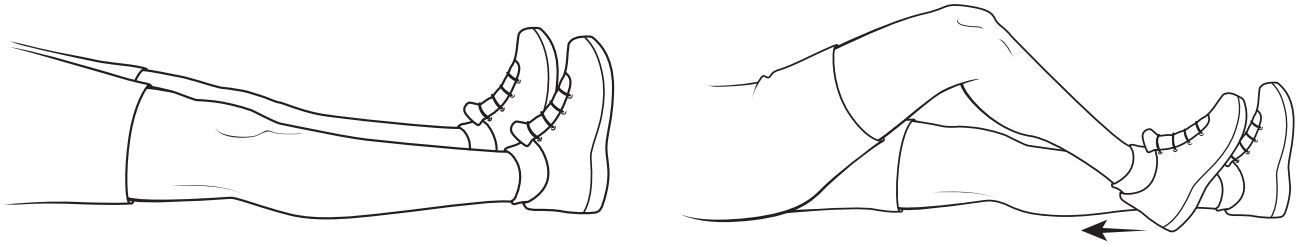
SHORT ARC QUAD





With a rolled-up towel or pillow under your knee, tighten your thigh to lift your heel off the bed and straighten your knee. Hold for a count of 5. Do not forget to breathe. Slowly lower your leg. Repeat 10 times for each leg.

HEEL SLIDES

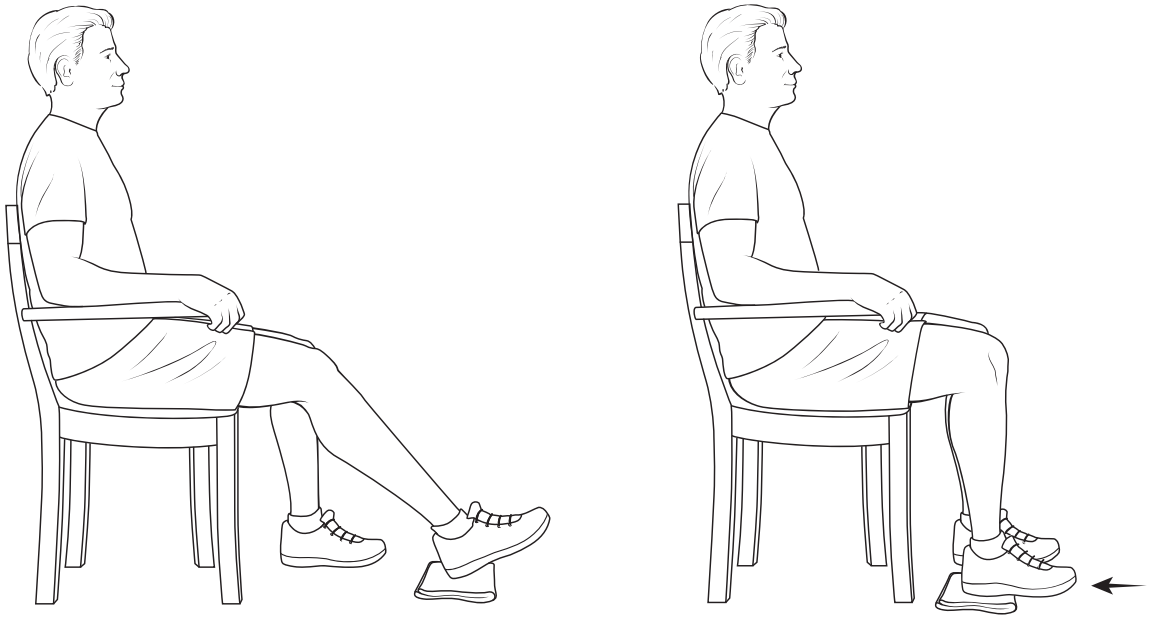


Lie on your back with your legs straight. Bend your knee by sliding your heel toward your buttocks as far as possible. Hold and count to 5. Slide your heel and leg back to a straight position. Relax. Repeat 10 times for each leg.

STRAIGHT LEG RAISE

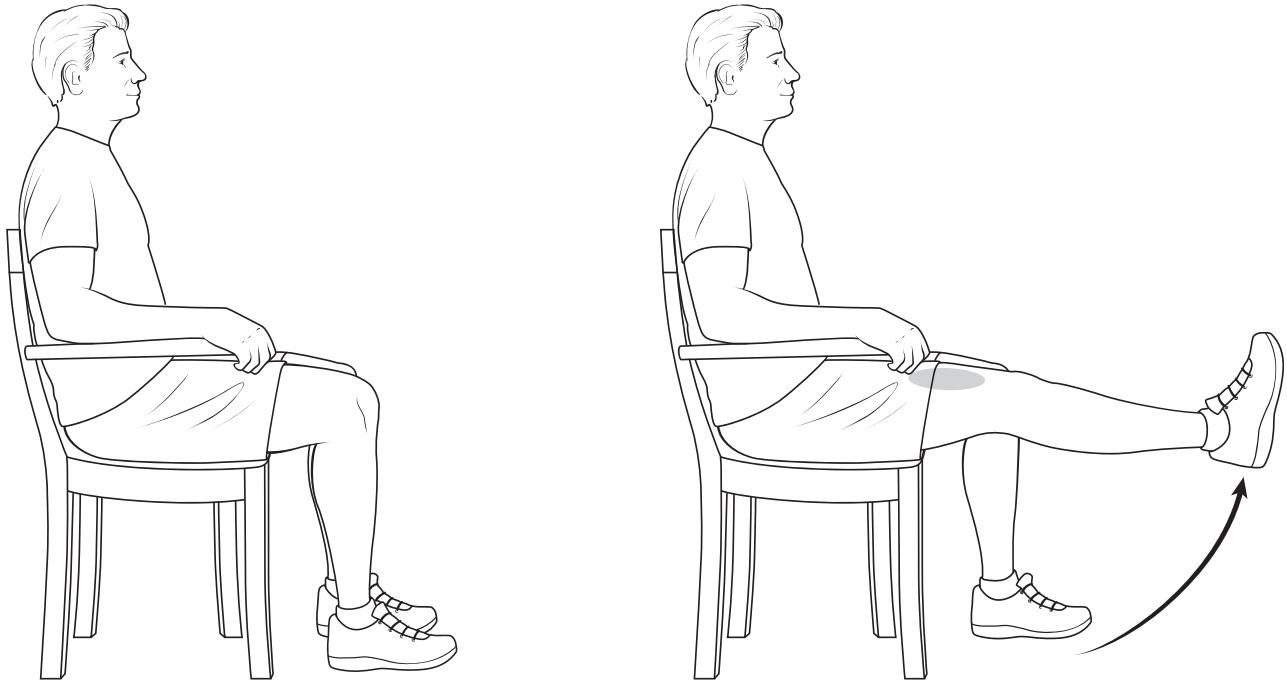
Lie on your back. Tighten muscles on front of your thigh, then slowly lift your leg 6 to 8 inches while keeping your knee straight. Then, slowly lower your leg. Repeat 10 times for each leg.

SITTING HEEL SLIDE



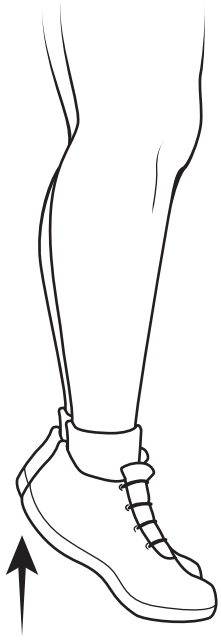
Sit in a chair with 1 leg extended and that foot resting on a piece of wax paper or aluminum foil on a carpeted surface or a towel on a smooth surface. Press down on your extended heel and slide it toward the chair keeping your heel flat and on the floor. With your heel still on the wax paper or foil, extend your leg pushing your foot away from the chair. Make sure to keep your heel on the floor. Repeat the forward and back movements 10 times for each leg.

SITTING KNEE EXTENSION



Sit in a chair with your feet on the floor. Slowly, extend 1 knee as straight as possible tightening the top of your thigh. Hold for a count of 5 and then slowly lower your leg. Repeat 10 times for each leg.

STANDING HEEL RAISES

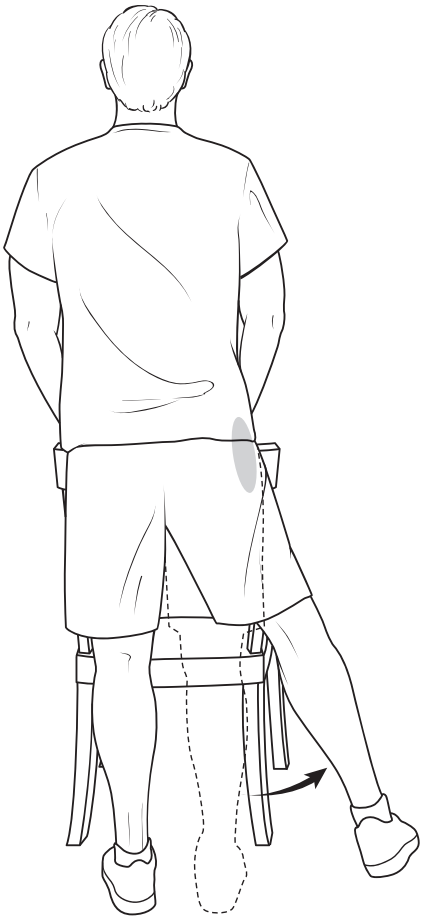


Hold the back of a chair or a counter for balance. Slowly, raise both heels off the floor so you are standing only on your toes. Repeat 10 times.

STANDING HIP EXTENSION

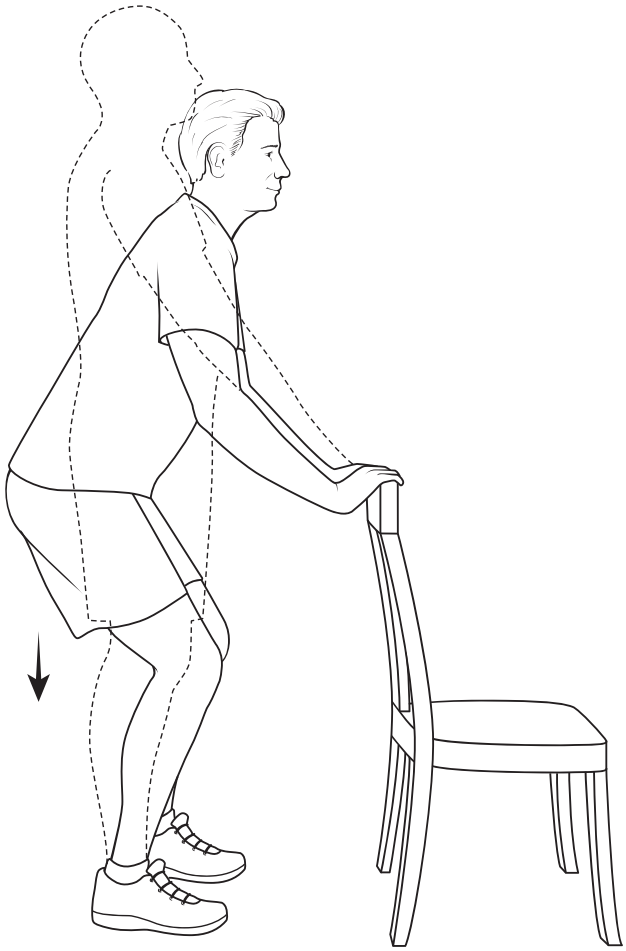
Hold the back of a chair or a counter for balance. Slowly, extend 1 leg behind you keeping your knee straight. Then, slowly lower the leg to a standing position. Repeat 10 times for each leg.

STANDING HIP ABDUCTION



Holding the back of a chair or counter for balance, slowly raise 1 leg out to the side keeping your leg straight. Then, slowly return the leg to a standing position. Repeat 10 times for each leg.

MINI SQUAT



Holding the back of a chair or counter for balance, stand with your feet flat on the floor and shoulder width apart. Slowly, bend both knees to a comfortable range and then slowly straighten both legs to a standing position. Repeat 10 times.

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