

NAON Patient Education Series

Total Knee Replacement

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General Information

Welcome and Purpose

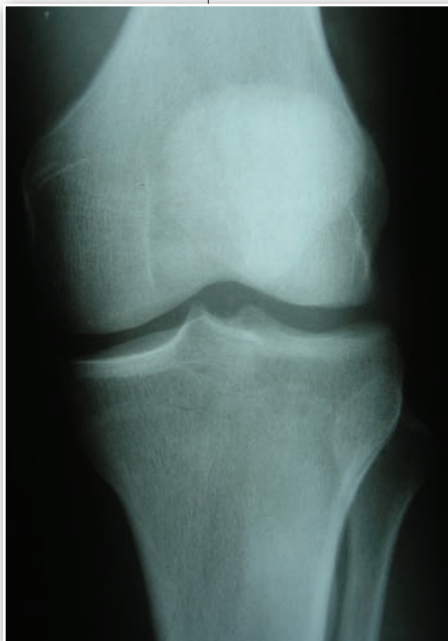
Welcome to your total knee replacement patient education information. This information will help you learn what to expect about total knee replacement.

Two things are likely true if you are reading this information. You have been living with joint pain for some time and your doctor has said a knee replacement is an option for you.

Those having a total knee replacement are people with chronic joint pain that interferes with daily life. You are not alone. Each year, over 581,000 Americans have a total knee replacement. A successful knee replacement and rehabilitation program can help your knee pain. It can help you move better at work, play, and rest. Your new knee can give you a quality of life you may not have enjoyed for some time.

Introduction to Total Knee Replacement

A total knee replacement means that your surgeon makes an incision over the top of your knee. Damaged parts of your knee are 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. Your surgeon decides which method is best for you. One part of the prosthesis 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) may or may not be replaced, depending on need. The incision is closed with stitches, staples, and/or glue. The corrected knee spacing often improves the bowed or knock-knee deformity. Any arthritis in that knee is now gone. Pain should lessen and function improves over time.



Normal Knee



Arthritic Knee



Post Operative Knee

Frequently Asked Questions about Total Knee Replacement

A well-informed patient is one who will be able to take part in their care and rehabilitation. Knowing what to expect before, during and after surgery can help you to recover more quickly. It can also assist you and your caregiver to avoid and recognize potential problems. There are common questions patients have about total knee replacement. Answers to some questions are listed below. However, it's best to discuss your specific questions with your surgeon. Note that some questions have a reminder to do just that.

Why do most people have knee replacements?

One reason is to have less pain. There may be the desire to add walking and exercise back to daily life. Activities such as dressing, grocery shopping, and others are pleasant when they become easier. Many people feel improved quality of life overall.

What are the major risks related to total knee replacement surgery?

Infection and blood clots may be avoided by use of antibiotics and anticoagulant medication. Special measures are taken in the operating room to reduce the risk of infection. The chances of an infection or blood clot are very low. Injury can be prevented by using all methods taught to you by your therapists. Your surgeon will discuss the risks with you.

Am I too old for this surgery?

Age is not an issue if you are in good health and want to continue living an active life. You may be asked to see your primary care doctor about your overall health and readiness for surgery.

Will I need a blood transfusion?

You may need blood during or after surgery. Discuss with your surgeon if there is a need or plan to donate or use banked blood. In many hospitals, you or a family member can donate blood that will be used during your knee surgery. Banked blood is considered safe, but you may want to use your own. Other options and medications are available

to patients prior to surgery that may help decrease the need for a blood transfusion.

**Discuss need for blood with your surgeon*

Will I be put to sleep for surgery?

General or regional anesthesia may be possible for your surgery. General anesthesia allows you to sleep. Regional anesthesia provides numbness of a certain body region with other medication given to cause sleepiness. Several factors are included to decide which type of anesthesia is best for you:

- Past experience with surgery
- General health and physical condition
- Reactions or allergies you have had to medications
- Risks of each type of anesthesia
- Input from your surgical team and you

**Discuss this with your anesthesiologist/nurse anesthetist.*

How long will my surgery last?

One to three hours is the normal range. Time often depends on the equipment and anesthesia. Some time is also spent preparing you for surgery and anesthesia.

Will I have pain after surgery?

You will have discomfort after surgery, but the discomfort will lessen greatly over the first several days. Medication can be given to keep you comfortable. It will also help you to participate in therapy. Quicker than you might think, your medication will be reduced to an over the counter pain reliever and then none.

When can I get up?

You may get up on the day of surgery. You will need the help of the health care team until your therapist tells you otherwise.

Will I need to use a walker?

Your therapist will determine if you use a walker, crutches, or cane after surgery. This gait aid will be needed for a certain length of time, depending on your specific surgery.

When can I shower?

You can shower with assistance when approved by your surgeon. Protection of your incision during showers will be discussed with you. You will not be able to sit down in a bathtub for at least three months after surgery.

**Ask your surgeon how long you should wait until you get down into a bathtub.*

How long will I stay in the hospital?

Most patients go directly home after two or three days in the hospital. Some patients, however, may need to spend a few extra days in a hospital-like setting, or rehabilitation center. There are reasons that patients may not go directly home. Other medical conditions may limit progress. There is no or not enough help at home. There are too many steps at home. The only restroom is on the second floor. Those types of situations may confirm the need for temporary location elsewhere.

Will I need physical therapy at home?

Most patients continue therapy at home or at an outpatient setting for a certain length of time. Therapy options should be explored with your insurance company so there are no surprises about coverage.

**Ask your surgeon how long you should have therapy after discharge.*

Should I exercise before my total knee replacement?

Yes. Exercise instructions are available for you to follow for 2-3 months before surgery.

Will I need special equipment after a total knee replacement?

Besides a gait aid, an elevated toilet seat, commode, or toilet safety rails, shower bench or chair, grab bars, and other assistive equipment may also be necessary for safety and use at home. Equipment may be arranged before or during your hospital stay.

Can I drive after surgery?

No, you cannot drive immediately after surgery.

You cannot drive while taking pain medication. Generally, driving resumes four to six weeks after surgery. You can ride in a car after surgery by following the techniques and precautions outlined by your therapist.

**Please discuss driving with your surgeon.*

When can I have sex after knee replacement surgery?

Sexual activity is not recommended immediately after surgery because of pain and swelling. You can resume sexual activity when you feel ready. However, kneeling may be painful for some time.

**Please discuss resuming sexual activity with your surgeon.*

When can I return to work?

Most often, at least 4-6 weeks are needed off from work. It depends upon the type of work you do.

**Discuss your specific work activities with your surgeon.*

When can I play sports again?

You are encouraged to participate in low-impact activities after your full rehabilitation. These activities include walking, dancing, golfing, hiking, swimming, bowling, and gardening. High-impact activities such as running, tennis, and basketball are not recommended.

**Discuss specific activities with your surgeon.*

How often will I need to see my surgeon?

You will see your surgeon within two weeks of surgery. Additional visits will be scheduled, so be sure to write them on your calendar.

**Discuss frequency of follow-up visits with your surgeon.*

Your Health Care Team

Your health care team members have special training and interest in the area of orthopaedics. They use extensive knowledge to guide you to discharge from the hospital and through rehabilitation. It is important for you to be an active partner with your health care team in order to have the best possible outcome. This team includes many, but the main members are listed below.

Anesthesiologist/Certified Registered Nurse Anesthetist

A physician or advance practice nurse responsible for your anesthesia (putting you to sleep or numbing your legs) for your surgery. The anesthesiologist or nurse anesthetist may also be involved in pain management issues before and after surgery.

Case Manager/Discharge Planner

A registered nurse or social worker who works closely with your surgeon and the other team members to help you make decisions about your discharge plan. This may include outpatient therapy, home equipment, and/or any skilled nursing care if needed. The case manager/discharge planner can also answer your questions about insurance coverage for services and equipment.

Nurse Practitioner (NP)

A registered nurse with advanced skills and education that works with your surgeon to manage your care. An NP can diagnose and treat health care problems. An NP can prescribe medications, order, and interpret needed tests. Nurse practitioners often see you before, during, or after total joint replacement surgery.

Occupational Therapist (OT)

A healthcare professional responsible for planning safe ways for you to complete your daily activities, such as bathing. The OT may partner with the physical therapist (PT) to complete your exercise routine. The OT offers ideas to assist you to create a safe home environment. Adaptive equipment is used to simplify self-care tasks while conserving energy.

Orthopaedic Surgeon

A physician/surgeon that performs your total knee replacement and directs your care. This doctor guides your rehabilitation and follows you through office visits.

Physical Therapist (PT)

The physical therapist plans your physical rehabilitation after your total knee replacement. This therapist will help you regain range of motion, muscle strength, and balance to walk safely with your new joint. You will learn how to use assistive devices such as a walker or cane, which will be needed temporarily after your surgery. Sometimes patients will attend physical therapy before surgery to learn exercises to build strength.

Physician Assistant

A health care professional that works with your physician to prescribe, diagnose, and treat health care problems. Physician assistants often see you before, during, or after total joint replacement surgery.

Registered Nurses (RNs)

Professional nurses that are responsible for managing your bedside nursing care following your surgery. Nurses use the surgeon's instructions to guide your care. RNs provide education to you and your family about your health and safety needs. This includes information before and after surgery and helps you plan for your discharge from the hospital. RNs also provide care and education in your surgeon's office.

Before Surgery Checklist

6-8 Weeks before Surgery

Advanced Health Care Directive (Advance Directive, Living Will)

- If you do not have an Advanced Directive, this is a good time to complete one before your surgery. This form will help explain your health care wishes to the health care team and hospital staff. Hospitals have the forms for you to complete if needed.
- If you already have an Advanced Health Care Directive, please bring a copy along to the hospital.

Assistance

- Ask your spouse, children, neighbors, or friends if they can help you for a few weeks after returning home from surgery.

Blood Donation

- If your surgeon asks that you donate blood prior to surgery, you may do so 3-6 weeks beforehand.

**Discuss the need for blood donation with your surgeon*

Dental Exam

- See your dentist before surgery. You can make that appointment now in case more than routine dental cleaning is needed. That way you'll have a clean bill of dental health prior to your surgery.

Diet

- Eat as healthy as possible with the appropriate servings of fruits, vegetables, protein, whole grains, and low fat dairy. An adequate iron supply is important before surgery. Good sources of iron include lean red meats, fortified cereals, and leafy green vegetables such as spinach or kale.
- Discuss starting a multivitamin and iron supplement with your primary care doctor. These supplements may need to be stopped 1-2 weeks before surgery, so now is the time to get some benefit from the added nutrients.

- Fluids are important for helping you to have regular bowel movements. Most of that fluid should be water and juicy fruits and vegetables.

Equipment

- There is standard equipment needed for everyone after surgery. Call your insurance company to find out which items will be covered and can be obtained prior to surgery. A walker, crutches or cane will be used after surgery. The physical therapist will recommend one for you while you are in the hospital.
- An elevated toilet seat, bedside commode, or toilet safety rails is sometimes needed for safety after total knee replacement. The bedside commode also has arms and can usually fit directly over your home toilet. It may also fit in your shower.
- Before getting prescriptions for these items, ask others if they have one for loan. Others include family, friends, local church, VFW posts, senior centers, or your local firehouse. If you do get a prescription from your surgeon, take it to a medical supply company that accepts your insurance. Making phone calls ahead of time can save time and gas.
- There is some equipment that often is *not* covered by insurance. Very handy for use after surgery are the items listed below. Most of the items can be found at a medical supply store. Some can be found at pharmacies, home improvement stores, or thrift stores.
 - The sock aid is helpful to put on a pair of socks by yourself.
 - The reacher/grabber/dressing stick can help to pull up your pants, reach for dropped items, or obtain items that are higher than arms can reach.
 - The long-handled sponge can help clean hard to reach places during bathing.
 - Safety bars can be installed by a handyman in the shower area and wherever else needed.
 - A tub bench/shower chair allows safe transfer and sitting on it in the shower or tub.

- A hand-held shower is handy for bathing from the tub bench/shower chair.
- A basket or bag that can attach to a walker or crutches is convenient for carrying needed items.
- A travel mug or thermos with a secure lid allows safe transport of a liquid such as water.
- Elastic shoe laces are helpful to secure shoes instead of trying to tie laces after surgery.
- Long-handled shoe horn assists to put on shoes without having to bend the knee so far.

Exercises

Building strength can help you to have a successful outcome after surgery.

- Low impact exercise sessions are sponsored by the Arthritis Foundation and many local senior centers and gyms. Water exercise, walking in waist high water, or swimming 2-3 times a week can also increase strength and endurance.
- There are some simple, effective exercises you can do in your own home from now through your rehab after surgery. Please see the exercises listed in the “Post-op Exercises, Goals, and Activity Guidelines” section. Feel free to do the leg exercises with both legs. Do arm exercises with both arms to build strength to help you best use a walker, crutches, or cane. Do not hold your breath while exercising.

Medical Appointment

- You may be asked to see your primary care doctor prior to surgery. Ask your surgeon which tests are preferred prior to surgery so you can tell your primary care doctor. Examples include:
 - EKG (electrocardiogram)
 - Lab work
 - Chest x-ray
 - Urinalysis

**Discuss needed tests with your surgeon*

Smoking

- Smoking is known to cause breathing problems. It can also decrease the rate of healing. Try to decrease smoking or seek methods to stop. Your primary care doctor can offer ideas to do so.

Weight Loss

- Seek the assistance of a dietitian or exercise specialist if weight loss is a goal before surgery. Your primary care doctor can make a referral for you.

Work

- Ask your surgeon to sign a work release form if needed. Request a minimum of 4-6 weeks off work with notice that rehabilitation may take longer.

**Discuss the need for a work release with your surgeon*

10-14 Days Before Surgery

Church or Synagogue

- Notify your church or synagogue as desired for requested prayers or visitors while you are in the hospital.

Home Changes

Some changes may be needed for you to return home safely after surgery. It's best to have the bathroom, bedroom, and living areas on the same floor. If this is not the case, you may want to place a bed on that floor for a short while. Or you may choose to stay with a relative or friend for a month or so after surgery.

- Purchase night lights for your bathrooms and hallways.
- Move loose fitting, comfortable clothes and pajamas to a place that's easy to access. Keep items in drawers that are at waist level only.
- Remove throw rugs. Electrical cords should be out of the line of traffic. Both rugs and cords can be safety hazards.
- Move furniture and objects that do not allow a clear walking path.
- Consider temporary placement of a small pet with a loved one. A pet running around your legs could cause you to fall.

- Identify chairs with arms in the living and kitchen areas that have a firm seat. An extra cushion or pillow can be used to build height.
- Move the most often used kitchen items to at least waist level counters or cupboards.
- Make some meals that can be frozen and easily reheated.
- Consider another option for laundry if your washer and dryer are not on the living level.
- Place a rubber mat or non-skid adhesive on the floor of the tub or shower.

Mail

- Arrange for someone to collect your mail or place it on hold at the post office.

Medications

- Medications that are often stopped prior to surgery include:
 - Aspirin
 - Some anti-inflammatory medicines (like Motrin®, Aleve®, etc.)
 - Some vitamins
 - Fish oils
 - Herbal supplements (such as ginseng, ginkgo biloba, garlic pills)
 - Herbal teas
 - Fortified cereals that contain vitamin E
 - Pain medications that contain aspirin
- Some over the counter and prescription pain medications can continue until the time of surgery.
- Please be honest about your drug and alcohol use. It is important to know as it can relate to your anesthesia and pain management.

**Discuss which medications should be stopped and when with your surgeon; this includes Plavix®, Coumadin®, and pain medications*

Preop Class

- Attend a preop class if one is offered by your surgeon’s office or hospital.

**Discuss class times/dates with your surgeon’s office*

Several Days before Surgery

Bills

- Pay bills so they are up to date through a few weeks after your return home.

Clean

- Clean up the house, including vacuuming the carpets. Do laundry. Refer to “Home Changes” under “10-14 Days Before Surgery”.

Groceries and Supplies

- Purchase food items and needed supplies that can be used after your return home. It’s handy to have frozen peas or corn on hand as they can be used for ice packs.

Infection

- Notify your surgeon’s office right away if you think you may have an infection of any kind: bladder, skin, tooth, etc.

Transportation

- Confirm how you will get to and from the hospital. You are not allowed to drive yourself home from the hospital. Assure that the passenger seat reclines and can fully move backward. Take a pillow along if you plan to travel home by cab.

1 Day/Night Before Surgery

Pack

Items to include are:

- Your most current list of medications and supplements, noting which ones have been stopped
 - Loose pajamas or short nightgown and short robe if desired
 - Underwear
 - Loose shorts, jogging suit, sweats, tops
 - Slippers with backs and rubberized sole or walking sneakers/shoes with Velcro® closures or elastic shoe laces
 - Socks
 - Personal toiletries (toothbrush, toothpaste, denture cleanser/cup, deodorant, electric or other razor, shaving cream, comb, no powders)
 - Eyeglasses
 - Hearing aid and batteries
 - Make-up, hand mirror if desired
 - CPAP machine settings, tubing, and machine
 - Long-distance calling card or cell phone
 - Driver's license or photo ID, insurance card, Medicare/caid card
 - Copy of your Advanced Health Care Directive
 - Important telephone numbers (include person bringing you home)
 - Hard candy or gum
 - Books, magazines or hobby (like knitting, cards, etc.)
 - Small amount of cash
 - Any hand-carry equipment you may have such as a reacher, sock aid, long-handled shoe horn, walker (marked with your name)
 - This education information so you can review items with your health care team
-

Do Not

- Do NOT eat or drink anything after the time you were instructed. Ice chips, gum, or mints are not allowed.
- Do NOT bring valuables - no jewelry, credit cards, checkbooks, cash >\$20
- Do NOT bring your own medications

Do Shower

The night before or morning of surgery, wash your hair and rinse it well. Shower using any special soap that is given to you by the hospital or surgeon office.

- Do not shave at or near your affected knee
- Pat dry with a clean towel
- Do NOT use lotions or powder
- Apply newly washed pajama/nightgown or clothes
- Sleep on freshly laundered linens

Hospital Care

Day of Surgery

Do not wear makeup and jewelry (a wedding band is fine); remove fingernail and toenail polish. Take the medications as instructed with the smallest amount of water possible. Do not eat or drink anything else. You may brush your teeth. Do not take insulin unless instructed otherwise. It's important to arrive at the hospital on time. You will complete any needed forms. You will be taken to the preop area where nurses will prepare you for surgery. You will put on a hospital gown and go to the bathroom. You may have an IV started in your vein. You will discuss your anesthesia with an anesthesiologist or nurse anesthetist. You may be given medication to relax. You will be taken to the operating room for your surgery. After your surgery is completed, you will be taken to the recovery room for up to several hours. Nurses will watch you closely until you are stable and then transport you to the hospital unit. Your surgeon will talk with your family after surgery has ended.

Activity

Your bed may have a trapeze bar above it to help you position yourself. You will be assisted to turn in bed.

Active movement after your surgery helps to prevent possible complications. Some patients get out of bed on the day of surgery. A nurse or physical therapist will help you do this. Therapists will teach you movements that you need to avoid, exercises to strengthen your muscles, and how to walk safely. Therapists will also review specific knee precautions with you. You will follow those precautions for several months after going home.

You will increase activity daily to enhance your strength and mobility. You will walk further each day. You will perform exercises several times per day. Your rehabilitation program will continue after you go home.

It is important to get adequate rest between your therapy and activities. Ask your nurse to unplug your phone and close your door for a nap. You

also need a good night's sleep of enough hours to give you energy for the next day.

Breathing

There may be an oxygen tube in your nose. Your nurse likely will remove the tube later that day. You will do deep breathing and coughing exercises for several days after surgery. You may be asked to use a breathing device as well. This is done to expand your lungs and help get oxygen to your tissues.

Circulation

It is important to perform leg exercises to help your blood circulate. You will know many of the exercises since you did them at home before surgery. Your therapists will teach you new exercises too.

There may be snug stockings and/or sleeves wrapped around your legs or feet. If present, the sleeves fill with air and then relax. Sometimes they can help the blood flow in your legs.

You will be given medication to reduce the chance of a blood clot.

Smoking is not allowed in the hospital. Ask for stopping assistance if needed.

The foot of the bed should be flat. There should be no pillow under your affected knee. It is okay to have a pillow under both ankles.

Discomfort

You will have some pain. The goal is to get the pain low enough so that you can rest and take part in physical therapy. You may receive pain medication through your IV. You may have a nerve block. You may have pain pills. Or you may have a combination of any of these. An ice pack is used on your knee to lessen pain and swelling. Your pain will lessen every day.

Food/Fluids

You will have fluids going through your IV at first. The IV will be stopped when you are eating and drinking well. You will likely start with a liquid

diet. Your nurse will help you decide when you can eat solid food. Increasing food slowly may help to avoid nausea that sometimes happens after anesthesia or use of pain medication. You may not be very hungry for awhile. It is important that you eat as best you can in order to heal well.

Going to the Bathroom

You may have a tube to drain the urine from your bladder. This catheter will be removed in a day or two. After that, your nurse will help get you out of bed and go to the bathroom.

It may take a day or more to have a bowel movement. Anesthesia and pain medication can cause constipation. Drink plenty of fluids and eat whole grains, fruits, and vegetables. A stool softener or laxative can help normal bowel function to return.

Wound Care

You may have a big dressing on your knee. You may have a tube connected to a container coming out of your knee. That drain will likely be removed when your dressing is changed the first time. Your incision may have sutures, staples, or steri-strips.

Day after Surgery to Discharge

Your surgeon will visit you. Your knee dressing will be changed daily. Continue to cough and deep breathe. You will walk to the bathroom with assistance. Solid food will be offered. Drink fluids to keep hydrated. You will switch to pain pills if pain medication had been given through your IV. Wear loose clothes. You will work with therapists to practice exercises, walk, and climb stairs. Repeating exercises throughout the day will help you gain strength. Discuss discharge options and needed equipment with the case manager/ discharge planner. You will be discharged to home if you have met therapy goals. You will be discharged to a skilled nursing or rehabilitation facility if you do not meet therapy goals.

Caring for Yourself at Home

Anticoagulant Medication

You have likely been given a prescription for an anticoagulant medication. This medication prevents clots from forming. The medication may be in pill or shot form (tiny needle that goes into the abdomen). You may also need lab work done to make sure your medication is working properly. Take this medication for as long as directed by your doctor. Usually, you will be on it anywhere from 3-6 weeks after your total knee replacement. Contact your doctor right away if you notice easy bruising, nosebleeds, or blood in your urine.

Body Changes

You may have less of an appetite for awhile. Be sure to drink plenty of fluids. Your energy level may be less than usual for a few weeks after surgery. Constipation may result from pain medication. Use a stool softener or laxative if needed. Your new knee may cause your leg to feel longer. The joint likely gained some height that was lost prior to surgery.

Coping with Stress

Undergoing surgery can be a very stressful event for anyone. It can also be stressful to rely on others to help while you are healing. However, having support from friends and family is needed for full rehabilitation. Having realistic goals and keeping a positive outlook can help. Make note of small achievements. Some people find that deep breathing and relaxation techniques help. Many hospitals have resources available (social workers, counselors, spiritual care, etc.) if you need additional support. Remember to ask for help when you need it.

Discomfort

It is important to take pain medication with food and as prescribed by your surgeon. It may be helpful to take your pain medication about 30 minutes before your planned therapy/exercise session. Don't wait until discomfort gets the best of you to take medication. Do not drink alcohol or drive while taking pain medication. As you have less discomfort, start to decrease how many pain pills you are taking and how often you are taking them. Eventually, you will no longer need pain medication. Applying an ice pack to

your knee for 20 minutes several times per day can help the discomfort too. Using a frozen pea or corn bag can form easily to your knee. Change your position at least every 45 minutes during the day to avoid stiffness. Do not elevate your leg by placing a pillow only under your knee. A pillow should be placed under the entire leg for elevation. Numbness around the incision may be temporary or permanent. Contact your surgeon if your discomfort does not respond to the above.

Equipment

You will use a rolling walker, crutches, or a cane to help you walk. An elevated toilet seat, bedside commode, or toilet safety rails can be very handy for the bathroom. A bedside commode can often fit over the toilet and also be used to sit on in the shower. You cannot get down into the bathtub until mobile enough to do so. Other adaptive equipment such as a reacher, sock-aid, long-handled shoe horn, long-handled sponge, handheld shower, grab bars, and elastic shoe laces may prove useful to you as well. Please refer to the "6-8 Weeks before Surgery" section for further information.

Incision Care/Dressing Changes

You and your caregiver should wash your hands before and after changing your dressing. Your dressing should be changed every day. Condition of the incision should also be noted. There will be some swelling initially, especially after exercise. There should be no redness, hotness, odor, increased drainage, or opening of the incision. Call your surgeon's office if you notice those changes. Usually, sutures or staples are removed 10-14 days after surgery by a health care professional. If you do not know, call to find out whether or not to get your incision wet while showering.

Intimacy

Generally, most people wait to resume sexual activity for a few weeks after surgery. Your incision, muscles, and ligaments need time to heal. You can resume sexual activity when you feel ready. The bottom or missionary position is usually the most safe and comfortable. A pillow placed between the knees is needed for the side lying position. Discuss return to sexual activity with your surgeon.

Preventing/Recognizing Potential Complications

Blood Clots

You may be asked to wear snug stockings at home. Elevate your affected leg above heart level for short periods throughout the day. Take your anticoagulant medication as directed. Perform your exercises and walk. These are all ways to prevent blood clots. Contact your surgeon right away if any of the following occur:

- Pain or excessive tenderness in your leg or calf
- Redness of your calf
- Swelling in your foot, ankle, calf, or thigh

A blood clot in the leg can move to the lung. This can lead to shortness of breath, chest pain, coughing up blood, or unexplained anxiety, especially with breathing. Call 911 for this medical emergency.

Dislocation

Follow the knee precautions taught to you by your therapists. Practice the exercises taught to you to strengthen the muscles around your new knee. Ask your surgeon how long you need to follow your knee precautions. It is difficult to dislocate a knee. However, it is important to maintain these precautions:

- Do NOT stand, bend knees, and twist at the same time (see below)



- Do NOT put more weight on your affected leg than instructed (see below)



Contact your surgeon right away if you note:

- New onset of severe knee pain
- Turning in or out of your leg that is new
- Unable to walk or put weight on your leg
- Increased numbness or tingling of the leg
- Change in length of the leg
- Knee appears deformed

Contact your surgeon right away if you happen to fall.

Infection

Hand washing (or an alcohol-based hand cleanser) is the most important step for preventing infection. You and your caregiver need to wash your hands prior to changing the dressing over your incision. Keep your incision dry, unless your surgeon has approved getting it wet. Eating a healthy diet and drinking plenty of fluids can help prevent infection too.

Your surgeon may recommend that you take antibiotics to prevent infection before you undergo future dental procedures or

other invasive medical procedures. Be sure to discuss this during your first postop visit unless already done.

Contact your surgeon right away if you note any of the following:

- Increased redness, heat, or swelling around incision
- More or foul smelling drainage from incision
- Increased pain in the knee
- Persistent fever greater than 100° F or chills

Contact your primary care doctor if you think you may have an infection elsewhere. This includes bladder, sinus, tooth, etc.

Weight Loss

An ideal body weight puts the least amount of stress on your new knee. Following an exercise and walking program will promote wanted weight loss. A dietitian can make suggestions for a healthy weight loss meal plan. Talk to your surgeon about visiting a dietitian if desired.

Postop Exercises, Goals, and Activity Guidelines

Exercise is very important after a total knee replacement. Exercise will help you strengthen your knee and other muscles. It will also help you gain at least 90° of flexion in your affected knee. Continue with your walking program and challenge yourself to go farther and farther every day. The more you are active and exercise, the more mobile you will become.

Activity goals for week 1-2:

- Walk at least 300-500 feet with your walker, crutches, or cane as instructed
- Go up and go down 12-14 steps with a rail, one foot at a time, once per day
- Bend your knee to 90-105°
- Straighten your knee completely by lying flat for 30 minutes several times per day; place a towel roll under your ankle
- Shower and dress by yourself
- Gradually resume light home duties with help as needed

Activity goals for week 3-4:

- Complete any remaining goals from week 1-2
- Wean from a walker or crutches to a cane or one crutch as instructed
- Walk at least the distance of 4 blocks
- Go up and go down 12-14 steps with a rail, one foot at a time, more than once per day
- Bend your knee 90-105°
- Straighten your knee completely by placing only the foot on a stool for 30 minutes several times per day
- Resume all light home duties with help as needed
- Return to light work duties if approved by your surgeon

Activity goals for week 5-6:

- Complete any remaining goals from weeks 1-4
- Walk with a cane or crutch to complete the distance of 4-8 blocks
- Go up and down stairs with a rail from one foot at a time to regular way

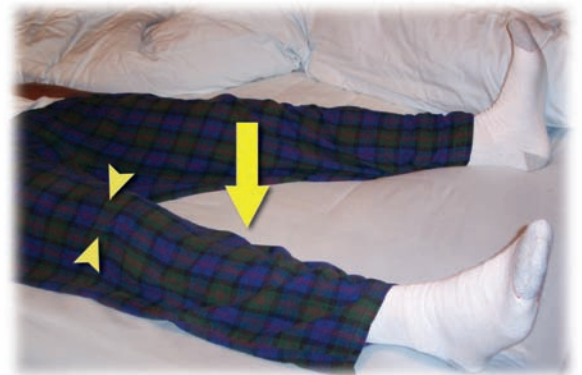
- Bend your knee 90-105°
- Straighten your knee completely by placing only the foot on a stool for 30 minutes several times per day
- Drive a car at 6 weeks if approved by your surgeon
- Resume all light home duties by yourself

Activity goals for week 7-12:

- Complete any remaining goals from weeks 1-6
- Walk without a cane or crutch without a limp the distance of 8-16 blocks
- Go up and down stairs with a rail
- Bend your knee 90-105°
- Straighten your knee completely by placing only the foot on a stool for 30 minutes several times per day
- Resume all home duties and low impact activities

Review all exercises with your physical therapist. Perform your exercises 10-15 times, 2-3 times daily, unless noted otherwise. Feel free to do the leg exercises with both legs. Be sure to follow your knee precautions (see the “Activities of Daily Living” section). Do not hold your breath while exercising.

Leg Exercises



Quad Sets

While lying on your back in bed, press your knee into the mattress and tighten your muscle on the top of your thigh. Hold for a count of 5-10 seconds. Do not hold your breath. Repeat 10 times with both legs, 2-3 times per day.



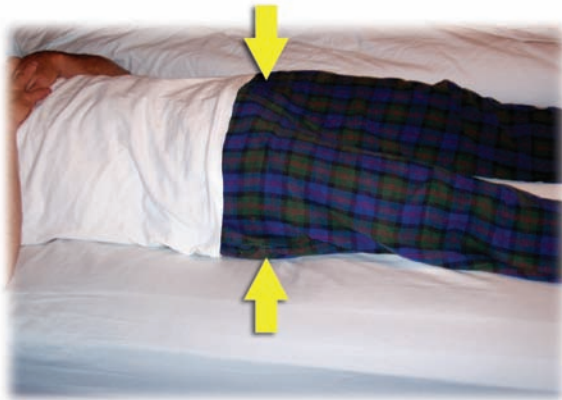
Ham Sets

While lying on your back in bed, keep your affected leg bent and the other leg straight. Tighten the muscle on the back of your affected leg. Push the heel down into the bed with the affected leg. Hold for 5 seconds. Repeat 10 times with both legs, 2-3 times per day.



Heel Slides

While lying on your back in bed, bend your knee and slide your heel to your buttock. Slide it back out straight. Use a plastic bag under your foot if it is easier that way. Repeat 10 times with the affected leg, 2-3 times per day.



Gluteal Sets

While lying on your back in bed, squeeze your buttock muscles together and hold for a count of 5-10 seconds. Repeat 10 times, 2-3 times per day.



Lying Knee Extension

Lie on your back in bed. Place a towel roll under the lower part of your thigh. Lift your foot and straighten your knee. Do not raise your thigh off the roll. Repeat 10 times with the affected leg, 2-3 times per day.



Straight Leg Raises

While lying on your back in bed, tighten your thigh muscles and lift the affected leg up several inches off the bed. Keep your knee straight and toes pointed up. Hold the leg up for 5-10 seconds and then lower it back onto the bed. Repeat 10 times with the each leg, 2-3 times per day. Do not continue if this hurts your low back.



Sitting Knee Extension

While sitting in a chair with your back against the chair back, straighten your knee and hold for a count of 5-10 seconds. Lower your leg back down to the floor. Repeat 10 times with the affected leg, 2-3 times per day.



Ankle Pumps

While sitting in a chair or lying on your back in bed, straighten your knee and slowly push your foot forward and backward. Repeat 20 times with both ankles, 2-3 times per day.



Sitting Knee Extension with Stool

While sitting in a chair, place the foot of your affected leg on top of another chair seat or stool. Press your knee down and hold for 30 seconds. Repeat 10 times, 2-3 times per day.



Sitting Knee Flexion

While sitting in a chair, scoot a little forward. Place a belt or towel under your foot while holding the edges in your hands. Bend your knee as far as you can with the belt/towel. Scoot forward a little more to feel more of a stretch at your knee. Hold for 30 seconds. Repeat 3-5 times with the affected leg, 2-3 times per day.



Standing Hip Extension

While standing up, hold on to the back of a chair. Bring your leg backward as far as you can. Keep your knee straight. Repeat 10 times with the affected leg, 2-3 times per day.



Heel Raises

While standing up, hold on to the back of a chair. Raise up on your toes. Repeat 10 times, every hour while awake.



Standing Knee Flexion

While standing up, hold on to the back of a chair. Bend your knee back behind you. Slowly lower it back to the ground. Repeat 10 times with the affected leg, 2-3 times per day.



Standing Knee Raises

While standing up, hold on to the back of a chair. Raise one knee at a time as if marching in place. Lift your knee to at least waist level. Hold your knee up for 2-3 seconds. Slowly lower it back to the ground. Repeat 10 times with the affected leg, 2-3 times per day.



Toe Raises

While standing up, hold on to the back of a chair. Lean body weight onto your heels. Toes should be off the ground. Slowly lower toes back to the ground. Repeat 10 times, 2-3 times per day.



Standing Hip ABduction/ADduction

While standing up, hold on to the back of a chair. Move your affected leg out to the side. Keep hip, knee, and foot pointed straight forward. Keep your knee straight. Slowly lower it back down to the ground. Repeat 10 times with the affected leg, 2-3 times per day.



Mini Squats

While standing up, place your back against a wall. Slide down the wall until your knees are bent at 30-45°. Slowly raise up to the straight position. Repeat 10 times, 2-3 times per day.

Arm Exercises

Building arm strength is needed to help you to best use a walker, crutches, or cane.



Wrist Flexion/Extension

Sit in a chair with feet flat on the floor. Hold a soup can or bottle of water in your hand. Place arm on the armrest of the chair. Extend wrist up. Bend wrist down. Repeat both actions 10 times with both wrists, 2-3 times per day.



Elbow Flexion

Sit in a chair with feet flat on the floor. Hold a soup can or bottle of water in your hand. Place your arm on the armrest of the chair. Bend your elbow, bringing your hand toward your shoulder. Lower hand back onto armrest. Repeat 10 times with both arms, 2-3 times per day.



Forearm Rotation

Sit in a chair with feet flat on the floor. Hold a soup can or bottle of water in your hand. Place your arm on the armrest of the chair. Rotate the forearm downward so that the soup can or bottle faces the floor. Rotate the forearm upward so that the soup can or bottle of water faces the ceiling. Repeat 10 times with both arms, 2-3 times per day.



Elbow Extension

Sit in a chair with feet flat on the floor. Hold a soup can or bottle of water in your hand. Place your arm on the armrest of the chair. Lift your elbow up toward your head. Bring your hand down toward your ear. Lift up toward the ceiling. Repeat 10 times with both arms, 2-3 times per day.



Shoulder Flexion

Sit in a chair with feet flat on the floor. Hold a soup can or bottle of water in each hand. Start with your hands on your legs. Reach your arms toward the ceiling with the elbows straight. Lower your arms to your legs. Repeat 10 times, 2-3 times per day.



Shoulder ABduction

Sit in a chair with feet flat on the floor. Hold a soup can or bottle of water in each hand. Start with your arms out to the sides, even with your shoulders. Keeping your elbows straight, reach for the ceiling from the sides of your body. Lower arms back toward the sides of the body. Repeat 10 times, 2-3 times per day.



Shoulder ADduction

Sit in a chair with feet flat on the floor. Hold a soup can or bottle of water in your hand. Place your arm on the armrest of the chair. Bring elbows up to be even with the shoulders and out to the sides of the body. Push arms backward to squeeze the shoulder blades together. Repeat 10 times, 2-3 times per day.



Arm Chair Push-ups

Sit in a chair with feet flat on the floor. Place hands on the armrests. Straighten your arms while raising your buttocks off the chair. Repeat 10 times, 2-3 times per day.

Activities of Daily Living

Precautions

Certain body positions and activities can cause knee dislocation. Prevention of dislocation includes the following:

- Do NOT stand, bend knees, and twist at the same time
- Do NOT put more weight on your affected leg than instructed

Follow the above precautions for about 12 weeks after surgery. Ask your surgeon if these or any other precautions should be followed beyond 12 weeks.

Safety and Avoiding Falls

There are many things you can do to keep your joints safe. Please follow these suggestions to avoid injury and falls:

- Keep throw rugs put away
- Be aware of floor hazards such as small objects, pets, and uneven surfaces
- Provide good lighting; use nightlights and a flashlight as needed in the halls, bathroom, and bedroom
- Keep cords out of the walking path
- Wear slippers or shoes with backs; soles should be rubber for good traction
- Use chairs with arms to help you get up and down
- Get up slowly from a chair or the bed in case you are dizzy
- Do not lift heavy objects for at least 3 months; discuss with your surgeon first
- Stop to think before taking on a new task
- Change positions frequently to avoid stiffness
- Get out of the car every 1-2 hours during travel for a short walk to lessen stiffness
- Keep your appointments with your surgeon as instructed

Bed Mobility

- Use a pillow between your knees when on your side
- Bend your unaffected leg to help push yourself to a new position

Ambulation

A walker, crutches, or cane should be fitted to your height by a physical therapist or health care professional. If you have had both knees replaced at the same time, the “affected” leg means the weaker one.

Walker

1. Stand up straight with the walker a few inches in front of you.
2. Place each hand on the hand grips of the walker.
3. Take a step into the walker with your affected leg.
4. Lean on the walker to give balance and support.
5. Take a step with your unaffected leg.
6. Move the walker forward one step.
7. Repeat the above until you’ve reached your target.

Crutches

Instructions should be followed as taught to you by your therapist. There are different ways to use crutches. You should use the method that is most appropriate for your needs.

Cane

1. Stand up straight with the cane held by your hand on the unaffected side.
2. Move the cane forward one step.
3. Move your affected leg forward.
4. Move your unaffected leg forward.
5. Repeat the above until you’ve reached your target.

Transfers

Bed

Getting into bed:

1. Back up to the bed until you feel it behind your legs. Place yourself halfway between the foot and head of the bed. Slide your affected leg out in front of you before sitting down.
2. Reach back with both hands and sit down on the edge of the bed. Scoot back toward the center of the mattress. Slick sheets, slick pajamas, or sitting on a plastic bag may make scooting easier.
3. Move the walker out of your way. Keep it close by.
4. Scoot your hips around to face the foot of the bed.
5. Lift the close leg into bed while scooting around.
6. Lift the other leg into bed.
7. Scoot your hips towards the center of the bed.

Getting out of bed:

1. Move your hips to the edge of the bed while leaning on your elbows.
2. Sit up while lowering your unaffected leg to the floor.
3. Scoot to the edge of the bed while using your hands behind you.
4. Use both hands to push off from the bed.
5. Slide the affected leg out in front of you before standing up.
6. Get balanced before reaching for the walker.

Chairs and Toilets

Sit in chairs with firm seats for ease of movement. An extra cushion or pillow may be needed on the seat of a low chair if there is no other choice for sitting. It's safer to keep both feet on the floor or on a stool.

A raised toilet seat, a three-in-one bedside commode, or toilet safety rails may be needed over your toilet for about 12 weeks after surgery.

Such equipment is no longer needed once you can get up and down from the toilet safely on your own.

Sitting on a chair or toilet:

1. Take small steps and turn until your legs are against the toilet/chair.
2. Slide the affected leg out in front of you before sitting down.
3. When using armrests, reach back for both armrests and lower yourself onto the toilet. If there are no armrests, keep one hand on the middle of the walker/crutch/cane while reaching back for the toilet seat with the other hand.

Getting up from a chair or toilet:

1. Slide the affected leg out in front of you before standing up.
2. When using armrests, push yourself up from the armrests. If there are no armrests, keep one hand on the middle of the walker/crutch/cane and push off from the toilet seat with the other hand.
3. Gain your balance and place your hands on the walker/crutches.

Tub/Shower

You cannot get down into a tub until you are mobile enough to do so safely. You can sit on a bench/chair or stand in a tub or shower. Be sure the tub bench/chair is high enough for your height. Assure all needed items are within reach prior to your shower. Use a rubber mat or non-skid adhesive on the floor of the tub or shower. Do not shower until your staples/sutures are removed unless approved by your surgeon. The instructions below can also be followed for a shower stall.

Getting into the tub using a tub bench:

1. Place the tub bench in the tub. It should face the faucets.
2. Back up until you can feel the tub bench on the back of your legs. Be sure you are centered against the tub bench.

3. Slide your affected leg out in front of you before sitting down.
4. Keep one hand on the middle of the walker/crutch/cane while reaching back for the tub bench with the other hand.
5. Slowly lower yourself onto the tub bench without leaning forward.
6. Move the walker out of your way. Keep it close by.
7. Lift your legs, one at a time, over the edge of the tub as you scoot yourself around.
8. Scoot yourself to the center of the bench.

Getting out of the tub using a tub bench:

1. Scoot yourself around as you lift your legs, one at a time, over the edge of the tub.
2. Scoot yourself to the edge of the tub bench.
3. Place one hand on the middle of the walker/crutch/cane. Push up with the other hand on the back of the tub bench.
4. Gain your balance and place your hands on the walker/crutches.

Vehicle

Getting into the vehicle:

1. Push the seat all the way back. Recline the back of the seat at least halfway.
2. Place a plastic trash bag on the seat to help you turn frontward more easily.
3. Back up to the vehicle until you feel it touch the back of your legs.
4. Slide your affected leg out in front of you.
5. Reach back for the back of the seat with one hand and the dashboard with the other hand. Lower yourself down onto the seat. Be sure to lower your head to avoid hitting it on the doorframe. Scoot backward as far as you can toward the other seat.
6. Turn frontward, leaning back as you lift one leg at a time onto the floorboard of the vehicle.
7. Center yourself on the seat.
8. Bring the seat back to a comfortable position.

Put on your seatbelt.

Getting out of the vehicle:

1. Push the seat all the way back. Recline the back of the seat at least halfway.
2. Scoot yourself sideways and backward as you lift one leg at a time out of the vehicle and onto the ground. Lean back as you do so.
3. Slide your affected leg out in front of you. Push yourself up with one hand on the dashboard and the other on the back of the seat. Be sure to lower your head to avoid hitting it on the doorframe.
4. Gain your balance and place your hands on the walker/crutches/cane.

Stairs

General rule of thumb: Go up with your unaffected leg and down with your affected leg

Going Up Stairs

NOTE: Your therapist should give you detailed instructions on how to go up and down stairs with your walker, crutches, or cane. Below are general reminders related to stairs.

1. Face the stairs. Hold the handrail with one hand.
2. Hold the walker, crutches, or cane with the other hand on the step above you.
3. Step up with the unaffected leg.
4. Step up with the affected leg.
5. Move the walker, crutches, or cane up one step.
6. Repeat the above until you've reached your target.

Going Down Stairs

1. Face the stairs. Hold the handrail with one hand.
2. Hold the walker, crutches, or cane with the other hand on one step below you.
3. Step down with your affected leg.

4. Step down with your unaffected leg.
5. Move the walker, crutches, or cane down one step.
6. Repeat the above until you've reached your target.

Dressing

Putting on pants and underwear by yourself:

1. Be sure all needed items are within easy reach.
2. Slide your affected leg out in front of you.
3. Sit down on a supportive surface to maintain your balance.
4. Use a reacher or dressing stick to grasp the clothing. Place your affected leg in first, followed by your unaffected leg. The reacher or dressing stick can be used to guide the waist band over your feet and knees.
5. Pull your pants up to your thighs.
6. Stand with the walker in front of you. Pull your pants up the rest of the way.

Taking off pants, underwear, or socks by yourself:

1. Be sure all needed items are within easy reach.
2. Back up to a chair or bed.
3. Unfasten your pants and allow them to fall to the floor. Push your underwear off your hips.
4. Slide your affected leg out in front of you. Lower yourself down to a chair or bed.
5. Use a reacher or dressing stick to grasp the clothing.
6. Remove your unaffected leg first, followed by your affected leg.

Putting on socks by yourself:

1. Be sure all needed items are within easy reach.
2. Slide your affected leg out in front of you.
3. Sit down on a supportive surface to maintain your balance.

4. Slide the sock fully onto the sock aid.
5. Bend your knee slightly.
6. While holding the cord with both hands, drop the sock aid in front of your foot
7. Slide your foot into the sock aid.
8. Point your toes and straighten your knee. Pull the sock on and keep pulling until the sock aid pulls out of the sock.

Putting on shoes by yourself:

NOTE: Shoes should have rubber soles. Do NOT wear high heels or shoes without backs. Wear one of the following: sturdy slip-on shoes, Velcro® closure shoes, or shoes with elastic shoe laces. It may be too difficult to tie your own shoes at first.

1. Be sure all needed items are within easy reach.
2. Slide your affected leg out in front of you.
3. Sit down on a supportive surface to maintain your balance.
4. Use a long-handled shoe horn, dressing stick, or reacher to slide your shoe in front of your foot.
5. Place the shoehorn inside the shoe.
6. Lean back as you lift your leg to place your toes inside the shoe.
7. Step down into your shoe, sliding your heel downward against the shoehorn.
8. Fasten your shoe by using the reacher to close the Velcro® straps or pull elastic shoe laces tight.

Taking shoes off by yourself:

1. Be sure all needed items are within easy reach.
2. Slide your affected leg out in front of you.
3. Sit down on a supportive surface to maintain your balance.
4. Use a reacher to unfasten your Velcro® straps or elastic shoe laces.

5. Use a long-handled shoe horn, dressing stick, or reacher to slide your shoe off of your foot.

Energy Conservation/Joint Protection

Choose low-impact activities such as:

- Regular walks in or outdoors
- Walking on treadmill
- Recommended exercise at a fitness center
- Swimming
- Bicycling
- Dancing
- Golfing
- Cross country skiing
- Aquatics or Tai Chi program (many are sponsored by a local Arthritis Foundation chapter)
- Joints in Motion class (sponsored by a local chapter of the Arthritis Foundation)
- Walk with Ease program (sponsored by a local chapter of the Arthritis Foundation)
- Upper extremity strengthening exercises

Avoid high-impact activities such as:

- Downhill or water skiing
- Jogging or running
- High impact aerobics
- Jumping activities
- Tennis or racquetball
- Football
- Baseball
- Lifting > 25 lbs. over and over

Household Tips:

- Maintain clear walkways.
- Do not get down on your knees to scrub floors. Use a mop or long-handled brush.
- Keep often used cooking or working supplies where they can be easily reached.
- Plan ahead by gathering all cooking or working supplies at one time to work on a project.
- Use a high stool or use cushions to provide a better working height.
- Plan rest periods in-between periods of activity.
- Pace yourself; attempting to do too much at one time can leave you exhausted for the rest of the day.
- Note your highest energy time of day to tackle a heavier activity.
- Break down a heavy activity into smaller, more manageable ones.
- Push or pull items instead of carrying them.
- Ask for help when you need it.
- Learn to work smarter, not harder.

NOTE: Many other tips for joint protection, work simplification, energy conservation, and equipment are available from an Occupational Therapist or the Arthritis Foundation. Check your local phone book for an Arthritis Foundation chapter near you.

Appendix A

Health Care Provider Phone Numbers

Health Care Provider	Name	Phone Number
Nurse		
Occupational Therapist		
Physical Therapist		
Surgeon		
Primary Care Doctor		

Other Phone Numbers

Name	Phone Number	Comment

