



Your  
pathway  
to knee  
replacement  
recovery



**SSMHealth.**  
Orthopedics

# Contact information

## Contact numbers

### Nurses' station

2 East  
314-768-8670

### Nurse manager

314-768-8668

### Case manager

314-768-8757

### Clinical nutrition

314-768-8891

### Insurance | Billing | Information

1-855-989-6789  
Monday - Friday  
8 am - 5 pm

### Pre-surgical testing (PST)

SSM Health St. Mary's Hospital's pre-surgical testing department is the center for registration, medical evaluation, testing, and education. The PST area is located in the Same Day Surgery Department, main floor of the hospital, past the three main elevators, first hallway on the left side.

Please call **314-768-8334**, Monday - Friday, 8 am - 4 pm to schedule your pre-surgical testing.

### Day of surgery check in

On the day of surgery, please report to the Same Day Surgery Department. If you are having any problems on the day of surgery, please call **314-768-8665**.

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Bring your patient education booklet with you the day of surgery.



# Welcome

Welcome to SSM Health Orthopedics, a first-class experience in patient care! We are committed to the highest quality clinical outcomes and patient satisfaction.

We have a dedicated service line of surgeons, nurses, therapists, and support staff. We will provide a supportive environment and patient education for you and your family to help maximize your recovery and rehabilitation.

Our goal is to prepare you to go home where you can return to a healthy and active lifestyle as quickly as possible. This booklet provides an overview of what you need to know about your total joint replacement.

Thank you for choosing SSM Health Orthopedics. We look forward to working with you!

[ssmhealth.com/orthopedics](http://ssmhealth.com/orthopedics)

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## Important information/instructions:

# You must complete PRO questionnaires before joint replacement surgery.

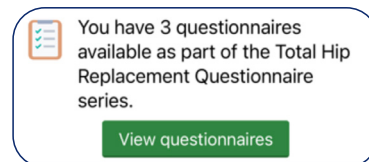
If you are age 65 years or older, you are required to answer **Patient Reported Outcomes (PRO)** questions in MyChart® before your joint replacement surgery. All questions must be answered before surgery.

## How to access the questionnaires from SSM Health MyChart

Scan this QR code or visit [ssmhealth.com/mychart](https://ssmhealth.com/mychart) and select **ACCESS YOUR MYCHART** or **ENROLL IN MYCHART**.



1. Once you are within 90 days of your scheduled surgery, or you have received notification from MyChart, log in to your **SSM Health MyChart** account with your username and password, using the link or QR code provided above.
2. On the **Welcome/home screen**, locate the link to the questionnaires on your list of notifications or click on the Menu icon at the top and select **Questionnaires**.
3. You are assigned questions in multiple short questionnaires. Each questionnaire may be one or more questions. Complete all questions before surgery.

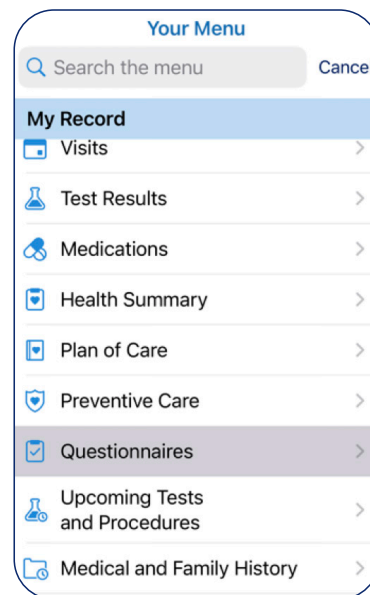


## Answering the PRO questions

Answer all questions. There are no right or wrong answers. Your surgeon will use this information to monitor your progress after surgery. If you are unsure, select the answer that seems right for today.

### One year after surgery

In addition to the questionnaires before surgery, you will receive a notification in MyChart approximately one year after surgery to answer additional questions about how your joint replacement currently feels. Medicare requires this additional survey to be completed by patients ages 65 years and older.



# Introduction

Read this book to help you prepare for your surgery. Research has shown that patients who are educated about their surgery have better results. Please bring this book to the hospital on the day of your surgery.

## Basic anatomy of the knee

A joint is where two bones come together. The knee is a hinge joint where the thigh bone (femur) and the shin bone (tibia) meet. A healthy knee has smooth cartilage covering the ends of the thigh and shin bones. The cartilage allows the two bones to glide smoothly when you bend your knee. Your knee also has muscles and ligaments to stabilize the joint and support your weight.

Cartilage can wear over time from arthritis or injury. This causes the ends of the bones to rub against each other and leads to pain, stiffness, limited movement, and a decrease in normal activities of daily living.

## Knee replacement

Total knee replacement surgery is a highly successful operation. Your surgeon removes cartilage and some bone damaged by arthritis or injury, and resurfaces the thigh and shin bones with metal components.

The primary purpose for knee replacement surgery is to decrease pain and increase movement of the knee joint, which helps you return to normal activities of daily life.

## Your new knee

Artificial knee parts are made of metal (titanium, cobalt chrome) and plastic (polyethylene). The metal parts are attached to the bone and the plastic parts replace your worn cartilage.

## Hospital stay

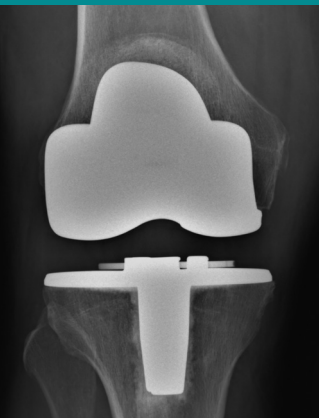
You may be admitted to the hospital on the day of your surgery. The surgical procedure will take approximately one to two hours. Most patients will stay one night on an orthopedic surgical unit and will go home the day after surgery. Your postoperative plan will include physical therapy training.



Normal knee



Arthritic knee



Knee replacement

## Therapy

Activity and exercise strengthen the muscles supporting the knee and maintain knee motion. The therapy team will give you instructions about walking with the walker; transferring from bed, chair, and toilet; personal hygiene; and specific exercises to strengthen the muscles supporting your knee joint.

## Complications

When considering total knee replacement surgery, you should be aware of potential complications associated with the procedure and the precautions that are taken to prevent them.

### Infection

- Although risk of infection is low, it can be a major complication of surgery.
- Some activities to help prevent infection may include: pre-surgical blood screenings, antibacterial soap showers, and frequent hand washing by patients, staff, and visitors.
- Contact your surgeon if you develop a fever, flu/cold-like symptoms or any open sores on your skin before the day of your surgery.

### Blood clots

- Development of blood clots, called deep vein thrombosis (DVT), is another complication, but this risk is small when precautions are taken.
- Precautions may include: the use of medications (anticoagulants) to thin the blood, mechanical devices to help circulate blood in your legs, and ankle pump exercises.
- Regular activity and frequent movement is the best prevention of blood clot formation.

### Other complications

- Nerve or vessel damage can occur, but these complications are extremely rare.
- Blood loss during surgery is another complication, but less than 1% of patients require a blood transfusion after joint replacement surgery.

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A successful recovery requires your active participation in therapy and following all instructions from your care team after surgery.



# Preparing for surgery

Your surgeon looks at your overall health before scheduling joint replacement surgery. If you have any condition that will increase your risk of complications after surgery, your surgeon may recommend seeing a specialist for clearance.

## Other lifestyle changes for health

### Smoking

If you currently use tobacco products, now is the ideal time to stop. Research studies suggest that people who stop smoking at least 4 weeks before surgery have a faster recovery time and heal with fewer complications. Resources are available to help you with a smoking cessation plan. Please talk with your surgeon, nurse, or call the free coaching hotline at 1-800-QUIT-NOW.

### Long-term use of narcotic (opioid) pain medication

If you have been using opioid pain medication for your joint pain or other chronic pain condition, talk with your surgeon about seeing a pain management physician to reduce opioid use before surgery. Pain control is one of our top priorities, but people who use opioids for pain before surgery have more difficulty managing post-surgical pain.

It is ideal to be off all opioids before your surgery. We recommend you talk to your pain management doctor about weaning from your pain medication.

### Uncontrolled diabetes

If you have been diagnosed with diabetes (or you have been told you are pre-diabetic or borderline diabetic but are not on medication or under medical supervision), your risk of complications increases during and after surgery. Your surgeon may require medical clearance by your physician. You should monitor your blood sugar before and after surgery to maintain an acceptable range to promote optimal healing. If you need assistance with diabetic meal planning, ask your physician for a referral to an outpatient dietitian near you.

## Nutrition guidelines for surgery recovery

Good nutrition is important before and after surgery to support your body's response to surgery and recovery, to maintain lean muscle and strength, and to reduce the risk of complications and hospital readmission. We recommend a high-protein, anti-inflammatory diet to optimize recovery. Starting now and for 4 weeks after surgery, eat 5-6 small meals daily with protein in each meal (unless your doctor restricts high protein).

Refer to the Nutrition Guidelines for Surgery Recovery sheet. Some suggestions include:

- Eat fruits and vegetables.
- Snack on nuts every day.
- Choose lean proteins such as fish, poultry, and beans more often than red meat.
- Choose heart-healthy fats such as olive oil, canola oil, or avocado oil.
- Use herbs and spices instead of salt.
- Switch to whole grains rather than foods with refined (white) flour. If you are unable to eat food for a meal, drink a nutritional supplement.

## Nutritional supplements

- When you don't feel well, which may happen before or after surgery, it can be difficult to get all the nutrients you need from food.
- Nutritional supplements can provide the protein, vitamins, and minerals you need to prepare for surgery, and to help your body recover after surgery.
- You may wish to try over-the-counter products such as Premier Protein®, Ensure®, Boost®, Carnation Breakfast Essentials® or store-brand versions at a reduced cost.
- Nutritional supplements also may be offered during your hospital stay to help with recovery. If you have questions, please call the clinical nutrition department listed on the contact information page in the front of this book. If you are on a special diet, check with your primary care physician before making any dietary changes.

## Dental work

- If you haven't seen a dentist in the past 6 months, we recommend a dental cleaning and checkup. Minor dental work and routine cleaning should be completed at least 1 month **before** your joint replacement surgery.
- If you need MAJOR dental work, including treatment for an infected or abscessed tooth, please discuss this with your surgeon. We request this work be completed at least 1 month before your surgery to minimize risk of infection after surgery.
- We recommend that you avoid routine dental work for at least 3-6 months after your joint replacement. After your surgery is complete, please check with your surgeon about taking antibiotics before going to the dentist.

## Surgery scheduling

The staff at your surgeon's office will schedule your surgery. You will receive a call from the hospital to confirm the time of your procedure and when to arrive at the hospital for check-in on the day of your surgery.

## Joint replacement education class

Please watch a 30-minute preoperative patient education class to help you prepare for surgery. Scan the QR code below with your phone or tablet camera to view the class.



Your surgeon requires that you watch this class with a **PAL** (your **Personal Assistance Leader** who is a responsible adult family member or friend). Your PAL(s) should be willing and able to:

- Drive you home after surgery when you are discharged from the hospital.
- Stay with you at your home for at least 24-48 hours, or their home if needed, after discharge from the hospital.
- Help you with meals, errands, and transportation for the first few weeks you are home after surgery.
- Drive you to any therapy appointments and to your first clinic appointment after surgery.
- Be a contact for you, if needed, during the first 90 days after discharge from the hospital.

A nurse and a therapist will discuss how to prepare for surgery and what to expect after surgery and during the recovery period. Please bring this book to the hospital on the day of your surgery.

## Preoperative exercises

Strong leg muscles are key to a successful recovery. Strengthening exercises are performed to help prepare your leg muscles for the surgery. Beginning now, please do the five exercises as shown in the preoperative class video. Do them one to two times each day, 10 repetitions each, **as tolerated**, until your surgery.

## Pre-surgical evaluation

Please refer to the contact information page about how to schedule an appointment for testing at the hospital before surgery. Appointments need to be scheduled 2-4 weeks before your surgery date to allow enough time to review your testing results and avoid possible cancellation of your surgery.

Pre-surgical testing may include laboratory tests, EKG, urinalysis, and X-rays. Surgeons may require medical, cardiac, or dental clearances before your surgery.

- It is important that your hospital record includes a current list of all your medications.
- For safety and accuracy, please bring all of your current prescription and nonprescription medications, including herbal medications, prescription eye drops, and inhalers in their original containers, to your pre-surgical testing appointment.
- After a nurse reviews your medications at this visit, all your medications will be returned to you.

## Medications

**If you currently take any blood-thinning medications, please call the physician** who ordered the medication for specific instructions about how to safely stop before your surgery.

**All blood thinning medications need to be discontinued 7 days before surgery** including, but not limited to: Coumadin® (warfarin), Plavix® (clopidogrel), Pradaxa® (dabigatran), Eliquis® (apixaban), Savaysa® (edoxaban), Xarelto® (rivaroxaban), Effient® (prasugrel), and Brilinta® (ticagrelor).

**Aspirin** or aspirin-containing products such as Excedrin® should be stopped 7 days before surgery. If a doctor prescribed the aspirin, please call that doctor for specific instructions about stopping it before surgery. A baby aspirin (81 mg) may be continued until the day before surgery.

Your prescribing physician does not need to be contacted, but the following medications also thin your blood and should be stopped 7 days before surgery:

- Prescription anti-inflammatory drugs such as Clinoril® (sulindac), Feldene® (piroxicam), Mobic® (meloxicam), Naprosyn® (naproxen), or Arthrotec® (diclofenac sodium)
- All non-prescription anti-inflammatory drugs such as Advil®, Aleve® or Ibuprofen
- Glucosamine and chondroitin sulfate
- Vitamin E capsules
- All herbal medications such as fish oil, flaxseed oil, primrose oil, ginkgo, echinacea, or St. John's wort
- Weight-loss medications

It is safe to continue a baby aspirin (81 mg), and vitamin D supplement until the day before surgery unless your surgeon instructs you to stop this medication.

You may take **Tylenol**<sup>®</sup> (acetaminophen) medications for pain or headache any time before surgery, as long as you are not allergic or sensitive to Tylenol<sup>®</sup>.

### Other medications

**Unless otherwise instructed, all your other prescription medications should not be stopped and should be taken exactly as prescribed until midnight, the night before surgery.**

If you have diabetes, please talk to the nurse at the pre-surgical testing department about how to take your diabetic medication the morning of surgery.

You will need to bring your inhaler and prescription eyedrops to the hospital on the day of your surgery. Unless instructed, **do not bring any other of your medications with you to the hospital.** Your doctor will order appropriate home medications to be given to you after surgery.

### Avoiding and relieving constipation

Many factors contribute to constipation, including a sedentary lifestyle, use of prescription pain medication, and poor nutrition. Physical activity, hydration, and a diet high in fruits and vegetables that naturally contain fiber and a high-water content will assist bowel health.

**Pain medications** that cause constipation include: Norco<sup>®</sup> (hydrocodone with Tylenol<sup>®</sup>), Percocet<sup>®</sup> (oxycodone with Tylenol<sup>®</sup>), Oxy-IR<sup>®</sup> or Roxicodone<sup>®</sup> (oxycodone), Tylenol<sup>®</sup> with codeine, Ultram<sup>®</sup> (tramadol), and Ultracet<sup>®</sup> (tramadol with Tylenol<sup>®</sup>).

### Signs of constipation

- Bowel movements are less often than normal.
- Stools are small, dry, and hard to pass.
- Prolonged constipation can cause stomach pain, nausea, or vomiting, and feelings of confusion.
- Call your doctor if any of these symptoms occur.

### Suggestions to relieve constipation

- Drink at least 8 glasses of water every day (unless your fluid intake is restricted by your doctor).
- When you feel the urge to use the bathroom, don't hold it.
- Avoid using bulk laxatives (Metamucil<sup>®</sup>, psyllium).
- Do not eat foods with high fat or sugar content.
- Eat foods to get 25-30 grams of fiber every day (e.g. black beans, All-Bran<sup>®</sup> cereal, peas, bananas).

The following medications are recommended to prevent constipation while taking opioid medications:

- Take a stimulant laxative twice daily (Senna<sup>®</sup>, Dulcolax<sup>®</sup> tablets, milk of magnesia, or cascara with or without Colace<sup>®</sup>). If diarrhea develops, take only at bedtime.
- Use Miralax<sup>®</sup> daily at bedtime. If diarrhea develops, use every other day.
- If the above treatments are unsuccessful, try an over-the-counter rectal intervention (first, a glycerin suppository; if unsuccessful, an enema).

To help avoid problems after surgery, make sure you are not constipated when you arrive for surgery.

## Living will /advance directive

- A hospital staff member will talk to you about advance medical directives, which are decisions you make about life-support treatments.
- These directives include:
  - **Living Will** (your wishes regarding withdrawal of life support if you are not able to communicate)
  - **Do Not Resuscitate Order** (DNR) and
  - **Durable Power of Attorney** for health care (allows you to appoint someone to make health care decisions for you if you are unable to make these decisions).
- If you have a living will or advance directive, please bring a copy to the hospital on the day of your pre-surgical testing appointment or on the day of your surgery.

## Equipment

A two-wheeled walker is normally the walking aid needed after surgery. If you do not have a walker at home, one will be ordered for you before discharge. If you have a walker, or you are borrowing one and you are unsure if the walker is fitted for you, have your PAL bring it to your room before you are discharged from the hospital. An occupational therapy staff member may also evaluate and instruct you about any necessary adaptive equipment to help you with bathing and dressing.

## Preparations for going home

Before you leave the hospital, the physical therapists will help to make sure you are ready and able to take care of yourself.

You will be able to go up and down a few steps, go to and from the bathroom, and move around your house using a walker.

Most patients are ready to be discharged directly home from the hospital and do not require going to a rehabilitation or skilled nursing unit. If you live alone, it is best to make arrangements to have family members and/or friends help you with meals, laundry, errands, etc. for at least a few days after you are home. A home care staff member, such as a physical therapist and/or nurse, may come to your home within the first two days after your discharge from the hospital.

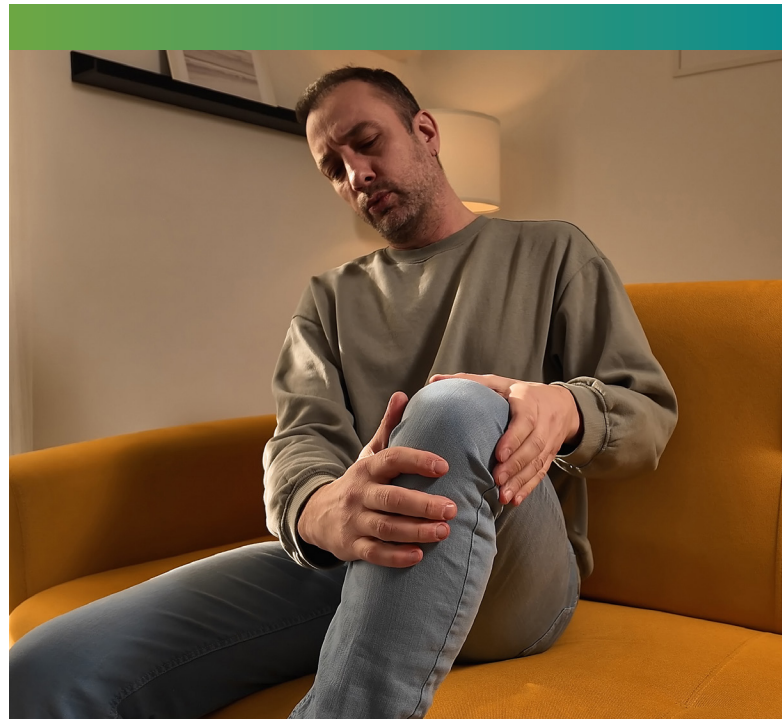
The best and safest place to recover is in your home. More than 90% of patients are ready to be discharged to home after surgery. Very few people require a short stay at a rehabilitation unit or skilled nursing facility after discharge. Your physician and care team will discuss your discharge plan and make any necessary arrangements. This cannot be arranged before surgery and insurance benefits do not automatically guarantee coverage at these facilities.



## Avoid a fall with these precautions

Prepare your home **before surgery** to avoid hazards that could cause a fall after surgery.

- Clear walkways, remove throw rugs and floor clutter, fasten down loose carpet or flooring, move electrical and phone cords, and make sure a walker can fit the space around your bed and chair and into your bathroom.
- Make sure lighting is bright at the entrance and in your home where you will be walking, and that light switches are accessible at room entrances and at the top and bottom of stairs. Replace light bulbs in overhead lights or lamps, install night lights, and place a flashlight near your bed and chair for emergency.
- Check that handrails are sturdy along stairs, and that steps and door thresholds are marked and clearly visible.
- Ensure that your bed height is set to allow your feet to touch the floor as you sit on the side of the bed. Raise or lower the height for ease of lying down and standing up from your bed.
- If your toilet seat is low, obtain an elevated toilet seat and make sure toilet paper is within your reach. For nighttime, consider using a bedside commode.
- Use a sturdy shower chair and place on top of a rubber mat in your tub/shower. If you have grab bars, make sure they are secure. Use a nonskid rug on the bathroom floor.
- Move all necessary items you will use to an area between waist and shoulder height so you won't need to bend over, especially in the kitchen and bathroom.



- Prepare frozen meals or buy pre-cooked meals to eat after you return home. Refer to the anti-inflammatory diet and nutrition guidelines.
- Get a walker basket or a bag to carry items while using the walker.
- Make sure you have a chair to sit in that does not rock, swivel, or roll. If a seat or couch is too low or has a soft cushion, add a firm cushion on top to raise the seat height.
- Obtain a life alert device, if needed. Use a cordless or cell phone and have a list of emergency phone numbers available.

# Checklist

## What to bring to the hospital

### ❑ **Driver's license and medical insurance card**

You will need to bring your driver's license for identification and your insurance cards to the hospital to register for your hospital admission.

### ❑ **Clothing**

Please bring a change of loose fitting shorts or slacks, socks, and under clothes. Tennis shoes or an all-enclosed shoe are needed for therapy. You may also bring pajamas or a nightgown.

### ❑ **Miscellaneous items**

Place your personal items in a bag or suitcase. You may bring personal hygiene items such as deodorant, makeup, tooth brush, shaving kit, dentures, hearing aids, and glasses/contact lenses. Hearing aids, dentures, and contact lenses will be removed before you go to surgery. The suitcase can be brought to you after you are out of the recovery room and admitted to a hospital room.

### ❑ **CPAP/BiPAP machine**

If you use a CPAP or BiPAP machine at home, please have your PAL or a family member bring your machine into the hospital along with your suitcase.

### ❑ **Copayment for medications at the time of discharge from the hospital**

Medication delivery service may be available at the time of discharge. If you wish to use this service, please have your PAL or a family member bring your insurance copayment for medications before you are discharged from the hospital.

### ❑ **Medications**

Please bring prescription eye drops and inhalers to the hospital on the day of your surgery.

### ❑ **Education booklet**

Please bring this education booklet to the hospital. Your nurses and therapists will use it to review information after your surgery.

## What not to bring to the hospital

### ❑ **Wallet or money except copayment**

Please do **not** bring a wallet or money with the exception of necessary copayments for your hospital stay.

### ❑ **Jewelry or valuables**

Please remove all jewelry including wedding bands and earrings or any other piercings and leave them at home.

### ❑ **Walker**

If you have a walker at home, do not bring it to the hospital at the time of surgery. One will be available for you to use during your hospital stay. If you wish to make sure the walker at home is properly fitted for you, have your PAL bring it to the hospital before you are discharged.

## Skin preparation before surgery

- Do not shave the skin near your surgical site for 5 days before surgery.
- Do not shave any area of your body the day before and the day of surgery.
- Change your bed linens the night before surgery or wear clean clothing to bed.

## Pre-surgery bathing instructions

A bottle of chlorhexidine (CHG) antibacterial soap will be given to you at your pre-surgical testing appointment. This soap helps to decrease bacteria on your skin. If you are allergic to chlorhexidine, use liquid Dial® antibacterial soap.

Shower with chlorhexidine antibacterial soap the night before and the morning of your surgery before you come to the hospital:

### Please follow these bathing instructions exactly as written.

- Wash your hair, face, and body as usual with your normal shampoo and soap.
- Rinse your hair and body thoroughly to remove all soap.
- Then, turn off the shower.
- Apply chlorhexidine soap with a clean, wet washcloth to your entire body, **only from your neck down**.
- Do not use this soap on your face, near your eyes or ears, or on your genital area to avoid injury.
- Wash your body thoroughly, **but very gently, for 5 minutes**, paying special attention to your surgical side knee.
- Do not wash with your regular soap after the chlorhexidine soap is used.
- Turn the water back on and rinse your body thoroughly.
- Pat your body dry with a clean, soft towel and wear clean clothing.
- Do not use lotions, creams, or powders.

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**DO NOT eat solid foods, chew gum, or eat candy, mints, or lozenges.**

If you are instructed to take any medications the morning of your surgery, please swallow these with a clear liquid.

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## Clear liquids list

Studies have shown that drinking clear liquids before you leave home for surgery can help your recovery after surgery. The guidelines for liquids have changed to encourage you to drink a low-sugar sports hydration drink (at least 12 oz) and any other approved liquid until 2 hours before you arrive at the hospital.

### Approved clear liquids include:

- Gatorade, G2, or other sports hydration drink
- Water
- Unsweetened tea, cold or hot
- Black coffee, unsweetened

### Liquids NOT allowed include:

- Liquids you cannot see through
- **No** milk, cream, creamers, or sugar in coffee
- **No** milk or milk products (no soy or almond milk)
- **No** orange, grapefruit, or tomato juice
- **No** carbonated beverages
- **No** alcoholic beverages

# Day of surgery

## Check in day of surgery

Please arrive at the hospital at least two hours before your scheduled surgery time. Follow the instructions given to you for check-in.

## Preparation

If you wear nail polish, it may be removed when you arrive for surgery.

If you wear contact lenses, dentures, or hearing aids, you will be asked to remove them before surgery.

## Anesthesia

A staff member from the anesthesia department will review your medical history and recommend the best anesthesia type for you at your pre-surgical testing appointment, or on the day of your surgery. The two common types of anesthesia for total joint replacement surgery are general anesthesia and spinal anesthesia.

**Spinal anesthesia** is a single injection into your lower back that administers a small amount of local anesthetic medication to provide temporary loss of motion, pain, and sensation to the lower part of your body during surgery. You will be asleep with medications given through your intravenous (IV) site.

**General anesthesia** is medication administered through your IV site. After you are asleep, a tube will be placed into your throat to assist with your breathing during surgery. The tube will be removed before you wake up. Your throat may be slightly sore, and you may experience a hoarse voice for a brief time after surgery.

**Regional anesthesia** (nerve block) provides temporary loss of motion, pain, and sensation during surgery, and may be used with spinal anesthesia or general anesthesia to help with pain control postoperatively. A nerve block is a local anesthetic injected around the joint and lasts about 12-24 hours. After surgery, care should be taken to avoid injury to the numb extremity.

## Procedure

- Surgery usually takes one to two hours. Your surgeon will talk to your PAL or family members after the procedure.
- After surgery, you will be taken to the Post Anesthesia Care Unit (PACU) to monitor blood pressure and pain and then you may be moved to a hospital room.
- You may experience blurred vision, dry mouth, chills or nausea when you wake up from anesthesia. You may also have a sore throat if a breathing tube was placed in your throat.



# Hospital stay

## Pain medication and pain control

- If you use narcotic (opioid) medication for pain control before surgery, your pain will be more difficult to control after surgery. Please discuss this with your surgeon and pain management doctor.
- During your hospital stay, your nurse will ask you to describe your pain on a scale of 0-10 using the diagram shown.
- Our goal is to keep your pain at a tolerable level, but you should expect some degree of pain after surgery.
- After surgery your nervous system is more sensitive to pain. Relaxation techniques, cold therapy, and medication reduce this sensitivity.
- Relaxation techniques such as deep breathing and listening to music will help to calm your nervous system and reduce sensitivity to pain.
- Cold therapy is highly effective to reduce pain and swelling after surgery and activity. Use cold therapy at least 20 minutes every hour while you are awake for the first two weeks after surgery.
- Other ways to reduce pain include repositioning and movement such as walking. If you feel anxious or worried, your sensitivity to pain will increase. Talk to your PAL or a member of your care team to assist you.
- The amount and intensity of pain that a person feels differs from one person to another since patients respond differently to pain medications.

- Pain medication is best taken before your pain becomes too severe.
- Ask for medicine when your pain is present and before it gets severe or out of control.
- Different types of medication are given based upon the degree of pain.
- Please tell your nurse if your pain medication is not providing enough relief, or if you don't like the way it makes you feel.
- Opioid medications may cause itching, nausea and confusion. We will try to minimize these normal side effects.

## Activities

- Our goal is for you to get out of bed, sit in a chair, and walk with assistance from a nurse or physical therapist on the day of your surgery.
- Your surgeon will determine which activities are best for you.
- For your safety, and to prevent falls, do not get up by yourself without assistance from a nurse or physical therapist.

## Constipation

- Pain medications and lack of activity may cause constipation after surgery. You will be given medication to help with constipation as needed.
- Drink plenty of fluids and choose foods high in fiber, such as fruits and vegetables, during your recovery. Refer to the recommendations on page 6.

## Meals

- Once you are cleared to eat, meals will be delivered during regular meal times.
- If you have special dietary needs or dietary restrictions, please speak to a member of your care team about meal selection.
- A food and nutrition department staff member will contact you if you forget to order a meal.

## Resting

- Difficulty sleeping is normal and common after knee replacement. It may be a side effect of pain medication.
- You may take Benadryl® or Tylenol PM® (if tolerated) to help with sleeping.
- If insomnia continues, talk with your doctor about other suggestions.



## Home medications during hospital stay

- Your physician will order appropriate medications for you and these will be obtained through the hospital pharmacy department.
- Sometimes not all of your home medications are given to you during your hospital stay.
- Some medications may not look like the medications you take at home, due to different supply companies.
- Please ask your nurse if you have any questions about your medication.

## Breathing exercises / incentive spirometer

- Your doctor will order breathing exercises for you after surgery using the incentive spirometer.
- Bed rest, drowsiness, anesthesia, and pain can make it more difficult for you to take normal deep breaths.
- It is important for you to breathe deeply to help keep your lungs clear and avoid complications, such as pneumonia.



# Therapy

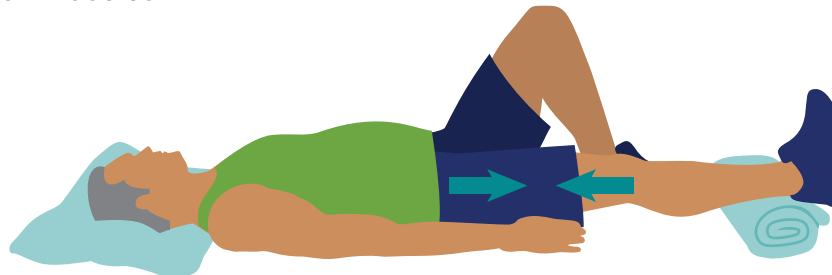
## Exercises to improve muscle strength and range of motion

Strong leg muscles are key to a successful recovery. The following exercises are performed to strengthen your leg muscles and improve range of motion after surgery. Your positive attitude and dedication to these exercises will enable you to regain a more active lifestyle in a shorter period of time. Please do these exercises 3 times every day, up to 20 repetitions each. Therapists will review your exercises with you and may make changes according to your surgeon's preference.

1. **Ankle pumps** - Bend your ankles up and down, alternating your feet.



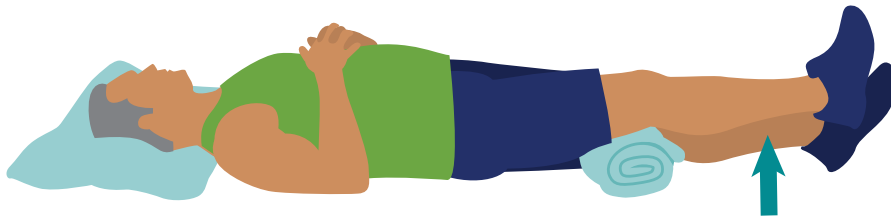
2. **Quad sets** - Lie with a pillow under the heel of your affected knee. Tighten the muscles on the top of your leg while trying to push your knee toward the floor. Hold for 5 seconds, then relax your muscles.



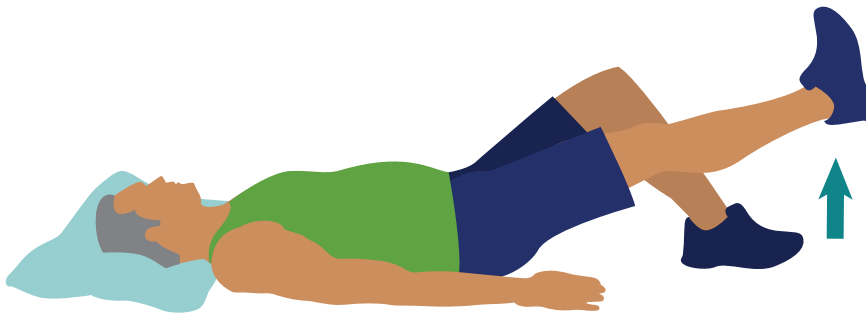
3. **Heel slides** - Bend your affected knee and pull your heel toward your buttocks. Return slowly to the extended position, sliding your heel along the bed.



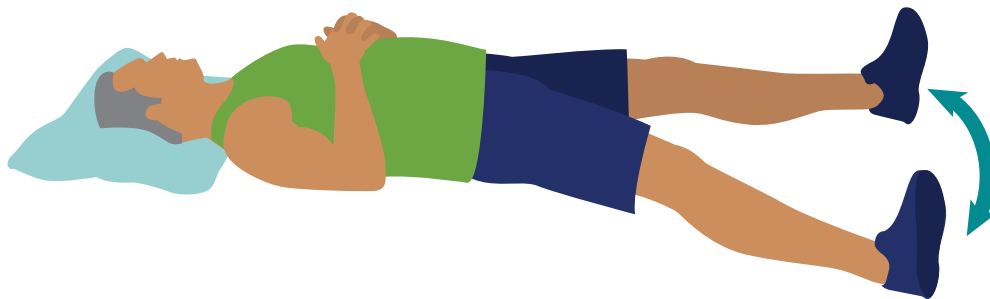
4. **Short arc quads** - While lying on your back with a rolled towel (about 6 inches wide) under your affected knee, slowly straighten your knee to a fully extended position. Hold this position for 5 seconds, then relax your muscles.



5. **Straight leg raise** - While lying flat, bend your unaffected leg. Lift your affected leg 6-8 inches off the bed with your knee locked. Exhale and tighten your thigh muscles while raising your leg. Return your leg slowly to the bed and relax.



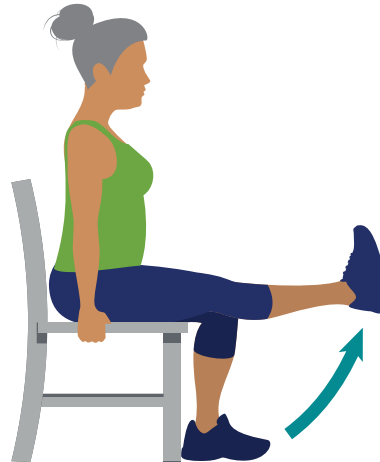
6. **Abduction** - While lying on your back, slide your affected leg out to the side. Keep your kneecap pointing toward the ceiling. Gently bring your leg back to the midline position.



7. **Assisted knee flexion** - While sitting up, extend your legs in front of you. Bend your affected knee and pull your heel toward your buttocks with the assistance of a bed sheet. Hold this position for 20 seconds. Slowly return your leg to the bed.



8. **Long arc quads** - While sitting in a straight chair, straighten your affected leg out in front of you and hold it for 5 seconds. Slowly return your foot to the floor.



9. **Knee flexion** - Scoot forward in the chair so that your knees are not against the seat. Place the foot of your affected leg on a smooth surface. Slowly slide your foot back as far as possible, keeping your foot flat on the floor. Hold this position for 5 seconds, then slide your foot back out to neutral.



10. **Knee flexion against wall** - Sit in a chair with the toe of your affected leg against the wall. Scoot to the edge of the chair. Hold for 20 seconds, then scoot back in the chair and relax.



11. **Prolonged knee extension** – Sit in a chair and prop the heel of your affected leg up on a same-height surface. Let your leg relax, while keeping the top of your knee and toes pointed straight.



## Walker safety

After your surgery a therapist will help you with assistive device and transfer training. Please also watch the training videos using your smart phone or tablet camera to scan the QR code. These videos demonstrate how to use a walker to go up and down steps and stairs; how to safely transfer to car, bed, toilet, and shower; and how to use assistive devices.



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### Remember!

”Up with the good, down with the bad.” Go up with your unaffected leg first, and down with your affected leg first.

# Discharge

## Discharge instructions

- Arrange for your PAL to drive you home from the hospital.
- Discharge time is early afternoon. You will be given discharge instructions, a list of exercises, a prescription for pain medication, and instructions for medications to prevent blood clots.
- Remember to continue the high-protein, anti-inflammatory diet outlined in the nutrition guidelines for surgery recovery for at least 4 weeks after your surgery, or as instructed.

## Avoid falling after surgery

Most falls occur within the first 24 hours after discharge from the hospital. **Review the fall precautions listed on page 8.** Remember:

- Wear supportive shoes or non-skid socks and use your walker or assistive device as instructed. Use a walker basket or a bag to carry items.
- Pause when rising to make sure you are steady on your feet before walking.
- Some medications can make you dizzy, drowsy, or unsteady on your feet. Take medications as directed and eat as instructed with medications.

## Home care

- It may be recommended for you to receive home care visits by a physical therapist and/or nurse for the first few weeks after your knee replacement.
- Someone from your selected home care company will contact you to schedule a home care visit.

## Care for your incision

- Please follow all instructions from your care team as they are directed by your surgeon.
- A bandage is applied during surgery to protect the incision. Leave the bandage in place and follow all instructions from your provider. Your care team will provide instructions on dressing changes.
- Do not shower after surgery until your care team instructs you.
- Always use a clean washcloth to clean the skin around the incision and a clean towel to pat dry the area around the incision. Do not use the same washcloth or towel around your incision that you use on your body for at least 6 weeks.
- Do not soak or submerge your incision.
- Do not use lotion on your incision until you check with your surgeon.
- **If you see redness or drainage, call your surgeon's office.**

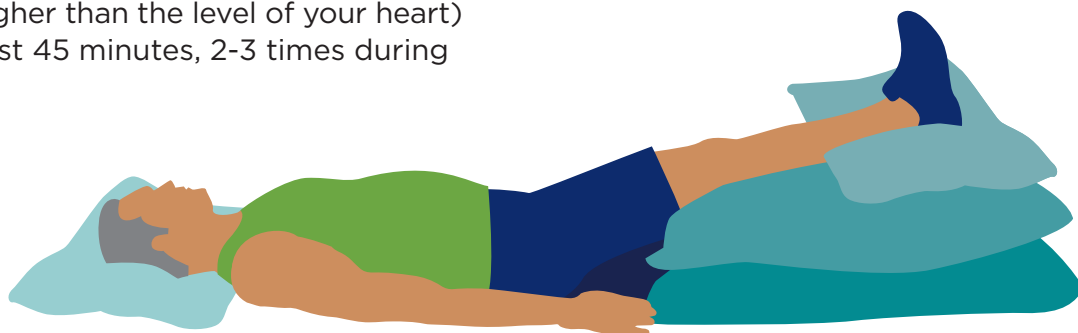
## Preventing infection

- Do not touch or pick at your surgical dressing. Follow all incision care instructions as given by home care staff.
- If you are instructed to change your surgical dressing, wash your hands before and after dressing changes.
- Use proper hand washing after toileting, after blowing your nose, and before and after eating.
- Do not allow pets near your surgical site.
- Wear clean clothes and wash your bedding frequently. Replace any soiled bedding immediately.
- Ask your surgeon about taking antibiotics before any invasive dental work after your surgery.
- Shower as instructed, NO TUB baths.



## Swelling

- Swelling is expected after surgery during your hospital stay and at home when you are more active. Swelling may continue for several months.
- The most common areas for swelling are the foot, ankle, calf, knee, thigh, and hip.
- Use cold therapy to help reduce pain or swelling. Place a cold pack on the surgical area for 20-30 minutes every hour while you are awake. DO NOT sleep at night with the cold pack in place because it will get too warm.
- Elevate your leg on pillows (so that your foot is higher than the level of your heart) for at least 45 minutes, 2-3 times during the day.



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## When to call 911

A blood clot in the leg can move to the lung, which can be very serious.

### Call 911 if you have any of these symptoms:

- Shortness of breath
- Chest pain
- Coughing up blood
- Unexplained anxiety, especially with breathing

### Call 911 for any symptom of stroke:

- Sudden numbness or weakness of face, arm, or leg, especially on one side.
  - Sudden confusion or trouble speaking or understanding speech.
  - Sudden trouble seeing in one or both eyes.
  - Sudden trouble walking, dizziness, or loss of balance or coordination.
  - Sudden severe headache with no known cause.
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## When to call your doctor

Please contact your surgeon right away if any of the following occurs after surgery:

- Wound concerns:
  - Increase in redness, separation, or gap along the edges of incision
  - Drainage that is increasing, foul smelling, or an unusual color
- Pain, redness, or excessive tenderness in your leg or calf
- Excessive swelling in your foot, ankle, calf, or thigh
- Ankle swelling that does not go down during the night
- Pain that does not improve or go away with medication, ice, and elevation
- Fever higher than 101° F
- Blood in the stool or urine
- Constipation not relieved by use of over-the-counter laxatives or stool softener
- Nausea or vomiting

All calls during office hours will be returned as quickly as possible.

If you call after office hours, you will be directed to the exchange or after business hours telephone number. The on-call surgeon who returns your call may not be your surgeon, but he or she will be able to address your concerns.

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**Note:** Your home care nurse or therapist can also assist you. Please talk to them about any of your health-related concerns.



## Medications

- Patients usually take some kind of prescription pain medication for a few weeks after knee replacement surgery. Every week you should reduce the amount of pain medication used.
- Prescriptions and instructions for pain and blood-thinning medications will be given to you when you are discharged from the hospital.
- All medication refills, including pain medication, will only be handled during regular office hours.
- Please call your surgeon 2-3 days before you need a prescription refill.

## Return to driving

- Depending on which leg is affected, most patients usually can return to driving 3-6 weeks after surgery.
- Do not drive if you are taking prescription (opioid) pain pills or do not feel safe.

## Return to work

- If your work is sedentary, such as an office job, you may return to work about three to four weeks after surgery.
- If your work requires that you spend most of the time standing, walking or climbing, it may take up to 3 months before you can return to full duty.
- You can discuss a date to return to work with your surgeon at your first postoperative visit.

## Return to activities

- Eventually you may return to most activities as tolerated, including walking, gardening, and golf.
- Some of the best activities to help with motion and strengthening are swimming and use of a stationary bicycle.
- You should avoid running, jumping, and sports such as singles tennis, basketball, football, hockey, or skiing.

## Return to exercise

- Exercise is essential for successful knee replacement recovery and a healthy lifestyle.
- Your surgeon will tell you when you can start riding a stationary bicycle, walking or swimming for exercise, and returning to more active sports.

## Traveling after total joint replacement surgery

- Your surgeon will tell you when it is safe to travel.
- It is recommended that you get up to stretch or walk at least once an hour when taking long trips. This is important to help prevent blood clots in your legs.
- It is likely that your metal knee replacement will set off metal detectors in airports, bus stations, or government buildings.
- You need to inform the security staff that you have a joint replacement before going through the scanner.
- Security staff may use a hand-wand over your leg.

## Dental work after surgery

- You do not need to take antibiotics before routine dental cleaning and check-up appointments. You will need to take antibiotics before invasive dental work following your surgery.
- If your surgeon instructs you to take antibiotics, most dentists will order this medication for you. If the dentist wants the surgeon to order the antibiotic, please call your surgeon's office at least one week before your dental appointment and provide your name, date of birth, and a pharmacy telephone number.

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Please remember to tell your dentist or surgeon if you are allergic to penicillin as this type of drug is usually ordered before any dental procedures.

# Frequently asked questions

## What is the recovery time?

- Patients heal from surgery at different rates.
- In most cases, you will use a wheeled walker for 2-4 weeks after surgery.
- Your home care physical therapist will tell you when to progress to a cane, if necessary for safety.
- You will gradually return to normal activities of daily living without using any assistive devices in about three months.

## What are the best positions for my knee during recovery?

- You should spend some time each day working on both knee flexion (bending the leg) and extension (straightening the leg).
- Work on bending your leg when you are up in a chair and extending your leg while lying down.
- It is a good idea to change positions every 30 minutes during the day.
- Avoid placing a pillow or bolster directly under your knee. See illustration on page 19 for how to properly elevate your leg.

## Can I kneel?

- Kneeling may be painful at first due to the skin incision and tissues healing.
- After several months, you can try to kneel. It will not be harmful or damaging to your knee.
- Kneeling generally becomes more comfortable as time passes. A pad or cushion usually helps decrease discomfort from kneeling.

## When can I resume sexual intercourse?

- Sexual activity may be resumed as soon as you are comfortable.

## May I use weights when I exercise?

- Weights generally are not used for the first few months after surgery.
- As you progress with your physical therapy program, your surgeon may recommend the use of light weights.
- Always ask your surgeon or therapist before using weights.

## When may I return to a swimming pool?

- You may return to swimming in a chlorinated pool approximately 6 months after surgery.
- This may be delayed if your surgeon has any concerns about the healing of your skin incision.

## May I drink alcoholic beverages during my recovery?

- If you are taking a blood-thinning medication, you should avoid alcoholic beverages because they can change the effect of this medication.
- You also should avoid alcohol if you are taking opioid medications.

## Why does my thigh hurt above my knee after surgery?

- A tourniquet is used around the upper thigh during surgery to slow the blood supply to your knee. Some people may feel discomfort in the thigh for a few days, but it will resolve.

## I feel depressed, is this normal?

- It is not uncommon to have feelings of depression after surgery. Depression can be caused by a number of things, such as limited mobility, discomfort, increased dependency on others, and medication side effects.
- As you recover from surgery and return to regular activities, feelings of depression usually decrease.
- If you believe your depression is not improving, call your primary care provider or 800-273-TALK (8255) to talk to someone about your feelings of depression.

## Is swelling, numbness, or a clicking sensation normal?

Some normal symptoms you may experience include:

- Swelling after exercise or at the end of the day
- Feeling of warmth around the knee
- An area of skin numbness on the outside part of the knee
- An occasional clicking sensation inside the knee

## I think my leg feels longer now, is this possible?

- Your leg length generally will be unchanged.
- In some cases, the leg will feel lengthened because you are now able to straighten your leg.
- This may feel awkward or unusual at first, but will feel more normal with time.

## How long will my total knee replacement last?

- How long a knee replacement lasts is different for each person.
- At 15 years after surgery, 90% of people have not needed another surgery on that knee.

## How much range of motion do I need?

- Final knee ROM can vary based on the patient. Most patients should aim to achieve 0-120 degrees by 3 months after surgery.
- Most people require 70° flexion (knee in a bent position) to walk normally on level ground, 90° to walk up stairs, 100° to walk down stairs, and 105° to get out of a low chair.
- Your knee should almost be fully straight to be able to walk and stand normally.

## When do I return for follow-up appointments?

- Follow-up appointments with your surgeon after surgery are an important part of a successful recovery.
- Your surgeon will inform you when an office visit is needed. You will be asked to answer a short questionnaire through MyChart about your knee pain and function to monitor your progress.
- Although the risk of infection in your joint is low in the months and years after the incision has healed, please call your surgeon's office immediately if you develop redness, pain, or swelling in your joint.



