Your Pathway to Knee Replacement Recovery
Welcome to the SSM Health Orthopedics unit, 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 comfortable and relaxed environment 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!

Mission Statement
Through our exceptional health care services, we reveal the healing presence of God.

Values
Compassion | Respect | Excellence | Stewardship | Community

ssmhealth.com/orthopedics
Introduction

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 will be admitted to the hospital on the day of your surgery. The surgical procedure will take approximately one to two hours. You will stay one to three days on a joint replacement/orthopedic surgical unit.

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 commode; 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 this is a low risk, infection can be a major complication of surgery.
- Some activities to help prevent infections include: pre-surgical lab work and nasal screenings, antibacterial soap showers, frequent hand washing by patients, staff and visitors, and proper nutrition.
- Contact your surgeon if you develop a fever, flu/cold like symptoms or any open sores or wounds 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, elastic stockings, mechanical devices to help circulate blood in your legs, ankle pump exercises and physical therapy.
- 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 7% of patients require a blood transfusion after joint replacement surgery.

A successful recovery requires your active participation during your hospital stay and at home, and following all instructions after surgery.
Preparation for Surgery

**Surgery Scheduling**
The staff at your surgeon’s office is responsible for scheduling your surgery. You will receive a call from the hospital to confirm the time of your procedure and when to arrive at the hospital.

**Joint Replacement Education Class**
Register to attend an hour-long class at the hospital to help you prepare for surgery. Information about the schedule and how to register for the class is located in the front pocket of your booklet.

Your surgeon recommends that you attend this class, and bring a PAL (your Personal Arthroplasty Liaison who is an adult family member or friend). Your PAL(s) should be willing and able to:
- drive you home the day of discharge
- stay with you at your home, or their home if needed, after discharge
- help you with meals, errands, and transportation for the first few weeks you are home
- drive you to any therapy appointments and to your first postoperative clinic appointment
- be a contact for you, if needed, during the first 90 days after discharge from the hospital

Research has shown that patients who attend education classes have better results. Nurses and therapists will discuss how to prepare for surgery, and what to expect during your hospitalization and recovery period. Please bring this booklet to class and to the hospital on the day of your surgery.

**Pre-Surgical Testing**
Please refer to the information on the inside pocket of your booklet about how to schedule an appointment for testing before surgery. Appointments need to be scheduled 2-4 weeks before surgery 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, X rays and a nasal screen. Surgeons may also require medical, cardiac or dental clearances before your surgery.
Nasal Screen

- Exposure to bacteria or germs that are present inside and outside of the hospital can cause an infection in your joint. We test for two types of bacteria: *Methicillin Resistant Staphylococcus aureus* (MRSA) and *Methicillin Sensitive Staphylococcus aureus* (MSSA).

- These common types of bacteria are often found on your skin, and may be present in your nose. To identify and properly manage Staph bacteria, we will obtain a nasal swab before your surgery.

- **If your nasal screen is positive**, you will be contacted and given instructions for treatment.

- It is **very important** to follow the instructions and complete the five days of treatment before surgery.

Dental Work

- Any necessary minor dental work, routine teeth cleaning or a dental checkup should be completed before your joint replacement surgery.

- If you need **major** dental work, please discuss this with your surgeon, including treatment for an infected or abscessed tooth. Scheduling a date for surgery will be delayed to allow time for sufficient healing.

- It is usually recommended that you avoid routine dental work for at least six weeks after your joint replacement.

- After your surgery, please check with your surgeon about the necessity of taking antibiotics before going to the dentist.

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 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.

- Make sure lighting is adequate at the entrance to your home and 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 and place a flashlight near your bed and chair for emergency.

- Check that handrails are sturdy along stairs, and that steps are marked and clearly visible.

- Remember, some medications can make you dizzy, drowsy or unsteady. Take medications as directed and eat as instructed with medications.

- Obtain an elevated toilet seat, if needed, and make sure toilet paper is within reach.

- Use a sturdy shower chair on top of a rubber mat in your tub or shower and if you have grab bars, make sure they are secure. Use a nonskid rug on the floor.

- Wear supportive shoes and use your assistive device as instructed. Use a walker basket or a bag to carry items.

- Avoid sitting in chairs that rock, swivel or roll. If a seat is too low or has a soft cushion, use a foam cushion to firm and raise the seat height.

- Use a cordless phone and keep a list of emergency numbers available.
Medications

• It is important that your hospital record includes a current list of all your medications.

• For safety and accuracy, please bring all 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.

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

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

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.

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), Arthrotec® (ciclofenac sodium) or rheumatoid arthritis medications such as Trexall® (methotrexate)

• All non-prescription anti-inflammatory drugs such as Advil®, Aleve®, ibuprofen or naproxen

• Glucosamine and chondroitin sulfate

• All herbal medications such as fish oil, flaxseed oil, primrose oil, ginkgo, echinacea or St. John's wort

• Vitamin E capsules

• Weight-loss medications

It is safe to continue Celebrex® (celecoxib) unless your surgeon instructs you to stop this medication.

You may take Tylenol® medications for pain or headache any time before surgery, as long as you are not allergic or sensitive to Tylenol®.

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.

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 of your other medications with you to the hospital. Your doctor will order appropriate home medications to be given to you after surgery.
Nutrition Guidelines

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. For at least 2 weeks before surgery, and 4 weeks after surgery, eat 5-6 small meals with protein in each meal, with a goal of eating 100 grams of protein every day (unless your doctor restricts high protein).

We recommend a high-protein, anti-inflammatory diet to optimize recovery. See the Nutrition Guidelines for Surgery Recovery sheet in the front pocket of this booklet. Some suggestions include:

- Eat fruit 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.
- 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. They also can help your body recover after surgery.
- You may wish to try over-the-counter products such as Premier Protein®, Ensure®, Boost®, Carnation Instant Breakfast®, 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 Table of Contents page in the front pocket of this book. If you are on a special diet, check with your primary care physician before making any dietary changes.

Avoiding and Relieving Constipation

Many factors contribute to constipation, including a sedentary lifestyle, use of 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® (hydrocodone with Tylenol®), Percocet® (oxycodone with Tylenol®), Oxy-IR® or Oxycontin® (oxycodone), Tylenol® with codeine, Ultram® (tramadol) and Ultracet® (tramadol with Tylenol®).

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).
- Increase privacy and time for toileting (up to 30 minutes).
- When you feel the urge to use the bathroom, don’t hold it.
- Avoid using bulk laxatives (Metamucil®, 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® cereal, peas, banana).
The following medications are recommended to prevent constipation while taking opioid medications:

- Take a stimulant laxative twice daily (Senna S®, dulcolax tablets, milk of magnesia or cascara with or without Colace*). If diarrhea develops, take only at bedtime.
- Use Miralax* 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.

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

It would be ideal to reduce by half the amount of narcotics you currently take before your surgery.

**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.

**Flu/Pneumonia Vaccines**
It is fine to get a flu and/or H1N1 vaccine or a pneumonia vaccine before or after your surgery, with permission from your primary care physician. During flu season, a flu vaccine may be offered to you during your hospital stay, if you have not received the vaccine before your admission.
Living Will and Advance Directive

- A hospital staff member will talk to you about advance medical directives (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 admission.

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.

General anesthesia is medication administered through your intravenous (IV) site. After you are asleep, a tube is placed in your trachea (windpipe) to assist with your breathing during surgery, then removed before you wake up. Your throat may be slightly sore and you may experience a hoarse voice for a short time following surgery.

Spinal anesthesia is medication injected into the space of your lower spine to produce numbness and loss of pain and sensation during your surgery. Medications to help you relax will also be administered through your IV during your surgery.

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 their brief hospital stay, 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, will come to your home within the first two days after your discharge from the hospital.

A small number of patients may 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.

Equipment

Your hospital and therapy staff will make arrangements for any equipment needed for your care at home. 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.
Day Before Surgery

Pre-Surgery Bathing Instructions

Chlorhexidine 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.

*Please follow these bathing instructions exactly as written.*

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

- Do not shave any area of your body the day before and the day of surgery.
- Wash your face and genital area with regular soap and rinse.
- Wash your hair as usual with your normal shampoo.
- Rinse your hair and body thoroughly after you shampoo to remove all shampoo soap.
- 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 site.
- 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.
- Do not use lotions, creams or powders.
- Change your bed linens the night before surgery and wear clean clothing to bed.
Pre-Surgical Exercises

Strong leg muscles are key to a successful recovery. Perform the following exercises to help prepare your leg muscles for the surgery. Please do these five exercises one to two times each day, 10 repetitions each, as tolerated, until your surgery.

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

![Ankle pumps illustration]

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 this position for 5 seconds, then relax your muscles.

![Quad sets illustration]

3. Heel slides — While lying flat, bend your affected knee and pull your heel toward your buttocks. Return your leg slowly to the extended position, sliding your heel along the bed until your knee is no longer bent.

![Heel slides illustration]
4. **Abduction** — While lying flat, slide your affected leg out to the side. Keep your kneecap pointing toward the ceiling. Gently bring your leg back to the midline position.

5. **Straight leg raise** — While lying flat, bend your unaffected leg. Exhale and tighten your thigh muscles while raising your affected leg 6-8 inches with your knee locked. Inhale as you lower your leg slowly to the bed.
DO NOT
Eat or drink anything after midnight the night before surgery.

If you are instructed to take any medications the morning of your surgery, please take these with the smallest sip of water necessary to swallow.

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. Also bring any copayment required for your hospital stay.

- **Clothing**
  Please bring a few changes of loose fitting shorts or slacks, socks and under clothes. Tennis shoes or an all-enclosed shoe are needed for therapy. You also may 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, toothbrush, 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 a family member bring your machine to your room in the hospital.

- **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 a family member bring your insurance copayment for medications before you are discharged from the hospital.

What Not to Bring to the Hospital

- **No wallet or money**
  Please do not bring a wallet, money or any other valuables with the exception of necessary copayments for your hospital stay.

- **No jewelry**
  Please remove all jewelry including wedding bands and earrings or any other piercings and leave them at home.

- **No 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 discharge.
Day of Surgery

Check In Day of Surgery
Please arrive at the hospital at the time instructed during your pre-surgical call. The directions to the surgical department are located in the inside pocket of your booklet.

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.

Procedure
• Surgery usually takes one to three hours. Your surgeon will talk to your family members or friends in the waiting area after the procedure.
• After surgery, you will be taken to the Post Anesthesia Care Unit (PACU)/recovery room to monitor your condition and then 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.
  • Family members and friends may visit with you once you are moved to your hospital room.
  • Many of our SSM Health hospitals have private rooms and can accommodate one adult to stay overnight, if necessary.
Hospital Stay

Pain Medication and Pain Control

- During your hospital stay, your nurse will ask you to describe your pain on a scale of 0-10.
- A multi-modal approach to pain control is used. You will receive medication and cold therapy to help control your pain after surgery. Other modes include repositioning and relaxation techniques.
- Our goal is to keep your pain at a tolerable level, but you should expect some degree of pain after your procedure.
- The amount and intensity of pain that a person feels differs from one person to another.
- Pain medication is best taken before your pain becomes too severe.
- Ask your nurse for medicine before your pain becomes severe.
- 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 have concerns about the way it makes you feel.
- Narcotic medications may cause itching, nausea and confusion. We will try to minimize these normal side effects.
- If you use narcotic medication for pain control before surgery, your pain will be more difficult to control after surgery. Please discuss this with your surgeon.

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.

Smoking Policy

- To promote an optimal recovery environment for our patients, our entire hospital campus is a tobacco-free facility.
- Smoking tobacco, chewing tobacco, E-cigarettes or electronic cigarettes by employees, patients and visitors, including inside and outside the hospital campus, is not allowed.
- Now is an ideal time to quit smoking to promote wound healing. Consider calling an online coach for help, 1-800-QUIT-NOW.
Meals
• After your surgery, you first will be given ice chips.
• Once you can tolerate eating, we provide meals “at your request.” You may call the food and nutrition department using your bedside phone to order your meals during regular meal times.
• A food and nutrition department staff member will contact you if you forget to order a meal.
• Patients also may order guest trays from the menu in the room for family or friends for a small fee.

Activities
• Most patients will be able to get out of bed the day of 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.

Home Medications during your 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.

IV (intravenous) Fluids and Medications
• You will receive IV fluids and IV medications until the morning after surgery.
• IV antibiotics will be given to you during the first 24 hours of your hospitalization to help prevent infection.

Breathing Exercises / Incentive Spirometer
• Your doctor will order breathing exercises for you after surgery.
• 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

Post-Operative Exercises

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 three times every day, up to 20 repetitions each. Therapists will review your exercises with you during your hospital stay 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 this position for 5 seconds, then relax.
3. **Heel slides** – While lying flat, bend your affected knee and pull your heel toward your buttocks. Lower your leg slowly to the extended position, sliding your heel along the bed.

![Heel slides diagram]

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.

![Short arc quads diagram]

5. **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.

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

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 forward to the edge of the chair. Hold this position for 20 seconds, then scoot back 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 up. Hold this position for 2-5 minutes.
Walker Safety

Physical Activity General Instructions:
1. Walk slowly and carefully, putting weight (weight bearing) as tolerated on your affected leg.
2. Remove loose rugs or other small obstacles from the floor which could cause you to trip or fall.
3. Have someone walk with you until you feel steady on your feet, especially when you go up or down steps or walk on uneven surfaces.
4. Use your walker until your therapist progresses you to use a cane.

To stand up:
1. Be sure your walker is directly in front of you.
2. Scoot to the front of the surface you are sitting on.
3. Do not pull up with the walker.
4. Push up using an arm rest or surface to stand.
5. For comfort, place your affected leg forward and stand up on your unaffected leg.
6. When you are balanced or feel steady on your feet, place your hands on the walker.

To walk:
1. Roll the walker to a comfortable distance in front of you.
2. Take a step with your affected leg and then take a step with your unaffected leg.

To sit down:
1. Back up until you feel the surface against the back of both legs.
2. Place the affected leg forward for comfort.
3. Reach back for the armrests or surface.
4. Slowly lower to sitting, allowing your affected leg to slide forward as needed for comfort.

REMEMBER!
"Up with the good, down with the bad."
Go up with your unaffected leg first, and down with your affected leg first.
To go up one step forward:
1. Walk to the step. Be sure your walker is touching the step.
2. Lift the walker and place all four legs of the walker on the step.
3. Push down on the walker with your arms and step up on the step with your unaffected leg. Then, bring your affected leg up on the step.

To go down one step forward:
1. Walk with your walker up to the edge of the step.
2. Place all four legs of the walker on the floor in front of the step.
3. Walk your feet up to the edge of the step.
4. Push down on the walker with your arms and step down with your affected leg and then step down with your unaffected leg.

To go up one step backward:
1. Back yourself up to the step with your walker. Be sure your walker and your heels are touching the step.
2. Push down on the walker with your arms and step up on the step with your unaffected leg.
3. Bring your affected leg up on the step, then bring your walker up on the step.
4. When you reach the top, walk backwards with the walker a few steps and then turn around with the walker.

To go up consecutive steps:
1. Place your feet close to the step.
2. Use assistive devices, if available, as instructed by your therapist such as rails, crutches, cane, handheld assistive device, or gait belt.
3. Go up one step at a time. Lead or start with your unaffected leg first, then bring up the affected leg to the same step.
4. Proceed with the remaining steps in the same fashion.

To go down consecutive steps:
1. Place your feet close to the edge of the step.
2. Use assistive devices, if available, as instructed by your therapist, such as hand railings, crutches, cane, hand-held devices, or gait belt.
3. Go down one step at a time starting with your affected leg first and then bring down your unaffected leg to the same step.
4. Proceed with the remaining steps in the same fashion.

Remember! Go up with the unaffected leg first and down with the affected leg first.
Car Guidelines

Getting into a Car
1. On the passenger side, make sure the car seat is as far back as possible. You may want to recline the seat to give you as much room as possible to swing your legs into the car.
2. Stand with your back toward the car.
3. Sit on the edge of the seat, slide yourself back. (Sitting on a plastic bag may make it easier to slide.)
4. If you have extra-long legs, be sure to scoot back as far as you can.
5. Swing your legs into the car. You may need someone to help with this.

Getting out of a Car
1. Move the car seat backwards and slightly recline the seat.
2. Keeping your legs together, slowly swing both legs out of the car. You may need someone to help you with this.
3. Scoot to the edge of the car seat.
4. With the walker in front of you, push up to a standing position by placing your hands on the dashboard and car seat or frame of car.
5. **Do not** pull up to a standing position using the car door or walker.
6. For comfort, place your affected leg forward and stand up on your unaffected leg.
7. When you are balanced and feel steady on your feet, place your hands on the walker.
Discharge Instructions

- You will need to have someone drive you home from the hospital.
- You will be given an approximate discharge time, discharge instructions, a list of therapy exercises, a prescription for pain medication and sometimes a prescription for medications to prevent blood clots.
- Remember to continue the high-protein, anti-inflammatory diet outlined in the Nutrition Guidelines for Surgery Recovery handout for at least 4 weeks after your surgery.

Home Care

- It may be necessary for you to receive home care visits by a physical therapist and/or nurse for the first few weeks after your knee replacement surgery.
- You may choose your home care company unless your insurance has any limitations. A hospital case manager will provide a list of home care companies. After you make your selection, the case manager will contact that company to schedule your home care.
- Someone from your selected home care company will contact you to schedule your home care visits.

Care for Your Incision

- If your skin is closed with staples, they will be removed 10 to 14 days after surgery.
- A bandage is applied to protect the incision. This will be changed as needed.
- Your home care staff will provide supplies and instructions on dressing changes.
- You will be given instructions when it is safe to take a shower after surgery. Usually you may shower (no tub baths) if your wound is closed and has been dry (not draining) for 24 hours.
- Do not use lotion on your incision until you check with your surgeon.
- Please follow all instructions from your home care staff.
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.
- To help manage swelling, lie with your surgical leg elevated on pillows, so that your foot is higher than the level of your heart, for at least 45 minutes, two to three times during the day.
- To help reduce pain or swelling, place a cold pack on the surgical area for 20-30 minutes every hour while you are awake.

Medications

- Patients usually take some kind of pain medication for a few months after knee replacement surgery. Every week you should decrease the amount of pain medication used.
- Prescriptions for pain and blood thinning medications will be given to you on the day of your discharge from the hospital.

When to Call Your Doctor

We want to help you avoid an unnecessary ER visit or hospital readmission. Call your surgeon's office immediately if any of the following signs or symptoms occur after surgery:

- Wound concerns:
  - Increase in redness, separation or gap along the edges of the incision
  - Drainage that is increasing, foul smelling, an unusual color, or that continues more than 7 days after surgery
- Pain, redness or excessive tenderness in your leg or calf
- Excessive swelling in your foot, ankle, calf or thigh
- Ankle swelling that does not improve overnight
- Pain that does not improve or go away with medication, ice and elevation
- Fever greater than 101.5 degrees
- Blood in the stool or urine
- Constipation not relieved by use of over-the-counter laxatives or stool softener
- Nausea or vomiting caused by pain medication.

All medication refills, including pain medication, will only be handled during regular office hours.

Note: Your home care nurse or therapist can also assist you. Please talk to them about any of your health related concerns.
## When To Call 911

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

**Call 911 if you experience any of these symptoms:**
- Shortness of breath
- Chest pain
- Coughing up blood
- Unexplained anxiety, especially with breathing

**Call 911 if you have 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.

## Return to Driving

- Depending on which leg is affected, most patients usually can drive three to six weeks after surgery.
- Do not drive if you are taking narcotic pain pills or do not feel safe.

## 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.

## Dental Work after Surgery

- You will need to take antibiotics before any dental work following your surgery.
- Most dentists will order this antibiotic 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.

*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.*

## 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.
- Due to increased security, we no longer provide cards or letters to use while traveling. You need to inform the security staff that you have a joint replacement before going through the scanner.
- Security staff will use a hand-wand over your leg if needed.
Frequently Asked Questions

How long will I be in the hospital?
• The average length of stay after joint replacement surgery is one to three days.
• Your length of stay is determined by your physical and medical condition, pain control and how well your skin incision is healing.

Do I need physical therapy?
• Physical therapy is a very important part of your recovery after surgery.
• You will be seen by a member of our physical therapy staff after your operation and throughout your hospital stay.
• Once you are discharged home, a physical therapist may visit you two to three times a week, for a few weeks after surgery.
• After your home physical therapy is completed, some patients may need to go to an outpatient physical therapy facility for a few weeks.

What is the recovery time?
• Patients heal from surgery at different rates.
• In most cases, you will use a wheeled walker for two to four weeks after surgery.
• Your home care physical therapist will progress you 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.

How long will I need pain medication?
• It is not unusual to be on some form of pain medication for up to three months after your surgery, with the goal to take less pain medication every week.
• Most patients are able to gradually stop their prescription pain medication and change to an over-the-counter medication such as Tylenol® (acetaminophen). Do not take anti-inflammatory medications (i.e. ibuprofen, Advil®, etc.) until advised by your surgeon.
• If you have taken narcotic pain medication before surgery, your pain may be more difficult to control after surgery.

How long will I be on blood thinner?
• Based upon your medical history, your surgeon will determine the type of medication and the length of time you need to take blood-thinning medication after surgery.
I am constipated, what should I do?

- Many pain medications cause constipation. Review the recommendations on page 6.
- Drink plenty of water and eat foods high in fiber such as fruits and vegetables.
- An over-the-counter laxative can be taken for problems with constipation. You may ask a pharmacist for recommendations.
- Sometimes, a suppository or enema may be required to relieve constipation.

When can I 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 three 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.

Should I apply ice or heat?

- Initially, ice is most helpful to reduce postoperative swelling.
- Applying heat to your surgical leg should be avoided for 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 leg) and extension (straightening leg).
- Work on extension of your leg while lying down and flexion when you are up in a chair.
- It is a good idea to change positions every 30 minutes during the day.
- Avoid placing a pillow or roll under your knee.

How long should I wear elastic stockings?

- Elastic stockings may be ordered when you go home. They are used to help decrease calf and ankle swelling.
- If you are wearing elastic stockings, take them off at bedtime.

What activities are permitted following surgery?

- 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.
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.

Can I go up and down stairs?

- A physical therapist will teach you how to go up and down stairs.
- At first, you will go up the stairs starting with your unaffected leg and you will go down the stairs starting with your affected leg.
- As your muscles get stronger and your motion improves, you will be able to go up and down stairs in a more normal fashion.

Can 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 pool approximately six weeks after surgery.
- This may be delayed if your surgeon has any concerns about the healing of your skin incision.

Can I drink alcoholic beverages during my recovery?

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

I have difficulty sleeping (insomnia), is this normal?

- Difficulty sleeping is a common complaint after knee replacement. Please check with your doctor about medication to help you sleep.
I feel depressed, is this normal?

- It is not uncommon to have feelings of depression after surgery.
- Depression may be caused by a number of things, such as limited mobility, discomfort, increased dependency on others and medication side effects.
- As you return to regular activities, feelings of depression typically decrease.

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.

What range of knee motion should I expect after surgery?

- Range of motion varies and depends on many individual factors.
- The average patient achieves approximately 120 degrees flexion by one year after surgery.

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 knee replacement lasts is different for each patient.
- At ten years after surgery, 90 percent of patients have not needed further surgery.

How much range of motion do I need?

- Most people require 70 degrees of flexion (knee in a bent position) to walk normally on level ground, 90 degrees to walk up stairs, 100 degrees to walk down stairs and 105 degrees to get out of a low chair.
- Your knee should almost be fully straight to be able to walk and stand normally.

REMEMBER!

Follow-up appointments with your surgeon after surgery are an important part of a successful joint replacement recovery.