

Patient Education:

Knee Replacement Surgery





Johns Hopkins Hip and Knee Replacement Program

Thank you for choosing Johns Hopkins for your knee replacement surgery. We use a team-based approach, and you are the most important person on this team!

The Johns Hopkins Hip and Knee Replacement Program is dedicated to the care of patients undergoing hip and knee replacements. Patients are admitted on the day of surgery and are usually discharged on the first or second post-operative day.

What is Arthritis? Why Does My Knee Hurt?

In the knee joint, there is a layer of smooth cartilage on the lower end of the femur (thigh bone), the upper end of the tibia (shin bone), and the undersurface of the kneecap (patella). This cartilage serves as a cushion and allows for smooth motion of the knee. Arthritis develops when the smooth cartilage wears away. The knee can then become stiff, swollen and painful. Eventually, the cartilage can wear down to the bone and the bones can rub against one another, causing more pain.

What is a Total Knee Replacement?

A total knee replacement is really cartilage replacement with an artificial surface. The knee itself is not replaced. An artificial substitute for the cartilage is inserted onto the end of each of the bones. This is done with a metal alloy on the end of the femur and tibia, with a medical-quality plastic inserted between them. The cartilage on the undersurface of the kneecap also can be replaced with plastic. Replacement of the worn cartilage with the metal and plastic implant creates a new, smooth cushion and a functioning joint.

Although not a normal knee, a replaced knee provides relief from the arthritis pain. Most patients have a marked decrease in their pain with substantial improvement in function after a knee replacement, which allows them to remain active and enjoy activities that had been limited because of pain.



What are the Major Risks?

There are known risks to having knee replacement surgery. Infection and blood clots are two serious complications that concern us the most. To lower your risk of infection, we ask you to wash before surgery with special cloths. We routinely use antibiotics in the operating room. To help protect you from blood clots, we use a blood thinner—most commonly aspirin—after surgery.

As with all orthopaedic surgery, there is the risk of nerve or blood-vessel injury, as well as fracture. Additionally, the implants that are placed can become loose from the bone or the plastic can wear away over time. Your surgeon will review these risks with you in greater detail.

What Type of Anesthesia will I Have?

Different types of anesthesia are possible for your surgery. Your surgeon and anesthesiologist will discuss your options with you before your surgery.

Several factors will be considered, including:

- Past experience with surgery
- Health and physical condition
- · Reactions or allergies to medicines
- · Risks of each type of anesthesia
- Preferences of your surgical team

We prefer spinal anesthesia for most of our patients undergoing total joint replacement surgery. Spinal anesthesia numbs you below the waist and helps you wake up quickly, resulting in less risk of nausea than general anesthesia. We also will give you sedation so you are comfortable during the surgery.

Selecting a Coach

Please select someone who will help you through your joint replacement process. This person can be a family member or good friend—someone you can count on to be there to help you. Your coach will go to therapy sessions while you are in the hospital and be present during your discharge education. It is great to have someone who will support you during this time.



Joint Replacement Class

We offer a very informative class to help you and your coach prepare for your upcoming surgery. This class reviews important aspects of your care and what to expect during and after your hospital stay. You will meet many of the staff who will be caring for you during your stay and have a chance to have all of your questions answered. Please call 410-550-4972 to register.

How Long will I be in the Hospital?

Many of our patients who have a total knee replacement go home as early as the next day; some may stay as long as 2 days. You will have physical therapy beginning on the day of your surgery, which will help your care team decide when you can safely be discharged. Most patients are discharged with home or outpatient physical therapy. A few patients need inpatient therapy at discharge. Our care management team will work with you and your insurance provider to arrange this care.



The following section is a timeline to help guide you and your coach as your surgery date gets closer. We want to ensure that the weeks before your total joint replacement go smoothly.

4 Weeks before Surgery

Medical and Anesthesia Clearance

You must be seen by your primary doctor, one of our medical doctors or in our Pre-operative Evaluation Center (PEC) within 30 days of surgery to determine if you are medically ready to have knee replacement surgery. Patients who have certain medical conditions also may need to be seen by a specialist before their surgery. For instance, the primary care doctor may refer you to a cardiologist if you have a history of heart disease.

The anesthesiologist also will review your medical information to clear you for anesthesia during surgery. If you have any infection (urinary, skin, sinusitis, etc.), these will need to be treated before surgery. You must be off antibiotics for 2 full weeks before surgery.

Lab Tests

Your primary care doctor and your surgeon may order specific lab tests before surgery. If the lab results are not received in a timely manner, it could result in a delay of your surgery.



Joint Effort Class

If you have not already attended, please call 410-550-4972 to find out dates for the class.

Topics discussed in the class include:

- What to expect the day of surgery
- What to expect during your hospital stay
- Pain management after surgery
- Equipment used after surgery
- Overview of nursing care
- Overview of physical and occupational therapy
- · Overview of discharge planning for home or rehabilitation facility

Insurance Benefits

Understand your insurance benefits so that you know what will be covered after surgery, including:

- Pain medicine
- · Home therapy or nursing
- · Rehabilitation stay, if needed
- Physical therapy—identify a physical therapy location close to your home that you can go to after surgery. Make sure that this facility accepts your insurance.



Exercises

- Learn post-operative exercises, illustrated below.
- Practice your foot and ankle pumps and straight-leg raises. Exercise 3 times per day until your surgery.
- Strengthen your legs and arms with water exercises that you can tolerate.



Short Arc Quad

Place a rolled up towel or object under your knee and slowly straighten your knee as you raise up your foot. Keep the back of your leg on the rolled up towel or object. Hold for 3 seconds. Return to starting position and repeat.





Clam Shells

While lying on your side with your knees bent, draw up the top knee while keeping contact of your feet. Do not let your pelvis roll back during the lifting movement.





Heel Slides - Supine

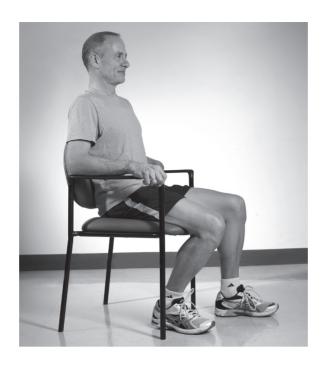
Lying on your back with knees straight, slide the affected heel towards your buttock as you bend your knee. Hold a gentle stretch in this position and then return to original position.



Partial Arc Quad - Low Seat

While seated with your knee in a bent position and your heel touching the ground, slowly straighten your knee as you raise your foot upwards as shown. Lower your foot back down until your heel touches the ground, bending your knee as much as possible. Repeat.





Seated Heel Slides

While in a seated position with your foot forward and rested on the floor, slowly slide your foot (surgery side) closer toward you. Hold a gentle stretch for 10 seconds, and then return foot forward to original position.

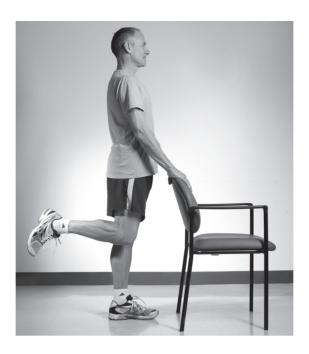




Standing Heel Raises

While standing, raise up on your toes as you lift your heels off the ground.

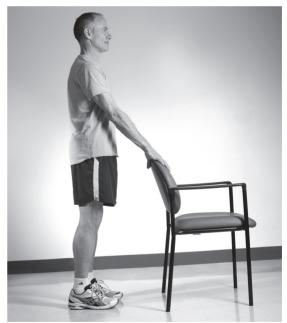




Standing Hamstring Curls

While standing, bend your knee so that your heel moves towards your buttock.





Squats

While standing with feet shoulder-width apart and in front of a stable support for balance, bend your knees and lower your body toward the floor. (Note: Your body weight should be directed through the heels of your feet. Knees should bend in line with the second toe and not pass the front of the foot.) Return to a standing position.





Standing Marching

While standing, draw up your knee. Set it down and then alternate to your other side. Use your arms for balance.





Hip Abduction - Standing

While standing, raise your leg out to the side. Keep your knee straight and point your toes forward the entire time. Use your arms for balance and safety.



Dental Requirements

Healthy teeth are important to prevent an infection in your new joint replacement. If you have not had a dental examination in the last year, schedule one before your surgery and tell your dentist that you are having a total knee replacement. If you have any dental issues, they must be treated before surgery.

Healthy Habits

If you are a smoker, stop smoking at least 6 weeks before surgery to reduce the risk of infection. There are smoking cessation programs available to help you make this important change. Please talk to your primary care physician or search online for "how I can quit smoking" or call I-800-QUIT-NOW.

Prepare Your Home for Your Return from the Hospital

Have your house ready for your arrival back home. Think safety by doing the following:

- Pick up throw rugs and tack down loose carpeting.
- Remove electrical cords and other obstructions from walkways.
- Install nightlights in bathrooms, bedrooms and hallways.
- · Complete routine house and yard work.
- Prepare a few meals before your surgery.
- Place frequently used items within easy reach.
- Arrange to have someone collect your mail and take care of pets and loved ones, if necessary.



2 Weeks before Surgery

Medications and Other Care

- Stop anti-inflammatory medications (Ibuprofen, Advil, Aleve, Mobic, Voltaren, etc.). If you are unsure what medications are anti-inflammatory, check with your family doctor or pharmacist.
- Stop herbal supplements.
- Ask your doctors when to stop taking blood thinners, such as Coumadin or Plavix.
- Let your doctors know if you have an infection or are on antibiotics.
- Begin your mental preparation for surgery. Breathe deeply and relax. Have a positive attitude. Remember, the goal of your joint replacement is to improve your comfort and return the function of your knee.
- Avoid sunburn or other skin injuries.

What to Bring to the Hospital

- Loose-fitting clothing, such as bottoms with elastic waist bands or drawstrings and short-sleeved tops. The loose clothing will be helpful for therapy sessions and going home.
- Slippers or soft low heel shoes with closed backs, such as sneakers or walking shoes
- Any personal toiletries, books or magazines
- CPAP machines, if necessary
- Do not bring any valuables, money or jewelry.



1 Day before Surgery

Tomorrow is the big day! We'll be with you every step of the way! Today, you will get a call from a nurse from the Ambulatory Surgery Unit (ASU). He or she will tell you what time to come to the hospital for surgery.

- Use the 2% chlorhexidine cloth wipes you received in the surgeon's office as directed on the handout you received with the wipes. Remember to use these the night before surgery and the morning of surgery.
- Review with your coach the plan for the next few days.
- Take some time to meditate or do something you enjoy. Surgery can be frightening, but remember, you're doing this to regain the quality of your life.
- Try to get a good night's sleep, but don't forget to set your alarm clock!

Day of Surgery

It's the big day! You're probably feeling both excited and nervous. This also will be the day that you begin a new life with increased mobility and improved comfort.

- Take any necessary medicines with a sip of water.
- Use the chlorhexidine wipes the morning of surgery.



Directions

Johns Hopkins Bayview Medical Center

When you arrive at the hospital, park in the garage located across from the Bayview Medical Offices (blue awning). Enter through the door under the blue awning. You will need to stop at our reception desk to check in, then proceed to the third floor to the surgery registration desk to sign in. You will need your insurance cards and a picture ID to complete your registration.

The Johns Hopkins Hospital

Park at the Orleans Street garage. Take the elevator to level 4 to cross the pedestrian bridge into the main entrance of the hospital. Stop at the reception desk for directions to your pre-op area. You will need your insurance cards and a picture ID to complete your registration.

Procedure

You will be directed to the waiting area, where you will stay until you are taken to the ASU, approximately I to 2 hours before your surgery. While you are in the ASU, you will meet the team who will care for you in the operating room. Your surgeon, anesthesia team and operating room nurse will visit you, review important information and complete safety checks and procedures.

During surgery, your family or friends will be asked to wait in the surgical waiting area near the operating room. Your surgeon or a team member will update your family when your surgery is over. If your family cannot stay, please give the staff at the desk contact information. A team member will call when surgery is completed.

Waking Up After Surgery

You will wake up in the PACU (post-anesthesia care unit), where the nurses will closely monitor your heart, breathing and pain. You will stay in this area for 1 to 2 hours, and your family will be able to visit you during this time.



Your surgery is finished! You are now ready to move ahead. We are delighted to take care of you.

- Your nursing staff will monitor how you are feeling and will work with you to manage any pain and nausea. They will give you fluids and help you order your meals if you are feeling hungry.
- Therapy staff will come to your room to help you sit up, get out of bed and begin to take some steps.
- You will probably feel sleepy for most of the day. It's okay to fall asleep. The nurses will wake you as needed for your vital signs and breathing exercises.
- You may experience some discomfort. This is normal. We will do everything we can to ensure your comfort. Your doctor has prescribed pain medication for your use. Please be sure to let your nurse know how it is working.
- You will need to use your incentive spirometer, a small breathing machine. It is very important to exercise your lungs at least once each hour (10 deep breaths every hour).
- You will be encouraged to do your foot and ankle pumps to keep the blood circulating. Try to do these for 10 to 15 times each hour.
- You will have to wear special white compression (TED) stockings and there will be a mechanical pump on your legs. Using these devices helps decrease the risk of blood clots.



1 Day after Surgery

You will begin the day with an early visit from your orthopaedic surgery team.

Here's What You Can Expect:

- You will have your blood taken early in the morning to check your blood count and electrolytes. The results of these tests will help your physician make important decisions about your care.
- We offer room service for your meals. You will receive a menu in your patient information guide.
- We will give you pills for pain control.
- Your therapy team will come in the morning to get you out of bed and help you
 practice safe techniques for dressing and transferring to the toilet. They also will
 teach you to use assistive equipment to help with bathing and dressing.
- Do your foot and ankle pumps every hour or more when awake. A good trick is to do them every time a commercial comes on TV.
- Start to do your quadriceps set exercises.
- You will have two sessions of therapy.
- Many of our patients go home on the first day after surgery. Please make sure your coach comes to the hospital early to attend therapy with you and to hear your discharge instructions.
- The social worker will help coordinate your discharge to your home or a rehabilitation facility. In rare cases, inpatient rehabilitation will be required.
- You'll be more on the move today. Set a goal for yourself and then give it your best shot!



Day of Discharge

Here's What You Can Expect

- The dressing on your incision will be checked frequently and changed if necessary; otherwise, it is left in place to protect this area and promote healing.
- Your therapists will continue to work with you. You will be walking in the hall. You
 may even practice going up and down steps. Your therapy team also will continue
 teaching you how to correctly use your assistive equipment for bathing and dressing.
- If you need an extended inpatient rehabilitation stay, you may be transferred today.
- Please make sure your coach comes to the hospital early to hear your discharge instructions and attend therapy with you.
- You may need to have prescription(s) filled today; our outpatient pharmacy is available to fill these prescription(s) before discharge.

If You are Going Directly Home

Someone will need to drive you home. Check with your therapy team if you have any specific concerns about the size of the car you will be riding in.

You will receive written discharge instructions concerning medications, physical therapy, occupational therapy and activity.

The social worker will arrange for any equipment (walker, crutches, commode) you may need. Our home care coordinator also will work with you to set up any additional care or therapy needed in your home.

If You are Going to a Rehabilitation Facility

If you need an inpatient rehabilitation stay, our social worker can arrange transportation to another facility through your insurance provider, pending its approval. Transfer papers will be completed by nursing staff. A physician from the rehabilitation unit will be caring for you in consultation with your surgeon. Expect to stay several days, based on your progress.

Upon discharge home, instructions will be given to you by the rehabilitation staff. Home care services and equipment will be confirmed or arranged upon discharge from the rehabilitation facility.



When you get home, there are a variety of things you need to know for your safety, recovery and comfort.

Controlling Your Discomfort

Your goal will be to gradually wean yourself from the prescription medications. Your physician's office can advise you on how to do this.

- Plan to take your pain medication so it is effective when your therapy session is planned;
 do not take extra doses.
- Change your position every 45 minutes throughout the day.
- Use ice for pain control. Applying ice to your new joint will decrease swelling, but do not use ice for more than 20 minutes each hour. You can use it before and after your exercise program. A bag of frozen peas wrapped in a kitchen towel makes an ideal ice pack.

Body Changes

- Your appetite may be not return to normal for a few days. Drink plenty of fluids to keep from getting dehydrated. You will begin to eat your normal diet after a few days at home.
- You may have difficulty sleeping. This is common. To get into a normal sleep cycle, try not to sleep or nap too much during the day.
- Your energy level will be decreased for the first month. Be sure to take frequent rest breaks.
- Pain medication contains narcotics, which can cause constipation. Use stool softeners or laxatives according to directions.

Caring for your Incision

- You will be given specific instructions at the time of discharge regarding the care of your incision.
- Notify your surgeon's office of any signs of infection. These could include increased drainage, redness, pain, and odor or warmth around the incision.
- Take your temperature if you feel warm or sick. Call your surgeon's office if it exceeds 101°F.



Preventing Blood Clots

- Take your aspirin or blood thinner as prescribed by your physician.
- Continue doing the foot and ankle pumps and exercises that you learned in the hospital.
- Walk throughout your day. Take walks around your home every 1-2 hours while awake.
- Continue to wear your special white compression stockings (TEDS) during the day. You may take them off at night while in bed and replace them in the morning when you first get up. Along with helping to prevent blood clots, they also help prevent swelling in your operative leg. We ask that you continue to wear your stockings for the first 5-6 weeks after surgery.

Warning Signs of Blood Clots and What to Do

- Swelling in the thigh, calf or ankle that does not go down with elevation
- Pain or tenderness in the calf
- Redness or warmth in the calf
- If swelling in the operative leg is bothersome, elevate the leg for short periods throughout the day. It's best to lie down and raise the leg above your heart level.
- Notify your physician immediately if you notice increased pain or swelling in either leg.
- Call 9-1-1 if you have any shortness of breath or difficulty breathing.

