

Outpatient Joint Replacement

Patient Education and Resource Guide



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Introduction

Quality of life means something different for each individual. For many, it means spending time with family, enjoying a round of golf, a bicycle ride, or the simple pleasure of a walk. For everyone, being able to move and walk without pain is an important part of living well. As we age, doing the things we love without pain often becomes a challenge.

Osteoarthritis is the most common form of arthritis and affects about 27 million Americans.¹ Arthritis attacks joints and can rob people of their mobility and independence. Joint replacement surgery is intended to reduce painful bone-on-bone contact and restore mobility.

Advantages of Outpatient Joint Replacement

Joint replacement surgery can be performed in an outpatient setting within a hospital or an ambulatory surgery center. An outpatient procedure means patients will typically (barring complications) spend less than a day in the surgery center, compared to a multi-day stay at a hospital.

As an outpatient, you will be provided with comprehensive educational materials regarding the surgical procedure and its outcomes. This ensures your questions will be answered prior to the procedure and you will have an understanding of what to expect.

Your surgeon may also implement a unique pain management program. This program is designed to reduce pain after surgery and is a critical component in helping your rehabilitation therapy.

Recovery times vary. Your surgeon will advise as to when you may resume activities and will tell you which activities to avoid. Most patients are typically permanently restricted from participation in high-impact activities or contact sports, which places extreme pressure on joints.



Understanding your joint replacement surgery

Common causes of joint problems resulting in the need for joint replacement

Osteoarthritis²

Osteoarthritis can affect any joint in your body, but most commonly affects the knee and hip joints. It's the most common reason for total joint replacement. Although osteoarthritis is more common among the older population, people of any age can have osteoarthritis due to previous injury, overuse of the joints or obesity.

Symptoms of osteoarthritis include²:

- Joint aching and soreness
- Pain, especially following activity
- Stiffness after periods of rest
- Swelling of the affected joint
- Audible sound during movement

Compartmental knee osteoarthritis³

The knee joint is divided into three specific areas, called "compartments." Some patients have arthritis in only one compartment of the knee, leaving the rest of the knee functional.



Healthy Knee



Total Diseased Knee



Partial Diseased Knee

Partial knee replacement surgery

In knee replacement surgery, the bone surfaces and cartilage that have been damaged are removed and replaced with artificial surfaces (implants) made of metal and a plastic material.

In cases where significant damage is limited to only one side of the knee joint (unicompartmental osteoarthritis), your doctor may consider a procedure that preserves the healthy side of your knee.³ This is called a partial knee replacement. In a partial knee replacement only the diseased portion of the joint is replaced, leaving the healthy portion untouched.³

A successful partial knee replacement can relieve pain and preserve more of your natural anatomy.³ It may delay or, in some cases, prevent a more extensive total knee replacement, which replaces all three compartments of the knee.³



Partial Knee Replacement

Total knee replacement surgery

A total knee replacement is usually considered when the surfaces on both sides of the bones and the underside of the patella are significantly damaged. In total knee replacement surgery, the surface of the thighbone (femur) is replaced with a contoured metal component designed to fit the curve of your bone. The surface of the shinbone (tibia) is typically replaced with a flat metal component and a smooth plastic component that serves as cartilage. The undersurface of the kneecap may also be replaced with an implant made of plastic, or a combination of metal and plastic.

The US National Institutes of Health (NIH), based on more than 20 years of follow-up data, concluded that primary total knee replacement is strongly supported, resulting in “rapid and substantial improvement in the patient’s pain, functional status, and overall health-related quality of life in about 90% of patients.”⁴ More than 600,000 people a year undergo the procedure in the United States alone.⁵



Total Knee Replacement

Total hip replacement surgery

Total hip replacement is recommended for patients with varying conditions such as osteoarthritis, rheumatoid arthritis or avascular necrosis. In hip replacement surgery the damaged bone surfaces and cartilage are removed and replaced with implants.

To replicate the action of your natural joint, a total hip replacement has four parts: a socket (cup), liner, ball (head) and stem. The cup is typically made of metal and fits into the natural hip socket. The liner is most commonly made of a medical grade plastic called polyethylene. The head implant, commonly made of metal or ceramic, forms the ball of the hip and sits in the liner to form the joint. Finally, the stem fits into the thighbone (femur) and is commonly made of metal.



Diseased Hip



Total Hip Replacement

The risks of joint replacement surgery

Every surgical procedure has risks and benefits. Although advances in technology and medical care have made joint replacement effective for many patients, risks do exist and should be carefully considered before you decide to have surgery.

Your individual results will depend on your personal circumstances, and recovery takes time. How long your joint replacement will last depends on many different factors, and every joint recipient is unique. Your doctor can discuss this aspect of surgery with you.

Each of the following reactions or complications can occur during and after surgery and may require medical attention, such as further surgery and implant removal. The list below is not an exhaustive list.

Blood Clots:⁵ Blood clots can form in a leg vein and in your lungs after knee replacement surgery and can be dangerous. Your risk will be evaluated and a preventive treatment plan developed for you. Reducing the risk of blood clots is essential and it's why patients are typically ordered to start moving very quickly after surgery. Your doctor may also recommend the use of portable calf compression devices for two weeks following surgery.

Hematoma: Bleeding into the joint can occur either immediately after surgery or at a later time. This is accompanied by acute pain and swelling, and is sometimes confused with infection.

Infection:⁵ Infection is rare in otherwise healthy joint replacement patients. Superficial wound infections can typically be treated with antibiotics. Deeper infections inside the joint may require additional surgery.

Limited range of motion: Within a day of surgery you will begin exercises to help improve the flexibility of your knee or hip. Your ability to bend your knee after surgery often depends on how far you could bend it before surgery. The motion before surgery can also affect the motion of your hip or knee following recovery. Even after physical therapy and an extended recovery period, some people are not able to bend their joint far enough to do normal activities such as reaching down to put on socks or tie shoes.

Wear and breakage: Your new joint replacement is a mechanical device that will wear over time and breakage of an implant (or fracture of your bone during or after surgery) is possible. The rate of wear may depend on your age, weight, activity level and other variables. There is no guarantee that any implant will successfully function for a specific length of time. Talk to your surgeon about the possibility of implant removal and revision surgery.

Loosening of the Joint: Loosening and/or failure of the artificial joint may occur over time due to factors such as age, weight, activity level and other variables. There is no guarantee that any implant will successfully function for a specific length of time.

Dislocation: It is possible to dislocate your joint following joint replacement surgery. This can be very painful and may require additional surgery under anesthetic to move the components of your joint back in place.

Preparing for your outpatient surgical experience

Prior to your surgery

Your experience begins long before your actual surgery. These guidelines will help prepare you for a recovery in your quest for improved mobility and health.

Your surgeon will likely schedule you for preoperative evaluation and lab tests. This may include an EKG.

Help from your family

Recovering from joint replacement is a team effort. The support of your family and coach can make a big difference before and after surgery. Your coach is a person of your choice who is willing to support you every step of the way and who can fully participate in activities before surgery and during your recovery. We strongly recommend that your coach come with you to your preoperative visit. Please be aware that a responsible adult, preferably your coach, will need to stay with you for at least the first 24 hours after your release from the facility.



Scheduling your surgery

Once it has been determined that surgery is your best option, you may schedule your surgery while in the office or you may call after you return home. At that time, your surgeon will work with you to obtain pre-authorization from your insurance company. This may take several days to accomplish.

Practicing your exercises

Your physical therapist may prescribe exercises for you. Performing these exercises regularly and properly is perhaps the most important factor in recovery and determining long-term success of your new joint. Keep in mind that the exercises are designed to strengthen muscles around the joint and improve mobility. The exercises are not always easy, but they are an important part of your treatment and recovery process. Some soreness in your joint is normal and should improve over time. If you experience severe pain with any exercise, you should stop immediately.



Physical therapy evaluation and education

Arthritis can cause loss of strength in your joint and result in difficulty with many functional activities. The goal of surgery is to restore mobility and to decrease pain. A presurgery visit with a physical therapist should be scheduled to review the use of crutches, a walker, and / or a cane. Postoperative exercises will be reviewed. This will help you, your coach and your family participate in your recovery through education, practice, and encouragement.

Visit to an ambulatory surgery center

Once your surgery has been scheduled, an appointment with nursing staff and physical therapists will be scheduled. At this presurgery visit they will review the use of equipment such as a walker or crutches and icing devices, as well as check-in and check-out procedures. Please bring your walker with you so that the physical therapist can adjust the height as needed.

Medications you may take prior to surgery

Take your prescription medications as directed by your surgeon. Preoperative pain medications may be used by your doctor to reduce your pain during the first few days after surgery. During your preadmission testing appointment a nurse will review which medications you should take the morning of surgery. Take the designated medications as directed.

Your surgeon may prescribe new medications or instruct you to stop medications you are currently taking.



Tips to reduce risk of surgical site infection

There are several steps that you can take to help prevent surgical site infections.

Dental care:

All dental work, including cleaning, must be completed prior to your surgery. You must call the office if any dental problems arise before your scheduled surgery date.

Shaving and waxing:

It is very important that you do not shave your legs or use any hair removal products anywhere near the surgical area for FIVE days prior to surgery. Shaving can irritate your skin and make it easier to develop an infection.⁵

Clean hands:

Hand hygiene is very important. You will notice that your caregivers use alcohol-based hand sanitizer when entering your room. We strongly encourage your family and friends to use this cleanser and to wash their hands frequently to prevent the spread of infection.

Illness:

If you become ill with a fever, cold, sore throat, flu, or any other illness, please contact your doctor.

Skin rash:

Broken skin or rashes should be reported to your doctor.

Presurgery bathing:

You will be instructed to shower the night before and the morning of your surgery. After showering, wipe the operative site with Chlorhexidine wipes that may be provided at your preoperative appointment. Do not dry or wipe the operative area after using the wipes. Also, do not use any lotions, perfumes or powders. Following your shower, put on clean, fresh pajamas and clean sheets on your bed.

Tips for preparing your home

You and your family may want to consider these tips to help make your home safe and comfortable when you return from your surgery.

- Purchase a nonslip bath mat for inside your tub/shower.
- Check every room for tripping hazards. Remove throw rugs and secure electrical cords out of your way.
- Determine what items from dressers, cabinets and shelves you will need immediately after returning home. Any items you use often should be moved to counter height to avoid excessive bending or reaching.
- Plan to use a cordless phone or a cell phone. They can be tucked away inside a pocket, carried easily or set within reach.
- Make sure stairs have handrails that are securely fastened to the wall. If you must negotiate stairs to enter or navigate within your home, please discuss this at your preoperative visit.
- If you have pets, you may want to consider boarding them for a few days after your return home.
- A chair which has a firm back and arm rests is recommended during your recovery. A chair that sits higher will help you stand more easily. Chairs with wheels should not be used under any circumstances.
- In order to minimize cooking after surgery, prepare meals in advance and freeze them. Alternatively, you can purchase prepared meals for convenience.
- Install night lights in bathrooms, bedrooms, and hallways.
- Avoid yard work for 10 days prior to surgery. Yard work can be an opportunity for infection through small cuts, scratches, etc. Make arrangements for someone to do your outdoor work such as gardening or cutting the grass for at least two weeks after surgery.
- Do laundry ahead of time and put clean linens on your bed.
- Arrange for someone to collect your newspaper and mail.
- Since your safety is our primary concern, we require that your coach, spouse, family member, or friend stay with you the first night after your surgery and until you are able to care for yourself independently and safely. Typically, this occurs within a few days after you return home.

Your preoperative day

Diet before surgery

Prior to your surgery, a nurse will review all medications you are currently taking so that the team caring for you on the day of surgery has all the needed information. The medical team will also confirm that all necessary testing has been completed and results are acceptable. You will not need to bring your home medications with you on the day of surgery. Please plan to spend most of the day at the surgery center. Some procedures, especially when performed in the afternoon, may require an overnight stay. You may eat or drink normally until midnight before your surgery but please restrict alcohol to one serving.

You may be asked many of the same questions more than once; however, it is important to verify information for your safety. Providing the highest quality of care is our priority.

Please provide your cell phone number and a family member's cell phone number so that we may contact you.

Your day of surgery

- Shower from the chin down with the special wipes before coming to the surgery center.
- Wear clean, comfortable clothes. Avoid wearing any fragrance, deodorant, cream, lotion, makeup or nail polish.
- Take any medications as instructed during your preoperative testing with a small sip of water.
- Report to the check-in area on time.

Your surgery

Arriving for surgery

Your surgery day will be busy. Please remember not to eat or drink anything, including mints or gum, after midnight the evening before your surgery. Several hours may pass between the time you check in and the time your surgery is completed. Your family and/or coach should be prepared to wait several hours.

You will be instructed when to arrive. It is important that you arrive on time.

Surgery preparation

After you check in you will be directed to the surgical preparation area. A wristband will be applied at this time. If you have any allergies, an additional wristband will be applied. It is important for you to verify that all information on your identification bracelet is correct.

Once you've determined that your identification bracelet is correct, you will be asked to change into a surgical gown. Your clothes and any items you brought with you will be placed in a bag with your name on it.

Remember not to smoke, drink or eat anything, including mints or gum, after midnight the evening prior to your surgery.

Just before surgery, a nurse will review your medical records, take your vital signs, perform a brief physical exam, clean the surgical site and make sure everything is in order.

As surgery approaches, a nurse will start an IV. This allows medication and fluids to flow directly into your bloodstream.

Your orthopaedic surgeon and the anesthesiologist will visit you in the preoperative holding area prior to surgery. Among other things, your surgeon or physician assistant will ask you to identify which joint is being operated on and will mark the surgical site with a special marker. Your anesthesiologist will ask you a number of questions to help determine the best anesthesia for you.

Family waiting

On the morning of surgery, typically one family member or friend will be able to stay with you until you are ready to be transported to the operating room. He or she will then be escorted to a family waiting area to wait while you have surgery.

Once your joint replacement is complete, a member of the surgical team will contact your family member or friend. At this point, he or she will be able to speak with your surgeon to discuss your procedure.

Anesthesia

Your anesthesiologist will meet you before surgery. At that time, he/she will examine you, discuss your medical history, and determine the best plan for your anesthetic care. It is important that you discuss any prior problems or difficulties you may have had with anesthesia.

Your anesthesiologist will discuss the risks and benefits associated with the various anesthetic options, as well as the potential side effects that can occur with each. Any time you have surgery and anesthesia there is a chance that you may experience some nausea and vomiting; however, medications are available to treat both and are routinely given ahead of time to try to prevent these symptoms.

The operating room

Inside the operating room, you will be cared for by a team of physicians, physician assistants, nurses and skilled technicians. The total time required for surgery will be different for each patient depending on the complexity of the procedure.



Recovery

After surgery you will be transported to an area called the Post Anesthesia Care Unit (PACU), or recovery room. Your stay in the PACU will depend upon your rate of recovery from the effects of the anesthesia. The typical PACU stay after joint replacement is four hours.

Nurses will check your vital signs - blood pressure, respiratory rate, and heart rate - and monitor your progress. They will also start your ice therapy.

Pain medications will be provided through your IV as needed. Preoperative medications and special medication injections during surgery help reduce pain and potentially lessen the need for postoperative narcotic medications.

Nurses will check your bandages and drainage from your surgical site, and encourage you to cough and breathe deeply. They will also apply a leg compression device to help with circulation. You will be able to take this home with you and given instructions on how to return the unit to the manufacturer. Once you are awake and ready for your first walk, your family member or coach will be able to join you and assist the team with your recovery. After your stay in the PACU you will be discharged home. A physical therapist or other staff member will help you to your car.

Overnight stay

If your surgery is more extensive or performed in the afternoon, you may need to stay overnight. Your family member or coach can stay with you or at a nearby hotel. Your care team will try to help you anticipate this need ahead of time so you and your family member or coach can prepare accordingly. Occasionally, unforeseen events may require you to stay overnight.

Do not try to walk until your nurse or physical therapist determines you are ready.

What to expect after surgery

You can expect to have compression pumps on your calves. These pumps will squeeze your legs at regular intervals to circulate blood and to help prevent clotting. If you do not feel the compression, be sure to let your nurse know.

You may have a special wrap for ice therapy on your surgical site continuously for up to 24 hours after surgery. You will take this machine home with you.

Once your vital signs are stable and you have regained movement and sensation in your lower extremities, your nurse will assist you to sit at the edge of the bed, then to stand and walk.

Managing your pain

The amount of pain and discomfort you experience after surgery depends on multiple factors. You will receive pain medication orally and through your IV if needed. Your physicians and nurses will do everything possible to relieve your pain and discomfort.

Communication is an important part of helping manage your pain. It is important to share information with your nurses about any pain you experience. Be as specific as possible. For example, where is the pain? How often do you feel pain? What does the pain feel like: is it sharp, dull, aching, spreading out? On a scale of one to 10, where 10 is the worst pain imaginable, how would you rate your pain?

For most patients, the surgical anesthetic wears off over a period of days. When this occurs, you will start taking pain medications orally. Arrange to take your pain pills approximately 30 minutes prior to doing your exercises. This will help control the soreness that often accompanies activity in the first few days after surgery.

Additional medications

You can expect to receive IV antibiotics before you go home, as well as additional medicines as needed. Sometimes patients may feel nauseous or constipated. Both symptoms can be managed with medication, so it is important that you talk with your nurse if you do not feel well.

Early ambulation

You may walk with the assistance of your nurse or physical therapist when it has been determined that you are stable and have regained feeling and movement in your legs.

Your team will help you begin your exercise routine. These exercises are designed to help increase strength and flexibility in the joint. Ultimately, the goal is for you to perform activities of daily living, like walking, climbing stairs, and getting in and out of a bed and up and down from a chair or toilet. Also, for knee replacement surgery, bend your knee at least 90 degrees. In order to ensure maximum success, it is important that you follow physical therapy instructions both while you are at the center and after you are discharged home.



Transitioning home

Prior to transitioning home, your doctor will provide you with important post-operative care and activity information.

Wound care: Your surgeon will provide instructions for caring for your wound.

Calf compression devices: Wear as instructed. Remove them daily for bathing.

Antibiotics: You must take care to prevent an infection in your joint. Check with your surgeon regarding taking antibiotics before and after any dental procedure, including routine cleanings, as well as any medical procedure which could cause bleeding and for any bacterial infection.

Driving: Left leg surgery: you may drive when you feel up to it and are no longer taking narcotics during the day. Right leg surgery: You may not drive until after your six-week check up. You may return to the office early to take a driving reaction time test to see if you are comfortable driving.

Activity and bathing: Please do not take a bath until the wound is healed (two to three weeks), or the staples or sutures are removed. You may start to shower on your second postoperative day. Change positions every 45 minutes. Walk with a walker or crutches. Do not repetitively go up or down long flights of stairs.

Comfort measures: Use ice compression wrap as instructed. Take prescribed pain medication. Lie down with your leg slightly elevated. You may have a tendency to overdo as you begin to feel better. Be sure to rest frequently.

Call the doctor if:

- You have a fever above 101 degrees
- You notice any drainage from your incision
- You have an increase in pain, swelling or redness in either leg, or numbness or tingling in the operative leg which is not relieved by changing your position

Medications

Be sure to take your pain medications as prescribed. Avoid drinking alcohol or driving while taking prescription pain medication. Consider taking pain medication a half hour prior to performing the prescribed physical therapy exercises.

Some people experience constipation while taking pain medication. You may consider drinking prune juice daily, drinking more water, adding fiber to your diet, or taking an over-the-counter stool softener to prevent this. Exercise and walking also help prevent constipation.

Resume your home medications as instructed by your physician.

Activity

Continue your hip and knee exercises as instructed by your physical therapist. You may bear weight as tolerated on the surgical leg, unless instructed otherwise by your surgeon.

Get up and walk for 10 minutes every hour you are awake using your front-wheeled walker for support and safety. Continue to use your walker for one to four days following surgery, or longer if needed.

In addition, take two 10-15 minute walks each day.

Bend and straighten your knee 10-20 times slowly every hour. Increase the amount you bend your knee with each exercise.

You may resume driving as instructed by your doctor.

Avoid resistance training or swimming until cleared by your surgeon.



Managing swelling

It is normal to have bruising around your thigh or knee and down to your foot as well as up the inner thigh to the groin area. You may also experience swelling of the upper and lower leg down to the foot and ankle. Swelling usually peaks around seven days after surgery.

Elevate your leg 10 inches above the level of your heart and apply the ice machine if you have excessive swelling. You may place a pillow under your heel but do not place one under your knee.

Incision care

Keep your incision clean and dry. You may shower when your incision is dry, typically 48-72 hours after surgery.

Use regular soap but do NOT use creams or lotions on your incision for four weeks after surgery or until cleared by your surgeon.

Avoid soaking your incision in a tub bath, hot tub or participating in any water activities until the incision is completely healed, closed and no longer draining. This typically occurs two to four weeks after surgery.

You may leave your incision open to air when there is no longer any drainage.

Remove the steristrips 10-14 days after surgery unless the incision is still draining.

Diet and rest

Eat a healthy diet to promote healing. You may experience a decreased appetite after surgery. This is normal and should gradually resolve itself.

Rest as needed during the day and get a good night's sleep to support the healing process. However, it is common to have difficulty sleeping after surgery. This will gradually improve but is typically worse around four to six weeks after joint replacement.

You may sleep on your back or on your side with a pillow between your legs for comfort.



WHEN TO CALL YOUR SURGEON

A moderate amount of bruising, swelling, and redness can be expected after joint replacement surgery. If you experience any of the following, you should contact your surgeon's office.

- A fall
- Numbness, tingling, or burning that persists even after elevating your leg and applying ice
- Pain not relieved by medication or pain that is getting worse
- Thick yellow drainage or bleeding from the incision site
- Inability to do your exercises
- Excessive swelling that persists
- Toes that are very cold and do not get warm when you cover them
- Increased redness around your incision
- Fever
- Any unexpected problems, concerns or questions

If you need to refill your pain medication prescription, please call your doctor's office.

Life after joint replacement

Traveling: When traveling long distances, you should attempt to change position or try to stand every hour. Some of the exercises, like ankle pumps, can also be performed should you need to sit for long periods of time. If traveling within two weeks of your surgery you should wear your calf compression pumps.

Because your new artificial joint contains metal components, you will likely set off security systems at airports or shopping malls. This is normal and should not cause concern. Patients may request a card explaining they are the recipient of a joint replacement.

Exercises and activity: Talk with your surgeon about recommended exercises and activity for you. Exercise and maintaining an active lifestyle are important to remain healthy. Most patients with artificial joints are able to enjoy many activities, though some should be avoided. In general, high impact exercises, like running, jumping, lifting heavy weights or contact sports are not recommended. Participating in these activities, or activities like them, may damage your joint or cause it to wear down much more quickly. Low impact activities like swimming, walking, gardening and golf are encouraged. You may kneel on your new knee without damaging it; however, it will likely be uncomfortable.

Dental care: Following your joint replacement surgery, it is important to notify your dentist that you have an artificial joint. It is essential that you obtain a prescription from your dentist for a prophylactic antibiotic to be taken PRIOR to any dental cleaning or procedure for the rest of your life. You will need to remind your dentist before every scheduled appointment of this requirement in order to reduce the risk of developing an infection in your joint.



Reducing the risk of infection in your new joint: To reduce your risk of infection, antibiotics may need to be administered prior to any invasive test, procedure or surgery. The physician or surgeon performing the test, procedure, or surgery should prescribe antibiotics if indicated.

Follow-up care: You will see your surgeon or physician assistant for a follow-up appointment three to six weeks after surgery, and three months, six months and one year after surgery. Joint replacements are monitored thereafter every five years for life.

Results are not necessarily typical, indicative, or representative of all recipient patients. Results will vary due to health, weight, activity and other variables. Not all patients are candidates for this procedure. Only a medical professional can determine the treatment appropriate for your specific condition. Appropriate postoperative activities and restrictions will differ from patient to patient. Talk to your surgeon about whether joint replacement is right for you and the risks of the procedure, including the risk of implant wear, infection, loosening or failure. For additional information or to find a surgeon near you, visit www.zimmerbiomet.com or call 1-800-HIP-KNEE (1-800-447-5633).

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