



NorthShore Orthopaedic & Spine Institute
Total Joint Replacement
Your Guide to Rapid Recovery



To register for a Total Joint Replacement class or for any questions, please contact (847) 933-6815.

You can also view the class online by accessing northshore.org/tjrcvideo.





Welcome to the Total Joint Replacement Center at NorthShore Orthopaedic & Spine Institute

Your decision to have your hip or knee replaced by one of our expert surgeons provides you with a unique opportunity to partner with your doctor and the other healthcare professionals who will be part of your successful surgical recovery.

The Total Joint Replacement Center is nationally recognized for quality and clinical excellence, including a designation as a Blue Distinction® Center from Blue Cross Blue Shield for its hip and knee replacement programs. The award, based on nationally consistent criteria, recognizes several areas of quality, including treatment expertise, the number of procedures performed every year and patient outcomes. NorthShore is actively involved in enhancing patient outcomes by engaging in research and clinical trials, as well as embracing new technology such as computer-assisted surgery and custom solutions for joint replacements. Comprehensive infection protocols are followed to maximize recovery times.

At the Total Joint Replacement Center, our doctors and staff are trained to address your individual needs. Our multidisciplinary team has created a “pathway” for you that helps guide you, including pre-operative preparation and education, coordination of hospital care, and post-operative rehabilitation. Your pathway begins with a class for you and anyone else who will be assisting you through your surgical preparation and recovery. If you have not yet signed up for a class, please call one of the phone numbers listed to the left.

This book is designed to provide you with important information that will guide you through the surgical process. It is your workbook. Please bring this book with you to the class and the hospital for reference and further guidance.

Your involvement is very important to our team. We look forward to partnering with you for a successful surgery and recovery. Thank you for choosing the NorthShore Total Joint Replacement Center.

Table of Contents

Preparing for Surgery

Pre-Operative Work-Up	3
Pre-Operative Skin Preparation	3
Staying Active Prior to Surgery	3
Home Safety Preparation	4
Family Member/Caregiver Support	5
Home Health	5
Medications.....	5
Pre-Operative Nutrition	6

The Day Before Surgery

Pre-Operative Phone Call	7
--------------------------------	---

The Day of Surgery

What to Bring to the Hospital	9
Check-In at Ambulatory Surgery/ Pre-Op Holding	10
For Your Safety.....	10
Anesthesia	11
Operating Room and Post-Anesthesia Care Unit (PACU)	12

Your Hospital Stay

The Nursing Unit	13
Pain Assessments and Management	14
Clot Prevention	15
Questions About Oral Anti-Coagulant Medications (Blood Thinners)	16
Understanding Hip Replacement (Total Hip Arthroplasty).....	17

Physical Therapy/Occupational Therapy for Total Hip Arthroplasty	18
---	----

Understanding Knee Replacement (Total Knee Arthroplasty)	22
---	----

Physical Therapy/Occupational Therapy for Total Knee Arthroplasty.....	23
---	----

Assistive Equipment for Joint Replacement.....	26
---	----

Discharge Planning

Discharge Planning Process	27
----------------------------------	----

Discharge Criteria.....	27
-------------------------	----

Recovering at Home After Surgery	28
--	----

Discharge Instructions for Total Joint Arthroplasty	29
--	----

After Surgery—At Home

Home Health	32
-------------------	----

Discharge Home Follow-Up	32
--------------------------------	----

Preventing Infection	32
----------------------------	----

Controlling Pain at Home	33
--------------------------------	----

Icing Instructions—Knee.....	34
------------------------------	----

“Normal Activities” FAQs	35
--------------------------------	----

Home Exercises

Exercises for Total Hip Arthroplasty	38
--	----

Exercises for Total Knee Arthroplasty	40
---	----

Preparing for Surgery

Pre-Operative Work-Up

Most arrangements for the tests will be made through either the Total Joint Replacement Center or your doctor's office.

- | | |
|---|---|
| <input type="checkbox"/> Laboratory tests | <input type="checkbox"/> History/physical examination |
| <input type="checkbox"/> X-rays | <input type="checkbox"/> Dental clearance (within six months) |
| <input type="checkbox"/> Nasal swabs | <input type="checkbox"/> Other evaluations, as needed |

Decreasing the Risk of Infection

The Total Joint Replacement Center offers a comprehensive surgical site infection program to help reduce your risk of infection after your surgery. NorthShore makes every effort to protect you from developing an infection after your surgery. Specific bacteria—called *Staphylococcus aureus*, or Staph—are organisms that may cause an infection after an operation. Patients who are most likely to get an infection carry these organisms in or on their body without symptoms before surgery. Without precautions, these organisms can unknowingly get into a Staph carrier's surgical incision after surgery.

About 20 to 30 percent of healthy people have Staph in their bodies. All of us have this germ present at one time or another. It usually causes no illness but occasionally can cause infection ranging from small sores on the skin to more serious medical conditions. Staph is passed from person to person by contact with someone who is carrying it. Those who carry Staph typically have it in their nose and may have it on their hands and skin.

Your surgeon may test for this bacteria prior to surgery. Medical literature indicates that by doing this, we can prevent infections from Staph. Testing for the Staph bacteria is simple, and treating to remove them is also very easy. Before your surgery date, your surgeon will arrange for a nasal swab or prescribe an ointment and pre-operative skin scrub to help fight potential infections.

Pre-Operative Skin Preparation

The purpose of a pre-operative skin preparation (prep) is to help reduce the risk of infection. If your surgeon recommends this, instructions on how to correctly use the prep will be provided by your surgeon's team.

Staying Active Prior to Surgery

Continue normal activities for as long as you are able up until your surgery date. Your doctor or therapist may recommend pre-operative exercises tailored to your individual needs to improve your strength and range of motion.

Preparing for Surgery

Home Safety Preparation

Setting up your home prior to surgery is an essential step to ensure a safe environment after discharge from the hospital. Listed below are points to consider BEFORE SURGERY while setting up your home.

Not all patients need every piece of equipment. Your occupational therapist will assist with recommending the appropriate equipment.

Stairs

- Do you have stairs to get into/out of your home?
 - Are there railings on both sides of the stairwell, or just one side?
 - Having a family member/caregiver present to assist you into/out of your home is highly recommended immediately following your surgery.
 - It may be recommended that you add a hand rail for safety.

Bathroom

- Be prepared to talk to your occupational therapist about your bathroom setup (e.g., Do you have a shower stall or a tub?). Your therapist will make equipment recommendations based on your specific environment to ensure safety at home.
 - If you have a tub, it may be recommended that you get a tub transfer chair to ensure safety while bathing.
 - If you have a stand-up shower, it may be recommended that you get a shower chair to ensure safety while bathing.
- Do you have grab bars in the shower?
 - Grab bars may be helpful to increase your safety in the tub or shower. Not all patients need grab bars. Your occupational therapist will advise you regarding necessity and placement.
- How high is your toilet seat?
 - For standard toilet seat heights, it may be recommended that you get an elevated commode seat to ensure safety with transfers on/off the toilet.

Bedroom/Living Room

- Is your home arranged for ease of movement once you return home?
 - It is recommended that you remove throw rugs and other obstacles from the floor to ensure safety while walking.
- Are items in cabinets and dresser drawers easily accessible?
 - You should not be on step stools or ladders after discharge, so be sure to move items as necessary so you can reach them easily (not too high and not too low).
- How high is your bed?
 - Be sure to let your therapist know the approximate height of your bed so he or she can help you practice bed mobility with a bed height more realistic to your home setup.

Preparing for Surgery

Children/Pets

- Do you have small children or pets?
 - Small children may need some education on how to interact with you in a way that ensures their safety and yours.
 - Take steps to ensure that your pet does not try to jump on you or bump you while walking.

Family Member/Caregiver Support

A family member, close friend or caregiver whom you designate will become an important member of your extended team to help you prior to surgery and throughout your recovery. Please review this book with your family members/caregivers prior to surgery.

Please invite your family member/caregiver to attend a physical therapy (PT) and occupational therapy (OT) session after your surgery so the therapists can explain how the family member may need to help you at home. These family members/caregivers may also help with:

- Transportation to and from the hospital
- Providing support around the home during the first week after discharge (Some patients may need assistance at home at all times during the initial recovery period. If you need to hire a caregiver, a list of reputable providers can be made available.)
- Meal planning

Home Health

You will require home health care when you return home following your hip or knee replacement surgery. The choice of a Home Health Provider is yours to make. There may be some restrictions based on your insurance coverage. We highly recommend that you contact your insurance company prior to surgery to minimize additional financial responsibility.

Medications

Some medications you currently take may prove harmful during surgery because they thin your blood and increase the risk of bleeding after surgery. If you take medications that contain aspirin, anti-inflammatories (such as ibuprofen, Motrin, Advil, Aleve, etc.), blood thinners (such as Warfarin, Eliquis, Pradaxa, Xarelto or Plavix) or arthritis medications, ask your surgeon when it is best for you to stop taking these medications. Also, be sure to let your surgeon know if you are taking any vitamins or herbal supplements. During your visit with your primary care physician for your history and physical, your medication will be reviewed again. You will be instructed on which medications or supplements you must stop taking before surgery.

Preparing for Surgery

Pre-Operative Nutrition

- **Drink enough fluids prior to surgery.**

Your body should be well-hydrated prior to surgery. Your physician may adjust these guidelines if you have any other medical conditions, so please discuss them prior to your surgery.

- **Make sure your protein intake is adequate EVERY day.**

Protein helps your body heal. It can be found in meat, fish, poultry, eggs, dairy products and legumes.

- **Increase your fiber intake.**

Since you will be receiving medications that can contribute to some constipation after surgery, it is recommended that you increase your fiber. “Bulk up” your diet with a variety of food like raw fruits and vegetables, whole-grain breads or muffins, cereals, nuts and beans.

- **Make sure you are getting sufficient iron if you will be donating your own blood.**

Take iron as directed by your doctor. Vitamin C helps with iron absorption. Do not take iron with milk. Dietary iron is in lean red meat, dark green leafy vegetables, egg yolks, raisins and prunes.

- **Make sure you are getting adequate calcium.**

Calcium is helpful for maintaining bone strength. Good sources of calcium include milk, cheese and yogurt.

- **REMEMBER: You need vitamin D to absorb calcium.**

Vitamin D is frequently in multiple vitamins, milk products, fortified cereals and calcium supplements.

- **Try to stop smoking.**

- **Decrease your alcohol intake.**

It is recommended that you avoid alcohol for 24 to 48 hours prior to surgery.

The Day Before Surgery

Pre-Operative Phone Call

A nurse will call you between 8 a.m. and 5:30 p.m. the day before your surgery to confirm your procedure and review your medical history, including medications, allergies, etc. You also will be given directions to the hospital and confirm your arrival time to Ambulatory Surgery. Your surgery start time is estimated based on multiple factors. On the day of surgery, the Ambulatory Surgery Unit staff will keep you and your family updated when you arrive at the hospital.

You will be given specific instructions for when to stop eating and drinking prior to your surgery, and you will be told which medications to take the morning of surgery.



The Day of Surgery

What to Bring to the Hospital

Things to bring or do:

- Advanced directives
- CPAP machine
- Wear loose-fitting clothing

Things NOT to bring or do:

- Valuables that are not essential during your stay
- Medications from home (unless specifically directed to do so)
- Jewelry

Your physician has requested that you wear “street clothes” as soon as possible (following surgery) to facilitate rehabilitation. Keep clothes loose-fitting, such as:

- Loose shorts/pants with wide leg openings
- T-shirt tops
- Loose undergarments (especially for Total Hip Arthroplasty patients)
- Proper shoes (see below)
- Short robe or pajamas
- Toiletries

It is important that you bring proper shoes to the hospital. Consider the following when deciding what shoes to bring:

- The foot on your operated leg may be swollen after surgery. Please bring a shoe that accommodates the increased size. The shoe can be a slip-on or tie shoe.
- Choose a shoe with a low (less than 1 inch) heel. Gym shoes or walking shoes are fine.
- DO NOT bring bedroom slippers.
- DO NOT bring open-toed shoes. Shoes must have a back or a strap.

NOTE: You may want to purchase elastic shoestrings (available at most pharmacies). This product will help avoid the need to tie your shoes following surgery. Your occupational therapist can help advise you on whether elastic shoestrings are recommended.

The Day of Surgery

Check-In at Ambulatory Surgery/Pre-Op Holding

Family members/caregivers are allowed to remain with you.

Following your check-in at Ambulatory Surgery/pre-op holding area, the process to prepare you for surgery will begin. You will start meeting various members of your care team, including your surgeon, anesthesiologists and operating room nurses, and others who are committed to helping you through your surgery and beyond to a successful recovery.

For Your Safety

Verification

- You will be asked your name and birth date frequently.
- Prior to surgery, you also will be asked many times what procedure you are having done.
- Your health history and physical examination will be reviewed.
- Advanced directives will be noted.
- Your operative site will be prepped.
- Your anesthesiologist will review your health history and physical exam results and will discuss your options for anesthesia with you.
- An IV (intravenous line) will be started.
- The surgeon will review the joint procedure with you and mark the site of surgery on your body.

Medication Reconciliation

Following is the information that needs to be shared with your care team the day of your procedure:

- The name of all medications you currently take, including vitamins and herbal supplements
- The dosage of each medication
- The frequency (how often) of your medications
- When your last dose was taken

Infection Prevention

- Antibiotics will be given before surgery and continued for at least 24 hours afterward.

The Day of Surgery

Anesthesia

The Department of Anesthesiology, Critical Care and Pain Medicine at NorthShore is committed to providing you with a safe and pleasant experience. An anesthesiologist will visit you in the pre-op holding area to discuss your anesthesia plan, which is based on your medical history, surgical procedure and lab tests. Your anesthesiologist will thoroughly explain your options and help you choose an anesthetic that is best for you.

There are four basic types of anesthesia available. You may receive one or more of these anesthetics. Combining anesthetics allows you to receive the maximum benefit of a particular anesthetic while lessening the chance of side effects.

- **General anesthesia** renders you unconscious. You will have no awareness or sensation during the procedure. General anesthesia is typically administered through a combination of intravenous and inhaled agents.
- **Spinal or epidural anesthesia** is administered via a needle placed in between the vertebrae in your lower back. You will be numb from the waist down and typically cannot move your lower extremities. Sedation is typically administered to reduce anxiety while the needle is being placed. Spinal and epidural anesthesia is typically combined with monitored anesthesia care.
- **Monitored anesthesia care (MAC)** is frequently referred to as “twilight sleep.” Drugs are administered intravenously to provide relaxation. This type of anesthesia will typically render you unaware of your surroundings.
- **Regional anesthesia**, commonly referred to as a “nerve block,” involves injecting of local anesthesia or “numbing” medicine around a nerve or bundle of nerves using specialized techniques. This typically numbs one particular extremity. Sedation is administered during needle placement to reduce anxiety. The effects of a nerve block usually last for several hours, thereby decreasing your pain after surgery.

Should you have any questions or concerns regarding your anesthetic, you may contact (847) 677-9600 and ask for the Department of Anesthesiology.

The Day of Surgery

Operating Room and Post-Anesthesia Care Unit (PACU)

Operating Room

Inside the operating room, you will be cared for by doctors, nurses and skilled technicians. The total time required for surgery differs from patient to patient depending on the complexity of the procedure. Generally, most joint replacement surgeries last from one to two hours, not including the preparation and recovery times.

While you are in the operating room, your family can monitor your progress on a screen located in the surgical waiting room. For privacy, you will be identified by a unique identification number, which will be given to your family members/caregivers.

PACU (Recovery)

After surgery, you will be transported to the PACU or recovery room. You may feel groggy from the anesthesia. You will spend from one to three hours in the PACU while you recover from the effects of anesthesia.

- Nursing staff will monitor your:
 - Vital signs
 - Progress as you emerge from anesthesia
 - Pain, and provide pain medications as necessary
- Your surgeon will meet with your family members/caregivers to provide a post-surgery update.
- After recovery, you will be transported to the nursing unit. Your family members/caregivers can visit you after this point.

Your Hospital Stay

The Nursing Unit

After your recovery in the Post-Anesthesia Care Unit (PACU), you will be transferred to a nursing unit where your family and friends may visit with you. Your stay in this unit begins the next phase of your recovery.

You will have a bandage covering the incision on your hip or knee. Your nursing team will monitor your vital signs and give you medications for pain or nausea and to prevent blood clots. You will be introduced to therapists who will work with you individually to help you begin your exercise routine. They will also instruct you on any precautions you might have following surgery.

Nursing Assessments and Interventions

Nursing care will include:

- Monitoring your vital signs frequently, including throughout the night
- Checking your incision
- Administering IV fluids and antibiotics
- Assisting with an incentive spirometer to prevent pneumonia (10 times per hour while awake)
- Assessing the use of abductor splints/ bolster for hip patients
- Checking compression devices to prevent blood clots
- Early ambulation



Physician Assistants

Physician Assistants (PAs) are board-certified advanced practitioners who work with your surgeon and other dedicated medical professionals to help guide your care. PAs are able to interpret labs, make diagnoses, write prescriptions and assist in the operating room. PAs are staffed in the hospital 24 hours a day, 7 days a week. Working closely with your surgeon, a PA will see you each day that you are hospitalized.

Pain Assessments and Management

Communication is an important part of helping us manage your pain. We encourage you to share information with your nurses and doctors about any pain you experience. Be as specific as possible.



- **Where is the pain?**
- **How would you describe the pain?**
- **How often do you feel pain?**
- **On a scale of 0 to 10, where 10 is the worst pain imaginable, how would you rate your pain?**
- **Is there anything that makes the pain go away?**

Some pain will accompany your therapy sessions. Be sure to ask for pain medication 30 to 60 minutes before your scheduled therapy session.

Clot Prevention

The following therapies and medications may be used during or after your surgery to improve circulation and prevent blood clots. This will be at your surgeon's discretion.

- PlexiPulse® boots or sequential compression device (SCD)
- Ankle pump exercises
- Oral and/or injectable blood thinning medications
- Early ambulation

At Risk for DVT

DVT stands for "deep vein thrombosis." DVT is a disorder in which a blood clot forms in the deeper blood vessels, particularly in the legs. Having orthopaedic surgery increases this risk as does being immobile or inactive.

Symptoms of DVT in the leg are swelling, redness and pain in the affected leg, usually below the knee. Sometimes the leg is warm to the touch.

Symptoms of a blood clot in the lung (pulmonary embolism) are shortness of breath, sudden onset of chest pain or cough. These symptoms require immediate medical attention.

Questions About Oral Anti-Coagulant Medications (Blood Thinners)

Why is this drug prescribed?

Oral anti-coagulant medications, commonly known as blood thinners, lower the body's ability to form clots and therefore prevent harmful clots from forming in the blood vessels. These clots can cause serious medical problems because they can move to other parts of your body. For example, if a clot moves to your lung (pulmonary embolism), it can cause a strain to your heart or trouble breathing.

When should it be used?

Your doctor will determine when you will begin taking your oral anti-coagulant medication. It is important to take your oral anti-coagulants at the same time every day—BE CONSISTENT.

What special instructions should I follow while using this drug?

Upon discharge from the hospital, you will receive instructions specific to the type of oral anti-coagulant your surgeon has chosen for you. You should follow these directions carefully and contact your healthcare provider if you have any questions.

What should I do if I forget to take a dose?

Take the missed dose as soon as possible on the same day, but DO NOT take a double dose of oral anti-coagulants the next day to make up for the missed dose. Finally, if you forget to take a dose, tell your healthcare provider.

What side effects can this drug cause?

- Patients taking oral anti-coagulants have an increased risk of bleeding complications.
- Remember that too much oral anti-coagulant can cause you to bleed, and too little oral anti-coagulant may allow a harmful clot to form.

Call your healthcare provider right away if you experience any of the following:

- Bleeding that does not stop from cuts or from your nose
- Unusually colored urine (dark brown or red) or stool (red or black) when you go to the bathroom
- More bleeding than usual when you brush your teeth
- Unusual bruising for unknown reasons
- Vomiting or coughing up blood
- More bleeding than usual with your menstrual period or unexpected vaginal bleeding
- Severe headache, dizziness, weakness or trouble breathing

Understanding Hip Replacement (Total Hip Arthroplasty)

Arthritis or injury can cause severe pain in your hip(s). Reconstruction of those joints can be the best way to regain function and restore quality of life. The hip enables us to bend and straighten our body and move our lower limbs. Total joint replacement involves surgery to replace the ends of both bones in a damaged joint to create new joint surfaces.

When the hip is replaced, the original ball and socket joint is replaced with an artificial one consisting generally of a metal or ceramic ball attached to a stem that fits inside the hollow canal of the femur or thigh bone. The ball articulates with an artificial socket that is affixed to the cup portion of the pelvis or acetabulum. For the femur, both cement fixation and bone ingrowth methods are equally successful. A bone ingrowth implant is generally used, although cement fixation for the femur may be used in older patients whose bone may not be as substantial as when they were younger.



Physical Therapy (PT)/Occupational Therapy (OT) for Total Hip Arthroplasty

Your motivation and participation in physical therapy and occupational therapy are essential elements of your recovery. You must play an active role in every step of your rehabilitation. Your rehabilitation team will include physical therapists, physical therapy assistants, occupational therapists and occupational therapy assistants. You and your team will work together to achieve important goals, including regaining independence and mobility, developing a program for walking at home, and understanding proper body mechanics.

Your dedication to physical therapy and occupational therapy will set the pace for your recovery.

Our objective is to help you return home as quickly as possible. During your hospital stay, your goals, at a minimum, are as follows:

Physical Therapy Goals

Your physical therapist will work on your ability to sit at the edge of the bed, safely transfer from bed to chair and back, sit down and stand up, walk with an assistive device, and go up/down stairs safely. You will also be provided with a home exercise program. We have equipment in the hospital such as walkers, canes and crutches that you can use during your stay.

Physical Therapy Schedule

- **The physical therapist will instruct and review any restrictions or precautions you may have.**
- If you have an early morning surgery, you may be seen by the physical therapist the same day of surgery.
- You will be provided with a physical therapy schedule (with an approximate time frame when the sessions will occur) while you are in the hospital.
- Be sure to ask for pain medication. Use your therapy schedule to coordinate with the nursing staff to receive your pain medication 30 to 60 minutes before therapy sessions.
- The physical therapist will make sure you can walk safely and that you have the equipment to do so upon discharge home.
- The physical therapist will review the home exercise program (found at the end of this book) with you.
- If family members/caregivers have any questions, they are welcome to participate in a therapy session before you leave. They may also write down the questions so that a physical therapist can address them during a session while you are in the hospital.



Occupational Therapy Goals

Your therapists will work on your ability to perform and engage in self-care activities of daily living (ADLs) and functional tasks based on your tolerance.

- **The occupational therapist will instruct and review any restrictions or precautions related to your surgery as they relate to activities of daily living.**

- The occupational therapist will address your ability to safely perform functional transfers such as:
 - Getting on/off the toilet
 - Getting in/out of the shower
 - Getting in/out of a car

- The occupational therapist will address your ability to dress and bathe and may make recommendations regarding equipment to improve your safety and independence at home.

- The occupational therapist will review and make final recommendations regarding assistive equipment to allow for independent performance of lower body dressing, bathing and reaching.

- The occupational therapist will review and make recommendations as needed about bathroom medical equipment such as shower chairs and raised toilet seats to promote safe and independent toileting and bathing at home

- If family members/caregivers have any questions, please write them down and the occupational therapist can address them before you leave.

If you have any questions about your rehabilitation, please do not hesitate to ask. If you need to speak to your physical therapist or occupational therapist for any reason during your stay, just let your nurse know, and he or she can contact them for you.



Understanding Knee Replacement (Total Knee Arthroplasty)

Arthritis or injury can cause severe pain in your knees. Reconstruction of those joints can be the best way to regain function and restore quality of life.

The knee is one of the largest joints in the body and is critical for people to perform everyday activities like walking as well as athletic pursuits. Total joint replacement involves surgery to replace the ends of both bones in a damaged joint to create new joint surfaces.

The knee involves the lower end of the thigh bone—the femur—and the upper end of the shin bone—the tibia. The kneecap—the patella—is in the middle. The ends of these three bones meet and are protected by articular cartilage, which also helps the bones move easily. The menisci are located between the femur and tibia, cushioning the joint and acting as a shock absorber. Ligaments hold the femur and tibia together, providing strength and stability to your knee. The remaining surfaces of the knee are lined with a synovial membrane, which releases a lubricant that prevents friction in the knee. Injury or disease, such as various forms of arthritis, disrupts normal knee function, causing pain and/or mobility problems.

During knee replacement surgery, a metal prosthesis that resembles the normal shape of the femur in the knee joint is placed over the end of the bone. The top of the tibia is replaced with a metal plate with a small stem that reaches down into the bone. The femoral component articulates with a specially shaped polyethylene tibial insert that attaches to the tibial plate. All of these components are inside the joint with preservation of the normal capsule and major stabilizing ligaments on the sides of the knees. Generally, the undersurface of the kneecap, or patella, also is resurfaced with a polyethylene implant. These components are fixed with cement or bone ingrowth into porous surfaces.



The standard total knee in a plastic model is shown on the left, and X-rays of the knee following surgery are shown on the right.

Understanding Knee Replacement (continued)

Surgeons use a variety of instruments to make sure that the leg is straight at the end of the operation. Another surgical goal is to have the knee extend completely (straighten out) and bend (flex) as much as possible to enable stair climbing, getting in and out of a car, and sitting comfortably. To model after the normal knee, it is important that the main ligaments on the side of the operated knee provide stability against the knee moving to the side and being unstable.

Physical Therapy (PT)/Occupational Therapy (OT) for Total Knee Arthroplasty

Your motivation and participation in physical therapy and occupational therapy are essential elements of your recovery. You must play an active role in every step of your rehabilitation. Your rehabilitation team will include physical therapists, physical therapy assistants, occupational therapists and occupational therapy assistants. You and your team will work together to achieve important goals, including regaining independence and mobility, developing a program for walking at home, and understanding proper body mechanics. Your dedication to physical therapy and occupational therapy will set the pace for your recovery.

Our objective is to help you return home as quickly as possible. During your stay, your goals, at a minimum, are as follows:

Physical Therapy Goals

Your physical therapist will work on your ability to sit at the edge of the bed, safely transfer from bed to chair and back, sit down and stand up, walk with an assistive device, and go up and down stairs safely. You will also be provided with a home exercise program. We have equipment in the hospital such as walkers, canes and crutches that you can use during your stay.

Physical Therapy Schedule

- If you have an early morning surgery, you may be seen by the physical therapist the same day of surgery.
- You will be provided with a physical therapy schedule (with an approximate time frame when the sessions will occur) while you are in the hospital.
- Be sure to ask for pain medication. Use your therapy schedule to coordinate with the nursing staff to receive your pain medication 30 to 60 minutes before therapy sessions.
- The physical therapist will work with you on bending your operated knee to 90 degrees or greater and straightening it to full extension.
- The physical therapist will make sure you can walk safely and that you have the equipment you need to do so upon discharge home.
- The physical therapist will review the home exercise program (found at the end of this booklet) with you.
- If family members/caregivers have any questions, they are welcome to participate in a therapy session before you leave. They may also write down the questions so that a physical therapist can address them during a session while you are in the hospital.

Occupational Therapy Goals

Your therapists will work on your ability to perform and engage in self-care activities of daily living (ADLs) and functional tasks based on your tolerance.

- The occupational therapist will address your ability to safely perform functional transfers such as:
 - Getting on/off the toilet
 - Getting in/out of the shower
 - Getting in/out of a car
- The occupational therapist will address your ability to dress and bathe and may make recommendations regarding equipment to improve your safety and independence at home.
- The occupational therapist will review and make final recommendations regarding assistive equipment to allow for independent performance of lower body dressing, bathing and reaching.
- The occupational therapist will review and make recommendations as needed about bathroom medical equipment such as shower chairs and raised toilet seats to promote safe and independent toileting and bathing at home.

If family members/caregivers have any questions, please write them down and the occupational therapist can address them before you leave.



Your Hospital Stay

Assistive Equipment for Joint Replacement

Listed below are a few of the assistive equipment items commonly used after joint replacement surgery. These items are helpful, but not all are necessary to purchase. Not all patients will use every piece of equipment. Your physical therapist will make recommendations regarding which type of walking device is indicated. Your occupational therapist will advise you regarding recommended equipment necessary to perform your activities of daily living (ADLs). Your home environment, height and weight are taken into account when making final recommendations.

These items are available at most area drugstores as well as Community Lending Closets. Patients can check with their village or town hall regarding community services in their area. Please discuss with your surgical team if you have any specific equipment questions.

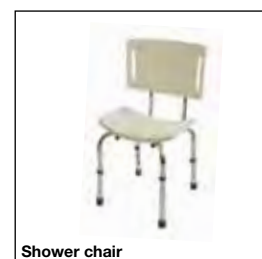
Personal Aids

- Walker with wheels
- Cane
- Reacher
- Crutches
- Sock aid
- Long-handled shoehorn
- Elastic shoelaces



Bathroom

- Elevated commode seat
- Toilet seat riser
- Shower chair
- Grab bar for shower/tub
- Hand-held shower head
- Long-handled bath sponge



Discharge Planning

Discharge Planning Process

The driving philosophy upon which the discharge planning process is built is that the BEST place for patients to be is in their own home (see next page). For this reason, the staff at NorthShore will work with you to ensure a successful transition to your home following surgery.

Planning for your discharge begins before your surgery and continues upon admission to the hospital. The care team at NorthShore begins preparing for your discharge from the moment you walk through the doors. As such, your care team will be in constant communication with your surgeon regarding your daily progress.

When all discharge criteria are met, your surgeon will discharge you. If you are being discharged to home, your home health agency will contact you.

Remember, achievement of good outcomes and function is a partnership between you and your care team. Your role is to actively participate with the care team in rehabilitation, exercise and daily activity.

Discharge Criteria

- You are medically healthy.
- All rehabilitation goals have been achieved.
- Arrangements have been confirmed with home health services.
- Initial home support is available from a family member/caregiver.

Ultimately, your surgeon will determine when you have met the criteria for discharge. Occasionally, however, adjustments to these plans may need to be made. If your plan of care does change, the discharge planners at NorthShore will be there to support your next transition.

Remember that once you return home, your recovery will be supported through a home care agency that has received specific care instructions for you from your surgeon. They will be there to support you as you begin your return to normal activity.

Discharge Planning

Recovering at Home After Surgery

The goal of any knee or hip replacement surgery is to return you to normal activities of daily living as quickly and as pain-free as possible. At NorthShore Orthopaedic & Spine Institute, we believe the best place to optimize your recovery and rehabilitation after surgery is in your own home. If you are in good health and have the initial in-home support of a family member or caregiver, going home immediately after joint replacement surgery may be the best option for you.

Enhanced comfort

Sleeping in your own bed. Hearing the familiar sounds of your home and your neighborhood. Knowing where to find everything you need, from an extra blanket to your favorite sweater. Recovering in your own home allows you to fully rest as well as be as active as you want or are able without the distractions and anxieties of staying in a strange environment.

Full support in your home

Through NorthShore or a home health provider of your choice, physical therapists, occupational therapists and/or visiting nurses will come to your home up to twice a day to provide you with highly skilled rehabilitation services to progress your recovery. Your movement throughout the day will add to that therapy, whether it's walking to the kitchen to make a cup of coffee or getting up from your armchair to use the bathroom. The more you move, the quicker you will recover.

There's no place like home

Being at home means more mobility. Additionally, home-based care allows our therapists to design a therapy plan that will help you better navigate the unique physical layout of your home from the get-go. There's no place like home to fully recuperate and begin using your new knee or hip.

Discharge Planning

Discharge Instructions for Total Joint Arthroplasty

Medications

- Review the medication instruction sheet given to you by your nurse for your prescription medications.
- Take prescription pain medication as directed by your surgeon.
- Do not take anti-inflammatory medications (aspirin, ibuprofen, Aleve, Advil) until approved by your surgeon.

Diet

- Eat a well-balanced diet.
- Pain medication may cause constipation. We encourage you to drink lots of fluids and increase your intake of fruits and fiber.
- A pharmacist is available for any questions you might have regarding dietary considerations while taking blood-thinning medications.

Incision Care

You will receive instructions regarding incision care prior to discharge from the hospital.

If you notice **any** of the following symptoms of infection, please call the surgeon's office immediately:

- **There is drainage from the incision.**
- **The incision becomes red and very hot.**
- **You develop a fever over 100 degrees.**

Showers

Check with your surgeon regarding when you may take your first shower following surgery. You should pat the incision dry—do not rub your incision or apply creams or lotions. If you are unsteady standing, you should use a stool or chair.

Support Stockings

Your surgeon may recommend wearing support stockings following your surgery. If so, the length of time you will wear them depends on your activity level and the amount of swelling in your legs. Be sure you are checking for pressure sores on your heels. Report any heel pain, burning, itching, blisters or redness that does not go away to your surgeon or nurse.

Ankle Swelling

You may get ankle swelling for about three months, but it should occur less in the morning. If you lie down during the day and elevate your legs (remember your hip precautions), the swelling should go away. If the swelling continues or if you have swelling in both legs, you should call your surgeon.

Discharge Instructions for Total Joint Arthroplasty (continued)

Blood Clots

The following symptoms may indicate the formation of a clot. If you notice any of these symptoms, please call your surgeon immediately:

- **Calf that is painful and feels warm to the touch**
- **Persistent swelling of the foot, ankle or calf that does not go away with elevation of the leg**
- **Chest pain or shortness of breath (If this chest pain or shortness of breath is sudden or severe, call 911 and seek emergency care immediately.)**

It is important that you use your assistive device for balance as directed by your surgeon or therapist. If your hip replacement is full-weight-bearing, you may progress from a walker to crutches or a cane as recommended by your surgeon or therapist. If your hip is non-weight-bearing, you will need to continue using crutches for at least three to six weeks per your surgeon's instructions.

Discharge Planning

Discharge Instructions for Total Joint Arthroplasty (continued)

Daily Activity

Walking is very important for the success of your joint surgery—but you must avoid the extremes of too little or too much.

- **Do not sit for longer than 30 to 45 minutes at a time.** Use chairs with arms. You may nap if you are tired, but DO NOT stay in bed all day. Frequent, short walks—either indoors or outdoors—are the key to a successful recovery.
- **You may experience discomfort in your operated hip/knee, and you may have difficulty sleeping at night.** This is part of the recovery process. Getting up and moving around alleviates some of the discomfort. Icing after exercising often helps to decrease the discomfort. The key to a successful recovery is movement—both exercises and walking.
- **You should do stairs with support.** Do one step at a time—“good” leg up—“bad” leg down. Use a railing if available.
- **You may be a passenger in a car.**
- **The decision to resume driving your car is made by your surgeon at your first post-op visit.** This is usually two to four weeks after your surgery.
- **HIP PATIENTS:** You will receive discharge instructions to help you get in and out of your car. You may need to sit on a firm cushion or folded blanket to avoid sitting too low. Be mindful of your hip precautions, if applicable.
- **KNEE PATIENTS: Do not sleep with a pillow under your knee. Keeping your knee in one position all night counteracts your physical therapy progress.** If you have been discharged with a foam support, it may be used intermittently throughout the day as instructed. Please remove the foam support before going to sleep at night.

Lifelong Fitness

The goal of your surgery is a joint that will enable you good motion and the ability to perform everyday activities without pain. This joint is NOT INDESTRUCTIBLE. It is important to stay as active as you can after recovering from your surgery. Talk with your surgeon/therapist about activities and exercises that are right for you.

Added body weight puts stress on all joints, so try to maintain a healthy weight.

After Surgery—At Home

Home Health

Once you are discharged, begin exercises as instructed until therapy visits start in your home. Home health nurses will visit a few times a week for incision checks, general assessments and blood testing (if needed). Physical therapy will evaluate each patient and initiate a plan of care.

NOTE: The home health nurses and therapy services must be provided by the same agency.

Discharge Home Follow-Up

Your first post-op visit with your surgeon will be approximately two to four weeks after surgery.

Preventing Infection

Preventing infection is extremely important for the rest of your life. Your new joint is artificial and does not have your body's natural protection against infection. Bacteria from a variety of sources can enter your bloodstream and invade the area surrounding your new joint. Prior to any of the following procedures, you will need to take a dose of antibiotics to reduce infection risk to your new joint:

- Dental work, including cleaning
- Prostate and bladder surgery
- Tonsillectomy
- Colonoscopy

After Surgery—At Home

Controlling Pain at Home

You will be able to control pain to allow you to increase walking, to gradually increase activity level and mobility, and to follow the prescribed exercise program while decreasing reliance on prescription pain medications through the use of alternative measures.

It is important to understand the following:

- You cannot expect to be pain-free. Not moving to avoid pain will ultimately contribute to more pain and swelling.
- It is OK to take medication when pain is interfering with walking, exercise or sleep.
- If your pain is manageable or the prescription pain medication is causing ill effects, it is OK to **substitute** Tylenol and use alternative measures to increase comfort. We recommend that the maximum amount of Tylenol (acetaminophen, APAP) you take should not exceed 4,000 mg in 24 hours. Please read the labels carefully or consult with your pharmacist for clarification.

Guidelines for Use of Pain Medication

- Only take pain medications according to the directions from your doctor. Be sure that you do not exceed the number of tablets for each dose or how often you can take the medication.
- Many medications, including over-the-counter medications and prescriptions, contain acetaminophen.
- You should take pain medication with meals or at least with something in your stomach. Follow directions from your doctor or on the medication bottle.
- Do not wait until the pain is severe. Pills take 30 to 60 minutes to begin to work. If the pain is severe, relief will be slower and less effective.
- Use pain medication before therapy and as needed.
- Notify your doctor if pain medication causes you to be nauseated, shaky, disoriented or unsteady when walking or if it causes vomiting.
- **Do not drink alcohol** if you are taking pain medication.
- Some pain medications cause constipation. This can be avoided by drinking extra fluids, increasing activity, and eating prunes or other dried fruits.
- **Do not take aspirin or anti-inflammatory medications until you are done with your anti-coagulant. Your doctor may prescribe an acceptable alternate medication if necessary.**

Alternative Measures to Increase Comfort

- Establish a reasonable pattern of activity without increasing pain and swelling from overdoing. You should alternate periods of activity with rest to avoid increased pain.
- Get dressed every day. This makes you feel less like a patient.
- Use ice frequently, especially following physical therapy for 20 to 30 minutes.
- Your therapist can instruct you in positioning to relieve pain.
- Gradually increase walking and other activities. Change positions every 30 to 60 minutes. Do not sit too long without moving about.
- Find activities that will take your mind off the surgery.

After Surgery—At Home

Icing Instructions—Knee

After a knee replacement, swelling is expected. Swelling can cause increased knee pain and limit your range of motion, so taking steps to reduce the swelling is important. Using the cooling unit or an ice pack can help reduce swelling.

There are several types of “ice packs” you can use:

- A cooling unit
- A commercial ice bag
- Ziplock bags, doubled, half filled with ice
- Commercial gel packs that you refreeze
- Large bags of frozen peas that can be refrozen

It is important to take precautions when icing to avoid injury to the skin:

- Never apply ice directly to the skin.
- Place a towel or other cloth between your skin and the ice pack.
- Ice should never be applied longer than 30 minutes. (Exception: A cooling unit may be applied continuously throughout the day.)
- Ice should be removed if the area becomes numb regardless of how long it has been applied.

Tips for effective icing:

- An ACE™ bandage wrapped loosely around your knee will help hold the ice pack in place.
- Ice can be placed both on top of the knee and under the knee so the entire joint is covered.
- Ice for approximately 20 to 30 minutes.
- Ice can be applied as often as once an hour to help control pain and swelling.

After Surgery—At Home

“Normal Activities” FAQs

When can I drive?

When you are allowed to drive again varies depending on your type of surgery (hip vs. knee) and the side of surgery (right vs. left). You can work with your home therapist and speak with your surgeon at your first post-op visit to determine when you are safe to drive.

When can I go back to work?

This varies depending on what your job entails and the physical demands of your job. You can work with your home therapist on simulating your work environment and speak to your surgeon at your first post-op visit to determine when you are safe to return to work.

Can I do water aerobics, swim and take baths?

You must wait until your incision is well-healed to avoid infection. You can speak to your surgeon to discuss when your incision is healed enough to perform these activities.

When can I climb stairs?

Your therapist will practice stairs with you before you leave the hospital.

When can I return to golfing, biking or other sports?

High-impact activities should be avoided until your surgeon gives you clearance to perform them.

How long will I use a walker?

This varies from person to person. Your therapist in the hospital and your home therapist will evaluate you and advise you on which assistive device is best for your needs. As you progress with therapy, your therapist will advance you to a less restrictive device.

Where can I get assistive devices and adaptive equipment?

- **Discharge from hospital directly home:** Depending on your insurance, the home health liaison will be sure the patient has the appropriate assistive device.
- **Discharge from hospital to a skilled rehab facility:** Your equipment needs will be addressed prior to discharge from the rehab facility.

After Surgery—At Home

- **Lending closets:** Many townships or villages have community lending closets with a variety of equipment. To avoid paying for equipment, you are encouraged to call or visit your local Lending Closet to see if they have equipment you can borrow during your rehabilitation.
- **Medical supply stores:** If you choose to purchase your own equipment, there are many medical supply stores throughout the area. Walgreens Home Medical, Walmart and Mark Drugs are among the more popular local stores that have medical equipment for purchase.
- **At the hospital:** The hospital where your surgery takes place has walkers and canes available for purchase.

When can I resume sexual activity?

In general, it is safe to resume intercourse approximately four to six weeks after surgery if it is OK with your surgeon. It is important to adhere to your hip precautions during sexual activity.

Hip replacement patients, both male and female, prefer to resume intercourse in a passive manner in the “bottom” position, as this position generally requires less energy expenditure. As your hip heals, you may resume a more active role. After a few months, you can resume sexual activity in any comfortable position. If you still have questions, feel free to ask your surgeon.

Patients having a knee replacement may resume sexual activity whenever they feel comfortable.

Following surgery, do I need to make special considerations when I travel?

Airlines have various accommodations for people traveling with assistive devices (crutches, wheelchairs, etc.). It is best to call the airline ahead of time to explain your specific needs to make sure yours will be accommodated. Consider how you might need assistance, such as help entering the aircraft, getting to your seat or assistance with luggage.

Flying has some unique characteristics that can further increase your risk for blood clots. If you intend to travel within 90 days of your surgery or if you have a history of blood clots, you need to take extra preventive measures. **The following is a list of things you should discuss with your surgeon before getting aboard the plane:**

- Wear loose-fitting clothing during the flight.
- Walk around the cabin every 30 to 60 minutes if possible during flights of three hours or longer.
- Do ankle flexion exercises while seated.
- Limit alcohol and caffeine, which may contribute to dehydration.
- Stay hydrated before, during and after the flight.
- If possible, elevate your legs during travel.
- If you have a layover, take a brisk walk in the airport.



Exercises for Total Hip Arthroplasty

Do 10 reps of each exercise twice a day.

These exercises may be done in bed if you cannot safely get onto or off the floor.

Glut sets: Lie on your back. Squeeze your buttock muscles together. Hold for five seconds. Relax.

Repeat 10 times.



Hip abduction: Lie on your back. Gently bring your leg out to the side while keeping your knee straight. Bring your leg back to the start position while keeping your knee straight.

Repeat 10 times.



Quad sets: Lie on your back. Tighten muscles on the top of your thigh by pushing your knee down into the bed. Hold for five seconds. Relax.

Repeat 10 times.



Home Exercises

Hip

Heel slides: Start by lying down with your legs straight in front of you. Draw the heel of your foot toward your body. Hold for five seconds. Return to start.

Repeat 10 times.



Ankle pumps: While lying down or sitting up, gently point your toes down to the floor and then up toward the ceiling.

Repeat 10 times.



Exercises for Total Knee Arthroplasty

Do 10 reps of each exercise twice a day.

These exercises may be done in bed if you cannot safely get onto or off the floor.

Glut sets: Lie on your back. Squeeze your buttock muscles together. Hold for five seconds. Relax.

Repeat 10 times.



Hip abduction: Lie on your back. Gently bring your leg out to the side while keeping your knee straight. Bring your leg back to the start position while keeping your knee straight.

Repeat 10 times.



Quad sets: Lie on your back. Tighten muscles on the top of your thigh by pushing your knee down into the bed. Hold for five seconds. Relax.

Repeat 10 times.



Straight leg raise: Lie on your back. Tighten muscles on the front of your thigh, then lift your leg up off the bed. Keep your knee straight and your leg controlled throughout the motion. Return to start.

Repeat 10 times.



Heel slides: Start by lying down with your legs straight in front of you. Draw the heel of the left foot toward your body. Hold for five seconds. Return to start.

Repeat 10 times.



Ankle pumps: While lying down or sitting up, gently point your toes down to the floor and then up toward the ceiling.

Repeat 10 times.



Long arc quads: Sit in a chair. Raise your leg until your knee is straight. Hold for five seconds. Return to the start position.

Repeat 10 times.



**Thank you for choosing NorthShore Orthopaedic & Spine Institute
for your total joint replacement.**

If you have any questions, please contact (847) 933-6815



 **Orthopaedic
& Spine Institute**

 **NorthShore**
University HealthSystem

