

Table of Contents

WELCOME

Welcome Letter	3
Important Dates & About this Brochure	4
Introducing Your INOV8 Surgical Team	5

UNDERSTANDING YOUR JOINT REPLACEMENT SURGERY

Common Causes of Hip Problems	6
Hip Replacement	7
The Risks of Hip Replacement Surgery	8
Knee Replacement Surgery	9
What Results Are Typical?	10
The Risks of Knee Replacement Surgery	10

PREPARING FOR YOUR JOINT REPLACEMENT SURGERY

Pre Surgery	11
Joint Education Session	11
Preoperative Exercises	12
Medications & Preventing Surgical Site Infections	13
Surgical Bathing Instructions	14
Tips for Preparing Your Home	14
Day Of Surgery	15

DAY OF YOUR HIP REPLACEMENT SURGERY

Arriving at INOV8 Surgical	16
Anesthesia - General Information	17
Recovery	18
What to Expect After Surgery	19

TRANSITIONING HOME

Preparing to Return Home	20
Medications	21
Exercises	21
When to Call Your Surgeon	22

LIFE AFTER JOINT REPLACEMENT

Traveling	23
Dental Care	23
Importance of Lifetime Follow-ups	23
Follow-Up Care	24

EXERCISES AND MOBILITY

What to Expect the First 12 Weeks	25
Direct Anterior Hip Replacement	26/27
Total Knee Replacement Exercises	28/29
Getting in and out of Bed	30
Early Activity and Mobility	31
Sitting with a Walker	32
Climbing Stairs/Use of Walker	33
Going Up/Down Stairs with Crutches	34

FREQUENTLY ASKED QUESTIONS 35

Welcome

Congratulations on your decision to have Total Joint replacement surgery! You are probably excited about the prospect of taking this important next step toward a new life.

Experts affiliated with INOV8 Surgical have carefully planned every step of your care to help ensure a speedy and successful journey to recovery. Rest assured - you're in excellent hands every step of the way. Inov8 Surgical is one of the only Ambulatory Surgery Centers in the state of Texas with AAAHC's Advanced Orthopedic Certification. This means we meet rigorous standards for Total Joint Replacement Surgery.

INOV8 Surgical uses a team approach to care for you and your family. Physicians affiliated with INOV8 Surgical include some of the most experienced and highly trained orthopedic surgeons in the Houston area. Each team member is specially trained to take care of patients having joint replacement surgery. Even though they have cared for countless patients, they also understand that your needs are unique.

The goal of the INOV8 Surgical team is to provide the highest quality and innovative, individualized care for you and your family. The affiliated surgeons along with nurses, therapists and support staff complete a team designed to assist you through your total joint replacement journey.

Thank you for choosing INOV8 Surgical!

Joint Replacement Surgery: Important Dates & Times

Name of Surgeon	_____
Date of my surgery	_____
Zoom Joint Education Session/Patient Education	_____
Surgery day arrival time	_____
After surgery, follow up appointment with my surgeon	_____

If you are experiencing an emergency after hours, please call 911.

INOv8 Surgical Front Desk: 281-800-1233

Hours of Operation: 7:00AM - 5:00PM | Monday – Thursday

7:00 AM – 4:00PM | Friday

About This Brochure

This Joint Replacement Brochure will help prepare you for your surgery and recovery. It is designed to educate you so that you will know:

- What to expect every step of the way
- What you need to do before and after surgery
- How to care for your new joint for life

Remember: This is just a guide. **Your physician may add to or change the recommendations to personalize your treatment process. Always use their recommendations first and be sure to ask questions if any information or instructions are unclear.**

Keep this Joint Replacement Brochure as a handy reference for at least the first year after your surgery.

If you have any questions on subjects that are not covered, please contact your surgeon's office for further information.

Do Not Call the Surgery Center.

Introducing Your INOV8 Surgical Care Team

INOV8 Surgical has an experienced and highly skilled team that will focus specifically on you. Each team member is specially trained to help ensure a safe and successful recovery. They work together with you and your coach to ensure an exceptional experience. Your INOV8 team may include:

Orthopedic Surgeon: Your orthopedic surgeon physician will perform your joint replacement operation and will oversee your care throughout your stay at INOV8 Surgical.

Coach: Your coach is a person that you designate to support you as you prepare for and recover from your joint replacement surgery. This can be a spouse, friend or family member who will provide you with support and encouragement throughout your experience.

Anesthesia Provider: Board-certified physician anesthesiologists and certified registered nurse anesthetists (CRNAs) staff the operating room (OR) and the post-anesthesia care unit (PACU).

Registered Nurse: Before, during and after your surgery, you can expect to meet many different nurses who perform many different jobs. Nurses will help prepare you for surgery and will be in the operating room with you throughout your surgery. After surgery, a team of nurses will carry out all orders given by your surgeon, as well as keep you comfortable and safe at INOV8

Understanding Your Joint Replacement Surgery

Common Causes of Joint Problems

What is osteoarthritis?

Arthritis is a general term meaning joint inflammation. Osteoarthritis is a specific kind of arthritis and is the most common type affecting nearly 21million Americans. As we age, the chances of developing osteoarthritis increase, though the severity of the disease is different for everyone. Even people in the early stages of life can develop some form of osteoarthritis.

Osteoarthritis breaks down the cartilage in joints and can occur in almost any joint in the body, though it occurs most often in the hips, knees and spine. Cartilage is a rubbery material that covers the ends of bones in normal joints and helps ensure that joint bones don't rub together. It also serves as a shock absorber as wear and tear occurs in the joints after years of use.

Osteoarthritis makes joint cartilage susceptible to damage. Over time, the cartilage may break down and wear away, preventing it from working properly. When this happens, tendons and ligaments in the joint can stretch, causing pain. And if the condition worsens, joint bones can rub together, causing pain and discomfort.

What are the symptoms of osteoarthritis?

Joints that are sore and ache especially after periods of activity.

Pain that develops after overuse or when joints are inactive for long periods of time.

What are the causes of osteoarthritis?

Several factors can increase a person's chances of developing osteoarthritis including family history, obesity, injuries like fractures in the joint, previous surgeries where cartilage was removed from a joint, and overuse.

What is inflammatory arthritis?

Inflammatory arthritis can affect several joints throughout the body. It is caused by an overactive immune system. It may affect other organs of the body. It can affect men, women, and children of all ages. Rheumatoid arthritis, psoriatic arthritis and ankylosing spondylitis are types of inflammatory arthritis.

What are the symptoms of inflammatoryarthritis?

Stiffness and joint swelling, redness and warmth pain.

Hip Replacement Surgery

Your hip is made up of two basic parts that move and work together to ensure smooth motion and function. When arthritis affects the joint and the cartilage that cushions the hip wears away or is destroyed, the hip joint requires replacement.

The materials used in your artificial joint are very strong and are designed to last a very long time inside your body. Your orthopedic surgeon will consider many factors, like age, bone density and the shape of your joints to determine the exact kind of hip replacement you'll receive and how it will be inserted.



Total joint replacement surgery requires your surgeon to remove the damaged ends of two bones and insert new, artificial joint surfaces. In hip replacement your orthopedic surgeon will replace the upper part of your femur (the long bone in the thigh of your leg) with an artificial ball. The hip socket in your pelvis will be lined with metal and plastic. The new ball will glide normally in the newly lined hip socket. Your surgeon may decide to attach your new joint with or without bone cement. If your doctor decides not to use cement, a special implant will be used that allows your bone to grow into it.

The Risks of Hip Replacement Surgery

Joint replacement surgery is major surgery and although advances in technology and medical care have made the procedure very safe and effective, there are risks. These risks should be considered carefully before you decide to have surgery. You are encouraged to discuss the potential risks with your orthopedic surgeon, primary care provider and your family.

Every measure will be taken by your care team to minimize the risks and avoid complications. Although complications are rare, they do sometimes occur. The team will make every effort to avoid the most common risks, which include:

Blood Clots: Blood clots can form in a leg vein or in your lungs after hip replacement surgery and can be dangerous. Blood clots are more common in older patients, patients who are obese, patients with a history of blood clots, patients who smoke and patients with cancer.

Infection: Infection is very rare in healthy patients having a hip replacement. Patients with chronic health conditions, like diabetes or liver disease, or patients who take some forms of corticosteroids, are at higher risk of infection after any surgery. Superficial wound infections are usually treated with antibiotics. Deeper infections inside the joint may require additional surgery.

Nerve, Blood Vessel and Ligament Injuries: Damage to the surrounding structures in the hip, including nerves, blood vessels and ligaments, are possible but extremely rare. More commonly there is numbness in the area of the incision which usually, but not always, resolves in six to 12 months.

Wound Healing: Sometimes the surgical incision heals slowly, particularly if you take corticosteroids or have a disease that affects the immune system, such as rheumatoid arthritis or diabetes, or if you are a smoker.

Limited Range of Motion: Within a day of surgery, you will begin exercises to help improve the flexibility of your hip. Your ability to flex your hip after surgery often depends on how far you could flex it before surgery. Even after physical therapy and an extended recovery period, some people are not able to flex their hip far enough to do normal activities such as reaching their feet to put on socks or tie their shoes.

Dislocation of the Hip: A patient's hip may move out of place after surgery (only 2-3% of patients). If this occurs, your surgeon will put the hip joint back in place. Some patients may be required to wear a brace for a short time after the dislocated hip is reset. In very rare cases, surgery may be required to put the hip back in the socket.

Changes in the length of your leg: After hip replacement, slight changes in the length of your leg may occur. The change is typically very small (less than 3/8") and is usually not noticeable to patients.

Loosening of the Joint: Over the long term, loosening of the artificial hip joint is the most common risk associated with total hip replacement. Loosening may occur when tissue grows between the artificial joint and your bone.

Knee Replacement Surgery

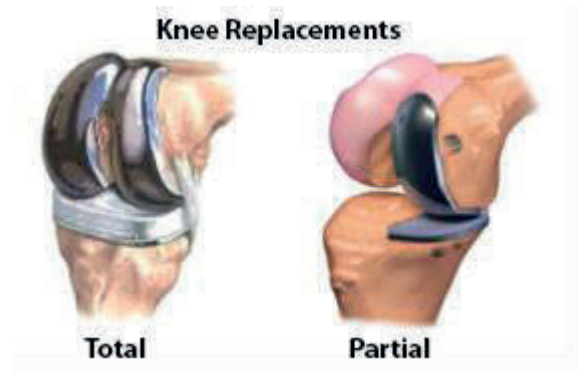
Your knee is made up of three basic parts that move and work together to ensure smooth motion and function. When arthritis affects the joint, and the cartilage that cushions the knee wears away or is destroyed, the knee joint requires replacement.

Total Knee Replacement Surgery

This involves resurfacing the knee joint and inserting an artificial joint made of a body-friendly metal alloy and plastic. The materials used in your artificial joint are very strong and are designed to last a very long time inside your body. Your orthopedic surgeon will consider many factors like age, bone density, and the shape of your joints when determining the exact kind of knee replacement implant that will be inserted into your knee.

Partial Knee Replacement Surgery

Sometimes, the cartilage damage in your knee is limited to just one side or the other. When this happens, a partial knee replacement procedure may be appropriate. Partial knee replacement is similar to total knee replacement except only one side of the knee joint is resurfaced. This involves a quicker recovery and a smaller scar.



The Risks of Knee Replacement Surgery

Joint replacement surgery is major surgery and although advances in technology and medical care have made the procedure very safe and effective, there are risks. These risks should be considered carefully before you decide to have surgery. You are encouraged to discuss the potential risks with your orthopedic surgeon, primary care provider and your family.

Every measure will be taken by your care team to minimize the risks and avoid complications. Although complications are rare, they do sometimes occur. The team will make every effort to avoid the most common risks, which include:

Blood Clots: As explained on page 8

Infection: As explained on page 8

Nerve, Blood Vessel and Ligament Injuries: As explained on page 8

Wound Healing: As explained on page 8

Limited Range of Motion: As explained on page 8

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

Instability: After surgery, the knee may feel a bit unstable. This will normally improve as muscles regain their strength.

Loosening of the Joint: Over the long term, loosening of the artificial knee joint is the most common risk associated with total knee replacement. Loosening may occur when tissue grows between the artificial joint and your bone.

What Results are Typical?

You can expect a successful outcome from your joint replacement surgery. Generally, patients experience less pain and more mobility, and can resume most of the activities they enjoyed before the onset of arthritis. Long-term studies show that 85 to 90 percent of artificial joints are intact and functional after 20 years. Your artificial joint will last longer if you maintain your ideal weight and if you avoid high impact activities.

You can also help reduce your risks of many of these complications by:

- Reducing or eliminating the use of tobacco and alcohol
- Being compliant with managing your diabetes, if applicable
- Maintaining a healthy diet
- Using good hand-washing techniques
- Performing your exercises as directed by your surgeon
- Limiting high-impact activities as directed by your surgeon
- Use your ambulation assistive devices

Preparing for Your Joint Replacement Surgery

The INOV8 experience begins long before your actual surgery. These guidelines will prepare you for a rapid and safe recovery in your quest for improved mobility and health. To make sure you and your coach are fully prepared for your joint replacement surgery, it is important that you carefully and thoroughly review this patient brochure and practice your exercises before surgery.

Please call INOV8 (281)800-1233 or your surgeon directly if you have any questions or concerns regarding this information.

Pre-Surgery:

Before your surgery, it is imperative that you take part in the preadmission phone call. You may be required to see your Primary Care Physician and Cardiologist. Some laboratory testing may be required and ensures the care team will be completely prepared for your specific needs on the day of surgery.

When you see your Primary Care Physician, the nurse and clinical team will obtain your:

- Height, weight and vital signs
- Blood and urine testing
- EKG and X-ray; If ordered
- Medical history review
- Medication review (please bring your medications in the prescription bottle to this appointment or a list of meds)

Your medical history will be reviewed by an anesthesiologist, and you will receive a follow up phone call from a nurse a few days prior to your surgery. If necessary, some test may be performed on the day of surgery.

ZOOM Joint Education Session:

To make sure you are fully prepared for your joint replacement surgery, a nurse has been assigned to review important material with you.

Your attendance at the ZOOM Education Session is very important because it will help you better understand the joint replacement process and what to expect every step along your journey to recovery. You'll also be introduced to the exercises, tips and activities you will use to speed recovery and ensure lasting success. This will also be a great time for you to ask any questions about your procedure or recovery. Please call INOV8 (281)800-1233 if you have any questions or concerns regarding this information. This is also a great opportunity for your support person to learn about your procedure and how they can best assist you in your recovery. Please try and have your support person join you on this call.

You will be contacted by a member of the INOV8 Surgical team to schedule your ZOOM Education Session once your surgery date has been established. The ZOOM Education Session instructor will send you an email link with instructions on how to sign on to the ZOOM Education Session. Be sure INOV8 Surgical has your current and correct email address.

Note: Please make sure to download the ZOOM APP on your device. (cell phone, computer, tablet or laptop)

Pre-Operative Exercises

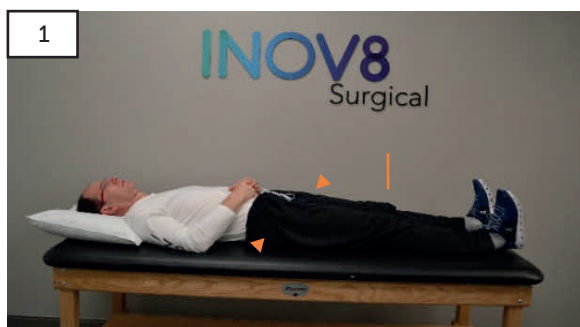
It is important to be as fit as possible before undergoing a total joint replacement. This will make your recovery much faster. The following are exercises you can do before your surgery. These exercises have been specially designed by therapists on staff at INOV8 Physical Therapy.

If you experience severe pain with any exercise, you should stop immediately.

1. Buttock Squeezes: (For knee & hip surgery)

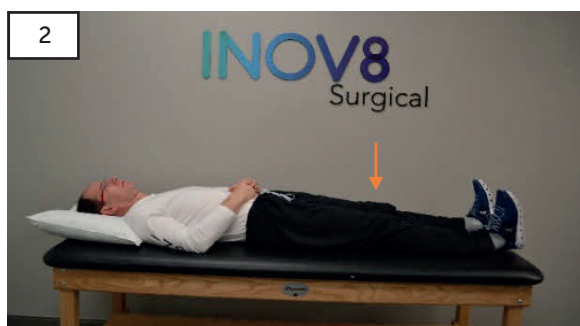
Squeeze your buttock muscles together. Hold for 5 seconds.

Repeat 30 times.



2. Quad Sets: (For knee & hip surgery) Slowly tighten the muscles on the front of your thigh. Straighten your leg as if you are pushing the back of your knee into the bed. Hold for 5 seconds.

Repeat 30 times.



3. Hamstring Sets: (For knee & hip surgery)

Slowly tighten the muscles on the back of your thigh by bending your knee with your heel planted. Dig your heel into the bed attempting to bend your knee without moving your leg. You should feel the muscle on the back of your leg tighten. Hold for 5 seconds. Repeat 30 times.



4. HIP SURGERY ONLY:

5. Hip Abduction: While lying on your unaffected side, lift your affected leg up about 8-10 inches while keeping your foot parallel to the floor. Repeat 30 times.



KNEE SURGERY ONLY:

6. Straight Leg Raises: To promote quadriceps strength, lie on your back and bend your uninvolved knee to a comfortable position. Tighten your thigh muscle and straighten your operated knee, then slowly raise your leg about 6 to 8 inches, hold for 5 seconds. Repeat 30 times.



Medications

During your pre-admission phone call, a nurse will review your medications.

Medications You May Need to STOP Taking Prior to Surgery

Some medications that you currently take may prove harmful during surgery because they thin your blood and increase the risk of bleeding after surgery. If you take the following medications* you must stop taking them prior to your surgery:

2 Weeks Prior: Prescription diet medications, methotrexate and other rheumatoid arthritis medications.

The American Society of Anesthesiology has recommended you stop the following supplements: ginkgo biloba, garlic or garlique, ginseng, glucosamine, green tea (capsule form), kava, echinacea, St. John's wort, valerian, vitamins A, D and E, and fishoil.

7 Days Prior: Hormone replacement therapy, anti-inflammatory medications (such as ibuprofen, Motrin®, Advil®, Aleve®, naproxen, Relafen® or diclofenac) may need to be stopped prior to surgery. Your surgeon will advise you which medications to stop.

***Note:** If you are on blood thinners, anticoagulants or antiplatelet agents (such as Coumadin®, Plavix®, Effient®) aspirin, compounds containing aspirin, or Trental® you will need special instructions from your surgeon.

Preventing Surgical Site Infections

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

Dental Care: All invasive dental work must be completed at least SIX weeks prior to your surgery. You must call your orthopedic surgeon's office if any dental problems arise prior to your scheduled surgery date. **(DO NOT CALL THE SURGERY CENTER)**

Shaving: It is very important that you do not shave your legs or use any hair removal products anywhere near the surgical area for TWO days prior to surgery.

Note: If hair needs to be removed around the site of your incision it will be done at INOV8 Surgical prior to surgery.

Clean Hands: Hand hygiene is very important. Your family and friends are strongly encouraged to wash their hands frequently to prevent the spread of infection.

Illness: If you become ill with a fever (greater than 100.4), cold, sore throat, flu, or any other illness, please contact your orthopedic surgeon's office. **(DO NOT CALL THE SURGERY CENTER)**

Skin Rash: Broken skin or rashes should be reported to your orthopedic surgeon's office. **(DO NOT CALL THE SURGERY CENTER)**

SURGERY BATHING 1 WEEK PRIOR

Beginning approximately one week before your operation, begin using antibacterial soap when you shower. This will generally help reduce the amount of bacteria living on your skin. Any antibacterial soap found in stores can be used.

THE NIGHT BEFORE SURGERY

- **DO NOT** eat or drink anything after midnight unless otherwise directed (this includes water, mints or gum)
- Wash your hair using normal shampoo. Make sure you rinse the shampoo from your hair and body. Wash your face with your regular soap or cleanser.
- Using a fresh clean washcloth/sponge, use an antibacterial soap wash from your neck down (ie Dial soap). **Very important.**
- Rinse your body thoroughly. **Very important.**
- Using a fresh, clean towel, dry your body.
- Dress in freshly washed clothes.
- Fresh clean sheets and pillowcases should be used after this shower.
- **DO NOT** use lotions, powders, or creams after this shower.
- **DO NOT** consume alcohol and **DO NOT** smoke 24 hours prior to your surgery.

Tips for Preparing Your Home

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

- Purchase a non-slip bathmat 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'll need immediately after returning home. Any items you use often should be moved to counter height to avoid excessive bending or reaching.
- Make sure stairs have handrails that are securely fastened to the wall. If you must navigate stairs inside or outside 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 with a firm back and armrests 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.
- Avoid yard work for 10 days prior to surgery.
- Make arrangements for 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.
- Since your safety is a primary concern, it is a requirement that your coach, spouse, a family member or friend stay with you at least 72 hours after your surgery.

DAY OF SURGERY

The following checklist should help you for your surgical day.

The day before surgery you will receive a call with your ARRIVAL TIME

Items to bring to INOV8 Surgical

- Your insurance card(s) and identification card(s)
- Credit card to make any necessary co-payments.
- Your personal front-wheeled walker, if you have one, labeled with your first and last name. If you do not have a walker, a walker can be provided to you at INOV8 Surgical.
- Your advance directive, either a living will or durable power of attorney for health care. (If you have one)
- Take a shower as instructed, using the antibacterial soap to minimize the risk of infection.
- It's **OK** to brush your teeth, but do not swallow any water.
- Wear clean, comfortable clothes. Avoid wearing any fragrance, deodorant, cream, lotion or nail polish. Take any medications as instructed, if instructed to do so, with a **SMALL** sip of water.

**TAXI, UBER OR LYFT
TRANSPORTATION IS NOT
PERMITTED UNLESS YOU ARE
ACCOMPANIED BY A RESPONSIBLE
ADULT.**

- Wear closed shoes with rubber bottom. **NO SLIDES**
- **DO NOT** take blood thinners or aspirin unless specifically directed to do so by your surgeon. You should take heart, blood pressure and/or seizure medications with a **SMALL** sip of water, as instructed.
- Dentures must be removed prior to surgery but will be returned to you after surgery. Bring denture storage.
- Contact lenses must be removed prior to surgery. Remove contact lenses prior to arrival to the center.
- **DO NOT** wear make-up or nail polish/artificial nails.
- **DO NOT** shave or groom the operative area or extremity,

If you need any additional information regarding advanced directives, please visit the website www.caringinfo.org.

Items to Leave at Home

Jewelry, cash or valuables of any kind should be left at home or in the care of a trusted loved one.

For your convenience, Wi-Fi is available throughout your INOV8 Surgical for you and your family's experience.

Day Of Your Joint Replacement Surgery

Arriving at INOV8 Surgical

The day of your surgery will be a busy one. Please remember **NOT** to eat, drink or smoke anything, including water, mints or gum, after midnight the evening prior to your surgery.

Surgery Preparation

After you check in at registration a wristband will be applied at this time. It is important for you to verify all information on your identification bracelet is correct. We will be asking you to confirm this information many times throughout your INOV8 Surgical stay as one way of ensuring your safety.

Just before surgery, a nurse will review your medical records, take your vital signs, perform a brief assessment, clean and shave the surgical site, and make sure everything is in order. Sometimes, additional tests may need to be performed.

In Pre-Op, a nurse will start an IV. This allows medication and fluids to flow directly into your bloodstream.

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

Family Waiting

On the morning of surgery, your coach, family member or friend will be able to stay with you until you're ready to be transported to the operating room. At this point, they will be escorted to a surgical waiting area where they will wait while you have surgery. The coach that drops you off must leave a cell phone number and be prepared to return to pick you up and stay with you the night of surgery.

Once your joint replacement is complete, a member of the surgical team will contact your coach, spouse, family member or friend.

Anesthesia - General Information

Board-certified physician anesthesiologists and certified registered nurse anesthetists (CRNAs) staff the operating room (OR) and the post-anesthesia care unit (PACU).

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

He or she 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.

KNEE SURGERY ONLY: There are two different types of regional anesthesia blocks used for knee replacement surgery. The knee is innervated by two separate nerves: the femoral nerve gets the top side of the knee and the sciatic gets the back side of the knee. The regional block that you will receive for the femoral nerve is called an adductor canal block and is placed mid-thigh with ultrasound guidance. The regional block for the sciatic nerve will be either the traditional sciatic nerve block placed in your buttock or the IPAC block placed behind your knee in the lower hamstring area.

What types of anesthesia are available?

Decisions regarding your anesthesia are tailored to your personal needs. The types available for you are:

- **General anesthesia** - provides loss of consciousness.
- **Regional anesthesia** - involves the injection of a local anesthetic to provide numbness, loss of pain or loss of sensation to a large region of the body. You may not be able to feel or move your legs until the anesthetic wears off. This effect sometimes lasts for several hours, so it is important that you do not try to walk until your nurse determines you are ready.
- **Local anesthesia** - a combination of medications injected into your hip during surgery to help with postoperative pain.

Operating Room

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

Wong-Baker FACES Pain Rating Scale



Recovery

After surgery, you will be transported to an area called the **Post-Anesthesia Care Unit (PACU)** or recovery room. You will spend approximately two to four hours in PACU while you recover from the effects of anesthesia.

A specially trained nurse will check your vital signs- including blood pressure, respiratory rate and heart rate - and monitor your progress. Pain medications will be provided through your IV as needed. The nurse will check your bandages, check drainage from your surgical site and encourage you to take deep breaths. The nurse will also apply foot or leg compression devices to help with circulation.

What to Expect after Surgery

Once you have arrived in the recovery area, nurses will assess you and continue to monitor you frequently until you are stable. Once your vital signs are stable and you have regained movement and sensation in your lower extremities, your recovery nurse will assist you to sit at the edge of the bed, stand, and walk.

Do NOT try to walk until your nurse determines you are ready.

For most patients, regional anesthetic wears off after a few hours. When this occurs, you will start taking pain medications by mouth.

Managing Your Pain

The amount of pain and discomfort you experience depends on multiple factors. You will receive pain medication through your IV after surgery and by mouth once you are recovering at the INOV8 Surgical Center. Your physicians and nurses will do everything possible to control your pain and discomfort using medications and other techniques.

Communication is an important part of helping to manage your pain. You are encouraged 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 or spreading out? On a scale of 0 to 10, where 10 is the worst pain imaginable, how would you rate your pain?

What to Expect After Surgery

Additional Medications

You can expect to receive IV antibiotics the day of your surgery as well as medications for pain and to prevent blood clots. 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 don't feel well.

Deep Breathing, Coughing and the Incentive Spirometer

You will receive a device called an incentive spirometer. The spirometer helps you fully expand your lungs and keeps them active in order to prevent chest congestion. You may practice coughing after using the incentive spirometer to make sure your lungs are clear.

Early Ambulation

You will walk with the assistance of a nurse when it has been determined that you are stable and have regained feeling and movement in your legs. Early ambulation is key in recovering more quickly and with fewer complications.

A nurse will help you begin your exercise routine. These exercises are designed to help increase strength and flexibility in the joint. To ensure maximum success, it is important that you take part in physical therapy as ordered while you are in the INOV8 Surgical Center and continue your exercises after you are dismissed to home.

After your surgery you will use a walker and will be able to put partial or full weight on the new joint. Walking is an important part of your exercise therapy. You will be walking with assistance 25 to 50 feet in the morning and aiming for 75 to 100 feet in the afternoon. Your walking goal is 250 feet or more if you can tolerate it.

Fall Prevention Program

After joint replacement surgery you will be considered at risk for a fall. Always call for assistance and wait for the nurse if you want to get out of bed for any reason.

Remember to use the call bell. Tell the person answering what you want and then wait for assistance.

If it is determined that you are in danger of falling due to the inability to remember the prevention instructions, further safety measures may need to be taken.

Please be assured these measures are taken for your safety and welfare.

Transitioning Home

Preparing to Return Home

You'll be ready to go home once you're able to walk safely and perform your exercise program and your surgeon determines that you are ready for discharge. You must arrange for someone to stay with you for at least 72 hours following your surgery.

The following check points will be used to assess when it is safe for you to go home:

- Get in and out of bed
- Get up and down from the chair and toilet
- Walk with assistance safely
- Get dressed
- Get in and out of your car
- Perform your hip exercise program on your own

Before you go home, members of your care team will make sure that all your needs are met. Your surgeon may order the following based on your individual needs:

- Medication for pain
- Celebrex® or other medication to decrease inflammation
- Anticoagulant to thin the blood

You can also expect:

- Written instructions from your surgeon
- Appointments for physical therapy, if indicated, and follow-up with your surgeon

Medications

Be sure to take your pain medications by mouth with a meal or snack. Take your medication as directed on the prescription label. Avoid drinking alcohol or driving while taking prescribed pain medication. Consider taking pain medication 30 minutes prior to performing the prescribed physical therapy exercises.

If you need a refill on your pain medication, contact your pharmacist. The pharmacy will contact your surgeon. You may begin to substitute acetaminophen (Tylenol) for the prescription medication at any time.

It is normal to experience a deep ache through the bone after surgery.

Some people experience constipation while taking pain medication. This is a common side effect of this 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.

Incision Care

Follow the instructions for incision care given by your surgeon.

Exercises

Following your discharge from INOV8 Surgical, a program for rehabilitation exercises is a **MUST** during the early recovery period. Your surgeon and therapist will determine the type and amount of exercise you should be doing to assist you in returning to your normal, active lifestyle. Early motion is the key to a successful recovery.

During your ZOOM Joint Education Session, you will be provided with an exercise regime to do both before and after your surgery. Avoid resistance training or swimming until cleared by your surgeon.

KNEE SURGERY ONLY:

Managing Swelling

It is normal to have bruising around your 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 the surgery.

Be sure to use ice three times a day for 10-15 minutes at a time with your leg elevated. This will help reduce pain and swelling. Be sure to place a towel on your knee under the ice to keep your dressing dry.

Ice should NOT be placed directly on the skin.

Elevate your leg 10 inches above the level of your heart and apply the ice pack to your operative site. You may place a pillow under your heel but do not place one under your knee.

Follow-up Physician Visit

You will see your surgeon or physician assistant for a follow-up appointment one-two weeks after surgery and routinely thereafter for the first year. Call your surgeon's office for all follow-up appointments. **(DO NOT CALL THE SURGERY CENTER)**

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: **(DO NOT CALL THE SURGERY CENTER)**

- A fall
- Pain not relieved by medication or pain that is getting worse
- Thick yellow drainage 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
- A temperature over 100.4F
- **Knee Surgery:** Numbness, tingling, or burning that persist even after elevating your leg and applying ice.
- Any unexpected problems, concerns or questions

It is unlikely, but if you experience chest pain, palpitations or difficulty breathing, please call 911.

Patient Satisfaction Survey

We thank you for using INOV8 Surgical for your recent surgery.

To help us to continue to provide the highest possible levels of patient care and comfort, we would like your feedback regarding your visit. You will receive an email link for a survey. Please share with us your experience so that we can continue to provide the best care possible. —

After Surgery

Do not call the surgery center for the following:

- **Scheduling surgeons follow up appointment(s).**
- **Medication questions or refills**
- **Discharge instructions**
- **Physical Therapy appointments or questions**
- **Completing FMLA paperwork (Family Medical Leave of Absence)**
- **Purchase of any equipment (walker, crutches, canes, braces, arm slings, Polar Chill machine, etc.)**

Please call your surgeon's office.

Life after Joint Replacement

Traveling

When traveling long distances, you should attempt to change position or stand about once an hour. Some of the exercises, like ankle pumps, can also be performed should you need to sit for long periods of time.

Because your new artificial hip contains metal components, you will likely set off the security systems at airports or shopping malls. This is normal and should not cause concern.

Please be sure and check with your surgeon on when it will be safe to travel by air.

Leading an Active Life

Exercise and maintaining an active lifestyle are important parts of health. Most patients with artificial joints are able to enjoy many activities, though some should be avoided. In general, high impact exercises, like running, jumping, heavy weightlifting, or contact sports are not recommended.

Participating in these or similar activities may damage your joint or cause it to wear down much more quickly. Low-impact activities like swimming, walking, gardening and golf are encouraged. Be sure to check with your orthopedic surgeon before starting any new activity.

Dental Care

Antibiotics may be indicated prior to dental work for a certain period of time after your surgery.

Please feel free to discuss this with your orthopedic surgeon.

The Importance of Lifetime Follow-up Visits

After your joint replacement surgery, it is important to follow up with your orthopedic surgeon on a regular basis.

Some general rules:

- In the first year, keep all your scheduled appointments.
- After that, plan yearly visits, unless otherwise instructed by your surgeon.
- Contact your surgeon anytime you have moderate or severe pain that requires medication .

Follow Up Care

There are three good reasons to follow up with your orthopedic surgeon:

First, if you have a cemented joint, the integrity of the cement must be evaluated. With time and stress, cement may crack. You may be unaware of this happening, because it usually happens slowly over time. This does not often occur in the first 10 years, but is a risk. After 10 years, the incidence is greater. Seeing a crack in cement doesn't necessarily mean you need another surgery, but it does mean you will need to be followed more closely. Your hip or knee could become loose, and this can lead to pain.

Or, the cracked cement could cause a reaction in the bone, called osteolysis, which causes the bone to thin out. The sooner potential problems are discovered, the better your chance of avoiding more serious problems.

Second, the plastic liner in your joint may wear. Small particles may get into the bone and cause osteolysis, similar to what may happen with cement. Replacing a worn liner early can keep this from happening.

Third reason is that it is important to keep a record of the performance and outcome of your surgery so that developing technology can be accurately evaluated. You may benefit from this process by giving your surgeon information that will allow him or her to better counsel you regarding surgical options.

X-rays taken at your follow-up visits can detect these problems. Your new X-rays can be compared to previous X-rays to make these determinations. This evaluation will be performed in your orthopedic surgeon's office.

If you are not sure how long it has been or when your next visit should be scheduled, call your doctor's office.

(DO NOT CALL THE SURGERY CENTER)

Exercises and Mobility (HIP & KNEE SURGERY)

The following pages contain a list of basic exercises and activities that you will be performing before and after your joint surgery. These activities are vital in helping you return to your normal activities and are designed to help increase leg strength, flexibility and function.

What to Expect the First 12 Weeks

WEEKS 1- 3

During weeks 1 through 3, you will become more independent. If you are receiving home therapy, you will need to be very faithful to your exercise program to achieve the best outcome. Please have your physical therapist complete your record of treatment and progress. Your goals for this time period are to:

- A proper walking pattern is important to restore a normal gait.
- **Make sure to walk with proper assistive device (walker, crutches or cane)**
- Achieve the goals set with your surgeon or physical therapist
- Learn the proper sequence for ascending and descending steps/stairs.
- Independently shower and dress.
- Resume homemaking tasks.

WEEKS 4-6

During weeks 4 through 6, you will see increasing mobility to full independence. Your home exercise program will be even more important as you receive less supervised therapy. Your goals for this timeperiod are to:

- Achieve your “1 to 3-week goals”.
- **Walk with a cane or single crutch if instructed to do so by your surgeon or physical therapist.**
- Begin progressing on stairs from one foot at a time to regular stair climbing (a few steps at a time).
- Drive a car with your surgeon’s permission.

WEEKS 7 - 12

During weeks 7 through 12, you should be able to begin resuming all your normal activities. Your goals for this time period are to:

- Achieve your “1 to 6-week goals”.
- Walk with no cane or crutch **only if instructed to do so by your surgeon or physical therapist.**
- Walk without a limp.
- Climb and descend stairs in normal fashion (foot over foot).
- After week 12, with your doctor’s approval, and still following all hip replacement precautions, you may resume all activities, including dancing, bowling and golf.

Direct Anterior Hip Replacement

Total Hip Replacement Exercises

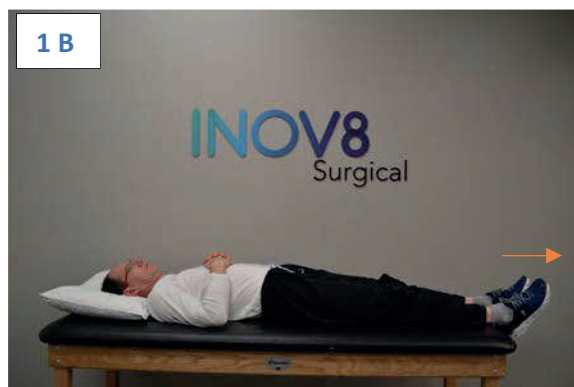
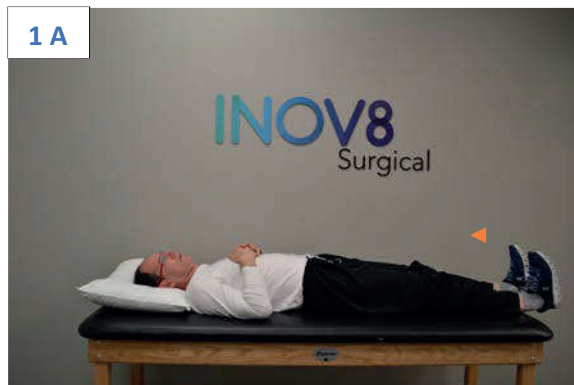
Regular exercise to restore your hip mobility and strength and a gradual return to everyday activities are important for your full recovery.

Your orthopedic surgeon and physical therapist may suggest some of the following exercises. This guide can help you better understand your exercise/activity program, supervised by your therapist and orthopedic surgeon. You may feel uncomfortable at first, but these exercises will speed your recovery and diminish your postoperative pain.

HIP DISLOCATION PRECAUTIONS (DIRECT ANTERIOR)

Avoid taking your surgical leg backwards while simultaneously turning it outwards.

1. **Ankle Pumps:** To promote circulation and to decrease swelling postoperatively, in bed or sitting in a chair, point your toes up (1A) and down (1B). Perform 10 repetitions every hour.
2. **Supine Hip Abduction: (2)** Lie on your back on a firm surface. Tighten your thigh muscle so that your knee is straight. Move your leg out to side, keeping your knee straight with your foot and knee pointing to the ceiling **LEG SHOULD BE MOVED OUT! DO NOT LIFT LEG UP!!!** Return to starting position. 30 repetitions 2 times per day.
3. **Quad Sets:** To improve quadriceps strength, lie with your leg straight and toes pointed toward the ceiling. Tighten the muscle on the top of your thigh by pushing the back of your knee into the bed (3). Hold your muscles tight for five seconds. 30 repetitions 2 times per day.

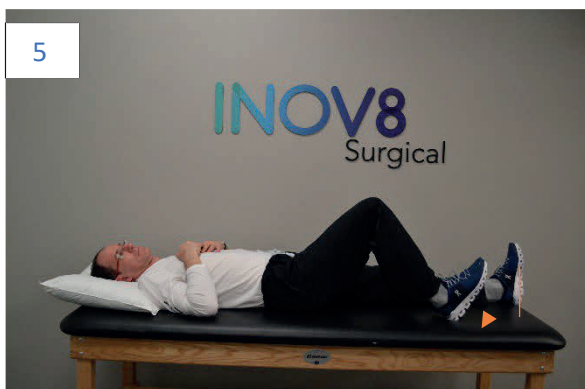


Direct Anterior Hip Replacement

4. **Buttocks Squeezes:** Squeeze your buttocks muscles together. Hold for 5 seconds.



5. **Hamstring Set:** Bend knee and dig heel into bed. Hold 5 seconds. 30 repetitions 2 times per day



Total Knee Replacement Exercises

Regular exercise to restore your knee mobility and strength and a gradual return to everyday activities are important for your full recovery.

Your orthopedic surgeon and physical therapist may suggest some of the following exercises. The following guide can help you better understand your exercise/activity program supervised by your therapist and orthopedic surgeon. You may feel uncomfortable at first, but these exercises will speed your recovery and diminish your postoperative pain.

- 1. 1A and 1B Ankle Pumps:** To promote circulation and to decrease swelling postoperatively, in bed or sitting in a chair, point your toes up and down. Perform 10 repetitions every hour.
- 2. Quad Sets:** To improve quadriceps strength, lie with your leg straight and toes pointed toward the ceiling. Tighten the muscle on the top of your thigh by pushing the back of your knee into the bed. Hold your muscles tight for five seconds. Perform 20 repetitions twice a day.
- 3. Short Arc Quads:** To further promote quadriceps strength put a towel or pillow under back of knee. Lift the lower leg up and straighten knee. Hold 5 seconds. Perform 20 repetitions twice a day. Skip this exercise if partial knee replacement.
- 4. Long Arc Quads:** To promote quadriceps strength, sit with your knees bent at 90 degrees. Straighten your leg at the knee. Hold for 5 seconds. Slowly lower your leg to the starting position. Perform 20 repetitions twice a day. Skip this exercise if partial knee replacement.



Total Knee Replacement Exercises

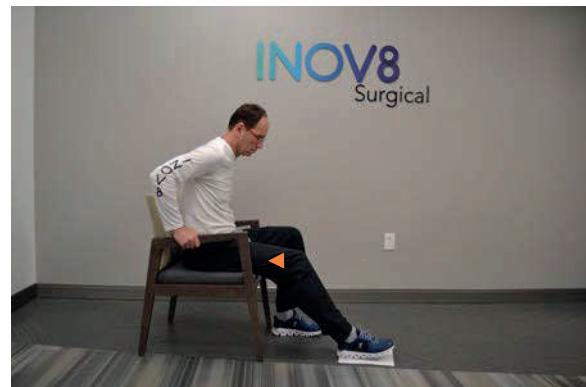
5. Straight Leg Raises: To promote quadriceps strength, lie on your back and bend your uninvolved knee to a comfortable position. Tighten your thigh muscle and straighten your operated knee and slowly raise your leg about 6 to 8 inches, hold for five seconds. Slowly lower your leg and relax the thigh muscle. Perform 20 repetitions twice a day.



6. Heel Slides: To promote active bending, lie on your back with your legs straight and your toes pointed toward the ceiling. Slowly bend your knee by sliding your heel toward your buttocks, attempting to achieve greater motion with each repetition. Hold 5 seconds. Perform 20 repetitions twice a day.



7. Seated Knee Flexion: To promote knee bending, sit in a chair with your knee bent and your foot fixed to the floor. Gently slide your foot back toward you. You can lift your heel up, but not the ball of your foot. Hold in the bent position for five seconds. Perform 20 repetitions twice a day.



Getting into Bed (HIP & KNEE SURGERY)

- Back up to the bed until you feel it on the back of your legs.
- Reaching back with both hands, sit down on the edge of the bed (1). and then scoot back toward the center of the mattress. (Silk pajama bottoms, satin sheets or sitting on a plastic bag may make this easier.)
- Move your walker out of the way but keep it within reach.
- Scoot your hips around so that you are facing the foot of the bed.
- Lift your leg into the bed while scooting around (2). If this is your operated leg, you may use a cane, a rolled bed sheet, a belt or your TheraBand assist with lifting that leg into bed.
- Keep scooting and lift your other leg onto the bed (3).
- Scoot your hips toward the center of the bed.

Getting Out of Bed (HIP & KNEE SURGERY)

- Scoot your hips to the edge of the bed.
- Sit up while lowering your unoperated leg to the floor.
- Bring your operated leg down to the floor.
- Scoot to the edge of the bed.
- Use both hands to push off the bed. If the bed is too low, place one hand in the center of the walker while pushing up off the bed with the other hand.
- Balance yourself before grabbing the walker.



Early Activity and Mobility

Soon after your surgery, you will begin to walk short distances in the surgery center and perform everyday activities. This early activity aids your recovery and helps your joint regain its strength and movement.

Walking (HIP & KNEE SURGERY)

Proper walking is the best way to help your hip or knee recover. At first, you will walk with a walker. Your surgeon/physical therapist will tell you exactly how much weight you are allowed to put on your affected/operative leg, as ordered by your surgeon. Your allowed weight may range from “touchdown” (barely touching your foot to the floor) to “partial” (less than half of your weight), or “as tolerated” (as much as is comfortable).

Stand comfortably and erect with your weight evenly balanced on your walker or crutches. Advance your walker a short distance, then reach forward with your operated leg with your knee straightened so the heel of your foot touches the floor first. As you move forward, your knee and ankle will bend, and your entire foot will rest evenly on the floor. As you complete the step, your toe will lift off the floor and your knee and hip will bend so that you can reach forward for your next step. Remember, touch your heel first, then flatten your foot, then lift your heel off the floor.

Walk as rhythmically and smoothly as you can. Don't hurry. Adjust the length of your step and speed as necessary to walk with an even rhythm. As your muscle strength and endurance improve, you may spend more time walking. You will gradually put more weight on your leg. You may use a cane in the hand opposite your surgery and eventually walk without an aid. Hold the aid in the hand opposite the side of your surgery. You should not limp or lean away from your operated hip.

The correct way to use your walker is as follows:

- Always keep your walker in front of you.
- Push your walker and place it approximately an arm's length in front of you. Be sure to place all four legs down flat before walking.
- Place your affected leg approximately half the distance between you and the walker.
- Place your unaffected leg next to or past the affected leg near the front of the walker.

Note: If you are using crutches, make sure all of your weight is supported on your hands, not under your arms.

Sitting with a Walker (HIP & KNEE SURGERY)

It is important to use the correct technique when sitting down. Using a chair with armrests is recommended. In order to sit safely, use the following procedure:

- Using the walker, back up to the chair until you feel it behind your legs **(1)**.
- Slide your affected leg out in front of you **(2)**.
Reach back for armrests and slowly lower yourself into the chair with 1 hand on walker and 1 hand on chair armrest. **(3)**.
- You may then slide back into the chair if you are seated too far forward.
- Reverse this process to stand up from a chair.



Climbing Stairs/Use of Walker (HIP & KNEE SURGERY)

The ability to go up and down stairs requires strength and flexibility. At first, you will need a handrail for support and will be able to go only one step at a time. Always lead up the stairs with your good leg and down the stairs with your operated leg. Remember, “up with the good” and “down with the bad.” You may want to have someone help you until you have regained most of your strength and mobility.

Do not try to climb steps higher than the standard height (7 inches) and always use a handrail for balance. As you become stronger and more mobile, you can begin to climb stairs foot over foot.

There are several ways to go up and down stairs. Your therapist will instruct you on which technique is best for you. Note: Remember to maintain your weight-bearing status even while you are on the stairs.

Going Up Curbs with a Walker (HIP & KNEE SURGERY)

- Move your feet and the walker as close to the curb as possible.
- Put your weight on both your legs; then lift the walker onto the sidewalk.
- Step onto the sidewalk with the unaffected leg first. Then, using the walker to support your weight, bring up the affected/surgical leg.

Going Down Curbs with a Walker (HIP & KNEE SURGERY)

- Move your feet and the walker as close to the edge of the curb as you safely can.
- Lower the walker onto the street, keeping its back legs against the curb.
- Using the walker to support your weight, lower your affected/surgical leg first. Then step down with the unaffected leg.



Going Up Stairs with Crutches (HIP & KNEE SURGERY)

- Walk up to and face the steps, keeping your crutches on the floor.
- Step up with your unaffected leg first and then your affected/operated leg.
- Bring the crutches up to the step you are on.
- Repeat until you reach the top of the stairs.

Going Downstairs with Crutches (HIP & KNEE SURGERY)

- Place the crutches on the step below you.
- Step down with your affected/operated leg first and then your unaffected leg.
- Repeat until you reach the bottom.

Advanced Exercises and Activities

(HIP & KNEE SURGERY)

Once you have regained independence for short distances and a few steps, you may increase your activity. The pain of your hip problems before surgery and the pain and swelling after surgery have weakened your hip. A full recovery will take many months. Your orthopedic surgeon may refer you to outpatient physical therapy for advanced hip strength and flexibility rehabilitation.



Pain or Swelling after Exercise (KNEE SURGERY ONLY)

You may experience knee pain or swelling after exercise or activity. You can relieve this by elevating your leg and applying ice wrapped in a towel. Exercise and activity should consistently improve your strength and mobility.

Exercycling (KNEE SURGERY ONLY)

Exercycling is an excellent activity to help you regain muscle strength and knee mobility. At first, adjust the seat height so that the bottom of your foot just touches the pedal with your knee almost straight. Pedal backward at first. Ride forward only after a comfortable level of backward cycling motion is possible. As you become stronger (at about six weeks) slowly increase the tension of the exercycle. Exercycle for 10 to 15 minutes twice a day, gradually build up to 20 to 30 minutes, three or four times a week.

Frequently Asked Questions

How often will I see my physician after surgery?

Your surgeon and/or his/her physician's assistant will speak with your family/support person after the surgery. You may not see your surgeon immediately following your surgery as you will be recovering from anesthesia. Your surgeon will also want to see you for follow-up appointments in his/her clinic after you are discharged.

How do I know if my incision is infected?

After surgery, you will notice discolored skin, some swelling and drainage around your incision. This is normal. If you experience painful redness, abnormal swelling or thick, bad-smelling drainage from your incision, you may have an infection. A temperature over 101 degrees also may indicate an infection. If this occurs, please call your surgeon immediately.

When can I take a shower?

Most patients will shower on the second or third day after surgery. At home you may need special equipment, like a bathmat, hand-held showerhead or shower seat to help you bathe comfortably and safely. Your surgeon may also instruct you to cover your incision when you shower.

When will I be able to drive again?

You should not drive a car or other motor vehicle until your physician says it's OK to do so. You must be off pain medications before you will be cleared to drive again. In most cases, patients can resume driving about four weeks after surgery.

Frequently Asked Questions

How should I sleep at night to keep my hip/knee comfortable and safe?

Placing a pillow between your legs should help keep your hip comfortable and stable. You may sleep on your back, depending on what makes you most comfortable.

When can I return to work?

Most often, at least four to six weeks are needed off from work. It depends upon the type of work you do. Please consult with your surgeon.

When can I play sports again?

You are encouraged to participate in low- impact activities after your full rehabilitation. These activities include walking, dancing, golfing, hiking, swimming, bowling and gardening. High-impact activities such as running, tennis and basketball are not recommended.

Information from American Academy of Orthopedic Surgeons:
orthoinfo.aaos.org, 2011.