



**PennState Health**  
Milton S. Hershey  
Medical Center

**Bone and Joint Institute**



**Hip and Knee Joint Arthroplasty**

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## Introduction

Hello, I'm Dr. Charles Davis, Chief of Hip and Knee Joint Arthroplast at the Bone and Joint Institute at Penn State Health Milton S. Hershey Medical Center. Thank you for taking the time to view this resource on hip and knee arthritis and hip and knee pain.

This document will provide information about the symptoms of arthritis, the diagnosis of arthritis, and the nonsurgical and surgical options available to you. This is designed to help you make an informative decision with your doctor as to how best to manage your hip and knee pain.

Arthritis is a very common condition which affects millions of people in the United States. It can arise at any age, but is typically is more common in older folks. There are several excellent nonsurgical treatment options for arthritis that we will review. After exhausting nonsurgical options, if needed, very excellent surgical treatments are also available. The goal of all treatment options is to help patients to resume active lifestyles with significant pain relief.

We hope you, your family, and your caregivers find this resource convenient and helpful in making informed decisions about your course of care.

Thank you,

Dr. Charles Davis



**Note:**

This information is for educational purposes only and is not intended to replace the advice of your doctor or health care provider. We encourage you to discuss any questions or concerns you may have with your doctor.





## Before you consider surgery

### Take an active role in your course of care.

There are several ways you can resume an active lifestyle with significant pain relief before you consider having surgery. This first section will discuss:

- Arthritis
- Osteoarthritis
- Non-surgical options available

Discuss each non-surgical option with your primary care doctor to determine which are best for your specific needs.

## What is Arthritis?

### Did you know there are over 100 different types of arthritis?

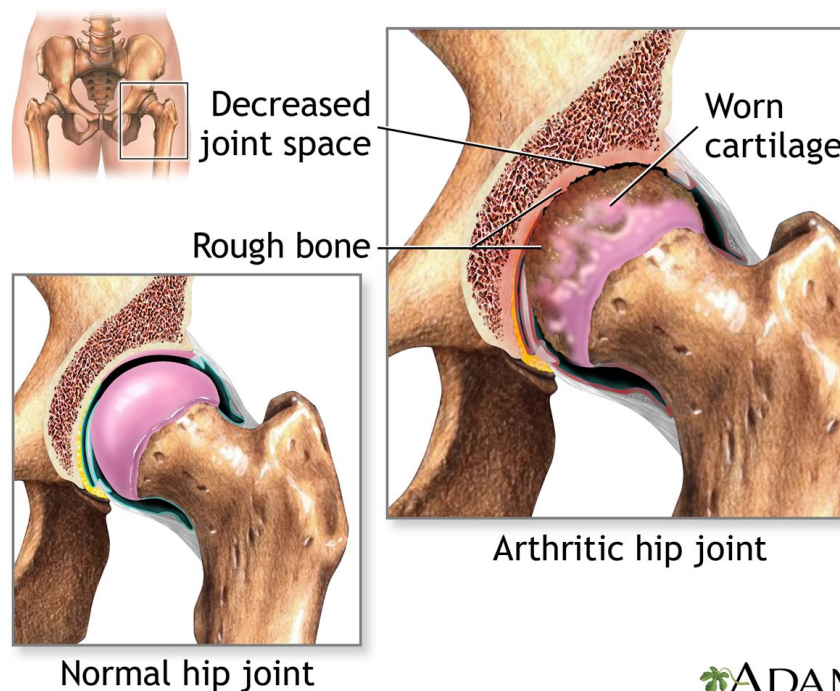
Arthritis is an inflammation of the joints that can take several forms:

- Osteoarthritis is the most common type. It is the “wear and tear” and breakdown of the cartilage within the joint.
- Rheumatoid arthritis is an autoimmune disorder that targets the lining of the joints.
- Gout arthritis is caused by too much uric acid in the blood and can cause pain, stiffness, and swelling of a joint.
- Psoriatic arthritis is an inflammatory arthritis that can affect people with psoriasis.

Arthritis can also be caused by prior injury, especially breaks in the bones of a joint, or could have developed based on how the joints formed during childhood.

### Symptoms of arthritis can include:

- Joint pain
- Joint stiffness
- Decreased motion
- Swelling in the joint
- Difficulty walking, going up and down stairs, squatting, or kneeling



## What is Osteoarthritis?

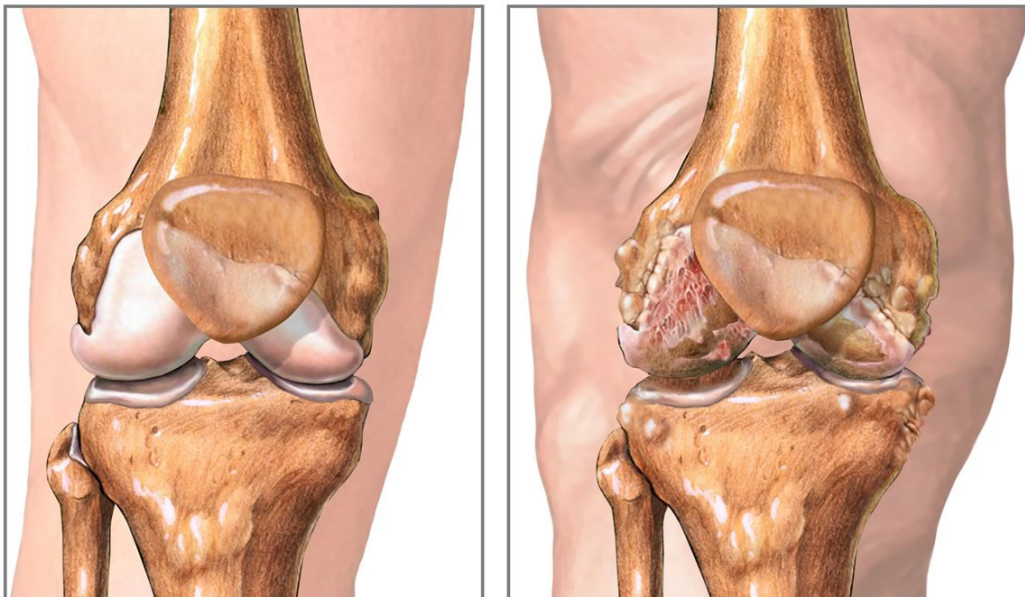
Osteoarthritis is an inflammation of the joint, commonly the hip or knee joint.

- Cartilage is the smooth shock absorbing Teflon-like covering on the ends of the bone.
- Inflammation results in a destruction of the cartilage.
- Damaged cartilage allows the rough bone on either side of the joint to rub against each other causing pain and restricted motion.

Diagnosis is made by your physician based on a physical examination and x-rays. The doctor is looking for:

- pain around the joint
- grating or crunching in the joint
- decreased motion
- swelling around the joint

### Osteoarthritis



Healthy knee joint

Hypertrophy and spurring of bone and erosion of cartilage



## What should I do before I consider surgery?

### Explore non-surgical ways to reduce your pain.

The pain of osteoarthritis can be dramatically decreased in several ways before you decide to have joint replacement surgery. The following pages will explain each non-surgical option in more detail:

- Weight loss
- Strengthening exercises
- Bracing the joint
- Adaptive Equipment
- Gait aids
- Medication
- Injections

## Weight Loss

### Weight loss can be extremely helpful in decreasing the pain of arthritis.

- Your body weight is magnified up to 7 times as it passes through the hip or knee joint.
- Even a small decrease in weight can result in a significant decrease in the pain.

### What is your Body Mass Index?

Many physicians recommend avoiding hip or knee replacement surgery if your Body Mass Index (BMI) is greater than 40. Folks with a BMI over 40 have a significant risk for increased complications after surgery including:

- skin healing problems
- infection
- ligament injury
- blood clots in your legs or to your lungs

For resources on how to calculate your BMI, visit our website at [jointreplacement.psu.edu](http://jointreplacement.psu.edu) and navigate to the "Before You Consider Surgery" section and the "Weight loss" sub-section.

(direct link: <http://jointreplacement.psu.edu/pre-surgery/weight-loss>)

## Strengthening Exercises

A light stretching and strengthening program can often be of benefit.

The exercises listed below are typically recommended by a physical therapist for hip and knee pain. Performing these exercises can help strengthen the muscles and maintain range of motion which can help relieve pain and improve joint function.

### Hip

- Ankle Pumps
- Quad Sets
- Gluteal Sets
- Standing Hip Flexion
- Standing Side Leg Lift
- Standing Hamstring Curls
- Standing Hip Extensions

### Knee

- Ankle Pumps
- Quad Sets (with Towel)
- Gluteal Sets
- Straight Leg Raising
- Heel Slides
- Short Arc Quads
- Long Arc Quads

See **Appendix A** for detailed instructions on how to perform each exercise, or visit [jointreplacement.psu.edu](http://jointreplacement.psu.edu) for video demonstrations.

## Brace the joint

If you have knee pain, a neoprene sleeve or knee brace could be helpful.

- Can be purchased without a prescription at a grocery store or pharmacy
- Does not need to have any bars or stays on the sides
- Use it as long as it helps to relieve your pain



## Adaptive Equipment

If you could benefit from the use of adaptive equipment, your doctor can recommend you meet with an occupational therapist.



Adaptive equipment:

- Reacher - for picking up dropped items from the floor and for reaching to don pants and shoes
- Sock aid - allows donning socks without excessive bending of the hip or knee
- Grab bars - to assist in getting in/out of bath and on/off toilet
- Bath/Shower chair - for safety and ease in bathing

## Gait Aids

Gait aids may help patients feel more stable and help prevent falls.

Using gait aids could both relieve pain while walking and also help you get up and down from a chair or out of bed.

Types of gait aids:

- Canes
- Crutches
- Walkers

If you feel you would benefit from a gait aid, speak with your doctor. Your doctor may write you a prescription for a cane or walker and consultation with a physical therapist.





## Medication

There are a number of medications that can help with the pain of osteoarthritis.

Discuss the risk and benefits of each with your doctor to determine which one is best for you.

Acetaminophen:

- Tylenol, which is also called Acetaminophen, is generally a safe medication (unless you have liver disease).
- Dosing should be limited to 3 grams or 3,000 milligrams per day, which is up to 6 extra strength Tylenol per day or 4 Extended Release Tylenol per day.
- If you have any questions about the dosing, speak with your doctor or pharmacist.



Anti-inflammatories:

- Advil, Motrin, Ibuprofen, Aleve, Naprosyn, Celebrex, Mobic, and many others.
- These medications relieve inflammation and pain in an arthritic joint and can be very effective.
- Can be taken on a regular basis or occasionally only when you need them.
- Risks can include: stomach upset, bleeding in your stomach or bowels, and kidney or liver injury.
- Take these medications only as prescribed and do not increase the dose without speaking to your doctor.
- If you are on these medications for several months, ask your doctor about checking some blood work to monitor your kidney and liver function.

## Injections

Your doctor may recommend injections directly into the aching joint.

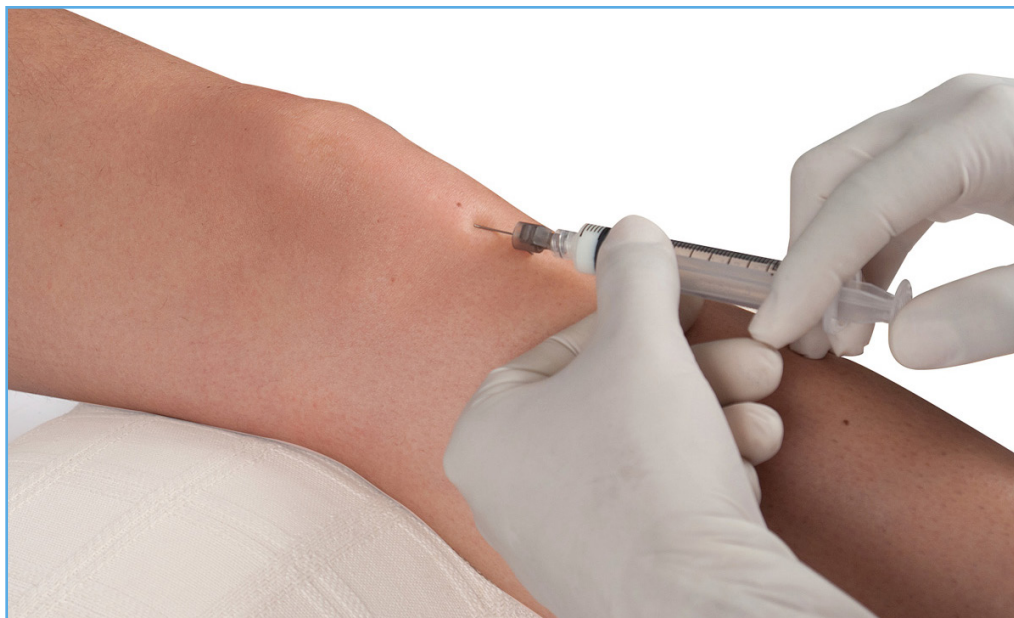
The purpose of the injections is to reduce the irritation caused by bone rubbing on bone. Injections are more typically done for patients with knee arthritis and only infrequently for patients with hip arthritis.

### Corticosteroid Injections:

- About half to two-thirds of the patients find these injections relieve pain.
- Pain relief will last anywhere from several weeks to 3-6 months.
- Some patients will not have any improvement after an injection.
- Leave at least 3 months between corticosteroid injections.
- The injection is typically performed in the office and doesn't interfere with your ability to drive home.

### Hyaluronan Injections:

- Medications such as Synvisc, Hyalgan, Orthovisc and others.
- There is disagreement about the effectiveness of this medication in the orthopaedic community and the American Academy of Orthopaedic Surgeons has not recommended its use.
- You may have a large copay for these medications as well - even up to several hundred dollars, depending on your insurance.



## When should I consider surgery?

First, have a discussion with your doctor.

The decision to have surgery is typically made based on the answers to the following questions:

- How much is the arthritis interfering with your lifestyle?
- How much pain it is causing?
- What are your other medical conditions?

Our recommendations:

- Try each of the nonsurgical treatments before considering joint replacement surgery.
- There is never any hurry to do a hip or knee replacement.
- Waiting to have the surgery will not necessarily make recovery more difficult -- recovery is much faster than it used to be.





## Once you've chosen surgery

Discuss with your doctor if joint replacement surgery is right for you.

Joint replacement surgery, also called arthroplasty, is surgery performed to relieve pain and restore range of motion by realigning or reconstructing a joint. After all non-surgical treatment options have been exhausted, joint replacement surgery may be right for you. Discuss your options with your doctor.

If you and your doctor choose joint replacement surgery, review this section to learn:

- How to prepare for surgery
- What happens during surgery
- Who will perform the surgery
- How pain is controlled
- Information about the hospital stay

## How should I prepare for surgery?

Once you've made the decision to proceed with surgery there is still much to do.

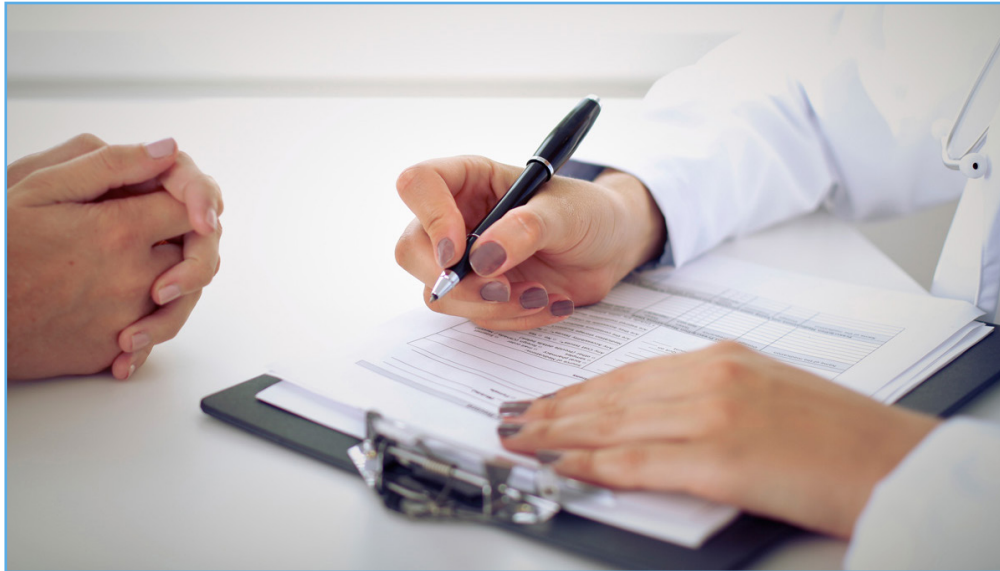
The following pages will review each item on the pre-operative checklist in more detail.

- Medical clearance form
- Dental examination
- Get your flu or pneumonia shots
- Schedule any invasive procedures at least two weeks prior to surgery
- Have a friend or family member accompany you to your preoperative visits
- Attend the joint replacement education class
- Begin preoperative strengthening exercises
- Arrange for care after the surgery
- Arrange for transportation to and from the hospital
- Prepare your home for recovery
- Schedule physical therapy
- Pick up medications at your pharmacy

## Medical clearance

Your surgeon will let you know if you need a medical clearance from your family doctor and/or specialist.

- If needed, schedule an appointment within 30 days of your surgery.
- You will be given a surgical clearance form to take to your doctor.



## Schedule other exams and procedures

Schedule a dental exam within 6 months prior to joint replacement surgery.

- Good dental health is very important prior to surgery.
- If you do not have dental insurance or if you have financial concerns regarding dental care, please contact the orthopaedic clinic.

Schedule any invasive procedures at least two weeks prior to joint replacement surgery.

- These include other surgeries and colonoscopies.

Flu or pneumonia vaccines should be given at least two weeks prior to surgery.

## Attend pre-operative appointments

Plan on spending most of the day at Milton S. Hershey Medical Center for your pre-operative appointments.

- Ask a family member or friend to accompany you during the pre-operative visits.
- Your appointments will be in different areas of the hospital.
- There is a shuttle bus to transport you, if needed.
- Bring snacks and a drink along with you. There are cafeterias, cafes and vending machines available.

## Pre-surgical visit with your surgeon or physician assistant

The following occurs during this appointment:

- Review details, risks and benefits of the surgery.
- You will be asked to sign a consent form.
- We will do a nasal swab to look for the possibility of Methicillin-Resistant Staph Aureus (MRSA), a skin bacteria (The risk is small, at approximately 5%, however we like to do everything possible to minimize the risk).
- You will receive a prescription for a blood thinner (there is about a 1% chance of a blood clot to the lungs, but we want to make every effort to prevent that from happening).

## Pre-surgical visit with anesthesia team:

The following occurs during this appointment:

- Discuss your anesthesia options.
- Perform a physical examination to be sure that there aren't other medical issues of concern with regard to the anesthesia.
- You will be able to eat freely up until midnight on the evening before surgery.
- You can continue to drink clear liquids up to 2 hours prior to the procedure, and we would encourage you to do so.

## Attend Joint Replacement Education Class

You will also attend a pre-operative Joint Replacement class.

- The class is taught by our nurse in conjunction with Occupational and Physical Therapists.
- Bring a family member or friend to the class who will assist you after the surgery.
- The nurse will review the pain management protocols, physical therapy protocols, pre-operative information, post-operative information.
- You can ask questions in a class with other joint replacement patients.
- Please arrive 15 minutes prior to the class.



## Start pre-operative exercises

You may be given a prescription for a physical therapy evaluation before your surgery.

The physical therapist will teach you exercises you can do at home to begin strengthening your legs. The exercises listed below are typically recommended:

### Hip

- Ankle Pumps
- Quad Sets
- Gluteal Sets
- Standing Hip Flexion
- Standing Side Leg Lift
- Standing Hamstring Curls
- Standing Hip Extension

### Knee

- Ankle Pumps
- Quad Sets (with Towel)
- Gluteal Sets
- Straight Leg Raising
- Heel Slides
- Short Arc Quads
- Long Arc Quads

See **Appendix A** for detailed instructions on how to perform each exercise, or visit [jointreplacement.psu.edu](http://jointreplacement.psu.edu) for video demonstrations.

## Arrange for care and transportation

### Arrange for transportation:

- You will need transportation to all clinic appointments and therapy visits.
- Discharge usually occurs one day after surgery.
- Make arrangements for someone to stay with you for a few days after your surgery.
- Many insurance companies will not cover inpatient rehabilitation unless you have other qualifying medical conditions.
- This will be discussed further at the Joint Replacement Education Class.



## Prepare your home for recovery

Prior to surgery it is recommended that you make the following preparation:

- Remove cords that are on the ground at your home.
- Remove throw rugs and any other items that could cause trips or falls.
- Place night-lights in your bedroom and bathroom.
- Arrange for a shower chair and a hand-held shower head.
- Consider putting safety bars beside your toilet or in the shower.
- Fill your prescription for a walker or crutches prior to surgery.



## Schedule physical therapy

Make arrangements for your physical therapy needs.

Knee replacement patients:

- Schedule your first physical therapy appointment for 1-2 days after you leave the hospital.
- You will be given a prescription for physical therapy in the hospital.
- You can see any physical therapist, and if you'd like to have your physical therapy at the Milton S. Hershey Medical Center, it can be arranged by the Bone and Joint Institute staff.

Hip replacement patients:

- You will receive a home exercise program and walking instructions for after discharge.

## Pick up medications

You'll want to have your medications on hand before having surgery:

- Pick up your blood thinner at your pharmacy - this is prescribed to reduce the risk of blood clots.
- Pick up a stool softener and a laxative as well, as pain medication often causes constipation.



## Meet the surgical team

You're in good hands.

All of our board certified surgeons have completed orthopaedic subspecialty fellowships in the area of joint arthroplasty.

**We work as a team.**

An integrated, multidisciplinary approach combines a team of dedicated physicians, physician assistants, orthopaedic nurses, anesthesia teams, and physical and occupational therapists dedicated to providing our patients with the highest quality care.

You can view our list of providers and learn more about each one on our Hip and Knee Joint Arthroplasty webpage at [hmc.pennstatehealth.org/bone-and-joint-institute/patient-care-and-treatment](http://hmc.pennstatehealth.org/bone-and-joint-institute/patient-care-and-treatment).



## What happens during surgery?

### Joint Replacement Procedure Videos

The National Health Service in the United Kingdom produced a pair of videos explaining how hip and knee replacement surgeries are done. These animations do an excellent job explaining how the joints work, how osteoarthritis affects the joints, and what happens during hip or knee replacement surgery.

Visit our website at [jointreplacement.psu.edu](http://jointreplacement.psu.edu) and navigate to the "Once You've Chosen Surgery" section and the "What happens during surgery?" sub-section.

(direct link: <http://jointreplacement.psu.edu/once-youve-chosen-surgery/what-happens-during-surgery>)

## How will the pain be controlled?

Pain control is one of the most important considerations for our patients around the time of surgery.

- We will do everything that we can to help manage your pain in an acceptable manner.
- Patients who are on regular narcotic pain medications prior to surgery have a much more difficult time managing their pain after surgery.
- We use a multi-modal approach to pain management.
- Right before the surgery, you will receive several medications by mouth to help with the pain control during the surgery.
- During the surgery you may receive pain medications through your IV from the anesthesia team. We also typically provide an injection around the joint at the time of surgery to provide pain relief for 12-18 hours which allows early function including walking.
- Many patients will walk on the day of surgery.
- After surgery, you will receive several pain medications including Tylenol, Tramadol (Ultram), and an anti-inflammatory, on a regular basis. Other pain medications such as Percocet or Vicodin are also available if needed.
- IV pain medications are available as determined by the patient and the nursing staff.
- To help reduce swelling and decrease pain, have ice applied to your surgical site several times a day.
- You will be asked frequently during your hospital stay what your pain level is as a way of monitoring the effectiveness of the pain control.





## Can I go home the same day as surgery?

Some patients may be eligible for an outpatient hip or knee replacement.

- This means that the patient would be able to go home on the same day as their replacement surgery.
- Patients who are considering this should be in excellent health with good strength.

For certain patients in good health, who have a strong support system at home, outpatient hip or knee replacement may be an excellent choice.

## What should I bring to the hospital?

Bring the following with you to the hospital:

- Advance directives
- Inhalers and medications
- A list of your medications including the dosage and the time you take each one
- Toiletries
- Loose-fitting shorts, culottes, pants, t-shirts or sweatshirts
- Loose-fitting pajamas with short legs
- Calf-or knee-length robe
- Well-fitted slippers, tennis shoes, or flat shoes with nonskid soles
- CPAP machine, if applicable
- Cell phone + charger
- Joint Replacement Guidebook

Do not bring:

- Jewelry
- Large amounts of money
- Other electronic devices

## The day before surgery

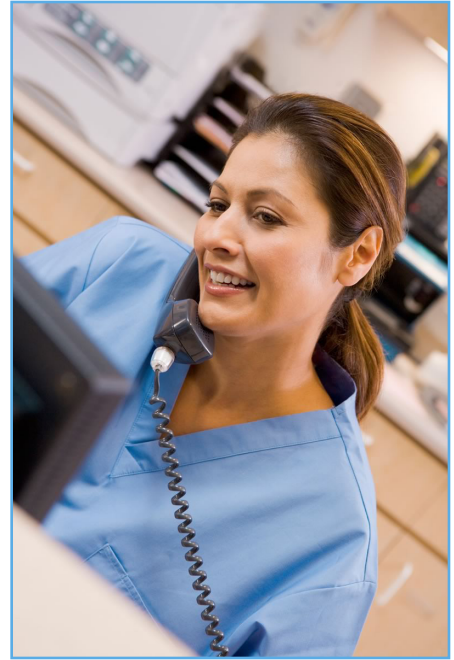
### Day before surgery:

An admissions nurse will call and tell you:

- What time to arrive at the hospital the next day
- When to stop eating and drinking

### Evening before surgery:

It is important to prepare your skin before surgery to reduce the risk of infection at the surgical site. Your surgical team has chosen disposable cloths, or wipes, moistened with a special rinse-free antiseptic solution. Follow the pre-operative skin preparation process outlined below and on the following page.



## Pre-operative Skin Preparation

### The evening before your surgery:

Important Notes:

- Once you begin prepping your skin, do NOT apply any creams, lotions, moisturizers, powder, or make up at or near the surgical site.
- Do NOT shave or use hair removal lotions or creams on the area of your body where surgery will be done.
- Do not microwave the package prior to use.
- Avoid contact with your eyes, ears, mouth, and genitals.

(continued on next page)

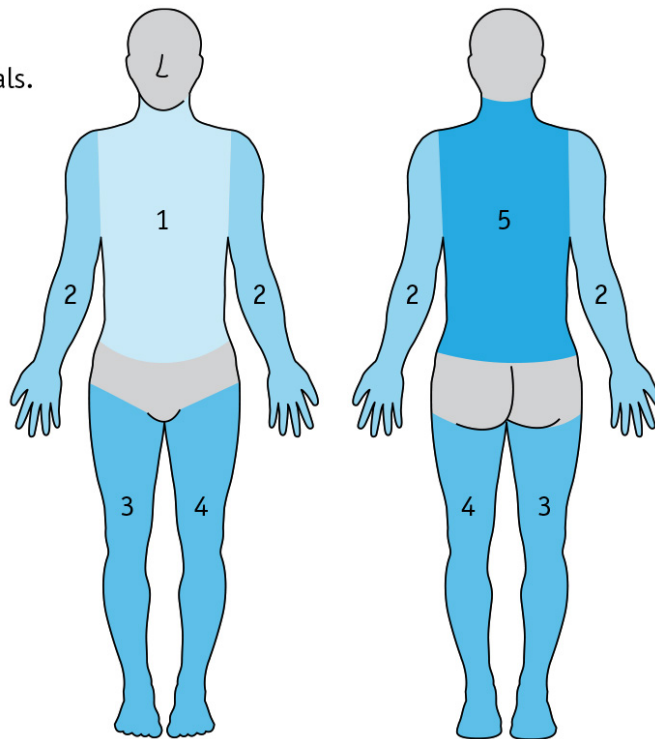
## How to prep:

- Shower or bathe at least 2 hours before using the disposable cloths.
- Use all six of the disposable cloths to prep your entire body. Wipe down your body like you would with a washcloth.
- One wipe is for your neck, chest, and abdomen.
- One wipe is for your arms.
- One wipe is for each leg.
- One wipe is for your back.
- One is for the surgical area - wipe your surgical site last, moving back and forth for about 3 minutes making sure to wet the entire area.
- Allow the area to air dry for 1 minute. Do NOT rinse off (unless you develop a skin irritation from the medication in the wipes).
- Do not apply any powders, creams, deodorant, creams, or lotions.
- Put on clean clothing.

### Prep the skin as follows:

Avoid eyes, ears, mouth, and genitals.

- 1. Neck, Chest, Abdomen
- 2. Arms
- 3 & 4. Legs
- 5. Back
- 6. Surgical Area - Hip or Knee  
(Do this site LAST)



## The morning of your surgery, you'll perform this process again:

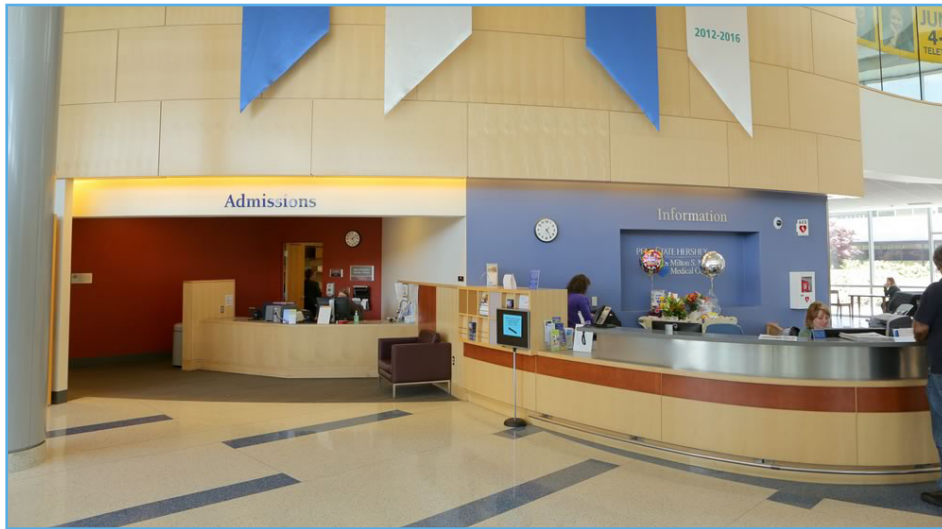
- Do not bathe or shower the morning of surgery, but you can wash your face and brush your teeth.
- Do NOT apply any makeup.
- When you arrive for surgery, the nurse will provide you with another set of wipes.
- The procedure is the same as the night before surgery.

# What can I expect during the hospital stay?

## Morning of surgery

Report to the Admission Department at the main entrance of the hospital.

- You will be taken from there to the pre-operative area where the nurses will prepare you for surgery.
- Your family can accompany you to the pre-operative area.
- Your family can wait in the surgical waiting area while you proceed to the operating room.



## Operating room

- The anesthesia team will prepare you for surgery and will administer anesthesia.
- Anesthesia may be spinal anesthesia or general anesthesia.
- Your surgical team will inject numbing medication around your joint that will help substantially with your pain relief after the surgery.
- Once your surgery is complete the surgical team will speak with your family to review the procedure.

## Recovery room

- After the surgery you will be transported to the recovery room.
- You will be there approximately one to one and a half hours before you are transferred to the Orthopaedic unit.

## Orthopaedic unit

- The nurses will provide you pain medications, monitor your progress, provide eating instructions, and address any other needs.
- A physician assistant monitors the progress of patients in the hospital and helps with discharge planning.
- You will also see the orthopaedic residents and your surgeon on a daily basis.



## Physical and Occupational Therapy

We try to provide most patients with physical therapy the afternoon of surgery.

- Exercises for after surgery
- Getting in and out of bed
- Walking using cane, walker, or crutches
- Going up and down stairs

### Occupational Therapy sessions will:

- Teach you dressing techniques
- Recommend equipment you may need to maintain any post-surgical precautions
- Recommend techniques you can use while performing self care activities including dressing, bathing, toileting, home tasks and transferring to and from a car
- Provide guidance on using the cane, walker or crutches



## When can I go home?

Most patients can expect to return to their own home after leaving the hospital, typically the day after surgery.

- You will receive a prescription for pain medications for you to have at home.
- Constipation is a side effect of pain medication. Use the medications you typically use to help with your bowels including fiber, Metamucil, stool softeners, Milk of Magnesia, or Magnesium Citrate.
- If you have not had a bowel movement after 4 days following surgery, contact the Bone and Joint Institute.
- You will have a blood thinner medication, which is typically started the morning following surgery and continues for several weeks.
- In general, you can put as much weight as you like on the operated leg, but you should use a walker to help you get around.
- It is very important to work on your exercises after the surgery and to keep moving.





## Recovery after Surgery

After joint replacement surgery, there is still much work to be done.

Rehabilitation begins almost immediately after joint replacement surgery, and there are certain things you need to watch out for. This section will discuss:

- When you should call the doctor
- Precautions and possible surgical complications
- Physical therapy exercises for after surgery
- Occupational therapy
- How to care for your new joint
- Joint replacement do's and don'ts
- Life after surgery



## When should I call the doctor?

If you experience chest pain or shortness of breath, nausea or vomiting or chills, significant drainage from the incision, redness or increased pain, you should go to the nearest Emergency Room.

- 90% or more of patients do well after hip or knee arthroplasty.
- Some patients do have complications.
- It's better if you can return to the Milton S. Hershey Medical Center, however, if you experience chest pain or shortness of breath, go to the nearest hospital.
- It is very important to work on your exercises after the surgery and to keep moving.



## What are the risks?

As with any surgical procedure, there are risks. The following pages will explain each potential complication in more detail:

- Injuries to the large nerves or blood vessels around your hip or your knee
- Infection
- Blood clots
- Persistent pain, stiffness, or limp
- Leg length difference
- Dislocation
- Wear or loosening of the pieces over time



## Injury or infection

Injuries to the large nerves or blood vessels around your hip or your knee:

- Very uncommon - occurs less than 1% of the time
- Can result in permanent injury

### Infection:

- One of the most severe complications after hip or knee arthroplasty
- Uncommon - occurs approximately 0.5% to 1.5% of the time
- Can occur around the time of surgery or many years after the surgery
- The treatment is complex but the incidence is quite low
- We recommend taking antibiotics by mouth for dental work or urologic procedures if you have a joint replacement

## Blood clots

As with any surgical procedure, there are risks. The following pages will explain each potential complication in more detail:

- Injuries to the large nerves or blood vessels around your hip or your knee
- Infection
- Blood clots
- Persistent pain, stiffness, or limp
- Leg length difference
- Dislocation



## Persistent Pain

### Persistent pain:

- Up to 12% to 15% of patients with a knee replacement may experience persistent pain.
- Persistent pain is less common in hip arthroplasty patients, perhaps 5% or less.

### Stiffness:

- Occasionally stiffness can be a problem after knee arthroplasty.
- 1% to 3% of patients may require a knee manipulation to break up scar tissue around the knee and stretch it out.



### Limp:

- 2% to 3% of patients will still continue to limp after hip or knee arthroplasty.



## Leg length difference

### Some patients will experience a leg length difference after a hip replacement:

- Sometimes it is necessary to lengthen the leg in order to improve the stability of the hip so that it will not come out of joint or dislocate.
- In most cases the difference is relatively small, a quarter inch or less, but occasionally can be up to half an inch.
- The difference can be addressed with a shoe lift on the short side, though this is uncommon.

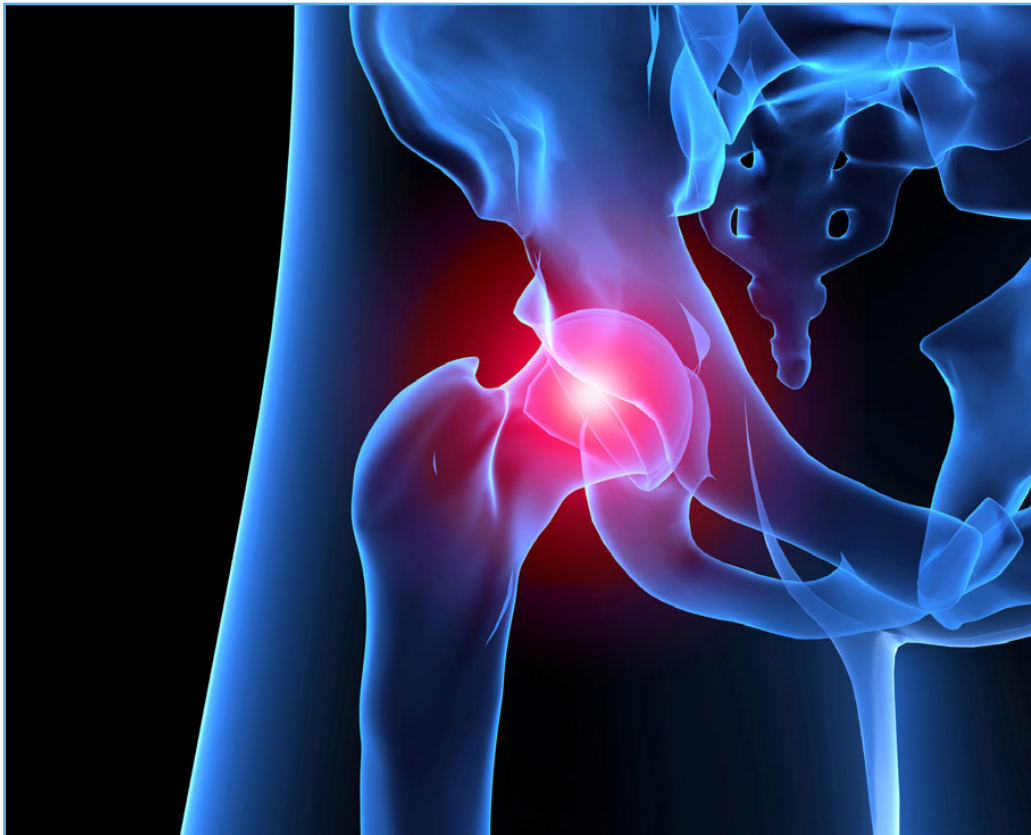
### After a knee replacement:

- It is uncommon to have a significant leg length difference after a knee arthroplasty.

## Dislocation

Dislocation means the joint comes out of place:

- More common in hip arthroplasty - occurs approximately 3% of the time
- More common in women due to the generally smaller muscle mass around the hip
- Does not typically require an incision or extensive surgical procedure
- Rarely, dislocation may happen multiple times which can require additional surgery
- The incidence of recurrent dislocations is approximately 1% after hip arthroplasty



## Loosening over time

Wear or loosening over time:

- Up to 85% of patients will have their hip or knee replacement functioning after 15 years.
- Some arthroplasties will fail sooner than we would like.
- Even if your hip or knee arthroplasties wear or become loose, there is good potential for repairing the joint and having good function after the repair.

## What are the do's and don'ts after a hip replacement?

### You have an important role in caring for your “new” hip:

- Do use crutches or a walker to assist with walking; be safe, falls can be disastrous.
- Do use pillows between your legs or under your knee on the side of your new hip replacement in bed to keep your operated leg out to the side.
- Do continue to wear your TED stockings. A second pair can be provided for you at the time of your discharge so you have a pair to wear while washing the other pair.
- Do continue the exercises that you have been instructed in by the physical therapist.
- Do use assistive devices to put on shoes and socks.
- Do use an elevated toilet seat or bedside commode. You may purchase one from a local medical supply store or possibly borrow one through your local community organizations.
- Do avoid constipation. While you are taking narcotics, you may need to take a stool softener and a laxative.

### There are certain movements that place stress on your new hip and should be avoided until you are instructed to do otherwise by your doctor:

- Do not overdo it; plan your activities with frequent rest periods.
- Do not bend your hip more than ninety degrees; do not sit in low or overstuffed sofas and chairs; do not sit in bucket seats in cars; do not pick up items from the floor – use a grabbing device.
- Do not cross your legs.
- Do not drive a car until authorized by your doctor.
- Do not lift heavy objects.
- Do not have sexual intercourse until after your six-week follow-up visit and your doctor has given you permission; intercourse will be uncomfortable the first weeks after surgery.
- Do not bathe in a bathtub or hot tub, swim in a pool, lake, or ocean until your physician gives you permission.
- Do not play tennis, downhill ski, water ski, run, jog, or do other demanding physical activities that require quick starts and stops without first consulting your physician.

## What are the do's and don'ts after a knee replacement?

You have an important role in caring for your “new” knee:

- Do use crutches or a walker to assist with walking; be safe, falls can be disastrous.
- Do continue to wear your elastic stockings (a second pair allows you to wash one pair while wearing the other).
- Do practice your exercises as instructed.
- Do stop exercising if you have severe pain or discomfort.
- Do eat a well-balanced diet.
- Do place a pillow under your ankle when lying down.
- Do elevate your leg when not walking from place to place.
- Do avoid constipation. While you are taking pain medications, especially narcotics, you may need to take a stool softener and laxative.

There are certain movements that place stress on your new knee and should be avoided until you are instructed to do otherwise by your doctor:

- Do not overdo it; plan your activities with frequent rest periods.
- Do not cross your legs at the ankles or knees.
- Do not kneel.
- Do not jump, run, jam your foot as in shoveling, or other demanding physical activities that put undue stress on your knee.
- Do not lift heavy objects.
- Do not drive a car until authorized by your doctor (usually about six weeks after your operation).
- Do not return to work until your doctor approves.
- Do not bathe in a bathtub or hot tub, swim in a pool, lake or ocean until your physician gives you permission.
- DO NOT PLACE A PILLOW UNDER YOUR KNEE.
- Do not do physical activities that require quick starts and stops without first consulting your physician.



## Exercises for after surgery

It is important that you do the exercises recommended by your physical therapist after your joint replacement.

The exercises listed below are typically recommended:

### Hip

- Ankle Pumps
- Quad Sets
- Gluteal Sets
- Standing Hip Flexion
- Standing Side Leg Lift
- Standing Hamstring Curls
- Standing Hip Extension

### Knee

- Ankle Pumps
- Quad Sets (with Towel)
- Gluteal Sets
- Straight Leg Raising
- Heel Slides
- Short Arc Quads
- Long Arc Quads
- Seated Knee Flexion Stretch
- Standing Hamstring Curls
- Mini-Squats
- Terminal Knee Extension in Standing

See **Appendix A** for detailed instructions on how to perform each exercise, or visit [jointreplacement.psu.edu](http://jointreplacement.psu.edu) for video demonstrations.

## Occupational Therapy

An occupational therapist will recommend techniques to help you perform daily living tasks as you recover from surgery.

Specific recommendations will vary depending on your individual living situation. Your therapy team will teach you safe procedures for common daily activities such as:

- Dressing
- Bathing
- Toileting
- Getting in to and up from a seated position
- Getting in to and out of a vehicle

Decide what type of vehicle will be used for travel after your surgery.

Things to consider:

- Bucket vs. bench seats
- Height of the vehicle
- Size of the door and how far it opens



## Special equipment may be recommended to assist you with your daily activities

You may be instructed to use a “reacher” for donning pants and shoes. Your therapy team will demonstrate how to use each recommended device, as needed.

One commonly used device is the ‘Sock Aid’ demonstrated here:



Step 1



Step 2



Step 3



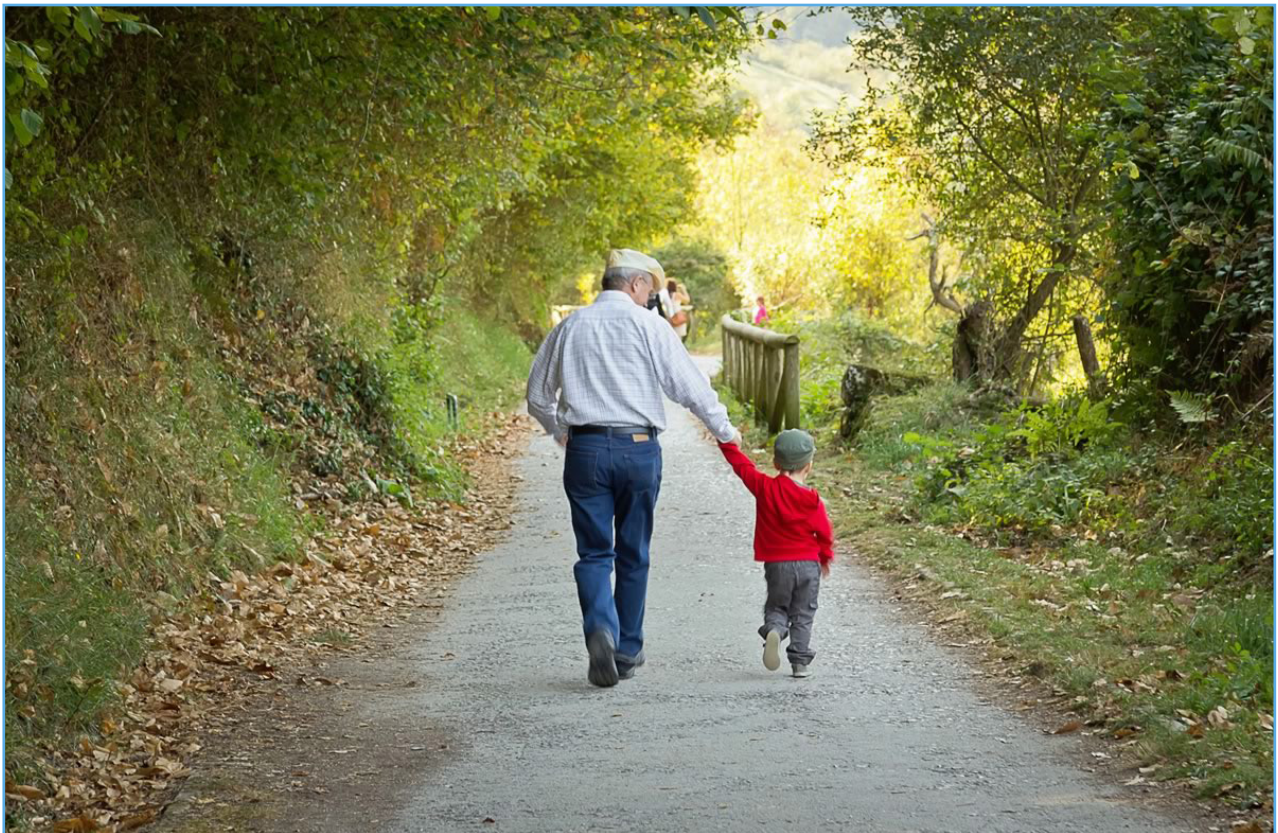
Step 4



## Life after replacement surgery

After surgery patients can walk, bike, swim, play golf, ski in moderation, play doubles tennis, and perform other moderately strenuous activities

- Remember, your hip or knee replacement will not make you 18 again.
- You may still have some mild stiffness, decreased range of motion, and limitations of your activity.
- We generally do not recommend running for exercise after a hip or knee replacement.
- We also discourage climbing high up on ladders after hip replacement.
- Kneeling after a knee replacement should be done on a limited basis.
- Patients may get into a pool or hot tub beginning 3-4 weeks after the surgery provided the incision is healed.
- Your hip or knee replacement has an approximately 85% chance of being intact and functioning after 15 years.





## Thank you

Thank you for taking the time to review this resource!

If you have other questions or would like to discuss hip or knee replacement further we would be happy to meet with you.

Best wishes from the Hip and Knee Arthroplasty Division at Penn State Health.



# Strengthening Exercises

**NOTE:** Reference to the “operated leg” refers to the joint that is causing you discomfort.

## Ankle Pumps

- | Joint   | When   |
|---|--|
| <ul style="list-style-type: none"> <li>• Hip</li> <li>• Knee</li> </ul> | <ul style="list-style-type: none"> <li>• Before Sugery</li> <li>• Once You’ve Chosen Surgery</li> <li>• Recovery After Sugery</li> </ul> |

### Instruction

While lying on your back with knees straight (1), pump your ankles up (2) and down (3). Repeat 30 times.



### Tips

- This exercise can also be performed in sitting position.
- If leg swelling is present, it is usually better to do this exercise with the leg elevated.

## Quad Sets

- | Joint   | When   |
|---|--|
| <ul style="list-style-type: none"> <li>• Hip</li> </ul> | <ul style="list-style-type: none"> <li>• Before Sugery</li> <li>• Once You’ve Chosen Surgery</li> <li>• Recovery After Sugery</li> </ul> |

### Instruction

Lie on your back with your knees straight (1). Press the back of your knee down onto the bed by tightening the muscle on the front of your thigh (2), and hold for 5 seconds. Relax (3). Repeat 10 times.



### Tips

- It often helps to do this exercise on both legs at the same time.
- Watch to see the kneecap move upward when thigh muscle tightens.

## Gluteal Sets

**Joint**

- Hip
- Knee

**When**

- Before Surgery
- Once You've Chosen Surgery
- Recovery After Surgery

**Instruction**

Lie on your back (1) and squeeze your buttocks muscles together (2). Hold for 5 seconds. Relax (3). Repeat 10 times.



**Tips**

- This exercise can also be performed in sitting position.
- You can also tighten your stomach muscles at the same time for a light abdominal workout.

## Standing Hip Flexion

**Joint**

- Hip

**When**

- Before Surgery
- Once You've Chosen Surgery
- Recovery After Surgery

**Instruction**

Stand with your hands on a counter, stable chair, or on your walker for support (1). Lift your operated leg slowly forward, allowing your knee to bend (2). Do not lift the knee higher than your hip (3). Hold for 3 to 5 seconds. Repeat 10 times.



**Tips**

- Keep your body straight. Don't lean to either side or forward or back.
- Only lift the operated leg unless otherwise instructed.



# Standing Side Leg Lift

**Joint**

- Hip

**When**

- Before Surgery
- Once You've Chosen Surgery
- Recovery After Surgery

**Instruction**

Stand with your hands on a counter, stable chair, or on your walker for support (1). Keep your knee straight and lift your operated leg slowly out to the side (2). Keep the toes of both feet pointing forward. Hold for 3 to 5 seconds. Repeat 10 times.



**Tips**

- Keep your body straight. Don't lean to either side or forward or back.
- Only lift the operated leg unless otherwise instructed.
- Your therapist may recommend adding weights of up to ten pounds to your ankle.

# Standing Hamstring Curls

**Joint**

- Hip
- Knee

**When**

- Before Surgery
- Once You've Chosen Surgery
- Recovery After Surgery

**Instruction**

Stand with your hands on a counter, stable chair, or on your walker for support (1). Bend the operated knee, bringing your heel towards your buttocks (2). Repeat 10 times.



**Tips**

- Try to keep your knees side-by-side.
- Only lift the operated leg unless otherwise instructed.



## Standing Hip Extensions

**Joint**

- Hip

**When**

- Before Surgery
- Once You've Chosen Surgery
- Recovery After Surgery

**Instruction**

Stand with your hands on a counter, stable chair, or on your walker for support (1). Keep your knee straight and slowly move your operated leg behind you (2). Hold for 3 to 5 seconds. Repeat 10 times.



**Tips**

- Do not swing leg forcefully.
- Keep standing up straight, do not bend forward at the waist or back.

## Quad Sets (with Towel)

**Joint**

- Knee

**When**

- Before Surgery
- Once You've Chosen Surgery
- Recovery After Surgery

**Instruction**

Lie on your back with your knees straight and your heels supported on a towel roll (1). Press the back of your knee down onto the bed by tightening the muscle on the front of your thigh (2), and hold for 5 seconds. Relax (3). Repeat 10 times.



**Tips**

- It often helps to do this exercise on both legs at the same time.
- Watch to see the kneecap move upward when thigh muscle tightens.

# Straight Leg Raising

**Joint**

- Knee

**When**

- Before Surgery
- Once You've Chosen Surgery
- Recovery After Surgery

**Instruction**

Lie on your back with your operated knee bent, so foot is flat on bed (1). Tighten the muscle on the front of your thigh and straighten the knee fully on the operated side (2). Keeping your knee straight, lift the operated leg several inches off the surface of the bed (3). Hold for 3 to 5 seconds and slowly lower leg back down. Repeat 10 times.



**Tips**

- You may not be able to lift the leg completely and first, but keep trying!
- Once you can lift the leg, it is very important to keep the knee completely straight during this exercise.

# Heel Slides

**Joint**

- Knee

**When**

- Before Surgery
- Once You've Chosen Surgery
- Recovery After Surgery

**Instruction**

Lie on your back with your knees straight (1). Slide the heel of your operated leg along the bed toward your buttocks (2) as far as you can (3). Repeat 10 times.



**Tips**

- Your therapist may have you perform this exercise again, using a sheet wrapped around your leg to help you gain more motion through stretching.

## Short Arc Quads

**Joint**

- Knee

**When**

- Before Surgery
- Once You've Chosen Surgery
- Recovery After Surgery

**Instruction**

Lie on your back with a rolled blanket or towel roll place under your knee (1). Tighten the muscle on the front of the thigh and straighten your knee (2). Hold for 3 to 5 seconds. Relax (3). Repeat 10 times.



**Tips**

- Straighten the knee fully.
- Once you are strong, a weight may be added to your ankle for additional strengthening.

## Long Arc Quads

**Joint**

- Knee

**When**

- Before Surgery
- Once You've Chosen Surgery
- Recovery After Surgery

**Instruction**

Sit with your feet flat on the floor (1). Straighten the knee of the operated leg as far as you can (2). Hold for 3 to 5 seconds. Relax (3). Repeat 10 times.



**Tips**

- Perform the exercise alternating on your "good side".
- Your goal is to straighten the knee fully.



## Seated Knee Flexion Stretch

**Joint**                      **When**

- Knee                      • Recovery After Surgery

**Instruction**

When sitting in a standard chair (1), gently use your non-operated leg to slide the operated leg back (2) until you feel a stretch in the knee (3). Hold for 3 to 5 seconds. Repeat 10 times.



**Tips**

- Your goal is to bend the knee to 110° or greater.
- This can be done often with sitting.
- Try placing a plastic bag under your foot to allow easier sliding.

## Mini-Squats

**Joint**                      **When**

- Knee                      • Recovery After Surgery

**Instruction**

While standing at your walker, or other stable surface (1), slightly bend both knees to perform a partial squat (2). Do not squat fully. Try to straighten both of your knees fully after each repetition (3). Repeat 10 times.



**Tips**

- Once your balance improves, you can use less hand support, but always be safe.



# Terminal Knee Extension in Standing

**Joint**

- Knee

**When**

- Recovery After Surgery

**Instruction**

Using the therapy band supplied by your therapist, strap the band just below your knee and around the walker as shown (1). Starting with knee slightly bent (2), straighten your knee fully (3). Repeat 10 times.

