Patient Guide for Knee Replacement Surgery
Thank you for choosing Piedmont Medical Center Joint Program for your surgery. You are the centerpiece of a multi-disciplinary team approach. Our program is designed to restore your active lifestyle as quickly as possible. This guide will provide you with information to promote a successful outcome.

The mission of Piedmont Medical Center is to deliver exceptional health care to every person we have the privilege to serve.

The vision of the Joint Program at Piedmont Medical Center is to deliver personalized, state of the art, first class care that exceeds patient expectations while maintaining the highest quality standards of patient care to enable the restoration and preservation of health, lifestyle, career, and future wellness to the diverse population.

This information will help you to know what is expected before, during and after your knee surgery.
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If your knee is severely damaged by arthritis or injury, it may be hard for you to perform simple activities, such as walking or climbing stairs. You may even begin to feel pain while you are sitting or lying down.

If nonsurgical treatments like medications and using walking supports are no longer helpful, you may want to consider total knee replacement surgery. Joint replacement surgery is a safe and effective procedure to relieve pain, correct leg deformity, and help you resume normal activities.

Knee replacement surgery was first performed in 1968. Since then, improvements in surgical materials and techniques have greatly increased its effectiveness. Total knee replacements are one of the most successful procedures in all of medicine. According to the Agency for Healthcare Research and Quality, more than 600,000 knee replacements are performed each year in the United States.

Whether you have just begun exploring treatment options or have already decided to have total knee replacement surgery, this article will help you understand more about this valuable procedure.

**ANATOMY**

The knee is the largest joint in the body and having healthy knees is required to perform most everyday activities.

The knee is made up of the lower end of the thighbone (femur), the upper end of the shinbone (tibia), and the kneecap (patella). The ends of these three bones where they touch are covered with articular cartilage, a smooth substance that protects the bones and enables them to move easily.

The menisci are located between the femur and tibia. These C-shaped wedges act as “shock absorbers” that cushion the joint.

Large ligaments hold the femur and tibia together and provide stability. The long thigh muscles give the knee strength.
All remaining surfaces of the knee are covered by a thin lining called the synovial membrane. This membrane releases a fluid that lubricates the cartilage, reducing friction to nearly zero in a healthy knee.

Normally, all of these components work in harmony. But disease or injury can disrupt this harmony, resulting in pain, muscle weakness, and reduced function. The most common cause of chronic knee pain and disability is arthritis. Although there are many types of arthritis, most knee pain is caused by just three types: osteoarthritis, rheumatoid arthritis, and post-traumatic arthritis.

- **Osteoarthritis.** This is an age-related “wear and tear” type of arthritis. It usually occurs in people 50 years of age and older, but may occur in younger people, too. The cartilage that cushions the bones of the knee softens and wears away. The bones then rub against one another, causing knee pain and stiffness.

- **Rheumatoid arthritis.** This is a disease in which the synovial membrane that surrounds the joint becomes inflamed and thickened. This chronic inflammation can damage the cartilage and eventually cause cartilage loss, pain, and stiffness. Rheumatoid arthritis is the most common form of a group of disorders termed “inflammatory arthritis.”

- **Post-traumatic arthritis.** This can follow a serious knee injury. Fractures of the bones surrounding the knee or tears of the knee ligaments may damage the articular cartilage over time, causing knee pain and limiting knee function.

Osteoarthritis often results in bone rubbing on bone. Bone spurs are a common feature of this form of arthritis.
DESCRIPTION

A knee replacement (also called knee arthroplasty) might be more accurately termed a knee “resurfacing” because only the surface of the bones are actually replaced.

There are four basic steps to a knee replacement procedure.

• Prepare the bone. The damaged cartilage surfaces at the ends of the femur and tibia are removed along with a small amount of underlying bone.

• Position the metal implants. The removed cartilage and bone is replaced with metal components that recreate the surface of the joint. These metal parts may be cemented or “press-fit” into the bone.

• Resurface the patella. The undersurface of the patella (kneecap) is cut and resurfaced with a plastic button. Some surgeons do not resurface the patella, depending upon the case.

• Insert a spacer. A medical-grade plastic spacer is inserted between the metal components to create a smooth gliding surface.

(Left) Severe osteoarthritis. (Right) The arthritic cartilage and underlying bone has been removed and resurfaced with metal implants on the femur and tibia. A plastic spacer has been placed in between the implants. The patellar component is not shown for clarity.
The decision to have total knee replacement surgery should be a cooperative one between you, your family, your family physician, and your orthopaedic surgeon. Your physician may refer you to an orthopaedic surgeon for a thorough evaluation to determine if you might benefit from this surgery.

CANDIDATES FOR SURGERY

There are no absolute age or weight restrictions for total knee replacement surgery. Recommendations for surgery are based on a patient’s pain and disability, not age. Most patients who undergo total knee replacement are age 50 to 80, but orthopaedic surgeons evaluate patients individually. Total knee replacements have been performed successfully at all ages, from the young teenager with juvenile arthritis to the elderly patient with degenerative arthritis.

WHEN SURGERY IS RECOMMENDED

There are several reasons why your doctor may recommend knee replacement surgery. People who benefit from total knee replacement often have:

- A knee that has become bowed as a result of severe arthritis.
- Severe knee pain or stiffness that limits your everyday activities, including walking, climbing stairs, and getting in and out of chairs. You may find it hard to walk more than a few blocks without significant pain and you may need to use a cane or walker.
- Moderate or severe knee pain while resting, either day or night.
- Chronic knee inflammation and swelling that does not improve with rest or medications.
- Knee deformity – a bowing in or out of your knee.
- Failure to substantially improve with other treatments such as anti-inflammatory medications, cortisone injections, lubricating injections, physical therapy, or other surgeries.
THE ORTHOPAEDIC EVALUATION

An evaluation with an orthopaedic surgeon consists of several components:

- **MEDICAL HISTORY:** Your orthopaedic surgeon will gather information about your general health and ask you about the extent of your knee pain and your ability to function.

- **PHYSICAL EXAMINATION:** This will assess knee motion, stability, strength, and overall leg alignment.

- **X-RAYS:** These images help to determine the extent of damage and deformity in your knee.

- **OTHER TESTS:** Occasionally blood tests, or advanced imaging such as a magnetic resonance imaging (MRI) scan, may be needed to determine the condition of the bone and soft tissues of your knee.

Your orthopaedic surgeon will review the results of your evaluation with you and discuss whether total knee replacement is the best method to relieve your pain and improve your function. Other treatment options — including medications, injections, physical therapy, or other types of surgery — will also be considered and discussed.

In addition, your orthopaedic surgeon will explain the potential risks and complications of total knee replacement, including those related to the surgery itself and those that can occur over time after your surgery.
REALISTIC EXPECTATIONS

An important factor in deciding whether to have total knee replacement surgery is understanding what the procedure can and cannot do.

More than 90% of people who have total knee replacement surgery experience a dramatic reduction of knee pain and a significant improvement in the ability to perform common activities of daily living. But total knee replacement will not allow you to do more than you could before you developed arthritis.

With normal use and activity, every knee replacement implant begins to wear in its plastic spacer. Excessive activity or weight may speed up this normal wear and may cause the knee replacement to loosen and become painful. Therefore, most surgeons advise against high-impact activities such as running, jogging, jumping, or other high-impact sports for the rest of your life after surgery.

Realistic activities following total knee replacement include unlimited walking, swimming, golf, driving, light hiking, biking, ballroom dancing, and other low-impact sports.

With appropriate activity modification, knee replacements can last for many years.
PREPARING FOR SURGERY

MEDICAL EVALUATION
If you decide to have total knee replacement surgery, your orthopaedic surgeon may ask you to schedule a complete physical examination with your family physician several weeks before the operation. This is needed to make sure you are healthy enough to have the surgery and complete the recovery process. Many patients with chronic medical conditions, like heart disease, may also be evaluated by a specialist, such as a cardiologist, before the surgery.

TESTS
Several tests, such as blood and urine samples, and an electrocardiogram, may be needed to help your orthopaedic surgeon plan your surgery.

MEDICATIONS
Tell your orthopaedic surgeon about the medications you are taking. He or she will tell you which medications you should stop taking and which you should continue to take before surgery.

DENTAL EVALUATION
Although the incidence of infection after knee replacement is very low, an infection can occur if bacteria enter your bloodstream. To reduce the risk of infection, major dental procedures (such as tooth extractions and periodontal work) should be completed before your total knee replacement surgery.

URINARY EVALUATION
People with a history of recent or frequent urinary infections should have a urological evaluation before surgery. Older men with prostate disease should consider completing required treatment before undertaking knee replacement surgery.
SOCIAL PLANNING

Although you will be able to walk on crutches or a walker soon after surgery, you will need help for several weeks with such tasks as cooking, shopping, bathing, and doing laundry.

If you live alone, your orthopaedic surgeon's office, a social worker, or a discharge planner at the hospital can help you make advance arrangements to have someone assist you at home. They also can help you arrange for a short stay in an extended care facility during your recovery, if this option works best for you.

HOME PLANNING

Several modifications can make your home easier to navigate during your recovery. The following items may help with daily activities:

- Safety bars or a secure handrail in your shower or bath
- Secure handrails along your stairways
- A stable chair for your early recovery with a firm seat cushion (and a height of 18 to 20 inches), a firm back, two arms, and a footstool for intermittent leg elevation
- A toilet seat riser with arms, if you have a low toilet
- A stable shower bench or chair for bathing
- Removing all loose carpets and cords
- A temporary living space on the same floor because walking up or down stairs will be more difficult during your early recover.

You will most likely be admitted to the hospital on the day of your surgery.
ANESTHESIA
After admission, you will be evaluated by a member of the anesthesia team. The most common types of anesthesia are general anesthesia (you are put to sleep) or spinal, epidural, or regional nerve block anesthesia (you are awake but your body is numb from the waist down). The anesthesia team, with your input, will determine which type of anesthesia will be best for you.

PROCEDURE
The procedure itself takes approximately 1 to 2 hours. Your orthopaedic surgeon will remove the damaged cartilage and bone, and then position the new metal and plastic implants to restore the alignment and function of your knee.

After surgery, you will be moved to the recovery room, where you will remain for several hours while your recovery from anesthesia is monitored. After you wake up, you will be taken to your hospital room.

Your Hospital Stay
You will most likely stay in the hospital for at least 3 days following your surgery. You will be admitted to the Women's Center 3rd floor where we have a floor designed for Orthopaedics patient to receive excellent care.
Pain Management

After surgery, you will feel some pain, but your surgeon and nurses will provide medication to make you feel as comfortable as possible. Pain management is an important part of your recovery. Walking and knee movement will begin soon after surgery, and when you feel less pain, you can start moving sooner and get your strength back more quickly. Talk with your surgeon if postoperative pain becomes a problem.

Blood Clot Prevention

Your orthopaedic surgeon may prescribe one or more measures to prevent blood clots and decrease leg swelling. These may include special support hose, inflatable leg coverings (compression boots), and blood thinners.

Foot and ankle movement also is encouraged immediately following surgery to increase blood flow in your leg muscles to help prevent leg swelling and blood clots.

Physical Therapy

A continuous passive motion machine can help prevent postoperative knee stiffness in the early postoperative period.

Most patients begin exercising their knee the day after surgery. A physical therapist will teach you specific exercises to strengthen your leg and restore knee movement to allow walking and other normal daily activities soon after your surgery.

To restore movement in your knee and leg, your surgeon may use a knee support that slowly moves your knee while you are in bed. The device, called a continuous passive motion (CPM) exercise machine, decreases leg swelling by elevating your leg and improves your blood circulation by moving the muscles of your leg.

Preventing Pneumonia

It is common for patients to have shallow breathing in the early postoperative period. This is usually due to the effects of anesthesia, pain medications, and increased time spent in bed. This shallow breathing can lead to a partial collapse of the lungs (termed “atelectasis”) which can make patients susceptible to pneumonia. To help prevent this, it is important to take frequent deep breaths. Your nurse may provide a simple breathing apparatus called a spirometer to encourage you to take deep breaths.
YOUR JOINT REPLACEMENT TEAM

ORTHOPAEDIC SURGEON
A specialized physician who will perform your joint surgery and direct your care. This doctor follows you through office visits and directs your rehab.

ANESTHESIOLOGIST / CERTIFIED REGISTERED NURSE ANESTHETIST
A physician or advanced practice nurse responsible for your anesthesia during surgery (putting you to sleep or numbing your legs). They will be involved in pain management issues for the first 24 hours after surgery as well.

REGISTERED NURSE (RN)
Rn’s are responsible for your daily care after surgery. RN’s follow orders given by your physician, administer medicine, and monitor vital signs. Rn’s provide education to you and your family about your health and safety needs after surgery.

PHYSICAL THERAPIST (PT)
The physical therapist directs your rehab after your total knee replacement. Your PT will help you regain strength, range of motion, and balance after surgery. They will provide instructions on how to transfer, walk, and negotiate stairs safely with your new joint. They will instruct you on how to use a walker, which will be needed temporarily after surgery.

OCCUPATIONAL THERAPIST (OT)
The occupational therapist provides techniques and strategies to complete your daily activities, such as dressing and bathing. The OT provides instruction on adaptive equipment which may be needed to perform self-care tasks. They also provide tips on conserving energy and creating a safe environment.

CASE MANAGER / DISCHARGE PLANNER
A registered nurse who works with your joint replacement team to assist your transition into your home setting. They will guide and direct you through the discharge process, arranging home or outpatient therapy or other needed services. They can also answer questions about insurance coverage for services and equipment.
We are glad you have chosen Piedmont Medical Center to care for your knee. People facing joint surgery often have the same questions. Knowing what to expect before, during, and after surgery can speed your recovery. Answers to some questions are listed below. Specific questions should be directed to your surgeon.

**What is osteoarthritis, and why does my knee hurt?**

Joint cartilage is a tough, smooth tissue that covers the ends of bones where joints are located. It helps cushion the bones during movement, and because it is smooth and slippery, it allows for motion with minimal friction. Osteoarthritis, the most common form of arthritis, is a wear and tear condition that destroys joint cartilage. Sometimes, as the result of trauma, repetitive movement, or for no apparent reason the cartilage wears down, exposing the bone ends. Over time, cartilage destruction can result in painful bone-on-bone contact, along with swelling and loss of motion. Osteoarthritis usually occurs later in life and may affect only one joint or many joints.

**How long will surgery last?**

Surgery normally last 1-2 hours. Time often depends on how extensive the damage is and anesthesia.

**What are the major risks?**

Infection and blood clots are two serious complications. To avoid these complications, your surgeon may use antibiotics and blood thinners. Surgeons also take special precautions in the operating room to reduce the risk of infection. Most surgeries are without complications.

**When can I get up?**

You may get up the day of surgery with the help of your therapist and/or nurse.

**When can I shower?**

You can shower with assistance 48 hours after surgery.

**How long will my scar be?**

Surgical scars vary in length, but your surgeon will make it as short as possible. It will be straight down the center of your knee, unless you have previous scars. There may be lasting numbness around your knee.
Will surgery be painful?
You will have discomfort following the surgery, but we will try to keep you as comfortable as possible with pain medications. A nerve block will also be in place to deliver pain medicine directly to your knee. You will not be pain free right after surgery, but we will provide exceptional care to help you through the pain.

How long will I be in the hospital?
Most patients spend 3 days in the hospital. Typically home health or rehab is set up at discharge.

What if I live alone? Will I need help at home?
Please arrange to have help from family or friends after surgery. A home health PT will see you at home for 2 weeks. Preparing before surgery can often minimize the amount of help needed afterwards. Take time to do you laundry, put clean linens on the bed, prepare simple meals and have the house cleaned.

Will I need a walker or cane?
Patients progress at their own rate; normally we recommend that you use a walker for two weeks and then a cane for 2-4 weeks.

Can I drive after surgery?
No, you cannot drive immediately after surgery. You cannot drive while taking pain medicine. Your physician will advise you on when to begin driving at your 2 week visit.

When can I return to work?
Typically, 4-6 weeks are needed to recover from surgery. It can also depend on your job demands.

When can I play sports again?
Low impact activities are encouraged after surgery. These include: walking, golfing, swimming, bowling, gardening, dancing, and hiking. High impact activities like running and basketball, and contact sports are discouraged. Consult with your surgeon for specific instructions regarding your activity level.
When can I have sex after knee replacement surgery?

Sex is not recommended immediately after surgery due to issues with pain and swelling. You can resume sexual activity when you feel ready.

Will my new knee set off security sensors when traveling?

Your joint replacement is made of a metal alloy and may or may not be detected when going through security devices. You will be given a card that indicates you have a surgical prosthesis which may set off a security sensor.
6-8 WEEKS BEFORE SURGERY

MEDICAL CLEARANCE

• Your surgeon will contact your primary care physician to get a copy of your medical records. If you have not seen your primary care physician with the past year, please schedule an appointment. If you see a specialist such as a cardiologist, we will request those records as well.

ADVANCE HEALTH CARE DIRECTIVES (LIVING WILL, ADVANCED DIRECTIVE)

• It is recommended that you complete and Advanced Directive before surgery. This form helps communicate your healthcare wishes with the hospital staff.

• If you have an Advanced Health Care Directive, please bring copies to the hospital on your admission

• Plan for Help at Discharge

• Communicate with family/friends to arrange for help at home after discharge. You will need someone to assist you for at least 2 weeks.

DENTAL EXAM

• Schedule an appointment with your dentist prior to surgery. Make the appointment now to allow for any additional dental work needed other than routine cleaning. Do not have any dental work 2 weeks before and 6 weeks after surgery.

NICOTINE PRODUCTS

• It is essential to stop using all nicotine products prior to surgery (cigarettes, cigars, pipes, chewing tobacco, dip, nicotine gum or patches). Nicotine impairs oxygen flow to your joint and can impair healing. Your surgery will be scheduled once you have quit.

DIET

• Eat a healthy diet with the recommended serving of fruits, vegetables, protein, whole grains, and low fat dairy products. A sufficient supply of iron is important before surgery. Good sources of iron include lean red meats, fortified cereals, and leafy green vegetables such as spinach or kale.

• Start a multivitamin, calcium, and Vitamin D, and iron supplements. Calcium and Vitamin D are essential for bone health and healing. Iron helps to build your blood.
PATIENT GUIDE FOR KNEE REPLACEMENT SURGERY

GETTING READY FOR SURGERY

• Recommended daily:
  o Calcium 1500 mg
  o Vitamin D 2000 iu
  o Iron 325 mg 2x/day

• Take iron supplement with a stool softener as it can cause constipation.

• Drink plenty of fluids (especially water) to stay hydrated and to help keep bowel movements regular.

START EXERCISES/ WEIGHT LOSS

• Improving strength and flexibility prior to surgery can make your recovery faster and easier. The thirteen basic exercises listed below are simple but effective ways to build your strength. You should also exercise your heart and lungs by performing light endurance activities such as walking or swimming 10-15 minutes each day. Do not do any exercise that is too painful.

EXERCISES (REFER TO EXERCISE DESCRIPTION AND PHOTOS)

1. Ankle Pumps
2. Quad Sets
3. Gluteal Sets
4. Heel Slides
5. Short Arc Quads
6. Straight Leg Raise
7. Knee Abduction and Adduction
8. Seated Hamstring and Calf Stretch
9. Knee Extension Stretch
10. Sitting Knee Flexion
11. Sitting Knee Extension
12. Armchair Push-ups
13. Standing Heel/Toe Raises

• Seek the assistance of a dietician if weight loss is a goal prior to your surgery.

SCHEDULE PRE OP WORKUP AND CLASS

• A special Class is held two a month for patients scheduled for joint surgery. Plan to attend the class 2-3 weeks prior to surgery. It is recommended that you bring a friend or family member to the class to act as your “COACH”.

• The class will last 1 hour.

• REMEMBER TO BRING BINDER AND COMPLETED FORMS WITH YOU
GETTING READY FOR SURGERY

WORK
• Have your surgeon sign a work release form – office staff will assist.
• Request a minimum of 4-6 weeks off work.

10-14 DAYS BEFORE SURGERY

PRE OP CLASS
• Attend the pre op class and workup with your coach.

HOME PREPARATION
• Remove throw rugs, electrical cords and furniture out of walking paths.
• Purchase night lights for bedroom, bathroom, and hallways
• Arrange for care of animals/pets
• Place rubber mat in bath or shower
• Clean the house
• Pay bills so they are up to date for a few weeks after surgery.

MAIL
• Place mail on hold or arrange for someone to collect it for you.

TRANSPORTATION
• Confirm how you will get to and from the hospital. You are not allowed to drive yourself home from the hospital.

MEDICATIONS
• Continue to take an iron supplement with a stool softener, Calcium, and Vitamin D.
• Medications often stopped before surgery include:
  1. Aspirin
  2. Certain anti-inflammatory medicines (like Motrin and Aleve)
  3. Herbal supplements/teas
  4. Fish oils
  5. Certain vitamins
  6. Pain medications that contain aspirin
  7. Discuss which medications should be stopped and when with your surgeon.
  8. Cut back on alcohol and caffeine.
GETTING READY FOR SURGERY

THE DAY / NIGHT BEFORE SURGERY

SHOWER

- You will need to shower the night before or day of surgery. Use the special soap given to you by the hospital. Rinse well. Pat dry with a clean towel and apply clean clothes. This special soap reduced the amount of germs on your skin prior to surgery.
- Do not use lotions or powders.
- Do shave the affected knee.

CLEAN LINENS

- Put clean linens on your bed and sleep on these linens the night before surgery.

PACK

- This education book
- Loose comfortable clothing
- List of current medications
- Underwear
- Socks / comfortable shoes
- Eyeglasses
- CPAP machine labeled with your name
- Personal toiletries
- Driver’s license or photo ID
- Insurance cards
- Copy of Advanced Health Care Directive
- Music / books / magazines
- Hard candy or gum
- Small amount of cash (<$20)
- Important phone numbers
- DO NOT BRING VALUABLES
- Do not bring medications unless instructed to do so
- Do not wear makeup the morning of surgery
• Nail polish may be left on, but one finger on each hand and one toe on each foot need to be polish-free

DO NOT EAT OR DRINK
• Do not eat or drink anything after midnight, EVEN WATER, unless otherwise instructed to do so. Take medications that you were instructed to take with a sip of water.
HOSPITAL CARE

DAY OF SURGERY – WHAT TO EXPECT

• Bring paperwork, ID, insurance cards, joint book
• Please arrive to the hospital on time and check in at the desk in the Heart Center
• You will put on a hospital gown
• A nurse will start an IV, complete paperwork
• You will meet your anesthesiologist and discuss your anesthesia
• You may be given medication to relax
• You will be taken to the operating room for surgery
• During surgery they will attach your On Q pump to your leg that will help with pain in the front of your knee. It will remain on for 24-48 hours after surgery. Surgery will last 1-2 hours.
• After surgery you will be taken to the recovery room. Nurses will monitor your vital signs and manage your pain. You will then be transported to the hospital unit. Your surgeon will talk to your family once the surgery has ended.
• Once in your hospital room, nurses will continue to care for you, monitor your vital signs, and manage your pain.

• ACTIVITY: It is important to move after surgery. Therapist will teach you the proper techniques for positioning, exercises, range of motion, walking with a walker, stair negotiation, and activities of daily living. You will increase your activity each day as tolerated.

• PAIN: It is important to manage your pain. Please communicate your pain level to the hospital staff. The goal is to keep your pain low enough to participate in therapy and rest comfortably. You will have a nerve block and pain pills by mouth.

• BREATHING: You will have an oxygen tube in your nose after surgery for the first night. The tube will be removed by your nurse. You will be taught deep breathing and coughing exercises to do for several days. You will be asked to use an incentive spirometer (breathing device) to help expand your lungs and get oxygen to your tissues.

• CIRCULATION: It is important to keep your legs moving after surgery to help prevent blood clots. One simple exercise is to perform your ankle pumps in bed. You will have leg pumps wrapped around your legs. The pumps fill with air then deflate. The also help the blood flow in your legs. You will be given medications to reduce the chance of blood clots.

• POSITIONING: The foot of your bed should be flat. Do not place pillow under your knees. It is good to place a small towel roll or pillow under the ankles.
**HOSPITAL CARE**

- **FOOD/FLUIDS:** You will be given fluids through and IV at first. Once you are eating and drinking well the IV will be stopped on Post op Day 2. You may not be very hungry after surgery. It is important to try to eat and drink to prevent nausea and help with healing.

- **SURGICAL SITE:** Your incision will be closed with sutures of staples. You will have a special dressing placed on your knee. The dressing will be changed by the nursing staff before discharging home.

- **GOING THE BATHROOM/BATHING:** You may have a Foley catheter to drain the urine from your bladder. The catheter will be removed the morning after surgery. Hospital staff will assist you to the bathroom as needed. It may take 1-2 days to have a bowel movement. Pain medication and Anesthesia can cause constipation. It is important to drink plenty of fluids and to walk. A stool softener or laxative can help normal bowel movement to return. You may shower 48 hours after surgery.

**POST OP DAY 1 TO DISCHARGE**

- Your surgeon will see you
- Your knee dressing will be kept in place.
- You will continue to manage your pain with pain pills.
- You will continue to work with therapists to work on range of motion, exercise, walking, and stair negotiation. Discharge needs and equipment will be addressed. You will be discharged home if you have met therapy goals and are cleared by your surgeon.
- Most patients discharge home after morning therapy on post op day 3.

**DAILY SCHEDULE**

**DAY OF SURGERY**

1. Arrive on Ortho-Spine Unit
2. Nursing – ongoing evaluation of vital signs and pain level/patient care
3. What to expect:
   - IV fluids
   - Oxygen in your nose
   - Pulse oximetry with a small device on your finger
   - Leg pumps (SCD’s) to help prevent blood clots
   - Incentive Spirometer – use 10x hour when awake
   - Ankle Pumps – do often in bed.
POST OP DAY 1

1. Your surgeon will see you/ incision site inspected
2. Anesthesia rounds in am/ pain management
3. Urinary Catheter removed
4. Discharge planner will meet with you to arrange discharge needs-home health or rehab.
5. PT evaluation and treatment in AM
6. Remember to utilize incentive spirometer, leg pumps.
7. Monitor your pain level and ask for pain medicine as needed

*PLAN FOR DISCHARGE IN THE AFTERNOON OF POST OP DAY 3*

COACHES CHECKLIST

DO YOU KNOW...?

• How to set up a home base
• Equipment need and use
• Pain Management
• Signs and symptoms of infection
• Discharge Instructions
• Signs and symptoms of blood clot and Pulmonary Embolism
• How to use the incentive spirometer and how often
• Movement restrictions
• How to assist the patient out of bed
• How to assist the patient up and down stairs
• The exercise program to follow at home
• Diet restrictions and recommendations

If you have any questions or concerns, please do not hesitate to ask a member of the Joint Program Team prior to discharge.
The success of your surgery will depend largely on how well you follow your orthopaedic surgeon’s instructions at home during the first few weeks after surgery.

**BE COMFORTABLE**

- Take your pain medicine at least 30 minutes before physical therapy
- Do not let pain get ahead of you——take medication as directed by your surgeon
- Change your position every 45 minutes to avoid stiffness
- Elevate your leg above the level of your heart to reduce swelling
- Do not drink alcohol or dive while taking pain medications
- Allow family and friends to help you with everyday tasks

**BODY CHANGES**

- Your appetite may be poor. Drink plenty of fluids to prevent dehydration. Eat foods high in protein and iron.
- Your energy level will be decreased for at least a month. You may have difficulty sleeping this is normal. Try not to nap during the day so you can sleep better at night.
- Pain medicine can cause constipation. Use stool softeners or laxatives as needed/drink plenty of fluids.
- Your new knee may cause your leg to feel longer at first.
- You may feel some stiffness, especially with excessive bending activities.
- Most people feel or hear some clicking of the metal and plastic with knee bending or walking – this is normal.

**WOUND CARE**

You will have stitches or staples running along your wound or a suture beneath your skin on the front of your knee. The stitches or staples will be removed several weeks after surgery. A suture beneath your skin will not require removal.

Avoid soaking the wound in water until it has thoroughly sealed and dried. You may continue to bandage the wound to prevent irritation from clothing or support stockings.
YOUR RECOVERY AT HOME

DIET

Some loss of appetite is common for several weeks after surgery. A balanced diet, often with an iron supplement, is important to help your wound heal and to restore muscle strength.

ACTIVITY

Exercise is a critical component of home care, particularly during the first few weeks after surgery. You should be able to resume most normal activities of daily living within 3 to 6 weeks following surgery. Some pain with activity and at night is common for several weeks after surgery.

Your activity program should include:

• A graduated walking program to slowly increase your mobility, initially in your home and later outside

• Resuming other normal household activities, such as sitting, standing, and climbing stairs

• Specific exercises several times a day to restore movement and strengthen your knee. You probably will be able to perform the exercises without help, but you may have a physical therapist help you at home or in a therapy center the first few weeks after surgery.
**AVOIDING PROBLEMS AFTER SURGERY**

**BLOOD CLOT PREVENTION**

Follow your orthopaedic surgeon's instructions carefully to reduce the risk of blood clots developing during the first several weeks of your recovery. He or she may recommend that you continue taking the blood thinning medication you started in the hospital. Notify your doctor immediately if you develop any of the following warning signs.

**WARNING SIGNS OF BLOOD CLOTS:** The warning signs of possible blood clots in your leg include:

- Increasing pain in your calf
- Tenderness or redness above or below your knee
- Increasing swelling in your calf, ankle, and foot

**WARNING SIGNS OF PULMONARY EMBOLISM:** The warning signs that a blood clot has traveled to your lung include:

- Sudden shortness of breath
- Sudden onset of chest pain
- Localized chest pain with coughing

**PREVENTING INFECTION**

A common cause of infection following total knee replacement surgery is from bacteria that enter the bloodstream during dental procedures, urinary tract infections, or skin infections. These bacteria can lodge around your knee replacement and cause an infection.

After your knee replacement, you must take preventive antibiotics before dental or surgical procedures that could allow bacteria to enter your bloodstream.

**WARNING SIGNS OF INFECTION:** Notify your doctor immediately if you develop any of the following signs of a possible knee replacement infection:

- Persistent fever (higher than 100°F orally)
- Shaking chills
- Increasing redness, tenderness, or swelling of the knee wound
- Drainage from the knee wound
- Increasing knee pain with both activity and rest
AVOIDING FALLS

A fall during the first few weeks after surgery can damage your new knee and may result in a need for further surgery. Stairs are a particular hazard until your knee is strong and mobile. You should use a cane, crutches, a walker, hand rails, or have someone to help you until you have improved your balance, flexibility, and strength.

Your surgeon and physical therapist will help you decide what assistive aides will be required following surgery and when those aides can safely be discontinued.

Most people also feel or hear some clicking of the metal and plastic with knee bending or walking. This is a normal. These differences often diminish with time and most patients find them to be tolerable when compared with the pain and limited function they experienced prior to surgery.

PROTECTING YOUR KNEE REPLACEMENT

After surgery, make sure you also do the following:

- Participate in regular light exercise programs to maintain proper strength and mobility of your new knee.
- Take special precautions to avoid falls and injuries. If you break a bone in your leg, you may require more surgery.
- Make sure your dentist knows that you have a knee replacement. You should be given antibiotics before all dental surgery for the rest of your life.
- See your orthopaedic surgeon periodically for a routine follow-up examination and x-rays, usually once a year.

EXTENDING THE LIFE OF YOUR KNEE IMPLANT

Currently, more than 90% of modern total knee replacements are still functioning well 15 years after the surgery. Following your orthopaedic surgeon’s instructions after surgery and taking care to protect your knee replacement and your general health are important ways you can contribute to the final success of your surgery.
EXERCISES

Review all exercises with your physical therapist. Perform exercises 10-20 times 2-3 times a day, unless instructed otherwise.

1. Ankle pumps
2. Quad sets
3. Gluteal sets
4. Heel slides
5. Short Arc Quads (Knee Extension)
6. Straight Leg Raise
7. Knee abduction and adduction
8. Seated hamstring and gastrocnemius (calf) stretch with or without strap
9. Knee extension stretch
10. Seated knee flexion
11. Seated knee extension
12. Armchair Push-ups
13. Standing heel/toe raises

(1) ANKLE PUMPS
Flex and point your feet

(2) QUAD SETS – (KNEE PUSH-DOWNS)
Back lying, press knee into the mat by tightening the muscles on the front of the thigh (quadriceps). Hold for 5 count. Do NOT hold breath.

(3) GLUTEAL SETS (BOTTOM SQUEEZES)
Squeeze bottom together. Hold for a 5 count. Do NOT hold breath.

(4) HEEL SLIDES
Back lying, slide your heel up the surface bending your knee. Post-op, your therapist may have you use a strap around the foot to assist gaining the knee bend.
(5) SHORT ARC QUADS
On your back, place a 6-8 inch roll under the knee. Lift the foot from the surface, straightening the knee as far as possible. Do not raise thigh off roll.

(6) STRAIGHT LEG RAISES
Back lying, with the unaffected knee bent, and foot flat. Tighten the quad on the affected leg and lift the leg 12 inches from the surface. Keep knee straight and toes pointed towards your head.

(7) Knee ABDUCTION AND ADDUCTION (SLIDE HEELS OUT AND IN)
Back lying, with toes pointed to ceiling and knees straight. Tighten the quad muscle and slide legs out to side and back to the starting position.

(8) STANDING HEEL / TOE RAISES
Stand, with a firm hold on the kitchen sink. Rise up on toes then back on heels. Stand as straight as possible!
(9) KNEE EXTENSION STRETCH
Sitting in a comfortable chair, prop the affected foot on a chair or stool. Place a towel or roll under the ankle so that the calf is unsupported, and apply an ice pack and 5 pound weight (or bag of rice) on top of the knee. Hold this position for 15 minutes.

(10) SEATED KNEE FLEXION
Sitting in straight-back chair, bend the affected leg as far as possible under the chair (you can use the opposite foot to help). When maximum bend is reached, plant the foot and slide your knees forward further bending the knee. Hold for 20-30 seconds.

(11) SITTING KNEE EXTENSION
Sit with back against chair and thighs fully supported. Lift the affected foot up, straightening the knee. Hold for a 5 count.

(12) ARMCHAIR PUSH-UPS
Sitting in a sturdy armchair with feet flat on the floor, place your hands on the armrests. Straighten your arms raising your bottom up from seat as far as possible. Use your legs as needed to help you lift. As you get stronger, progress to using only your arms and the “non-operated” leg to perform the push-up. This will be how you will get up from a chair after surgery. Do not hold your breath or strain too hard.
(13) STANDING HEEL / TOE RAISES
Stand, with a firm hold on the kitchen sink. Rise up on toes then back on heels. Stand as straight as possible!
ADLs are defined as “the things we normally do...such as feeding ourselves, bathing, dressing, grooming, work, homemaking, and leisure.”

**DRESSING**

We encourage you to dress in as normal a fashion as possible. Adaptive equipment can be provided if necessary but it is best to use your knee as much as possible with everyday activities.

There are many things you can do to keep your new joint safe. Please follow these suggestions to avoid injury and falls.

**Safety Measures and Precautions**

- Do not stand and twist on your leg
- Get up slowly from a chair or bed in case you become dizzy.
- Once standing, steady yourself before doing any activity, such as raising paints over knees, reaching for objects, etc.
- Use armrests to stand up and sit down
- Do not lift heavy objects for at least 3 months
- Change position frequently
- Keep walking paths clear and free of obstacles
- Provide good lighting indoors
- Pick up throw rugs
- Be careful around animals and pets.
- Be sure to get out of the car every 1-2 hours if traveling
- Pace yourself- do not do too much at any one time.
- Follow up with your surgeon as directed.
**ACTIVITIES OF DAILY LIVING (ADL’S)**

**BED MOBILITY AND POSITIONING**

- Never sleep with a pillow under your new knee
- Use a pillow between your legs if side sleeping
- Place a towel roll under your ankle to help keep your knee straight

**TRANSFERS**

**STANDING UP FROM A CHAIR**

- Do not pull up on the walker to stand

**SIT IN A CHAIR WITH ARM RESTS WHEN POSSIBLE**

- Scoot to the front edge of the chair
- Push up with both hands on the armrests. If sitting in a chair without armrests, place one hand on the walker while pushing off the side of the chair with the other.
- Balance yourself before grabbing for the walker.

**TRANSFER – BED**

**WHEN GETTING INTO BED:**

1. Back up to the bed until you feel it on the back of your legs (you should be midway between the foot and the head of the bed).
2. Reach back with both hands, sit down on the edge of the bed and scoot back toward the center of the mattress.
3. Move your walker out of the way, but keep it within reach. Scoot your knees around so that you are facing the foot of the bed.
4. Lift your leg into the bed while scooting around.
5. Keep scooting and lift your other leg into the bed.
6. Scoot your knees towards the center of the bed.

**WHEN GETTING OUT OF BED:**

1. Scoot your knees to the edge of the bed.
2. Sit up while lowering your legs to the foot.
3. Scoot to the edge of the bed.
4. Use both hands to push off the bed. Or you may put one hand on the walker and push off the bed with your other hand.
5. Balance yourself.