

Center for Joint Replacement: Knee Guide



Maryland's leader in joint replacement



WELCOME

Welcome! Thank you for choosing the Center for Joint Replacement at Anne Arundel Medical Center (AAMC) to help you get back to a higher quality of living with your new joint. Your physician and care team are dedicated to your comfort, well-being and smooth recovery.

The Center for Joint Replacement at AAMC offers you a team of skilled specialists who provide care at every step of your knee surgery. AAMC is one of the highest-volume joint replacement programs in the state — performing more than 2,000 surgeries each year. We are proud to be the first program in Maryland to reach this milestone. Research shows that higher-volume knee replacement programs provide patients better outcomes.

People come to our program from all across Maryland — and all over the country — to regain independence and improve their quality of life.

Remember, you play an important role in your recovery. This guide gives you the information you need for a successful surgery, so please read it carefully and ask questions. We involve you in your treatment and recovery through each step, tailoring care to your unique needs.

Learn What to Expect

We want you to know what to expect from the moment you choose surgery through the rest of your life with your new joint. Reading this guide is a great first step. Learning as much as you can lessens anxiety, helps avoid complications and allows you to enjoy your new knee. We also understand the importance of keeping family and friends involved in the process to ensure we meet all of your needs.

Prepare for Success

- › Read this patient guide.
- › Enlist a caregiver.
- › Write down your questions to get answers during your pre-operative class.
- › Begin pre-surgical exercises now to prepare for your upcoming surgery.
- › Carry this patient guide with you to the hospital and continue to reference it throughout your recovery.

Getting Here – AAMC



From Annapolis and the Eastern Shore

- › Take Route 50 West to Jennifer Road, Exit 23A.
- › Continue straight on to Pavilion Parkway.
- › Make immediate right onto Izzo Way.
- › Follow signs to GARAGE A.

From Washington, D.C. and Points West

- › Take Route 50 East to Parole, Exit 23.
- › Bear right onto West Street.
- › Turn right on Jennifer Road.
- › Cross over Medical Parkway.
- › Turn left on Pavilion Parkway.
- › Make immediate right onto Izzo Way.
- › Follow signs to GARAGE A.

From Baltimore

- › Take Route 97 to Route 50 East to Parole, Exit 23
- › Bear right onto West Street.
- › Turn right on Jennifer Road.
- › Cross over Medical Parkway.
- › Turn left on Pavilion Parkway.
- › Make immediate right onto Izzo Way.
- › Follow signs to GARAGE A.

Anne Arundel Medical Center

2001 Medical Parkway, Annapolis, MD 21401

443-481-1698 | Fax: 443-481-1695 | TDD: 443-481-1235 | askAAMC.org

IMPORTANT PHONE NUMBERS

Joint Replacement Surgeon: _____ Number: _____

Primary Care Doctor: _____ Number: _____

Pharmacy: _____ Number: _____

Physical Therapist: _____ Number: _____

Nurse Navigator: _____ Number: _____

PRE-SURGERY CONTACTS

askAAMC	443-481-4000
Joint Center Secretary	443-481-1698
AAMC's Pre-Anesthesia Testing Center	443-481-3624
Special Dietary Requests	443-481-6111
Surgical Scheduling	443-481-1796/1800
Johns Hopkins Pharmaquip.....	443-250-4360
Smoking Cessation Program	443-481-5366
Hackerman-Patz House Lodging.....	410-571-3100

SURGERY CONTACTS

On-call Clinical Pharmacist

443-481-1000

POST SURGERY CONTACTS

AAMC Patient Financial Services Department	443-481-6500
AAMG Physical Therapy/Outpatient Rehabilitation ...	443-481-1140
AAMC Advocacy Department	443-481-4821
AAMC Wellness Services.....	443-481-5555

WEBSITES

askAAMC.org | AAMCevents.org

Copyrighted materials: This is to inform the user of these materials that all material found in this package are copyrighted. This material is to be used only as specified and cannot be copied or used in any other capacity without the express written consent of Anne Arundel Medical Center.



TABLE of CONTENTS

- Overview 8
- About Knee Replacement 9
- Countdown to Surgery 11
- Hospital Care 23
- Recover 33
- Rehab Exercises 39
- Living with Your New Knee 53
- Resources 56
- Appendix 57

Overview of the Center for Joint Replacement

It is our goal to give you the highest-quality care in a healing environment. That's why we continue to use feedback from people like you to improve our program.

We believe teamwork between you and your care team is critical to your recovery. Before, during and after your stay, you work with many specialists who will introduce themselves and explain their roles in your care:

- › Our **Nurse Navigators** help coordinate your needs and answer your questions on your journey to recovery.
- › Our **Joint Secretary** coordinates your pre-operative care between your doctor's office, the hospital and testing facilities. Our joint secretary contacts you once your surgery is scheduled.
- › Our **Hospitalists** are available 24 hours per day to help manage your medical condition while you're in the hospital. They work closely with your orthopedic surgeon to manage your pain, medications and any existing or acute conditions during your inpatient stay.
- › Our **Nurses** take care of your daily needs, talk with you about your care and advocate for you during your hospital stay.
- › Our **Patient Care Technicians** manage your daily needs, like taking vital signs, assisting in the restroom, helping with meals, bathing and providing support for your family.
- › Our **Rehabilitation Team** increases and improves your mobility. This team may include a physical therapist, physical therapist assistants, occupational therapists and certified occupational therapist assistants.
- › Our **Care Coordinators** help with your needs outside the hospital, such as home health services and locating community resources.

About Knee Replacement

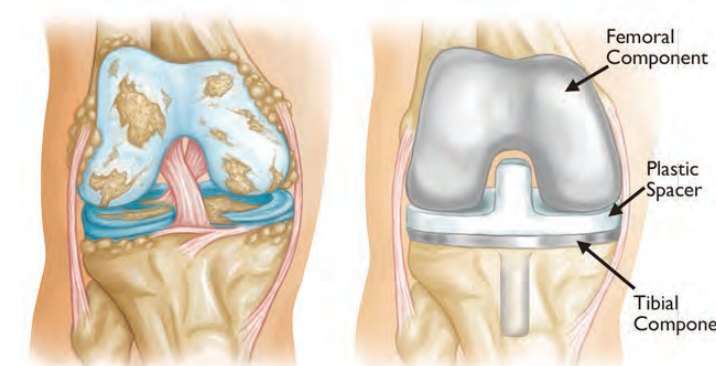
What is a knee replacement?

The knee joint is made up of the thigh bone (femur), shin bone (tibia) and knee cap (patella) with cushioning (connective tissue). An artificial substitute for the cartilage is inserted on the end of the bones. This is done with a metal alloy on the femur and plastic spacer on the tibia and kneecap (patella). This creates a new, smooth cushion and a functioning joint that does not hurt.

What are the results of knee replacement?

Ninety to ninety-five percent of patients achieve good to excellent results with relief of discomfort and significantly increased activity and mobility.

A knee replacement (also called knee arthroplasty) might be more accurately termed a knee "resurfacing" because we only replace the surface of the bones.



There are four basic steps to a knee replacement procedure.

- › **Prepare the bone.** A surgeon removes the damaged cartilage surfaces at the ends of the femur and tibia, along with a small amount of underlying bone.
- › **Position the metal implants.** The surgeon replaces the removed cartilage and bone 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 surgeon cuts and resurfaces the underside of the patella (kneecap) with a plastic button. This step is not always needed, depending upon the case.
- › **Insert a spacer.** A surgeon inserts a medical-grade plastic spacer between the metal components to create a smooth gliding surface.



Four to Six Weeks Before Surgery

- Contact Your Insurance Company 12
- Enlist a Caregiver 12
- Start Pre-Operative Exercises 12
- Register for a Pre-Operative Class 12
- Pre-Register for Surgery 13
- Obtain Dental Clearance 13
- Prepare Your Home 13
- Pre-Operative Check List 13
- Equipment 13
- Obtain Medical and Anesthesia Clearance 14
- Obtain Laboratory Tests 14
- PAT Appointment 14
- Establish Discharge Plans 15
- Review **Outpatient Services** Section of this Guide 15
- Review **Exercise Your Right** Section of this Guide 16
- Read **Anesthesia and You** Section of this Guide 16
- Exercising to Get Ready for Surgery 16

Two Weeks to the Day Before Surgery

- Complete Pre-Operative Visit to Surgical Team 17
(Actual Timing May Vary)
- Inform Us of Your Dietary Needs 17
- Stop Medications that Increase Bleeding 17
- Fill Out Medication List 19
- Reduce Your Risk of Infection 20
- Reduce Your Chance of Infection 20
- Know Risk Factors for Infection 20

The Day Before Your Surgery

- Arrival Time at Hospital 21
- Review **Night Before Surgery** Section of this Guide 21
- Review **What to Bring to The Hospital** Section of this Guide 21
- Review the **Special Instructions** Section of this Guide 21

Four to Six Weeks Before Surgery

Contact Your Insurance Company

Contact your insurance company before surgery to find out if you need a preauthorization, a pre-certification, a second opinion or a referral form. It's also important to understand what your co-pay may be for pre-surgical, surgery and post-surgical services.

If you have a Health Maintenance Organization (HMO) plan, there is a specific insurance registration process. You must call your HMO once your procedure is scheduled to arrange for pre-admission lab studies.

After your procedure, you receive separate bills from the anesthesiologist, the hospital, the radiology and pathology departments (if applicable), and the surgical assistant. Please ask your insurance plan if they have specific requirements regarding participation status.

Also, you may receive a bill under the name Adfinitas Health, the medical hospitalist service. The hospitalists work closely with your orthopedic surgeon to manage your pain, medications and any existing or acute conditions during your hospital stay.

Enlist a Caregiver

Choosing the right caregiver is very important for your recovery. A caregiver is someone who can offer support, motivation and assistance during your joint journey. People with caregivers do better after surgery and achieve results faster. Your caregiver should attend your appointments, pre-op class, and be present during your time in the hospital. You may have more than one caregiver.

Start Pre-operative Exercises

It's important you begin an exercise program before surgery. Studies show people who start pre-surgical exercise programs are stronger during the recovery process. Your surgeon will order pre-surgical physical therapy or recommend a home therapy program. Please see page 40 for a list of pre-surgical exercises you can begin at home.

Smoking, obesity and diabetes can increase your risk of surgery complications. We can help you address these risk factors before surgery for better outcomes. Please see page 56 for a list of resources.

Register for Pre-operative Class

Anyone scheduled for joint replacement surgery is **required to attend** AAMC's pre-surgical Total Joint Class.

- › This class is held weekly and you can register for a class at aamcevents.org. Please register under the heading "coming in for surgery."
- › Click on "joint surgery pre-op class."

Please call 443-481-1698 for help scheduling your pre-operative class if you don't have computer access.

The pre-operative class covers:

- › What to expect before, during and after surgery.
- › Role of your coach/caregiver.
- › Assistive devices.
- › Discharge planning.

Please arrive a few minutes prior to the start time listed as class starts promptly at that time. Bring your guidebook and a pen.

Location: Belcher Pavilion, seventh floor
2000 Medical Parkway, Annapolis MD
Free parking is available in Garage E.

Pre-Register for Surgery

After your surgery is scheduled, someone calls you for pre-registration information. Have the following information ready for the call:

- › Name of insurance holder, his/her address, phone number, work address and work phone number.
- › Name of insurance company, mailing address, policy and group numbers and insurance card.
- › Your employer, address, phone number and occupation.
- › Name, address and phone number of nearest relative.
- › Name, address and phone number of someone to notify in case of emergency (this can be the same as the nearest relative).
- › Remember to bring your insurance card, driver's license or photo ID and any co-payment required by your insurance company with you to the hospital. We accept check, credit card and cash. Contact your insurance company if you are unsure of your co-payment.

Obtain Dental Clearance

Your surgeon may require you to have dental clearance within three to six months of surgery to verify there is no sign of infection. We recommend you have any needed dental work completed at least two weeks prior to your surgery. It's important that you are free from dental infections prior to surgery. You should not have dental work for at least twelve weeks after surgery, unless you experience a dental emergency. You need antibiotics prior to dental appointments and procedures for at least the first year after surgery and, at your surgeon's discretion, sometimes longer.

Prepare Your Home

It's important to prepare your home before surgery to maximize your safety and recovery after total knee replacement surgery.

Pre-Operative Check List

- Arrange for help at home for one week after discharge.
- Remove all throw rugs and other obstacles.
- Install night lights in bathrooms, bedrooms and hallways.
- Have a chair with armrests and make sure height is not too low.
- Have a bed at a comfortable height; get bed risers if needed.
- Install handrails inside and outside (mandatory for bilateral knee surgery).
- Make post-operative physical therapy appointment.
- Prepare meals and freeze them in single-serving containers.
- Tend to any unfinished yard work.
- Arrange for someone to care for pets and get mail.

Equipment

You can purchase raised toilet seats (3-in-1 commode) through our durable medical equipment vendor. Check with your insurance company for durable medical equipment benefits.

If you don't own a rolling walker and cane, we will issue you one. If you own a rolling walker and cane, bring them to the hospital so a physical therapist can adjust them to the appropriate height.

Obtain Medical and Anesthesia Clearance

Your primary care physician is required to provide a physical evaluation to clear you for surgery. You'll receive a letter from your surgeon with instructions for this appointment. Schedule this appointment within 30 days prior to surgery. You may see your primary care provider or you may use AAMC's Pre-Anesthesia Testing (PAT) Center for pre-surgical clearance. You'll also see your surgical team before your surgery.

You can receive your required pre-surgical tests, including your physical, lab work, an EKG and chest x-ray all in one visit at AAMC's PAT Center. We can also give you referrals for consultation with a specialist, if needed.

What to Bring to Your PAT or Medical Clearance Appointment:

- Photo identification
- Insurance card
- A detailed, written list of all medications you are taking, including over-the-counter medications and supplements. Include the name of the medication, the dosage and how often you take it.
- Names of your primary care physician and specialists
- Any medical records associated with your upcoming procedure

□ Obtain Laboratory Tests

You should receive a lab test order from your surgeon or primary care physician. Follow the instructions in this letter. Check with your insurance to determine which lab they cover. Labs may be covered at AAMC's PAT Center.

AAMC's PAT Center

To make an appointment, call **443-481-3624** as soon as your surgery is scheduled.

LOCATION

AAMC, Wayson Pavilion, Suite G60
Free parking is available in Garage B.

HOURS

Monday-Friday, 8 am–4:30 pm

What to Expect at Your PAT Appointment:

- › A customer service representative will welcome you and ask for your insurance information for your records.
- › A nurse will take your medical history and conduct a physical to ensure that you may safely undergo your joint replacement.
- › You will receive instructions about the medications you may take prior to your procedure. You will also learn where and when to report on the day of your procedure.
- › You will complete lab work, a chest x-ray and electrocardiogram, if necessary.
- › An anesthesiologist may consult with you.

□ Establish Discharge Plans

It's important to start planning for your discharge before your surgery. Your discharge plan is a collaboration between you, your surgeon, your physical therapist, your nurse navigator and your discharge planner. Together, you decide what works for you.

□ Review Outpatient Services

Outpatient services include physical therapy and lab work, if necessary. You'll need someone available to drive you to physical therapy three days per week. The person driving for you needs to be available until you can drive yourself.

› Lab Work (for people that will be prescribed Coumadin after surgery)

You do not need to make arrangements for blood work ahead of time. Lab work is done at an independent lab. You need to find out where your insurance company prefers you to have your lab work done. Your care team monitors your lab work twice weekly, on Mondays and Thursdays, for four weeks after you are discharged. Our pharmacist monitors your Coumadin, and will adjust your dose, as needed.

If you are on Coumadin prior to your admission, you will return to the doctor who prescribed you this medication for continued monitoring.

› PT360

PT360 provides in-home physical therapy evaluations before and after surgery to ensure your successful rehabilitation. An outpatient physical therapist provides recommendations to improve your home setup before your surgery. The therapist also helps with stair and transfer training (car, bed and chair). This helps ensure you're comfortable and safe when you return home. Your surgeon will determine if you meet the qualifications for PT360.

› Physical Therapy

Outpatient physical therapy is the preferred discharge plan. Make an appointment for outpatient physical therapy two to four weeks BEFORE you have your surgery. You can make an appointment for therapy at any place you choose. We recommend that it is close to your home and accepts your insurance. If you are not aware of where to go to for physical therapy, the AAMC Joint Replacement secretary can provide a list of locations.

Schedule your first physical therapy session for the next business day after leaving the hospital.

› Home Health Services

If you are unable to leave your home for outpatient services, our care management team arranges home health services for you. Home care services may include a nurse coming to the house to draw your blood if you are on Coumadin or to monitor your incision. A physical therapist will come to your house to work with you on your exercises and mobility. These home health services are limited in time and may be limited by location. They do not replace the need to have a caregiver at home. Your insurance benefits determine the services provided.

› Rehabilitation Facility

We encourage you to plan for care at home for the best outcomes. Discharge to a rehabilitation facility is on a case-by-case basis and depends on medical necessity and your insurance company. Most people choose to have a family member/caregiver drive them in a personal car. If needed, a wheelchair van or ambulance may be available at an additional charge.

Please remember that your insurance company authorizes and decides the medical necessity of a rehabilitation facility. Therefore, it is important for you to make alternative plans prior to surgery for care at home. Please contact the Nurse Navigator for resources available.

❑ Review “Exercise Your Right”

The law requires that everyone being admitted to a medical facility have the opportunity to make advance directives concerning future decisions for your medical care. Please refer to the appendix for more information. Please bring copies of your advance directives to the hospital on the day of surgery.

❑ Read “Anesthesia and You”

Total joint replacement surgery requires the use of either general anesthesia or regional anesthesia. Please refer to the appendix for more information. If you have questions or want to request a particular anesthesiologist, please contact the anesthesia company listed.

❑ Exercising to Get Ready for Surgery

It is important to be as fit as possible before undergoing a total knee replacement. Being fit makes your recovery much faster. It's also important to be familiar with the rehabilitation exercises prior to surgery and to have the proper equipment to perform the exercises upon your return home.

Remember that you need to strengthen your entire body, not just your leg. It's very important that you strengthen your arms by doing armchair push-ups because you will rely on your arms to help you get in and out of bed, in and out of a chair, walk, and do your post-operative exercises.

The exercise below is performed BEFORE SURGERY ONLY.

Armchair Push-Ups

Sit in an armchair. Scoot bottom to the front. Place hands on armrests. Place both legs out straight with heel resting on floor. Straighten arms, raising your bottom up and off the chair seat. Bend elbows and slowly lower into chair. Focus on using your arms to lift and to lower instead of your legs.

You can also use the stairs by sitting on a step closest to the bottom and performing the same motion.

10 REPS. 5 TIMES/DAY



Two Weeks Before Surgery

❑ Complete Pre-operative Visit to Surgical Team

You should have an appointment with your surgical team seven to 14 days prior to your surgery. This will serve as a final check-up and a time to ask any questions that you might have.

You will also receive a Mupirocin (Bactroban) prescription and Chlorhexidine wipes at this visit. Use these as your surgeon directs to prevent post-surgical infection. Please refer to the appendix for more information.

❑ Inform Us of Your Dietary Needs

Our goal is to provide you with quality food and nutrition for your specific needs. If you have a medical condition, allergy or special dietary needs or preferences, contact AAMC's Patient and Food Specialist prior to admission to discuss how we can serve you. Call 443-481-6111.

❑ Stop Medications that Increase Bleeding

Some anti-inflammatory medications may cause increased bleeding. Seven to 10 days before surgery, stop all anti-inflammatory medications such as:

- | | |
|----------------------|-----------------|
| › Advil | › Ibuprofen |
| › Aspirin | › Mobic |
| › Aleve | › Motrin |
| › Diclofenac | › Multivitamins |
| › Glucosamine | › Naproxen |
| › Herbal Supplements | › Vitamin E |
| | › Relafen |

If you are on Coumadin, or any other blood thinner, the prescribing doctor should provide special instructions for stopping the medication.

If you are on any of the following medications, please contact your cardiologist so he/she can tell you when to stop taking your chronic blood thinner, examples include:

- | | |
|------------|-----------|
| › Aspirin | › Pradaxa |
| › Coumadin | › Xarelto |
| › Eliquis | |



Medication List

Please fill out the medication list three weeks before surgery. Bring this book to appointments so you can reference your complete medication list with the nurse or doctor.

Name of Medicine	Dose (Mg)	Frequency	Reason for taking Meds	STOP (one to two week(s) before surgery)	TAKE (NIGHT before surgery)	TAKE (MORNING of surgery)

Reduce Your Risk of Infection

Please inform your primary care physician and surgeon of any infections which, if not promptly treated, could postpone or cancel your surgery. Any infection needs to be addressed, whether it seems significant or not. Infected scratches, cuts, and bug bites have been known to cause delay in surgery if not treated.

Reduce Your Chance of Infection

- › Apply the Mupirocin (Bactroban) in your nose as directed, starting three days prior to surgery and five days after surgery. Refer to page 72 for instructions on how to use.
- › Use the antiseptic Chlorhexidine wipes as directed. Refer to page 73 for the Chlorhexidine wipes instruction handout.
- › Do not shave the operative leg five days before surgery. Shaving increases the risk of infection.
- › Patients with diabetes need to maintain a normal blood sugar before and after surgery.
- › Wash your hands thoroughly before and after dressing changes.
- › Keep the wound clean, dry and covered.

Know Risk Factors for Infection

Many things can increase your risk of infection after surgery, including:

- › Previous infections in wounds in other areas.
- › Repeat or revision surgeries.
- › Being overweight.
- › Diabetes, high blood sugars.
- › Smoking.
- › Steroid use, including prednisone.
- › Close contact with others with skin infections.
- › Infections at other sites (such as dental infections, chronic sinusitis, upper respiratory infections, rheumatoid arthritis, history of MRSA infection or colonization).



The Day Before Surgery

Arrival Time at Hospital

- › The hospital will call you the business day before your surgery between 2-5 pm to let you know when you should arrive.
- › If your surgery is on a Monday, the hospital will call you on Friday.
- › If you miss the call, you may call **443-481-1796** or **443-481-1800** for your arrival and surgery time.
- › Plan to come to the hospital at least two hours before your scheduled surgery.

Night Before Surgery — Do Not Eat or Drink

- › Do not eat or drink anything after midnight, **EVEN WATER.**
- › If directed, you may take your morning medications with a **SMALL** sip of water.
- › Do not use chewing gum, breath mints, cough drops, or lozenges.
- › Do not use smoking or tobacco products.

Special Instructions

- › Leave jewelry, valuables, cash and weapons at home.
- › No makeup or lotion before your procedure.
- › Avoid dark nail polish. You may keep acrylic nails.
- › Have a driver available on discharge day, before noon.

Your caregiver should arrive at the hospital by 8 am the day after your surgery. Your caregiver should plan on staying until you are discharged.

What to Bring to the Hospital

- Patient guide
- A copy of your advance directives
- Insurance card
- Driver's license or photo ID
- List of current medications and dosages
- Elastic shorts (no buttons), short sleeve shirts, flat comfortable shoes with backing (no flip-flops)
- Personal hygiene items (toothbrush, deodorant, lip balm)
- Hearing aides
- Eyeglasses
- Dentures
- Braces, orthotics, prosthetics
- CPAP machine, if needed
- If you already own a walker that needs to be adjusted, bring it to the hospital
- Your caregiver
- Optional: You may bring a counter to the hospital to help keep track of the exercise repetitions

**Parking is available in
Garage A for free.**

**Valet parking is available
between 7 am–5 pm for a fee.**



Hospital Care

The Day of Surgery	24
After Surgery	24
Pain Relief After Surgery	26
Recognizing and Preventing Blood Clots.....	27
Medication Instructions for Blood Thinners	28
Discharge	31

The Day of Surgery

Arrival

When you and your caregiver arrive at the hospital, park in Garage A (see campus map, page 4). Take the elevator in the Hospital Pavilion South to the second floor. Go to the Short Stay unit registration desk.

Registration

Bring your Insurance card and picture ID.

Pre-surgical Waiting Area (Short Stay unit):

Here you will prepare for surgery by:

- › Giving surgical consent.
- › Allowing your surgeon to initial your operative site to validate correct location.
- › Receiving one to two intravenous lines for fluid and medicine.
- › Getting lab tests, if needed.
- › Reviewing your medical history with the pre-surgical nurse, operating nurse and anesthesiologist.
- › Receiving pre-surgical medications.

Your caregiver will wait with you as you prepare for surgery. Your caregiver receives a pager that only works within the hospital walls. Your caregiver should return the pager if he/she leaves the hospital during surgery. Please provide the registration desk with your caregiver's phone number. Surgery will last two to three hours.

After Surgery

Post Anesthesia Care Unit (PACU)

You will recover in the PACU. Your caregiver remains in the surgical waiting area until you transfer to your room at the Center for Joint Replacement.

- › You stay in the PACU for two hours.
- › Your surgeon speaks with your caregiver/family about your surgery.
- › Nurses monitors your pain and vital signs.
- › You may have an x-ray of your new joint.

Transfer to Center for Joint Replacement

- › Once you are considered ready to leave the PACU, we will escort you to the Center for Joint Replacement located on the fifth floor of the Hospital Pavilion North.
- › A nurse and patient care technician will greet you at your room.
- › Nurses will take your vital signs and assess your health often.
- › You will begin ankle pump exercises to prevent blood clots from forming in your legs.
- › You will use the incentive spirometer to prevent pneumonia and start deep breathing exercises. You may or may not have a catheter in your bladder.

After Surgery

Therapy Evaluation

You may have a physical therapy evaluation on the day of your surgery depending on your arrival time at the Center for Joint Replacement, type of anesthesia used for your surgery, and your medical condition.

- › **The evaluation consists of:**
 - › Sitting up on the side of the bed.
 - › Getting into a recliner chair.
 - › Walking in the hallway with a rolling walker.

Daily Activities

Your caregiver is expected to arrive at 8 am and be present for physical therapy sessions. It's best for your caregiver to stay for the day as you may be discharged. We encourage ice therapy throughout the day.

- › **Activities include:**
 - › Blood draws.
 - › Bathing and dressing.
 - › Getting out of bed and sitting in a recliner chair by 7 am.
 - › A visit from your surgical team.
 - › Breakfast at 8 am.
 - › A physical therapy session.
 - › A visit from the care coordinator to discuss plans for discharge.
 - › Potential discharge.

Daily Reminders

- › Pain, redness, warmth and swelling are a normal part of the healing process following total knee replacement surgery. Continue using your ice therapy to decrease these symptoms.
- › Pain management is a priority throughout your hospital stay.
 - › We offer you narcotic and non-narcotic pain medication prior to physical therapy and throughout each day. Narcotics can be highly addictive and may have side effects. Use the least amount necessary and stop using them as quickly as possible after surgery.
 - › Let your nurse know when you would like your medication. We want you to be as comfortable as possible.

Journey to Recovery

- › Continue ice therapy.
- › Use the incentive spirometer.
- › Practice deep breathing exercises.
- › Use your compression stockings.
- › Check your wound.
- › Do ankle pumps.

Pain Relief After Surgery



▶ How much pain will I have following surgery?

It's normal to experience some pain after surgery, but you shouldn't have to deal with severe pain. Pain control after your procedure helps you make a quicker recovery. We will do everything we can to control your pain. If you have concerns about the location or intensity of the pain, speak with your surgeon. Surgical pain should gradually decrease over time.

Please remember that we cannot guarantee to take away all of your pain. You may have some discomfort or pain, even after taking pain medications.

▶ What does effective pain treatment mean?

Our goal is to control your pain after surgery so that you are able to function well enough to walk and continue your exercises as instructed. As you recover from your procedure, you may need to modify your activities for a brief time. This could include: changing sleeping position or location, minimizing stair climbing, having assistance with household duties and even personal care.

▶ How do I manage my pain?

Use your pain medication only as directed by your surgeon.

- › Remember oral medications need time to work. Plan at least 30 minutes for them to begin to take effect and for them to generally last three to four hours.
- › Over-the-counter medications may be used, if cleared by your surgeon.
- › Your prescription pain medication refill may be sent into your pharmacy.
- › Please allow 24-48 hours notice on prescription refills.

Use ice and other ways to manage your pain.

- › Apply ice to your wound at least six to eight times each day to decrease discomfort and swelling.
- › DO NOT apply heat to the wound after surgery, as this can increase swelling and pain.
- › Walk five minutes of every waking hour to decrease stiffness and pain.
- › Use relaxation techniques, such as meditation and deep breathing.

▶ What are the risks of opioid prescription pain medications (for example, Percocet, hydrocodone, Dilaudid, etc.)?

Opioid prescription pain medications can be an important part of treatment following surgery. These drugs can be helpful for a short time but they have serious risks, including the risks of addiction and overdose. They may cause drowsiness, nausea, constipation, itching or interfere with breathing or urination.

- › Avoid driving or other activities that require alertness when taking opioid pain medications.
- › Do not drink alcoholic beverages when taking opioid pain medications.

Stop taking pain medication and seek medical attention if you experience:

- › Difficulty breathing.
- › Difficulty urinating.
- › Hives or a rash.

Recognizing and Preventing Blood Clots

Preventing Blood Clots

Surgery may increase your risk of a blood clot. To prevent clots:

- › Do foot and ankle pumps.
- › Walk.
- › Wear compression stockings.
- › Take your blood thinners as directed including Coumadin, Aspirin, Xarelto, Pradaxa, Eliquis or Lovenox.

Signs of blood clot in lungs?

- › Sudden chest pain.
- › Difficult and/or rapid breathing.
- › Shortness of breath.
- › Sweating.
- › Confusion.

Call 911 if you experience any of these symptoms.

What are the symptoms of a blood clot?

- › Severe swelling in thigh, calf or ankle that does not go down with elevation.
- › Pain, heat and tenderness in calf, back of knee or groin area. NOTE: Blood clots can form in either leg.

Call your surgeon if you experience any of these symptoms.



Medications: Blood Thinners

Your doctor may prescribe one of the following post-surgical blood thinners.

Aspirin (Enteric-coated) 325mg

- › Take 1 tablet twice a day (10 am and 10 pm) for six weeks.
- › Take with food or milk and 8 oz. of water.

Precautions:

- › Do not use a straight razor to shave.
- › Do not drink alcohol.
- › Only take the medications listed in your discharge instructions.
- › Wear white Thrombo-Embolic Deterrent (TED) stockings for four weeks.

Xarelto (Rivaroxaban)

- › Take nightly before bed with or without food.
- › Take only as directed for four weeks.

Precautions:

- › Do not use a straight razor to shave.
- › Do not drink alcohol.
- › Avoid grapefruit and grapefruit juice.
- › Only take the medications listed in your discharge instructions.
- › Wear white TED stockings for four weeks.

Eliquis (Apixaban)

- › Take twice daily; one tablet in the morning and one tablet in the evening.
- › Take only as directed.

Precautions:

- › Call your doctor if you notice any of these side effects: allergic reaction, color change in urine (red or pink), red/black tarry stools, or unusual bleeding/bruising/weakness.
- › Do not drink alcohol while on this medication.
- › Only take the medications listed in your discharge instructions.
- › If you have questions about this medication call your orthopedic surgeon's office.

Enoxaparin (Lovenox)

- › Take at the same time twice each day.
- › Take only as directed until directed to stop.
- › If taking along with warfarin/Coumadin, the Clinical Pharmacist will instruct you when to stop taking.

Precautions:

- › Rotate injection sites.
- › Don't expel the bubble prior to administering the injection.
- › Do not use a straight razor to shave.
- › Do not drink alcohol.
- › Only take the medications listed in your discharge instructions.

Disposal of needles: The Anne Arundel Department of Health recommends placing needles into a wide-mouthed metal or heavy plastic container with a secure lid such as a coffee can. Pour bleach into the container, seal it with a lid and discard it with household trash.

www.aahealth.org/programs/env-hlth/housing/disposal-sharps

Coumadin (Warfarin)

- › Take nightly before bed.
- › Take only as directed for four weeks.

Precautions:

- › Do not use a straight razor to shave.
- › Do not drink alcohol.
- › Limit food high in vitamin K (ex. leafy green vegetables).
- › Only take the medications listed in your discharge instructions.
- › Wear compression stockings.

Medications: Blood Thinners

Coumadin (Warfarin)

Coumadin is a blood thinner that requires regular testing for its blood thinning effect. If you take warfarin, a doctor will monitor you for four weeks.

Determining Your Coumadin Dose

You will have a blood test each day while you're at AAMC to check the effectiveness of the Coumadin. This blood test is called the prothrombin time or PT/INR. Your physician or AAMC pharmacist reviews the results and prescribes your dose.

Once you go home, the blood test occurs twice weekly (usually on Mondays and Thursdays) at your lab of choice. You will take Coumadin for four weeks from the date of your surgery.

Our clinical pharmacist calls you every Tuesday and Friday before 5 pm about your dose adjustment.

Call the on-call Clinical Pharmacist at 443-481-1000 for:

- › Questions about your Coumadin dose.
- › Excessive diarrhea, vomiting, nose bleeds, bloody urine or black tarry stools.

Managing your Coumadin After Discharge

- › **Home with Outpatient Physical Therapy**
 - › You will go to a medical lab to have the blood work drawn.
 - › Our AAMC pharmacist and the discharge planner at the AAMC Joint Center coordinate these arrangements.
 - › The pharmacist will get the results and call you the next day to adjust your Coumadin dose.
- › **Home with Home Health Services**
 - › The home health nurse will come out twice a week to draw the blood work.
 - › The AAMC pharmacist receives a call with your blood work results and will call you the next day if your dose needs to be adjusted.
- › **Discharge to Rehabilitation Facility**
 - › Coumadin monitoring is usually done twice a week if you are transferred to a rehabilitation center. The physician caring for you at the rehabilitation center will adjust the Coumadin dose as necessary.
- › **Home After Rehabilitation Facility**
 - › The rehabilitation center staff may arrange upon discharge home health or outpatient blood monitoring.
 - › Contact our pharmacist at 443-481-1000 to tell them you are home from the rehabilitation center.

Drugs to Avoid While Taking Blood Thinners

Notify the pharmacist if you start an antibiotic. Medications listed below can INCREASE the effect of Coumadin. You should avoid them unless your doctor prescribes them to you.

- › Aspirin
- › Aspirin-containing medications
- › Nonsteroidal medications (Advil, Aleve, Ibuprofen, Mobic, Motrin and Naproxen)
- › Herbal supplements

Inform all of your doctors that you are on Coumadin and consult your pharmacist before taking any over-the-counter medications.



Discharge

Discharge is a decision between you, your insurance company, orthopedic surgeon, and nursing, medical and rehabilitation teams. You will need to show that you can safely perform specific functional tasks before we can discharge you. Discharge occurs when you meet certain medical criteria:

- › Pain is under control.
- › Nausea and vomiting are controlled.
- › Lab values are normal.
- › Vital signs are stable (blood pressure, heart rate, oxygen).
- › Safe discharge plan is in place.

Your surgeon and medical care team determine the day of discharge. You must be medically stable and have met your therapy goals.

What are the therapy goals you must meet for safe discharge?

1. Able to walk safely using a rolling walker (with no loss of balance; ability to walk distance from one room to the next in the home).
2. Able to transition from sitting to/from standing safely.
3. Able to get in/out of bed safely.
4. Able to go up/down stairs and a curb step either with supervision if a caregiver is present to assist, or independently if no one will be able to assist at home.

Why is an early discharge a good thing?

Returning home to your own comfortable environment and getting back to your normal daily routine will promote a faster recovery.

Your nurse will discuss medications and home care instructions with you and your caregiver prior to discharge.

Patient Discharge Checklist

Do you know how to:

- Take your medication?
- Prevent infections?
- Manage your pain?
- Perform your exercises?

Caregiver Discharge Checklist

Do you know how to:

- Change the dressing?
- Identify signs and symptoms of infection?
- Put on compression stockings?
- Identify how often stockings should be removed and for how long?
- Use the incentive spirometer and know how often to use it?
- Follow the exercise program at home?

How to Safely Discharge Home

- › Someone responsible needs to drive you.
- › Use a vehicle with easy entry and exit.
- › A plastic bag over the seat makes it easier to “slide” into a comfortable position.
- › You will receive written discharge instructions concerning medications, physical therapy, activity, etc.
- › Most people go to outpatient physical therapy the day after discharge from the hospital.

Discharge to a rehabilitation facility is determined by medical necessity and your insurance company. Most people have family or a caregiver drive them home in a personal car. However, a wheelchair van or ambulance may be available at an additional charge.



Caring for Yourself at Home

Control Your Discomfort 34
Manage Your Recovery 34
Recognize and Prevent Complications 34

Wound Care

Types of Dressings 35
Caring for Your Incision 35

What to Expect for Recovery

One Week After Surgery 36
Three to Five Weeks After Surgery 36
Three Months After Surgery 37
Six Months After Surgery 37

Caring for Yourself at Home

Control Your Discomfort

- › Take your pain medicine at least 30 minutes before physical therapy.
- › Gradually wean yourself from prescription narcotic medication to Tylenol.
- › Change your position every hour throughout the day.
- › Use ice for pain control. Applying ice to your knee will decrease discomfort.
- › Use the ice therapy before and after your exercise program and throughout the day.

Manage Your Recovery

- › Breathe. Do your incentive spirometer at least 10 times every four hours (during waking hours) for two weeks. Cough and breathe deeply. Continue to use your incentive spirometer as directed.
- › Take your temperature at 8 am for one week after discharge. Call your surgeon if your temperature is greater than 101 degrees more than once. It is common to have a slight temperature elevation after surgery.
- › Wear your compression stockings. Compression stockings help compress the veins in your legs. This helps to keep swelling down and reduces the chance for blood clots.
- › Elevate the surgical leg for short periods of time throughout the day to reduce swelling.
- › Remove stockings for one hour twice a day for four weeks (keep on 22 hours a day). Your caregiver will help you with your stockings as they can be difficult to put on.
- › Use your ice therapy. Apply to incision six to eight times per day as needed for pain and swelling.

Keep in Mind

- › Your appetite may be poor.
 - › Drink plenty of fluids to avoid dehydration.
 - › Your desire for solid food will return.
- › You may have difficulty sleeping. This is normal.
 - › Do not sleep or nap during the day.
 - › Check with your doctor's office before taking any sleeping pills.
- › Your energy level will decrease for the first month.
 - › Try to maintain a normal routine each day.
- › Narcotic pain medication can cause constipation.
 - › Use stool softeners or laxatives while on pain medication.
 - › Stay well hydrated.
 - › Stay active; walk at least every two hours.

Recognizing and Preventing Complications

Your doctor will recommend any scar therapy you may need at your six week follow up. Do not use creams on your scar before this time. When your doctor approves, your physical therapist can help care for your incision to minimize scarring.

Follow up with your primary care physician if you experience excessive vomiting, persistent coughing or a fever higher than 101° more than once.

Please review infection prevention on page 20.

Please review blood clot prevention on page 27.

› Preventing Post-Surgical Pneumonia

- › Get up and move.
- › Use your incentive spirometer at least ten times every four hours during waking hours for two weeks. Cough and do deep breathing exercises to re-expand lungs and help clear mucus.

› Preventing Post-Surgical Bowel Issues

- › Walk frequently.
- › Stay well-hydrated.
- › Take stool softeners and laxatives, as needed.

› Following Bowel Regimen at Home

- › Narcotic pain medication can cause constipation. Take 1-2 stool softeners in the morning and evening until you have regular bowel movements.
- › If no bowel movement by the second day after discharge, then use Dulcolax suppository (available over-the-counter at local pharmacies).

- › If no bowel movement by the third day after discharge, then use a Fleet enema (available over-the-counter at local pharmacies).
- › If no bowel movement after a Fleet enema, then call your physician.
- › Do not take fiber supplements and bulking agents. These are not substitutes for stool softeners or laxatives.

Wound Care



Acticoat

› An acticoat is an anti-microbial dressing with a white strip and clear edges. It stays on for seven days.

› If you have an acticoat dressing, you may shower as soon as you get home.

Be sure to leave the dressing in place.

› Seven days after surgery (or if the dressing is more than 75 percent saturated), remove the dressing and begin daily dressing changes with the ABD dressing.



ABD Dressing

› Keep your incision dry.

› Keep your incision covered with a dry dressing until your staples are removed in approximately 10–14 days.

› If your incision is dry and not draining, you may shower five days after surgery (unless instructed otherwise).

› Apply a clean, dry dressing after showering. No lotions, creams or powders.

› Change dressing daily and as needed.

› Remove the dressing before showering, cover the incision after showering.



Tegaderm

› It is a transparent medical dressing that covers and protects wounds and incisions.

› At discharge, you will receive more instructions on how to care for this dressing.

› This dressing is applied to your incision at the hospital.

Caring for your incision:

1. Wash your hands.
2. Open the gauze dressing pad.
3. Remove old dressing.
4. Inspect incision for the following:
 - › Increased drainage
 - › Yellow/green drainage
 - › Odor
 - › Significant changes
5. Pick up the gauze pad by one corner and place it lengthwise over the incision. Be careful not to touch the inside of the dressing that covers the incision.
6. Secure the knee dressing by putting on the compression stocking.
7. When you remove the stockings twice daily, secure the dressing with paper tape. You can buy this tape at any local pharmacy. Then remove the tape prior to putting on the stockings again.

What to Expect for Recovery

□ One Week After Surgery

You should be able to:

- › Walk with the rolling walker at least 300–500 feet with support, six to eight times a day.
- › Climb a flight of stairs (12–14 steps) once daily, if you have stairs at home.
- › Straighten your knee completely by lying flat on your back with your legs straight.
- › Actively bend your knee at least 90 degrees.
- › Gradually resume light homemaking tasks.

› After surgery, most people use a walker for two weeks, and then progress to a cane for up to four weeks.

› You should take at least four to six weeks off from work. You can start resuming normal activities, like driving, at your surgeon's discretion. This time may be up to six weeks.

› The key to your recovery is following your knee replacement team's prescribed rehabilitation routine — either through outpatient or in-home physical therapy.

“During the first week after surgery, I had some pain, but took my medication before physical therapy and used the ice therapy as directed. It wasn't as bad as I had expected”
—Ray, right knee replaced.

□ Three to Five Weeks After Surgery

You should be able to:

- › Wean from a rolling walker to a cane as your physical therapist instructs you.
- › Walk increasing distances two to three times/day.
- › Climb a flight of stairs (12–14 steps) more than once daily, if you have stairs at home.
- › Bend your knee to 110 degrees unless otherwise instructed.
- › Straighten your knee completely.
- › Shower and dress by yourself.
- › Resume homemaking tasks.
- › Begin driving (with permission from your doctor), if you had a left total knee replacement and are no longer on narcotic pain medications.

Helpful Hints from our Patients:

A plastic sandwich bag over the toes helps the stockings slide on with ease. Once the stockings are pulled up, remove the sandwich bag from the opening at the toes.



What to Expect for Recovery

□ Three Months After Surgery

You should be able to:

- › Walk without a cane.
- › Climb and descend stairs in a normal fashion (step over step).
- › Improve strength to 80 percent.
- › Resume recreational activities with permission from your doctor.
- › Bend knee to 120 degrees.

“I went back to playing doubles tennis on my new knee. It was great to get back to one of my favorite activities without the pain I experienced on my ‘old’ knee.”

— Barbara

□ Six Months After Surgery

You should notice gradual and continuing improvement in your knee. As time goes on, pain should subside. Every person is different and recovery periods vary. A typical full recovery from a total knee replacement is six to 12 months.

“I could see the hard work paying off, but felt disappointed that I was not getting back to ‘normal’ fast enough.

I started to wonder why I did this surgery in the first place. I was glad my coach was there to keep me on track with my therapy.”

— Joe





Exercising to Get Ready for Surgery

- Armchair Push-Ups 40
- Ankle Pumps 41
- Quad Sets 41
- Abduction and Adduction 41
- Heel Slides 41
- Short-Arc Quads 42
- Straight Leg Raises 42
- Sitting Knee Flexion 42
- Extention Stretch 42

Rehabilitation: Getting Around

- Sitting in a Chair or on a Toilet..... 43
- Rising From a Chair or a Toilet 44
- Getting Into Bed 45
- Getting Out of Bed 45
- Getting Into the Tub 46
- Getting Out of the Tub..... 46
- Walking with a Cane 46
- Walking with a Rolling Walker 46
- Climbing Stairs..... 47
- Negotiating a Curb or Single Step..... 48
- Getting into a Car..... 49

Special Instructions for Bilateral Knee Replacements

- Putting on Pants and Underwear 50
- Talking off Pants and Underwear 50
- Using a Sock Aid 50

Rehabilitation After Discharge

- Walking..... 51
- Exercising at Home 51

Exercising to Get Ready for Surgery

It's important to be as fit as possible before undergoing a total knee replacement. This makes your recovery much faster. It's also important to be familiar with the rehabilitation exercises prior to surgery and to have the proper equipment to perform the exercises upon your return home.

Here are nine exercises that you should start doing now and continue until your surgery. You should be able to do them in 15–20 minutes and do all of them twice a day. Consider this a minimum amount of exercise prior to your surgery. Eight of the exercises listed here are the ones that you will continue to do while in the hospital. These exercises cover the very early phase of your rehabilitation. Remember to breathe while performing exercises: breathe in through your nose, out through your mouth.

Remember that you need to strengthen your entire body, not just your leg. It's very important that you strengthen your arms by doing armchair push-ups because you will be relying on your arms to help you get in and out of bed, in and out of a chair, walk, and to do your exercises post-operatively.

Important Note: Stop doing any exercise that is too painful.

You will need:

- › **Ice packs.** We will provide you with a special ice compression machine to take home. However, you may need back-up ice packs. You can purchase additional commercial ice packs or make your own ice pack.
- › **Five-pound weight.** You will need this for the knee extension stretch. You may use a five pound bag of rice/birdseed or purchase weights at any sporting goods store. We recommend a five pound cuff weight with removable one pound sections, if you choose to purchase weights. You can also use the weight for your progressive resistive exercises at home.
- › **A plastic bag, flattened cardboard box, plexiglass or silk sheets.** You can use these when performing exercises in bed to prevent friction.

The exercise below is performed BEFORE SURGERY ONLY.

Armchair Push-Ups

- › Sit in an armchair. Scoot your bottom to the front. Place your hands on the armrests. Place your surgical leg out straight with your heel resting on floor. Straighten your arms, raising your bottom up off the chair seat. Bend your elbows and slowly lower into the chair. Focus on using your arms to lift and to lower, instead of your legs.
- › You can also use the stairs by sitting on a step closest to the bottom and performing the same motion.
- › **DO THIS STRETCH 10 TIMES IN A ROW, FIVE TIMES PER DAY.**



Complete all exercises on pages 41-42, 20 times, 2 times/day.

1. Ankle Pumps

- › Gently point your toes up toward your nose and down away from you. Do both ankles at the same time or alternate feet. Perform this exercise lying down or sitting up.



2. Quad Sets

- › Lie on your back, tighten your thigh muscles of both legs and push your knees down into the surface. Hold for five seconds.
- › **COACH'S NOTE:** Look and feel for the muscle above the knee to contract. As strength improves, the heels come slightly off the surface.



3. Abduction and Adduction

- › Lie on your back, tighten your thigh muscles and slide your leg slowly out to the side. Keep your kneecaps pointing toward the ceiling. Slowly bring your legs back to middle. You may do both legs at the same time.
- › **COACH'S NOTE:** Knees and toes should be pointing toward the ceiling while the thigh muscles are tight.



4. Heel Slides

- › Lie on your back. Bend the knee of your surgical leg and pull your heel toward your buttocks, moving slowly.
- › **COACH'S NOTE:** Make sure the patient actively pulls the heel up using leg muscles first. Assist the slide with a TheraBand or other resistance band, if needed.



5. Short-Arc Quads

› Lie on your back. Place a large can or rolled towel (about 4-5" diameter) under the knee of your surgical leg. Straighten your knee by lifting up your foot and pushing your thigh down into the roll. Hold straight for five seconds.

› COACH'S NOTE: Work toward a full extension (straightening) of the knee. Assist with the TheraBand, if needed, to achieve full extension.



7. Sitting Knee Flexion

› Keeping feet on floor, slide foot of surgical leg backward, bending knee. Hold for a 10-second count and repeat 15 times.



6. Straight Leg Raises

› Lie on back, bend non-surgical knee, securing heel in surface. Tighten muscles on top of surgical thigh, keeping leg as straight as possible. Lift straight leg 10 inches and hold for two seconds. Lower it slowly, keeping thighs tight for two more seconds and relax.

› COACH'S NOTE: Make sure the straight leg is maintained and knee does not bend with the lift. Bending up the non-surgical knee supports the low back. BILATERAL KNEE PATIENTS DO NOT NEED TO BEND THEIR KNEE FOR THIS EXERCISE.



8. Extension Stretch

› Prop foot of surgical leg up on chair. Put a roll under the ankle. Apply ice and put five pounds on top of the knee. Sit back and try to relax for 15 minutes.

› Bilateral knees: Place a towel roll under each ankle.



Rehabilitation: Getting Around

You may have a physical therapy evaluation the day of your surgery depending on your arrival time to the Center for Joint Replacement after surgery, type of anesthesia and your medical condition. If you don't receive an evaluation on the day of surgery, you'll receive one the next morning. Early mobility is important for a faster recovery and to prevent post-operative complications.

Your coach needs to be present at 8 am the day after your surgery and stay through discharge to learn and help you with your physical therapy sessions. Your coach learns the exercises and observes how well you are moving your knee. You and your coach learn how to perform each of the tasks listed below during your therapy sessions.

If you are having bilateral knee replacements, an occupational therapist will work with you starting the day after surgery. Your coach should be present for the occupational therapy sessions. Throughout this section you will see special notes pertaining to bilateral knee replacement patients.

Sitting in a Chair or on a Toilet



1. Back up to the chair or toilet until you feel it on the back of your legs. Never pivot.



2. Slide the foot of your surgical leg out in front of you and bring your non-surgical leg underneath of you.



3. Reach back for the armrests one at a time. If you're using a raised toilet seat without armrests, keep one hand on the walker while holding a countertop with the other hand.

4. Slowly lower yourself onto the chair or toilet, continuing to slide the foot of your surgical leg forward as you sit.

› **Bilateral knees:** Reach back for armrests or handles one at a time. Walk both legs forward as you slowly lower yourself into the chair.

Rising From a Chair or a Toilet

Do NOT pull up on the walker to stand. Sit in a chair with arm rests. If using a commode with armrests, use the armrests to push up. If using a raised toilet seat without armrests, place one hand on the walker and push off from a countertop with the other.

› **Helpful Tip:** Your 3-in-1 bedside commode can be used at the bedside, over the toilet and in the tub or shower.



1. Scoot to the front edge of the chair or toilet.



2. Slide the foot of your surgical leg further out and keep your non-surgical leg underneath you.



3. Push up with both hands on the armrest or one hand if using a countertop.

4. Balance yourself before reaching for the walker.

› **Bilateral knees:** Place both of your feet out in front. As you start to push with your arms, walk your feet back until firmly underneath you. Find your balance prior to reaching for the walker one hand at a time.



Getting Into Bed



1. Back up to the bed until you feel it on the back of your legs (you need to be midway between the foot and the head of the bed). Slide your surgical leg out in front of you.

2. Reaching back with both hands, sit down on the edge of the bed and then scoot back toward the center of the mattress. (Silk pajama bottoms, satin sheets, or sitting on a plastic bag may make it easier.)

3. Move your walker out of the way, but keep it within reach.

4. Scoot your knees around so that you're facing the foot of the bed.

5. Lift your leg onto the bed while scooting around. To lift your surgical leg, you may use an assistive device such as a cane, a rolled bed sheet, a belt or your TheraBand to assist you with lifting that leg into the bed.

6. Keep scooting and lift your other leg onto the bed using an assistive device, as above, if this is your surgical leg. If you are a bilateral knee patient, use the cane or leg lifter to bring both your legs into bed.

7. Scoot toward the center of the bed.

Getting Out of Bed

1. Scoot your knees to the edge of the bed.

2. Sit up while lowering your leg to the floor.

3. If necessary, use a leg-lifter, cane, rolled bed sheet, belt or TheraBand to lower your surgical leg to the floor.

4. Scoot to the edge of the bed to get your feet on the floor.

5. Slide your surgical leg out in front of you and bring your non-surgical leg underneath you.

6. Use both hands to push off bed. If the bed is too low, place one hand on the walker while pushing up off the bed with the other.

7. Balance yourself before reaching for the walker.



Getting Into the Tub Using a Bath Seat

1. Place the bath seat in the tub facing the faucet.
2. Back up to the tub with your walker until you can feel the tub on the back of your legs. Be sure you are in front of the tub bench.
3. Reach back with one hand for the bath seat. Keep the other hand on the walker.
4. Slowly lower yourself onto the bath seat, keeping the surgical leg out straight.
5. Move the walker out of the way, but keep it within reach.
6. Lift your legs over the edge of the tub, using a leg lifter for the surgical leg, if necessary.
7. Hold on to the back of the shower seat.

Getting Out of the Tub Using a Bath Seat

1. Lift your legs over the outside of the tub.
2. Scoot to the edge of the bath seat.
3. Push up with one hand on the seat of the bath seat while holding onto the walker with the other hand.
4. Balance yourself before reaching for the walker.

Walking with a Cane

Most people will not use a cane for a few weeks after surgery. Your physical therapist will determine the best time to start using a cane.

1. Hold the cane in the hand opposite the side of your surgery. You should not limp or lean away from your operated knee.
2. When standing up straight, your elbow should be slightly bent when you hold your cane.
3. To start, set your cane about one small stride ahead of you and step off on your surgical leg. Finish the step with your non-surgical leg.



Important Note

- › While using a bath seat, grab bars, long-handled bath brushes and hand-held showers make bathing easier and safer. They are typically not covered by insurance.

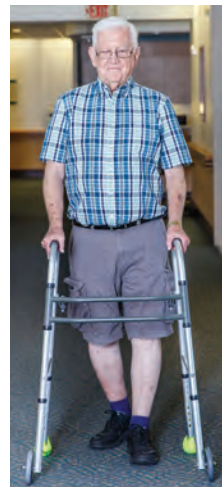


Helpful Tip

- › Always use a rubber mat or non-skid adhesive on the bottom of the tub or shower.
- › To keep soap within easy reach, make a soap-on-a-rope by placing a bar of soap in the toe of an old pair of pantyhose and attach it to the bath seat.

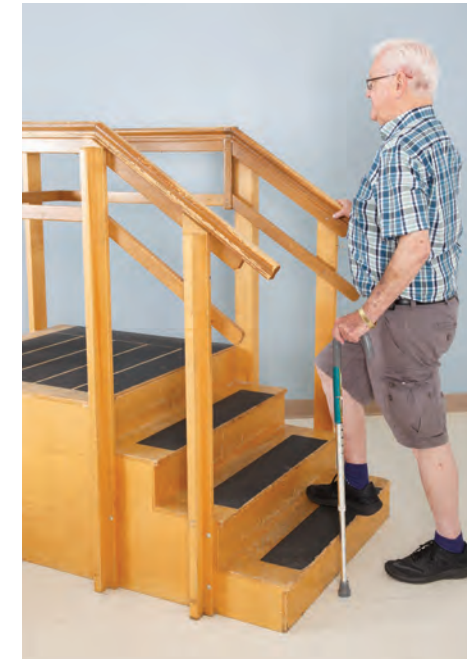
Walking with a Rolling Walker

1. Roll the walker forward.
2. Step forward with your surgical leg. Place your foot in line with the back legs of the walker.
3. Step forward with your non-surgical leg. Take small steps initially.
4. Progress to a more natural walking pattern with each foot stepping past the other. With each step, your heel should hit the floor first, your knee should bend slightly and you should roll off your toes.
 - › If you have arthritis, consider using biking gloves for cushioning of your palms.
 - › Bilateral knees: Follow the same instructions as above, except your first step will be with your weaker leg.



Climbing Stairs

Most people have one railing at home, so the physical therapist teaches you how to climb stairs with a cane and a railing.

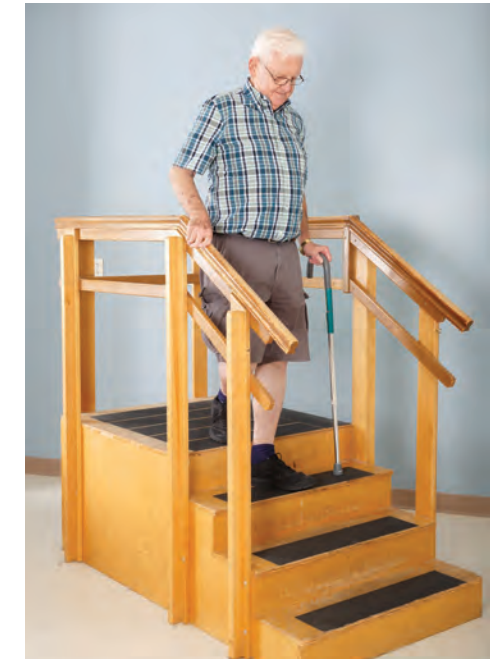


Going Up Stairs

1. Step up with your non-surgical leg.
2. Step up next with your surgical leg.
3. Bring the cane up.

Have someone assist or spot you as recommended by your therapist. This person should stand behind and slightly to the side of you when going up the steps. When going down the steps, the person should be in front of you.

- › **Bilateral knees:** Follow these steps for coming down the stairs:
 1. Turn your body to face the handrail.
 2. Put both hands on the handrail.
 3. Step down sideways with the leg closest to the step.
 4. Step down with the other leg.



Coming Down Stairs

1. Lower your cane to the step below.
2. Step down with your surgical leg.
3. Step down next with your non-surgical leg.

Helpful Tip

- › Use a handrail and cane for assistance.
- › Go up the steps with your stronger (non-surgical) leg first and down the steps with your weaker, surgical leg first. Remember: "Up with the good, and down with the bad."
- › For bilateral knees, your stronger leg is your "good" leg.
- › Take one step at a time.
- › The cane stays on the same level step as the surgical leg.
- › Keep the steps clear of objects or loose items.
- › Plan ahead so after your surgery you can limit the number of times you need to go up and down steps.

Negotiating a Curb or Single Step



When Going Up

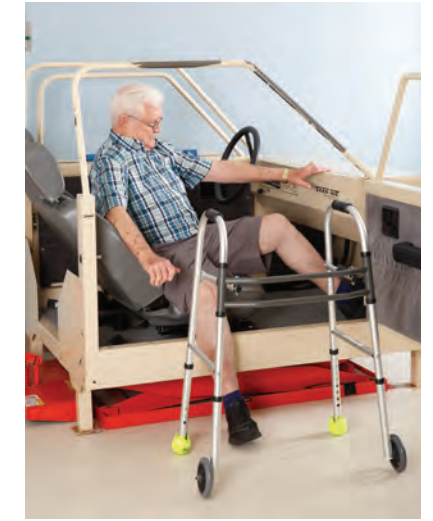
1. Use your rolling walker.
2. Get close to the step or curb.
3. Place the entire walker over the curb and onto the sidewalk. Make sure all four prongs/wheels are on the sidewalk.

4. Push down through the walker toward the ground.
5. Step up with the stronger non-surgical leg first.
6. Next, step up with the surgical leg.

When Going Down

1. Place your walker down first. Make sure all four prongs/wheels are on the ground.
2. Step down with your surgical leg.
3. Next, step down with your non-surgical leg.

Getting into a Car



1. Push the car seat all the way back. Recline the seat back half way, if possible.
2. Place a plastic trash bag on the seat of the car to help you slide and turn forward.
3. Back up to the car until you feel it touch the back of your legs.

4. Reach back for the car seat, and lower yourself down. Keep your surgical leg straight out in front of you, and duck your head so you do not hit your head on the doorframe. DO NOT hold the door when lowering to a sitting position. You can put one hand on the dashboard to help lower yourself to the seat.

5. Turn forward, leaning back as you lift your leg into the car. You may use your cane or TheraBand to bring the surgical leg into the car.

Helpful Tip

- › Reclining the car seat allows for more room to get in and out of the car.
- › Return the car seat to the upright position for traveling.
- › Recline the car seat again prior to getting out of the car.
- › It's okay to use running boards. Treat them the same as a step, where you use the stronger leg up first and the weaker leg down first.

Special Instructions for Bilateral Knee Replacements



Putting on Pants and Underwear Using a Reacher or Dressing Stick

1. Sit down.
2. Put your more painful leg in first and then your other leg. Use a reacher or dressing stick to guide the waistband over your foot.
3. Pull your pants up over your feet and knees to an area within easy reach.
4. Stand with the walker in front of you to pull your pants up the rest of the way.

Taking Off Pants and Underwear Using a Reacher or Dressing Stick

1. Back up to the chair or bed where you'll be undressing.
2. Unfasten your pants, and let them drop to the floor. Push your underwear down to your knees.
3. Lower yourself down, keeping your legs out straight.
4. Take your least painful leg out first and then the other leg.
5. Use the reacher or dressing stick to remove your pants from your foot and off the floor.



Using a Sock Aid

1. Slide the sock or TED hose onto the sock aid with the heel of the sock on the bottom of the sock aid where it's hard.
2. Hold the cord, and drop the sock aid in front of your foot. It's easier to do this if your knee is bent.
3. Slip your foot into the sock aid.
4. Straighten your knee, point your toe and pull the sock on. Keep pulling on the ropes until the sock aid pulls out.



Rehabilitation: After Discharge

Walking

Continue using the rolling walker for about two weeks after you leave the hospital. You must protect your knee while the soft tissue is healing. Don't walk with a cane until your physical therapist clears you.

You may need to adjust your walker/cane height to accommodate your shoes.

Continue to walk throughout the day when you return home. **It's best to take frequent, short walks rather than one long walk during the day.**

Important Note

- › Use ice for 20 minutes, at least six to eight times a day.

Note for bilateral knees:

- › You may need to use the walker longer than two weeks because each leg must be strong enough to support you before you transition to a cane.

Safety and Avoiding Falls

- › Pick up throw rugs and tack down loose carpeting. Cover slippery surfaces with carpets that are firmly anchored to the floor or that have non-skid backs.
- › Be aware of all floor hazards, such as pets, small objects or uneven surfaces.
- › Provide good lighting throughout your home. Install night lights in the bathrooms, bedrooms and hallways.
- › Keep extension cords and telephone cords out of pathways.
- › **Don't run wires under rugs as this is a fire hazard.**
- › Don't wear open-toe slippers or shoes without backs. They don't provide adequate support, which can lead to slips and falls.
- › Sit in chairs with armrests. It's easier to get up.
- › Rise slowly from either a sitting or lying position so as not to get light-headed.
- › Don't lift heavy objects for the first three months, and then only with your surgeon's permission.

Exercising at Home

Your therapist advances your home program to work on strength, flexibility, speed and balance. Here are instructions and tips for continuing your exercise program at home:

- › Do your home exercises lying flat in bed twice a day.
- › Take your pain medicine at least 30 minutes before you exercise.
- › Do not use ankle weights (with the exception of the knee extension stretch) until cleared by your next therapist.
- › Wean yourself from the TheraBand for exercise.
- › The short-arc quadriceps strengthening exercise can be performed with a 4–5" roll/ball. The height depends on the length of your legs, with taller people using a 5" roll. The roll can be made up of tightly rolled towels, blankets, large plastic juice containers or coffee cans, etc.
- › Use the Cryocuff ice therapy throughout the day. Ice reduces swelling and pain in the surgical leg.
- › Use ice along with the five pound weight during the prolonged extension stretch twice a day. Do not use any weight if you are already at zero degrees of extension.
- › Continue to wear your knee immobilizer when you sleep until cleared by your therapist or doctor.
- › A rocking chair can be therapeutic to gain range of motion. Rocking for 30 minutes, once or twice a day, can be followed by your extension stretch for 15 minutes.

Helpful Tip

You can use a large, flattened cardboard box, plexiglass, vinyl shower curtain, cookie sheet, silk sheets or heavy plastic board to reduce friction when performing exercises in bed.



Get Fit for Life	54
Dental Care After Total Knee Replacement	54
Taking Care of Your New Knee	54
Kneeling after Total Joint Replacement.....	54
Traveling After Total Knee Replacement	55
The Importance of Lifetime Follow-Up Visits	55
Sex After Total Knee Replacement	55

Get Fit for Life

Your future includes exercising for life. Exercise is important to get the best results from your total knee replacement surgery. You should continue with a fitness program after you are finished with your outpatient physical therapy. Senior centers, community centers and hospitals have wellness programs that can meet your fitness needs.

With both your orthopedic and primary care physicians' permission, you should be on a regular exercise program three to four times per week lasting at least 20–30 minutes. If any exercise program or activity causes you pain, stop and tell your doctor before continuing.

Choose a Low-Impact Activity

- › Group exercise classes
- › Home exercise program, as outlined in this guide
- › Regular one- to three-mile walks
- › Home treadmill (for walking)
- › Stationary bike
- › Elliptical machine
- › Regular exercise, as approved by your doctor
- › Pickleball
- › Doubles tennis
- › Golf
- › Cross-country skiing
- › Rowing
- › Bowling
- › Swimming or water aerobics (only if your incision has healed and you're cleared by your doctor)

What Not to Do

- › Don't start any exercise program without first consulting your doctor
- › Don't run or engage in high-impact activities, like singles tennis
- › Don't participate in high-risk activities, such as downhill skiing, due to the risk of fractures around the prosthesis and damage to the prosthesis itself

Dental Care After Total Knee Replacement

You should not have dental work for at least twelve weeks after surgery, unless you experience a dental emergency. You need antibiotics prior to dental appointments and procedures for at least the first year after surgery and, at your surgeon's discretion, sometimes longer.

Taking Care of Your New Knee

Although the risks for post-operative infections are very low, it's important to realize the risk remains. A prosthetic joint could attract the bacteria from an infection located in another part of your body. If you develop a fever of more than 101 degrees, call your primary care provider. If you sustain an injury, such as a deep cut, you should clean it as best you can and tell your primary care provider. The closer the injury is to your prosthesis, the bigger the concern. Occasionally you may need antibiotics. You can treat superficial scratches with topical antibiotic ointment. Alert your primary care provider if the area is painful, swollen, reddened or has drainage.

Kneeling after Total Joint Replacement

Refrain from kneeling on the operative knee for approximately one year from date of surgery. Your orthopedic surgical team can give you techniques to help you kneel safely if needed to perform your job duties. The ultimate decision on whether you will be able to kneel will be made by your orthopedic surgeon.

Traveling after Total Knee Replacement

Ask your orthopedic surgical team and physical therapist for clearance to travel. Long flights or car rides may increase your risk of blood clots.

Recommendations:

- › Wear your compression stockings for trips over two hours
- › Get up to stretch or walk at least once an hour
- › Perform ankle pumps when taking long trips
- › Your doctor may recommend the use of aspirin when you ask for travel clearance

Due to the sensitivity of the security checkpoint equipment in airports and government buildings, you may set off metal detectors. Please follow the security instructions for each facility. A wallet card or letter is not helpful nor required to travel.

The Importance of Lifetime Follow-Up Visits

You'll need a lifetime of follow-up with your orthopedic surgeon to ensure a healthy new joint. Orthopedic surgeons have their own individual guidelines regarding how often you should get a checkup. Here are some general rules for checkups:

- › One year after surgery, and then as directed by your physician
- › Anytime you have mild pain for more than a week
- › Anytime you have moderate or severe pain

During checkups, your orthopedic surgeon will evaluate the prosthesis and the liner by taking an x-ray.

Sex after Total Knee Replacement

The topic of sexual activity may be difficult to discuss with your surgeon following your total knee replacement. It's a very common question that many people have. Generally, it's appropriate to wait about six to eight weeks after your surgery and after approval from your surgeon. This allows plenty of time for your incision to heal and for the muscles to begin the healing process. Further into your recovery you'll be able to control your movement and position of your leg during sexual relations.

The recovery process is different for each person. Some people may still experience discomfort for up to eight weeks and may need to take pain medications periodically. The pain medications can cause drowsiness. Having pain, swelling and fatigue may interfere with sexual activities, too. This may add to some of the barriers to resuming sex. Waiting to resume sexual activities until you begin to feel like yourself may enrich your intimacy.

Once you are ready to resume sexual relations you can take measures to enrich your experience. At first, the best position for sex is for the total knee patient to be on the bottom. Positions that are more passive will be more comfortable for your knee. More passive roles allow for less activity, which will help you to maintain more energy. You may use a pillow to support your knee during this time.

If you are interested in more detailed information, visit recoversex.com.

Resources

Smoking Cessation Help at AAMC

For patients undergoing total knee replacement, smoking is associated with an increased risk of infection. If you smoke, we encourage you to consider quitting. AAMC offers resources to help. We hold "Becoming Smoke-Free" classes throughout the year. Sessions cover topics related to maintaining a smoke-free lifestyle. These include quitting smoking without gaining weight, managing stress and dealing with other smokers. Find information online at askAAMC.org/QuitSmoking. Or, contact a smoking cessation program specialist at **443-481-5366** or **443-481-5367** for class dates and times.

AAMC's Hackerman-Patz House Lodging

Hackerman-Patz House is a home-away-from-home, providing respite and affordable accommodations to patients and their families to rest, relax and regain strength while staying close to the hospital. You may want to stay here the night before your surgery or your family may wish to stay here while you're recovering at the hospital. Learn more at askAAMC.org/Hackerman-Patz.

Wellness at AAMC

AAMC's Wellness department provides exercise classes, access to a gym for a low-cost fee, weight loss programs and counseling, massage and stress reduction classes. Learn more at askAAMC.org/Wellness.

MyChart

MyChart offers patients personalized and secure on-line access to their medical records. It enables you to securely use the Internet to help manage and receive information about your health.

- › Access your medical records from any device – anywhere, anytime
- › Manage your appointments
- › Request prescription refills
- › Message your physician
- › Update your health profile
- › Pay your bill online
- › View and download content, such as medical history, imaging reports or lab results
- › Schedule a video visit with participating providers

If you don't already have a MyChart account, please register or learn more at askAAMC.org/MyChart.

Become a Joint Center Volunteer

Our volunteers make a huge difference here at AAMC's Center for Joint Replacement. If you are looking for an opportunity to help others and have fun – this is the place! If interested, please call our **Volunteer Office** at **443-481-5050** and specify that you are interested in volunteering for the Center for Joint Replacement. Learn more at askAAMC.org/Volunteer.

Frequently Asked Questions.....	58
Exercise Your Right: Put Your Healthcare Decisions in Writing.....	61
Anesthesia and You	62
Pre-surgery Shopping List.....	64
Managing Your Pain Handout	65
Knee Replacement Discharge Instructions	66
Information About Blood Thinners	67
Mupirocin Handout.....	72
Reducing Your Risk of Infection: How to Use Chlorhexidine Wipes.....	73

Frequently Asked Questions about Knee Replacement Surgery

How long will my new knee last, and can I have a second replacement later?

All implants have a limited life expectancy depending on an individual's age, weight, activity level and medical condition(s). A total joint implant's longevity varies in every patient. It is important to remember that an implant is a medical device subject to wear that may lead to mechanical failure. While it is important to follow all of your surgeon's recommendations after surgery, there is no guarantee that your particular implant will last for any specific length of time. Subsequent replacements, called revisions, can be done in the future if the joint wears out.

What are the major risks?

Most surgeries go without any complications. Infection and blood clots are two serious complications. We use antibiotics and blood thinners to avoid them. We also take special precautions in the operating room to reduce the risk of infections. Your surgeon will discuss ways to reduce your risk. The risk of infection is increased in patients who are obese, smoke, or have poorly controlled diabetes. Patients who are overweight should lose weight before surgery to reduce risk. Patients who smoke should stop smoking. Anyone with diabetes should have their blood sugar under the best possible control leading up to surgery. We have resources available to help you, just ask.

Should I exercise before the surgery?

Yes, it is very important to exercise before surgery. Consult your surgeon and physical therapist about the exercises appropriate for you. This book includes basic exercises you should do regularly before surgery.

How long will I be in the hospital?

Your surgical and medical team decide your day of discharge. There are several goals that you must achieve before you can leave the hospital. Our emphasis is on safe discharge to home. Our therapists will ensure your safety, and work with you on walking, climbing stairs, and entering and exiting a car before you are cleared to leave the hospital.

Where will I go after discharge from the hospital?

Most patients are able to go home directly after discharge. The nurse navigator and discharge planner will help you with your plans and coordinate the necessary arrangements.

Will I need help at home?

Yes, for the first week or two, depending on your progress, you will need someone to assist you with transportation, meal preparation, compression stockings, mobility, etc. Family or friends need to be available to help. Preparing ahead of time can minimize the amount of help you need. Having the laundry done, house cleaned, yard work completed, clean linens put on the bed, and single portion frozen meals already made will help reduce the need for extra help.

What if I live alone?

Three options are usually available to you. You may return home and receive help from a relative or friend and go to outpatient physical therapy. You can have a home health nurse and physical therapist assist you at home for approximately one hour, three times a week. The nurse and therapist will provide assistance for 2-3 weeks. Although not ideal, you may also stay at a rehabilitation facility following your hospital stay if there is a medical necessity.

How long does the surgery take?

We reserve approximately 2–2.5 hours for surgery. Some of this time is taken by the operating room staff to prepare for the surgery. Most patients spend about two hours being monitored in the recovery room after the surgery, so the actual waiting time for the families may be 4–5 hours.

What if I am coming from out of town?

If you or a family member need a place to stay prior, during or after surgery due to the distance from your home to AAMC, we can help you make arrangements at our Hackerman-Patz House. This home away from home is located on Jennifer Road. Call **410-571-3100** for reservations.

Do I need to be put to sleep for this surgery?

The type of anesthesia you will receive is based on your preference, the surgeon's preference, your surgical procedure, and a careful evaluation of your medical history by your anesthesiologist. The two types of anesthesia used are general anesthesia and regional or spinal block.

Will the surgery be painful?

You will have pain following the surgery, but we will try to keep you comfortable with the appropriate medication. We use a variety of preemptive medications and local injections as well as customized post-operative medications to reduce pain relief.

Is it normal to have knee/leg pain?

Yes, it is normal. These procedures do hurt early on. Surgical pain can last for the first two weeks and will increase after physical therapy. Please take your pain medications as prescribed for pain relief.

Is it normal that my operated leg is twice as big as the other side?

Swelling is common and normal after total knee replacement. If you feel you are having significant swelling with calf pain that does not reduce with elevation, contact the surgical team at **410-268-8862** between 8 am and 5 pm. We may recommend an ultrasound exam to check for a clot. This ultrasound test is urgent, but not emergent. You can have it done in an imaging facility. Total knee replacement patients are at risk for deep vein thrombosis. We place ALL patients on blood thinners for the first four to six weeks to help prevent blood clots.

How should my wound look and feel?

Some clear or slightly bloody drainage is normal for the first week. The area will be warm and red because it's healing. The area around the incision will be warm to the touch and red for months, which is common. It is normal to have extensive bruising around the joint, which can travel down to the ankle and foot or up the thigh. Please contact the surgical team at **410-268-8862** if the amount of drainage is getting worse instead of better, the drainage is becoming cloudy, or it is lasting more than seven days.

What if I am not sure what I am doing with my anticoagulant dosing?

If you are on Coumadin, please call the AAMC pharmacy at **443-481-1000** and ask the operator to page the pharmacist on call.

How do I avoid constipation?

Drink fluids and use stool softeners as advised or use a suppository, if needed (see "Bowel Regimen" on page 35).

What do I do if I'm nauseated?

Try taking prescribed anti-nausea medications with food, and drink fluids to prevent dehydration.

Will I need a walker, crutches or a cane?

Yes, most people need a walker for about two weeks. You then progress to a cane. You shouldn't switch to a cane until you have practiced with your physical therapist. Switching to the cane too early can result in a limp because your surgical leg is not strong enough to support you.

Will I need physical therapy when I go home?

Yes, you will have either outpatient or in-home physical therapy. We strongly encourage you to use outpatient physical therapy. If you need home physical therapy, we coordinate a physical therapist to provide therapy at your home three times a week. Following this, you will go to an outpatient facility three times a week to assist in your rehabilitation. The length of time required for this type of therapy varies with each person.

How long until I can drive?

The ability to drive depends on whether surgery was on your right knee or left knee and the type of car you have. If the surgery was on your left knee and you have automatic transmission, you could be driving in three weeks. If the surgery was on your right knee, your driving could be restricted as long as six weeks. Consult with your surgeon or therapist for their advice on your activity. You must be off all narcotic pain medication before driving.

When will I be able to get back to work?

We recommend that most people take at least six weeks off from work. If you have a sedentary position or can work from home, you may be able to return to work sooner. If you have a job that requires physical work, you may need as long as three months to return to full duty.

When can I have sexual intercourse?

You should ask your surgeon when you can resume sexual intercourse. (See Sex After Total Knee Replacement on page 55.)

How often will I need to be seen by my surgical team following the surgery?

Two to four weeks after discharge, you'll be seen for your first post-operative office visit. The frequency of follow-up visits depends on your progress.

Do you recommend any restrictions following this surgery?

Yes, we do not recommend high-impact activities, such as running, singles tennis and basketball. Injury-prone sports, such as downhill skiing, are also dangerous for the new joint. Your therapist will help you understand these restrictions, as your surgeon may give you range of motion restrictions.

What physical/recreational activities may I participate in after my recovery?

We encourage you to participate in low-impact activities like walking and swimming (once the wound is completely healed). If you experience pain, stop and consult your physician before continuing.

Will I notice anything different about my knee?

Yes, you may have a small area of numbness to the outside of the scar, which will improve over the course of a year. In many cases, people have a small area that remains numb.

Exercise Your Right: Put Your Health Care Decisions in Writing

Anne Arundel Medical Center's policy is to place patients' wishes and individual considerations at the forefront of their care and to respect and uphold those wishes.

What are Advance Medical Directives?

Advance Directives communicate a patient's wishes regarding health care to all caregivers. If a patient has a living will or has appointed a Health Care Agent and is no longer able to express his or her wishes to the physician, family or hospital staff, AAMC is committed to honoring the wishes of the patient as they are documented at the time the patient was able to make that determination.

THERE ARE DIFFERENT TYPES OF ADVANCE DIRECTIVES:

Living Wills are written instructions that explain your wishes for health care if you have a terminal condition or irreversible coma and are unable to communicate.

Appointment of a Health Care Agent (sometimes called a Medical Power of Attorney) is a document that lets you name a person (your agent) to make medical decisions for you, if you become unable to do so.

Health Care Instructions are your specific choices regarding use of life-sustaining equipment, hydration and nutrition, and use of pain medications. On admission to the hospital, you'll be asked if you have an Advance Directive. If you do, please bring copies of the documents to the hospital with you so they can become a part of your medical record. Advance Directives are not a requirement for hospital admission.

If you'd like more information or forms for completing a Living Will, Appointment of a Health Care Agent, or Health Care Instructions, you may write to:

Maryland Attorney General's Office
Opinions Section
200 St. Paul Place
Baltimore, MD 21201

You may also contact:
The Advocacy Department
Anne Arundel Medical Center
443-481-4821

For more information visit askAAMC.org/advancedirectives.

Anesthesia and You

Who are the anesthesiologists?

The operating rooms at AAMC are staffed by board-certified and board-eligible physician anesthesiologists. They all have privileges to practice at AAMC.

What type of anesthesia is used for joint replacement surgery?

There are several types of anesthetic techniques available for your surgery. Before receiving any sedatives or anesthetics, you meet your anesthesiologist to discuss the most appropriate anesthetic plan. Although uncommon, complications or side effects can occur with each anesthetic option, even when your anesthesiologist takes special precautions to avoid them. Below is a brief description of the various types of anesthesia used for joint replacement surgery:

› General Anesthesia

This anesthetic choice produces unconsciousness so that you will not feel, see or hear anything during surgical procedures. You receive anesthetic medications through an intravenous line and/or anesthetic gas delivered directly into your lungs through a tube or a special mask. You either breathe on your own, or your breathing is assisted by an anesthesiologist using an anesthesia machine.

› Spinal or Epidural Anesthesia (Regional Anesthesia)

This anesthetic choice produces numbness below the chest and limited mobility in both legs for about three to four hours. A small needle is placed in your lower back and local anesthetic is injected. Medications can be given during your surgery to maintain the level of comfort and sleepiness you desire. Your legs continue to be numb and immobile for several hours after surgery. When the surgical pain gradually appears as the numbness wears off, pain medication is given to you through your intravenous line to keep you comfortable.

Which type of anesthesia is best for me?

The type of anesthesia you receive is based on your preference, the surgeon's preference, your surgical procedure and a careful evaluation of your medical history by your anesthesiologist. The risk of complications or side effects is not significantly different between the two major anesthesia types.

Some patients are apprehensive about spinal anesthesia because it involves a needle being placed into the back. However, the spinal needle is very small and numbing medicine placed on the skin minimizes the discomfort. The possibility of damage to the nerves is extremely rare. The patient generally wakes up from surgery with minimal pain because the spinal lasts about three hours.

Will I have any side effects?

Your anesthesiologist discusses the risks and benefits associated with the different anesthetic options, as well as any complications or side effects that can occur with each type of anesthetic.

Nausea or vomiting may be related to anesthesia or the type of surgical procedure. Although less of a problem today because of improved anesthetic agents and techniques, these side effects continue to occur for some patients. Medications to treat nausea and vomiting may be given, if needed.

The amount of discomfort you experience depends on several factors, especially the type of surgery. Your doctors and nurses can relieve pain with medications. Your discomfort should be minimal, but do not expect to be totally pain-free. The staff will teach you the pain scale (0–10) to assess your pain level.

What happens before my surgery?

You meet your anesthesiologist immediately before your surgery.

Your anesthesiologist reviews all information needed to evaluate your general health. This includes your medical history, laboratory test results, allergies and current medications. With this information, the anesthesiologist determines the type of anesthesia best suited for you. The anesthesiologist also answers any questions you may have.

You also meet your surgical nurses. They start intravenous (IV) fluids and may give pre-operative medications, if needed. Once in the operating room, they attach monitoring devices, such as a blood pressure cuff, EKG and other devices for your safety. At this point, you'll be ready for anesthesia.

During surgery, what does my anesthesiologist do?

Your anesthesiologist is responsible for your comfort and well-being before, during and immediately after your surgery. In the operating room, the anesthesiologist manages vital functions, including heart rate and rhythm, blood pressure, body temperature and breathing. The anesthesiologist is also responsible for fluid and blood replacement, when necessary.

What can I expect after the operation?

After surgery, we take you to the Post Anesthesia Care Unit (PACU). Specially trained nurses watch you closely. During this period, we may give you extra oxygen and observe your breathing and heart functions closely. An anesthesiologist is available to provide care as needed for your safe recovery.

May I choose an anesthesiologist?

Although we assign most patients an anesthesiologist, you may choose one based on personal preference or insurance considerations. If you have questions about your insurance coverage, or medical plan participation by the anesthesiologist, please contact your insurance company for guidance. You should submit requests for specific anesthesiologists in advance through your surgeon's office for coordination with the surgeon's availability.

The hospital contracts with anesthesiologists. You receive a separate bill from their office. If you have questions about insurance coverage for anesthesia, you should contact:

Anesthesia Company, LLC
410-280-2260
anccollc.com

Pre-surgery Shopping List

Take the time before your surgery to shop for these items you'll need after your surgery.

- 1 box of 5 in. x 9 in. ABD dressing pads (Dr. Hoover's patients don't have to purchase this.)
- 2 in. roll of paper tape
- Thermometer
- 4-6 ice packs
- SeneKot-S stool softener with stimulate (generic okay)
- Milk of Magnesium
- Dulcolax suppository
- Fleet enema
- Silky athletic shorts with elastic band one size larger than normal

Extra Items, if needed:

- Saltine crackers
- Ginger ale
- Cloth measuring tape
- Prune juice
- Disposable bath wipes



Pain Management: How We Can Help You

Wong-Baker FACES® Pain Rating Scale



We may ask you to describe your pain on a scale of 0 to 10. You can use this diagram to visualize the pain you feel.

No matter the time, please tell us if you are in pain. Managing your pain helps you rest and heal, and ensures you have a better hospital stay. We are your partner in pain management and will do everything we can to give you a safe and comfortable recovery process.

► Your Role

Only you can tell us what type of pain or discomfort you feel. We're here for you.

To ensure you receive the right amount of pain medication you need, let us know if you were taking over-the-counter or prescription pain medication, including patches on your skin, prior to coming to the hospital.

If you feel pain when you are sleeping, let your nurse know if you would like him or her to wake you up at night to ask about your pain.

► Ways We Can Manage Your Pain

After a major injury or surgery, it's normal to experience pain. Our goal is to safely lower your pain to a manageable level.

One option is medication. With many kinds of pain medication options available, we may need to try different combinations. There are two ways we can give you medication:

- › Scheduled: We give you some medications on a preset schedule. You do not have to ask for this medication.
- › As needed: This is medication we can give you when or if your pain gets worse. We can give you this medicine even after you receive your scheduled pain medication. Ask your nurse if you can have an as-needed medication.

We don't always need to use medication to treat pain. Sometimes an ice pack or a heating pad can make you more comfortable. Other members of your medical team, such as a physical therapist, psychologist or a psychiatrist can help manage your pain.

Questions? Please talk to your nurse.



Knee Replacement Discharge Instructions

Dressing changes

Acticoat Bandage:

- › Bandage stays in place for seven days. If bandage becomes saturated greater than 75 percent, or loses occlusive seal prior to seven days, then remove the bandage and start daily dressing changes.
- › Large Tegaderm: Keep clear plastic dressing on for two weeks and then peel off dressing.
- › Daily/ABD Dressing: Change dressing daily.

Monitor incision for signs of infection

**Call your surgeon if any of the following are present:

- › Increased redness, swelling, drainage
- › Odor
- › Yellow/green drainage
- › Surrounding skin hot to touch



Do not use any ointments, creams, alcohol or cleansers on incision.

Take temperature at 8 am for one week

**Call surgeon if your temperature is greater than 101 degrees.

Showering and bathing

Acticoat/Large Tegaderm: You may shower now as long as the dressing maintains an occlusive seal. If occlusive seal is lost or dressing is removed prior to seven days after surgery then wait to shower. You may shower in five days with incision uncovered as long as wound is dry, not draining and not red.

Daily/ABD Dressings: You may shower in five days with incision uncovered as long as wound is dry, not draining and not red. Remove bandage prior to showering and replace with a clean dressing afterward.

Resume pre-operative diet

- › If taking Coumadin: limit intake of foods high in Vitamin K (dark leafy greens)
- › If taking Xarelto: avoid grapefruits and grapefruit juice

Bowel regimen at home

Senna 1-2 tabs in the morning and evening while using pain medications until regular bowel movements have returned.

**If no bowel movement by second day after discharge, use a Dulcolax suppository (OTC). If no bowel movement by the third day after discharge, use a Fleet enema (OTC). If no bowel movement after Fleet enema, call your physician.

Cryotherapy

Use to manage pain and/or swelling.

- › Knees – Apply Cryocuff ice therapy throughout the day
- › Knees – Apply ice packs at least 6-8 times per day for 20-30 minutes



For knee patients

Wear knee immobilizer at night while asleep until cleared by outpatient physical therapist.



Incentive spirometer

Do it 10 times every four hours while awake for two weeks. Cough and deep breath frequently.



TED stockings

Remove for one hour twice a day; wear for four weeks.



AAMC Center for Joint Replacement

Blood Clot Medication Prevention

Warfarin (Coumadin®)

- › Take at the same time each night
- › Take only as directed for 4 weeks (28 days)
- › Lab: INR goal 1.8-2.4
- › Blood work is drawn every Monday and Thursday.
- › The clinical pharmacist will call you every Tuesday and Friday before 5 pm about your dose.



Precautions for Coumadin®

- › Do not use a straight razor to shave; use an electric razor to shave, if needed.
- › No alcohol intake.
- › Limit food high in Vitamin K (ex. leafy green vegetables) but *be consistent* with your intake.
- › Only take the medications listed in your discharge instructions.
- › If a new medication starts, page the on-call Clinical Pharmacist – many medications interact with warfarin/Coumadin.

Page the on-call Clinical Pharmacist at 443-481-1000:

- › If you have additional questions about your Warfarin/Coumadin® dose.
- › If you experience excessive diarrhea, vomiting, nose bleeds or black tarry stools.

Blood Clot Prevention

- › Ankle pumps
- › Ambulation
- › Mechanical devices
- › Medication

What are the signs I may have a blood clot in my leg?

- › Increased **swelling** that does not go down after elevation
- › New onset **redness**
- › New onset **pain** when performing ankle pumps and/or walking

What is a pulmonary embolism?

A blood clot that has traveled to the lung.

What are the signs I may have a pulmonary embolism?

- › Shortness of breath
- › Chest pain
- › Rapid heartbeat
- › Sweating
- › Confusion
- › Overall “I don’t feel right”

Call 911 if you experience any of these signs!

AAMC Center for Joint Replacement

Blood Clot Medication Prevention

Enoxaparin (Lovenox®)

- › Take at the same time twice each day.
- › Take only as directed until directed to stop.
- › If taking along with warfarin/Coumadin®, the Clinical Pharmacist will instruct you when to stop taking.



Precautions for Lovenox®

- › Rotate injection sites.
- › Don't expel the bubble prior to administering the injection.
- › Do not use a straight razor to shave.
- › No alcohol.
- › Only take the medications listed in your discharge instructions.

Disposal of needles: The Anne Arundel Department of Health recommends placing them into a wide-mouthed metal or heavy plastic container with a secure lid such as a coffee can. Bleach should be poured into the container which can then be sealed with a lid and discarded with household trash.

<http://www.aahealth.org/programs/env-hlth/housing/disposal-sharps>

Blood Clot Prevention

- › Ankle pumps
- › Ambulation
- › Mechanical devices
- › Medication

What are the signs I may have a blood clot in my leg?

- › Increased **swelling** that does not go down after elevation
- › New onset **redness**
- › New onset **pain** when performing ankle pumps and/or walking

What is a pulmonary embolism?

A blood clot that has traveled to the lung

What are the signs I may have a pulmonary embolism?

- › Shortness of breath
- › Chest pain
- › Rapid heartbeat
- › Sweating
- › Confusion
- › Overall "I don't feel right"

Call 911 if you experience any of these signs!

AAMC Center for Joint Replacement

Blood Clot Medication Prevention

Enteric-coated Aspirin 325 mg

- › Take twice a day (10 am and 10 pm) for 6 weeks
- › Take with food or milk to not upset your stomach



Precautions

- › Do not take any NSAIDs (Ibuprofen, Advil, Naprosyn, Aleve).
 - » Tylenol is okay.
- › Do not use a straight razor to shave.
- › No alcohol.
- › Only take the medications listed in your discharge instructions.
- › Wear white TED stockings for 4 weeks.

Blood Clot Prevention

- › Ankle pumps
- › Ambulation
- › Mechanical devices
- › Medication

What are the signs I may have a blood clot in my leg?

- › Increased **swelling** that does not go down after elevation
- › New onset **redness**
- › New onset **pain** when performing ankle pumps and/or walking

What is a pulmonary embolism?

A blood clot that has traveled to the lung.

What are the signs I may have a pulmonary embolism?

- › Shortness of breath
- › Chest pain
- › Rapid heartbeat
- › Sweating
- › Confusion
- › Overall "I don't feel right"

Call 911 if you experience any of these signs!

AAMC Center for Joint Replacement

Blood Clot Medication Prevention

Xarelto (brand name)

Rivaroxaban (generic name)

- › Take nightly before bed with or without food
- › Take only as directed for 4 weeks



Precautions for Xarelto

- › Do not use a straight razor to shave
- › No alcohol
- › Avoid grapefruit and grapefruit juice
- › Only take the medications listed in your discharge instructions

Blood Clot Prevention

- › Ankle pumps
- › Ambulation
- › Mechanical devices
- › Medication

What are the signs I may have a blood clot in my leg?

- › Increased **swelling** that does not go down after elevation
- › New onset **redness**
- › New onset **pain** when performing ankle pumps and/or walking

What is a pulmonary embolism?

A blood clot that has traveled to the lung

What are the signs I may have a pulmonary embolism?

- › Shortness of breath
- › Chest pain
- › Rapid heartbeat
- › Sweating
- › Confusion
- › Overall “I don’t feel right”

Call 911 if you experience any of these signs!

AAMC Center for Joint Replacement

Blood Clot Medication Prevention

Eliquis (brand name)

Apixaban (generic name)

- › Take twice daily; one tablet in the morning and one tablet in the evening
- › Take only as directed



Precautions for Eliquis

- › Call your doctor if you notice any of these side effects: allergic reaction, color change in urine (red or pink), red/black tarry stools, or unusual bleeding/bruising/weakness
- › No alcohol while on this medication
- › Only take the medications listed in your discharge instructions
- › If you have questions about this medication call your orthopedic surgeon’s office

Blood Clot Prevention

- › Ankle pumps
- › Ambulation
- › Mechanical devices
- › Medication

What are the signs I may have a blood clot in my leg?

- › Increased **swelling** that does not go down after elevation
- › New onset **redness**
- › New onset **pain** when performing ankle pumps and/or walking

What is a pulmonary embolism?

A blood clot that has traveled to the lung

What are the signs I may have a pulmonary embolism?

- › Shortness of breath
- › Chest pain
- › Rapid heartbeat
- › Sweating
- › Confusion
- › Overall “I don’t feel right”

Call 911 if you experience any of these signs!

Reducing Your Risk of Infection Before Surgery

Mupirocin nasal/topical ointment or cream is used to kill bacteria that can live in your nose and may spread to other people when you breathe or sneeze. These bacteria can also enter your surgical wound. Mupirocin is used in particular to kill a bacterium called Staphylococcus aureus (including MRSA), which is a common pathogen for infection. Many people carry Staph on their skin or in their nose without knowing it. Studies show that using mupirocin ointment prior to surgery significantly reduces the chance of a Staph infection after surgery.

► General Instructions:

- › You should start Mupirocin three days prior to surgery. To best protect you from infection, use this medicine for the full prescribed length of time.
- › Use Mupirocin the morning of surgery. Then, leave your Mupirocin at home. We'll provide you Mupirocin in the hospital.
- › Continue the Mupirocin for one week after surgery.
- › Wash your hands before you use the ointment; use a cotton swab to apply a small amount of ointment (about the size of a match head) to the inside of each nostril. Press the sides of your nose together to allow the ointment to spread around the inside of your nostrils. **Do not apply Mupirocin to your surgical wound.**
- › For Mupirocin to work properly, you should apply it regularly twice a day during the course of treatment.



Reducing Your Risk of Infection Before Surgery

Preparing the skin with an antiseptic solution before surgery can significantly reduce your risk of infection at the surgical site. Anne Arundel Medical Center has chosen disposable cloths moistened with a rinse-free antiseptic solution [2% Chlorhexidine Gluconate] for you to prepare your skin at home.



► General Instructions:

You will receive three packages of antiseptic cloths from your surgeon's office. Each package contains two cloths, for a total of six. As directed, you will use three cloths each time you prepare your skin.

- › Avoid shaving any area of your body for the two days before surgery.
- › Do NOT wax for the two weeks prior to surgery.
- › Cloths should NOT come in contact with or be exposed to your eyes, ears or mouth.
- › Do NOT microwave cloths or flush them in toilet.
- › If you have an allergic reaction to the cloths, discontinue use and notify your surgeon.

Questions about preparing for surgery? Call askAAMC at 443-481-4000.

► 2 Nights Before Surgery _____ Date _____



- › Take a bath or shower with regular soap and shampoo, if desired.
- › Dry off with a clean towel, making sure skin is completely dry.
- › Open two packages, using only three cloths as follows:



- › **Cloth #1:** Gently wipe the FRONT of your body, starting from the neck down to your feet.
- › **Cloth #2:** Gently wipe the BACK of your body, starting from the neck down to your feet. (You may need another person to assist you.)
- › **Cloth #3:** Gently wipe the SURGICAL AREA only.

- › Reseal package with remaining **Cloth #4** to prevent it from drying out.
- › Allow skin to air dry for at least one minute before getting dressed. It is normal for the cloth to leave your skin feeling sticky.



- › Do NOT rinse or apply lotions, moisturizers or perfume after preparing skin.

► 1 Night Before Surgery _____ Date _____



- › Take a bath or shower with regular soap and shampoo, if desired.
- › Dry off with a clean towel, making sure skin is completely dry.
- › Use the remaining three cloths as follows:



- › **Cloth #4:** Gently wipe the FRONT of your body, starting from the neck down to your feet.
- › **Cloth #5:** Gently wipe the BACK of your body, starting from the neck down to your feet. (You may need another person to assist you.)
- › **Cloth #6:** Gently wipe the SURGICAL AREA only.

- › Allow skin to air dry for at least one minute before getting dressed. It is normal for the cloth to leave your skin feeling sticky.



- › Do NOT rinse or apply lotions, moisturizers or perfume after preparing skin.

► Day of Surgery _____ Date _____



- › Do NOT shower or bathe.
- › You may wash your hands/face and brush your teeth.

NOTES

