

KNEE REPLACEMENT SURGERY

# Enhanced Recovery After Surgery (ERAS)

Your Guide to Healing



Certified by The Joint Commission in orthopedic joint replacement



**UVA Health**



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## Preparing for Joint Replacement Surgery

Patient Name \_\_\_\_\_ Surgeon \_\_\_\_\_ Surgery Date: \_\_\_\_\_

### Timely To-Do's to Begin Your Joint Replacement Journey

- Schedule your preoperative evaluation appointment(s) right away. You must have seen your PCP and any other requested providers and have all pre-surgery testing completed BEFORE your next appointment here or surgery may be postponed.
- Read your ERAS Joint Replacement Handbook
- Attend the in-person Joint Replacement Class at the UVA Orthopedic Center ***OR*** complete the online Joint Replacement Seminar & submit the attendance form.

#### In-Person Class Registration:



[uvahealth.com/joint-class](http://uvahealth.com/joint-class)

#### Online Seminar Link:



[uvahealth.com/joint-replacement-seminar](http://uvahealth.com/joint-replacement-seminar)

- Identify a care partner and arrange a responsible ride home for after surgery.
- Choose your physical therapy clinic and schedule your first appointments. **Physical therapy sessions will begin 15 days after surgery.** Two sessions per week are recommended.
- Complete a Consult/Planning Call from the Joint Replacement Nurse Coordinator:
  - Shelly Duprey
  - Jennifer (Jeni) Harris
  - Jessica Chiarappa
  - Tory Stribling

If you have questions call 434.924.BONE (2663)

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# Contact Resources

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*The main hospital address:*  
 UVA Health  
 1215 Lee Street  
 Charlottesville VA 22908

*Orthopedic center address:*  
 UVA Orthopedic Center  
 2280 Ivy Road  
 Charlottesville, VA 22903

<b>Contact</b>	<b>Phone Number</b>
UVA Orthopedic Clinic – Ivy Road	434.924.BONE (2663)
Joint Replacement Class Registration	<a href="https://uvahealth.com/joint-replacement-seminar">https://uvahealth.com/joint-replacement-seminar</a> <a href="https://uvahealth.com/services.jointreplacement/class-registration">https://uvahealth.com/services.jointreplacement/class-registration</a>
MyChart	Mychartuva.com or 434.243.2500
If no call for surgery time after 4:30 pm the day before surgery	434.924.5035
Perioperative Anesthesia Clinic	434.924.5035
Hospital Unit: 6E	434.924.2485
UVA Main Hospital	434.924.0000
Clinic After Hours Contact (Orthopedic Resident on Call)	434.924.0000 (after 4:30 pm/weekends/holidays)
Lodging Arrangements	434.924.1299
Hospitality House	434.924.2091
Parking Assistance	434.924.1122
Interpreter Services	434.982.1794
Hospital Billing Questions	800.523.4398

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# Total Joint Replacement Optimization Letter

Primary Care Provider

Patient name: \_\_\_\_\_  
DOB: \_\_\_\_\_  
Planned Procedure: \_\_\_\_\_  
Facility: UVA Orthopedics

Dear Healthcare Provider,

This patient was recently seen in our clinic and it was determined that the patient would benefit from a joint replacement surgery. This is an OFFICIAL request for a pre-operative history and physical exam for our mutual patient. Per our practice guidelines we recommend the following be completed, if applicable. This should be completed prior to the patient's pre-surgery work-up appointment with the orthopedic clinic.

<ul style="list-style-type: none"><li>• History &amp; Physical</li></ul>	<ul style="list-style-type: none"><li>• 12 lead EKG</li></ul>
<ul style="list-style-type: none"><li>• CBC &amp; BMP</li></ul>	<ul style="list-style-type: none"><li>• Any condition specific labs you deem necessary</li></ul>
<ul style="list-style-type: none"><li>• HGB A1C ( goal &lt; 7.5 - 8)</li></ul>	<ul style="list-style-type: none"><li>• Dental consult for poor dentition/abscesses</li></ul>

*\*UVA Orthopedics requests that labs and EKG be completed by PCP and specialty providers unless otherwise specified*

In addition to the above tests, please complete the following requests, if applicable:

- Anticoagulation recommendations prior to surgery for patients on chronic anticoagulation therapy, including the need for bridge therapy
- Chest x-ray if indicated
- Referral for sleep study if indicated
- Smoking cessation plan
- Weight loss plan/Nutrition consult (goal BMI < 35 - 40)
- Urinalysis with reflex culture (if symptomatic)
- Pain management consult

*Patient is not required to adhere to a within 30-days of surgery pre-op exam requirement*

*This patient may or may not be on the cancellation list, surgery date is unable to be moved up until this form has been received*

We have also requested pre-operative evaluations from the following specialists: Cardiology  
Pulmonology Dental Other: \_\_\_\_\_

For any questions, please call 434-924-2663. Fax number 434-245-3553.

**Please complete and return the attached Total Joint Replacement Optimization Form**

Sincerely,  
UVA Orthopedic Center

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**Total Joint Replacement Optimization Form**  
Primary Care Provider

Patient name & DOB: \_\_\_\_\_

Planned Procedure: \_\_\_\_\_

Date of Surgery: \_\_\_\_\_

Facility: UVA Orthopedics

**WE CAN NOT PROCEED WITH THE SURGERY ABOVE UNTIL THIS INFORMATION IS RECEIVED.**

**PLEASE FAX THIS FORM, LAST OFFICE NOTE, AND ALL PERTINENT RECORDS (Labs, EKG, etc.)  
TO: 434-245-3553**

**IF YOU ARE A UVA PROVIDER AND USE EPIC, PLEASE CLEARLY DOCUMENT IN YOUR NOTE  
WHETHER THIS PATIENT IS OR IS NOT OPTIMIZED FOR SURGERY.**

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The boxes below must be checked for patient to be cleared for surgery:

This patient is medically optimized for surgery and requires no further treatment or workup prior to proceeding with surgery.

This patient is NOT medically optimized. Please note below additional evaluations and requirements for special concerns noted:

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Physician Name: \_\_\_\_\_

\_\_\_\_\_  
(signature of provider)

\_\_\_\_\_  
(date)

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Thank you for choosing UVA Orthopedics to have your joint replacement surgery! We appreciate and value the trust you have in your joint replacement team for your care delivery.

As part of your post-surgical recovery, you will be regularly contacted electronically and asked to respond to a short list of questions. This allows us to make sure you are healing well and helps us manage any post-op issues that may arise. These electronic touch points will continue until you come back to the clinic to meet with your surgeon.

We strongly encourage MyChart enrollment to allow for easy communication between you and the clinic. If you are enrolled in MyChart, the questionnaires will be sent to you this way. If you need help enrolling in MyChart, please let the front desk or clinic staff know. We are here to help!

It is our privilege to help you through your recovery process. If you have any questions, please send us a MyChart message or give us a call. You can call the UVA Orthopedic Clinic at 434.924.2663 and ask to speak with a joint replacement nurse care coordinator.

Best,

Shelly Duprey, RN, ONC, *Joint Replacement Care Coordinator*

Jeni Harris, RN, ONC, *Joint Replacement Care Coordinator*

Jessica Chiarappa, RN, *Joint Replacement Care Coordinator*

Tory Stribling, RN, *Joint Replacement Care Coordinator*

Amber Dillon, RN, *Joint Replacement Clinical Program Coordinator*

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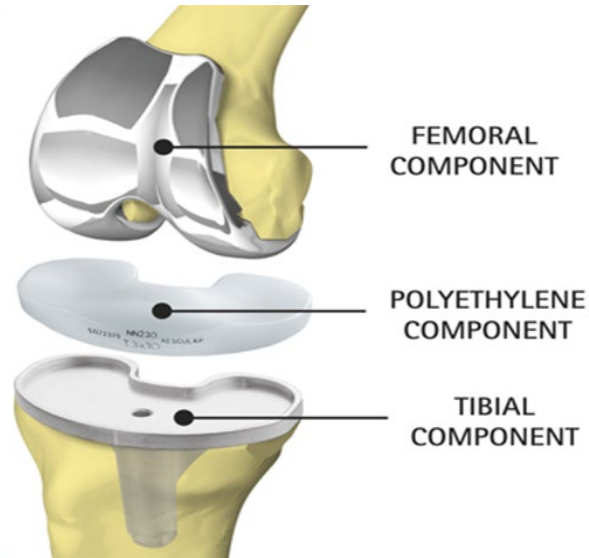
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# Introduction to Total Knee Replacement Surgery

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Total knee replacement is a procedure in which the damaged cartilage and bone is removed from the surface of your knee joint and replaced with artificial components of metal and plastic.

- **Femoral Component** - placed on the end of the thigh bone
- **Tibial Component** - placed on top of tibia or lower leg
- **Polyethylene Component (plastic insert)**- placed between the femoral and tibial components

# Enhanced Recovery After Surgery (ERAS)

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## What is Enhanced Recovery?

Enhanced recovery is a way of improving the experience of patients who need major surgery. It helps patients recover sooner so life can return to normal as quickly as possible. The ERAS program focuses on making sure that patients are actively involved in their recovery.



There are four main stages:

1. **Planning and preparing before surgery**– giving you plenty of information so you feel ready.
2. **Reducing the physical stress of the operation** – allowing you to drink up until the instructed time.
3. **A pain relief plan** that focuses on giving you the right medicine you need to keep you comfortable during and after surgery.
4. **Early feeding and moving around after surgery** – allowing you to eat, drink and walk around as soon as you can.

It is important that you know what to expect before, during, and after your surgery. Your care team will work closely with you to plan your care and treatment. You are the most important part of the care team.

It is important for you to participate in your recovery and to follow our advice. By working together, we hope to keep your surgery stay as short as possible.



# Before Your Surgery

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## Clinic Visit

During your clinic visit, we will check to see if you need surgery and what type you will need.

### **You will work with our entire team to prepare for surgery:**

- The surgeons, who may have fellows, residents, or medical students with them
- Physicians Assistants (PAs)
- Joint Replacement Nurse Coordinators
- Clinical Nurses
- Medical Assistants (MAs)
- Administrative and Access Assistants
- Surgery Schedulers



### **During your clinic visit, we will:**

- Ask questions about your medical history
- Determine if x-rays or medical imaging is needed
- Perform a physical exam
- Have you sign surgical consent forms
- Provide you with the ERAS Joint Replacement Handbook

### **You will receive instructions on:**

- Preparing for surgery
- How to register for the joint replacement class or complete the online seminar
- Optimizing your health prior to surgery- this is very important. Please see the next few pages for more information
- Appointments and tasks you will need to do prior to your surgery

**You will begin to plan for your discharge. Discharge planning will include determining transportation, choosing a physical therapy site for after surgery, and identifying your care partner(s). Care partners are:**

- 1-2 adults identified by you to be an active part of your care team
- Your care partner(s) can be anyone you choose, such as a spouse, partner, family member, friend, or neighbor(s).
- Care partners should review the ERAS Joint Replacement Handbook (this book) and attend the joint replacement class with you or view the online joint replacement seminar.

## Pre-Operative Medical Evaluation

It is important to make sure **YOU** are healthy and ready for joint replacement surgery. A letter is provided in the front of this book for you to take to your **medical evaluation** appointment with your primary care physician.

- This visit (and any additional medical clearance visits, tests, and assessments) must be scheduled and completed **prior** to your work up appointment with the orthopedic surgical team. This will allow them to review your medical team's recommendations at the time of your orthopedic work up appointment.
- If not completed, surgery will be rescheduled.
- If you do not have a primary care physician, the joint replacement coordinator can help you set up an appointment with a UVA-affiliated doctor. Notify the joint replacement coordinator right away to allow ample time to make these arrangements.

## Pre-Operative Dental Evaluation

- Any infection from your teeth could have a very bad effect on your newly replaced joint.
- We recommend that you have a routine dental exam and cleaning prior to surgery. This should be done well in advance of your surgical date.
- If any dental concerns are present, your surgeon may ask you to receive clearance from your dentist or oral surgeon prior to surgery.

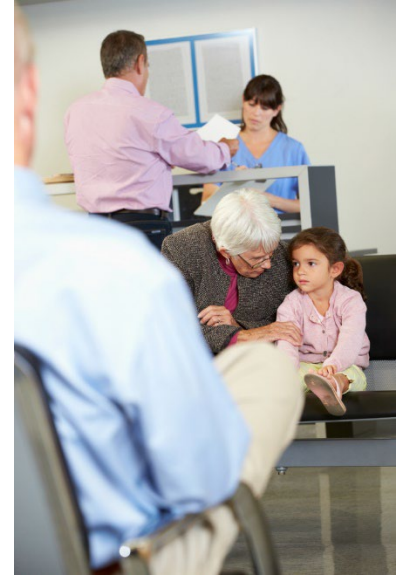


## Perioperative Anesthesia Clinic

The Perioperative Anesthesia Clinic will review your medical and surgical history to determine if you will need an evaluation prior to surgery.

If an in-person OR telephone anesthesia evaluation is needed, the Perioperative Anesthesia Clinic will notify you and the following will occur:

- An appointment will be scheduled a few weeks prior to your date of surgery.
- Your medications may be reviewed
- You may have additional blood tests, testing of the heart (EKG), and/or other tests the surgeon or anesthesiologist requests
- For questions or if unable to keep the appointment with the Perioperative Anesthesia Clinic please call **434-924-5035**. Failure to keep this visit before surgery may result in cancellation of surgery.



Do you take anticoagulant/ antiplatelet (blood thinner) medications like **Coumadin® (warfarin), Plavix® (clopidogrel), Pletal® (cilostazol), Xarelto® (rivaroxaban), Eliquis® (apixaban), Lovenox® (enoxaparin), or others?** If so, be sure to tell your prescribing doctor and let them know you **will** receive a **spinal block** for pain management. We require you to **stop** some of these medications **72 hours** or more before we can give you a spinal block. It is the prescribing provider's responsibility to provide instructions for how long you can safely be off this medication.

## Medications to Stop Prior to Surgery

### 14 Days Prior

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Stop birth control pills and ALL vitamin, herb, and joint supplements, such as (but not limited to):

CoQ10	Glucosamine	Juice Plus®	Ogen	Omega 3, 6, 9
Chondroitin	Flaxseed oil	St. John's Wort	Ginkgo	Ginseng
Echinacea	Fish oil	Saw palmetto	Garlic	Multivitamins
Emcy	Kava	Valerian	Ephedra	MSM

### 7 Days Prior

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**STOP all aspirin containing products, such as:**

Alka-Seltzer®	Excedrin®	BC Powder®	Goody's Powder®	Percodan®
Aspirin (81mg to 325mg)	Fasprin® (81mg)	Bufferin®	Norgesic®	Ecotrin®
Disalcid® (Salsalate)	Pepto-Bismol®	Dolobid® (Diflunisal)		

**Stop all non-steroidal anti-inflammatory medications (NSAIDs), such as:**

Advil® (ibuprofen)	Aleve® (naproxen)	Arthrotec® (volatren/cytotec)
Ansaid® (flubiprofen)	Anaprox® (naproxen)	Cataflam® (diclofenac)
Celebrex® (celecoxib)	Clinoril® (sulindac)	Daypro® (oxaprozin)
Feldene® (piroxicam)	Indocin® (indomethacin)	Meclomen® (meclofenamate)
Mediprin® (ibuprofen)	Mobic® (meloxicam)	Motrin® (ibuprofen)
Naprelan® (naproxen)	Naprosyn® (naproxen)	Nuprin® (ibuprofen)
Orudis® (ketoprofen)	Oruvail® (ketoprofen)	Relafen® (nabumetone)
Tolectin® (tolmetin)	Voltaren® (diclofenac)	

**Remember:** If you are taking any blood thinning medications be sure to tell your doctor and nurse as it may need to be stopped before surgery. If you **have heart stents** and take ASPIRIN, check with your cardiologist about stopping prior to surgery. **It is very important to follow the instructions given to you to prevent your surgery from being postponed or cancelled!**

**If you have any questions on the instructions you received, call your surgeon's office right away.**

**Medications you may continue prior to surgery:** Iron, Tylenol® or other pain medications such as Codeine®, Lortab®, Percocet®, Ultram® (tramadol), or Vicodin®.

*If uncertain, please discuss your medications with your doctor and nurse.*

## Pre-op Optimization: Getting Healthy Before Your Surgery

Getting healthier prior to your surgery will ensure that you have the best outcome possible from your joint replacement and reduce your risk of complications after surgery.

Chronic conditions such as diabetes, hypertension, chronic obstructive pulmonary disease (COPD), and heart failure will need to be optimized prior to surgery. We may also request lifestyle changes to better prepare you for surgery.

### Quitting Smoking Before Surgery

If you smoke, we encourage you to stop at least **6 weeks before surgery**. Stopping nicotine will:

- Improve wound healing after surgery
- Help avoid complications during and after surgery

If you are not able to quit smoking cigarettes, your surgery may be postponed. Your surgery team will test for nicotine preoperatively to ensure smoking cessation. **Please let your surgeon's nurse know if you smoke.**

#### **Some Long-Term Benefits of Quitting May Include:**



- Improved Survival
- Fewer and less serious side effects from surgery
- Faster recovery from treatment
- More energy
- Better quality of life
- Decreased risk of secondary cancer

#### **Some key things to think about before your surgery, as you begin to think about quitting:**

- All UVA facilities are smoke free. You will not be allowed to smoke during your surgery stay.
- Your doctor may give you medicine to help you handle tobacco withdrawal during your surgery experience and after you leave.

#### **Here are some tips to help you throughout your journey:**

- Speak with your primary care provider about medications that can help you transition from a smoker to a nonsmoker.
- Identify your triggers and develop a plan to manage those triggers.
- Plan what you can do instead of using tobacco. Make a survival kit to help you along your journey. In this kit have: nicotine replacement therapy, sugar-less gum or candy, coloring books, puzzles, or bubbles for blowing.

### Keys to Quitting and Staying Smoke Free:

- ☑ Continue your quit plan after your discharge.
- ☑ Make sure you are discharged with the right medications or prescriptions
- ☑ Identify friends and family to support your quitting

#### You Don't Have to Quit Alone!

Please call your Primary Care Provider to discuss Tobacco Cessation



1.800.QUITNOW



<https://smokefree.gov/>



### Pre-op narcotic pain medication

If you use narcotic pain medication, you may be asked to work with your prescriber to reduce or eliminate use prior to surgery.

### Weight Loss

Losing weight can decrease surgical risks and make your recovery easier. Beginning an exercise program prior to surgery and/or consulting with a dietician can help you reach your weight loss goals, if needed. Please discuss with your joint replacement coordinator if you would like further information regarding weight loss. In order to ensure a good surgical outcome, the general recommendation is that your BMI is less than 40 prior to surgery.



### Diabetes

It is very important that your diabetes be well managed prior to surgery. If your A1C is not below 7.5-8, your surgery will need to be postponed until your diabetes is better controlled.

### Pre-Surgery Exercises

Building strength can help you have a successful outcome after surgery. There are low-impact exercises in this handbook that we encourage you to start as soon as possible to



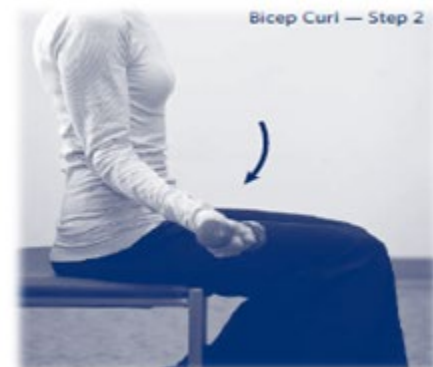
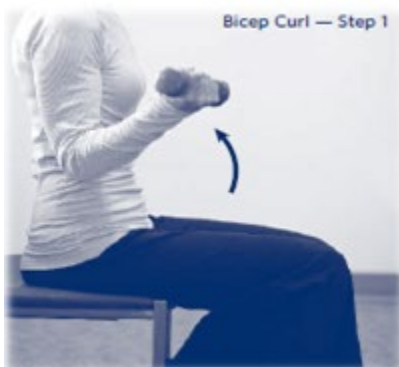
the best of your ability. Other low impact activities may include walking, swimming, or stationary biking.

Pre-op physical therapy (pre-hab) is also an option and is offered at most physical therapy clinics. Please let your joint replacement coordinator know if you would like a referral sent to the clinic of your choice.

### **Exercises to help with walker:**

These exercises will help build your upper body strength. This can make using a walker or crutches easier. You can do these exercises using weights to make them more efficient. The weights do not need to be heavy. A can of soup or one-to-two-pound weights will provide you with added benefits.

**Biceps Curl:** Sit up straight in a firm chair. Make sure to keep your elbow close to your body and your wrist straight. Bend your arm at the elbow with your hand moving towards your shoulder. Lower your hand in a slow and controlled manner. Start with repeating five times with each arm and work up if you are able.



**Seated Press-Up:** Sit in a sturdy chair with armrests. Place your palms flat on the armrests of the chair and press down to lift your buttocks from the chair. Hold for three to five counts. Bend your elbows and slowly sit back onto the chair seat. Start with repeating five times and work up if you are able.



# Preparing for Surgery

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You should expect to be discharged within **1 day**. Your time at the surgery location will vary. You should make plans for your pets and/or children on this day. This should include having someone available to assist with the care of your pets and/or children on the day of surgery. When you leave after your surgery, you will require frequent help from family or friends for at least 3-5 days. **Depending on your progress, you may need help for longer.** It will be important to have help with meals, taking medications, errands, etc. You should arrange for support at home prior to coming for surgery.

Preparing your home prior to surgery will allow you to focus on your recovery after surgery. This includes:

- Clean and put away laundry
- Put the things you use often at waist height to avoid having to bend down or stretch too much to reach them.
- Buy the foods you like and other things you will need since shopping may be hard when you first go home. Prepare meals that can be frozen and easily reheated.
- Cut the grass, tend to the garden, and do all house work.
- Arrange for someone to get your mail and take care of pets and loved-ones, if necessary.
- Be sure you have a working digital thermometer. We will ask you to monitor your temperature once you are discharged.
- Arrange transportation to and from your surgery and all appointments.
- Be sure you have obtained necessary equipment for your post-op recovery
- You may wish to purchase at least one week of dressing supplies. (See section 2)

Remember to review the page in section 1 for medications you may be taking and when to stop taking them before your surgery. ***This is very important to prevent your surgery from being postponed or cancelled!***

If you have any questions on the instructions you received, call your surgeon's office right away.



## Pre-Surgery Checklist

### What you SHOULD bring on surgery day:

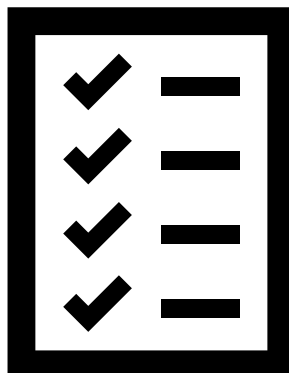
- This ERAS Handbook.
- Bring a **list** of your current medications. Do not bring your medications.
- Any paperwork given to you by your surgeon
- A copy of your Advance Directive form, if you completed one
- Your “blood” bracelet, if given one
- A book or something to do while you wait
- A change of comfortable clothes to wear
- Any toiletries that you may need
- Your CPAP or BiPAP, if you have one**
- If you use an oxygen tank, be sure you have enough oxygen and tank supplies for the ride home after surgery

### What you SHOULD NOT bring on surgery day:

- Large sums of money
- Valuables such as jewelry or non-medical electronic equipment

### Consideration:

Your care partner will need to be available at discharge. It is important that they are able to listen to your discharge instructions and learn to care for you at home.



# Days Before Surgery

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## Scheduled Surgery Time



If you are having surgery at the Main Hospital, a nurse will call you **1 business day** before your surgery to tell you what time to arrive and where to check in for your surgery. If you do not receive a call by 4:30pm, please call 434.924.5035.

If you are having surgery at the UVA Orthopedic Center on Ivy Road, a nurse will call you **2 business days** before your surgery to tell you what time to arrive and when to check in for your surgery. If you do not receive a call by 12pm the business day before surgery, please call 434.924.5035.

## Bowel Preparation Prior to Surgery

In order to prepare your bowel for surgery, we ask that you take **1 dose** (1 heaping tablespoon) of **MiraLAX®** daily on each of the **3 days before you come in for surgery (not on day of surgery)**. This will help to get your bowels regular before you begin taking pain medications which can cause constipation. Patients who are prone to loose stools or diarrhea may decrease the dose of MiraLAX® or not take if having loose stools or diarrhea.

Apply a small amount in each nostril twice a day for **3 days prior to surgery**.

### **Mupirocin (Bactroban®) 2% Ointment**

This prescription will be provided to you by your surgery team at your clinic visit before surgery.

## Schedule your Post-Op Physical Therapy Appointments

A prescription will be provided to you by your surgery team at your clinic visit prior to surgery.

Your outpatient physical therapy appointments should begin 15 days after surgery.



## Food and Drink the Night before Surgery

- Stop eating solid foods after midnight before your surgery.
- Be sure to have a 20-ounce Gatorade™ **ready and available**. If you are diabetic, drink water instead.
- Follow the instructions given to you by the pre-op phone nurse.

- IF surgery is in the **Main OR**, you can drink the 20 oz. Gatorade™ up until you arrive at the hospital.
- IF surgery is at the **Orthopedic Center at Ivy Road**, you will need to stop drinking 2 hours before your arrival.
- Follow all instructions given to you by the pre-op phone call nurse.

## Instructions for Bathing

We will give you a bottle of chlorhexidine gluconate body wash to use once a day, for **3 days prior to your surgery**; this includes **the night before and the morning of your surgery**.

The body wash is a skin cleanser that contains chlorhexidine gluconate (an antiseptic). This key ingredient helps to kill and remove germs that may cause an infection. Repeated use of the body wash creates a greater protection against germs and helps to lower your risk of infection after surgery.

### **Before using the body wash, you will need:**

- A clean washcloth
- A clean towel
- Clean clothes



### **IMPORTANT:**

- The body wash is simple and easy to use. If you feel any burning or irritation on your skin, rinse the area right away, do NOT put any more the body wash on, and call the clinic at **434.924.BONE (2663)**.
- Keep the body wash away from your face (including your eyes, ears, and mouth).
- DO NOT use in the genital area. It is ok if the soapy water runs over this area but do not scrub.
- Do NOT shave your surgery site for **at least 1 week**. This can increase the risk of infection. Your healthcare team will remove any hair if needed.

□ **Directions for Using the Body Wash:**

1. If you plan to wash your hair, do so with your regular shampoo. Then rinse hair and body thoroughly with water to remove any shampoo residue.
2. Wash your face and genital area with water or your regular soap.
3. Thoroughly rinse your body with water from the neck down.
4. Move away from the shower stream. Apply the body wash directly on your skin or on a wet washcloth and **wash the rest of your body gently from the neck down.**
5. Rinse thoroughly.
6. Do NOT use your regular soap after applying and rinsing with the body wash.
7. Dry your skin with a clean towel.
8. Do NOT apply any lotions, deodorants, powders, or perfumes after using the body wash.
9. Put on clean clothes after each shower and sleep on clean bed linens the night before surgery.

# Day of Surgery

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## **Before You Leave Home:**

- Continue drinking water or Gatorade™ up until the instructed time. Do NOT drink any other liquids. If you do, we may cancel your surgery.
- Wash your body from the neck down with the chlorhexidine soap. Follow the instructions on the previous page.
- Bring a lightly packed overnight bag with your preferred toiletries.

## **Arrival for Surgery:**

- Arrive on the morning of surgery at the time you were told.
- Finish your water or Gatorade™ before the instructed time. **You cannot drink after this.**
- Check in to the location as instructed by the pre-op nurse.

## **Surgery:**

When it is time for your surgery, you will be brought to the Surgical Admissions Suite (SAS). Your family can stay with you during this time.



In SAS, you will:

- Be identified for surgery and get an ID band for your wrist.
- Be checked in by a nurse and asked about your pain level.
- Be given an IV and weighed by the nurse.
- Be given several medicines that will help keep you comfortable during and after surgery.
- Meet the surgery team where your consent for surgery will be reviewed.
- Meet the anesthesia team who will review your medical history and will discuss your anesthesia plan. You may get a nerve block to help with pain control. Your anesthesiologist will determine the best and safest medications for you including a spinal block or a general anesthetic.

## What is a Nerve Block?

- Nerve blocks are administered by an anesthesiologist before your surgery to help with pain management after surgery.
- Nerve blocks start working during your surgery, before you feel pain.
- Nerve blocks are long-lasting and help to reduce the need for opioids after surgery.
- Nerve blocks generally last 16-18 hours. Before the block wears off, start taking your proscribed pain medication. This will give you the best possible pain control.

## In the Operating Room



From SAS, you will then be taken to the operating room (OR) for surgery and your family will be taken to the family waiting lounge.

Many patients do not recall being in the OR because of the medication we give you to relax and manage your pain.

### **Once you arrive in the OR:**

- We will do a “check-in” to confirm your identity and the location of your surgery.
- You will be hooked up to monitors.
- Your anesthesiologist may give you a spinal block just before surgery. This option can provide excellent pain relief and may decrease the amount of oral pain medicine you need after surgery.
- Compression boots will be placed on your feet to prevent the development of blood clots during surgery.
- You will be given antibiotics through your IV prior to surgery to reduce your risk for infection.
- Just before starting your surgery, we will do a “time out” to check your identity and confirm the location of your surgery.



After this, your surgical team will perform your operation.

During your surgery, the Operating Room nurse will call or send a text to your family approximately every 2 hours to update them, when possible.

# After Surgery

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## Post-Anesthesia Care Unit (PACU)

After surgery, you will be taken to the recovery room (PACU). Your time in the PACU can vary depending upon many factors.



Once you are awake:

- You will be given clear fluids to drink.
- You will get out of bed (with help) to start moving as soon as possible. This speeds up your recovery and decreases the chances you will get blood clots and pneumonia.
- Post-operative nausea and vomiting is very common after your surgery. We give you medication to reduce this.

The surgeon will also call your family after surgery to give them an update or the surgeon might visit them in the Surgical Family Waiting Lounge.

## Recovery Unit:

Once to your room, you will:

- Get up and out of bed (with help) to start moving as soon as possible. This speeds up your recovery and decreases the chances you will get blood clots and pneumonia.
- Be encouraged to take deep breaths to exercise your lungs and help prevent pneumonia.
- Have your temperature, pulse, and blood pressure checked after you arrive.
- Have an IV in your arm to give you fluid.
- Be allowed to drink fluids.
- Be evaluated and may receive a blood thinner to help prevent blood clots.
- Be placed on your home medications (with the exception of some diabetes, blood pressure, and blood thinning medications).
- Work with and be evaluated by physical therapy.

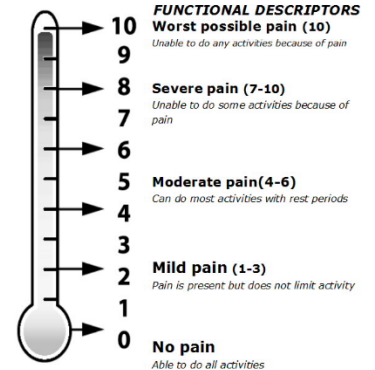
## Pain Control Following Surgery

Surgery hurts and you cannot expect to be pain free, but our goal is for it to be tolerable. We will ask you regularly about your level of comfort, and we will use a combination of pain therapies during your recovery.

- We will treat your pain with a nerve block, given to you before your surgery begins.
- Your nerve block will slowly wear off so you may experience an increase in pain. Do not be concerned if your nerve block lasts less time or more time than what you are told. There is variation in how long nerve blocks will last.
- You may have numbness, “pins and needles”, and heaviness in your leg where the nerve block was administered. This should go away over time.
- You may experience pain or an ache in your thigh on your surgical leg. This can be from the inflation device that is used during surgery to control bleeding. This will go away over time.
- You will get several *non-opioid*, pain medications around-the-clock to keep you comfortable.
  - **Tylenol® (acetaminophen)** – is a pain killer and reduces fevers. This medication should be alternated with your prescription medications for improved pain control.
  - **Celebrex® (celecoxib)** – is a medication that decreases swelling and pain after surgery. This medication is a type of NSAID and is safe for short-term use after surgery. Do **NOT** take this medication with any other NSAID such as ibuprofen, naproxen, or diclofenac.
- You will have *opioid* pain medication as needed for additional pain.
  - Opioids are powerful pain medications with many serious side effects. Opioids (usually **oxycodone**) may be used after surgery only when needed for severe pain, but they should not be used first to treat mild or moderate pain.
  - Side effects of opioids include nausea, constipation, dizziness, headache, drowsiness, vomiting, itching, and respiratory depression.
  - Prescription opioid drug use may lead to misuse, abuse, addiction, overdose and death. Your risk of opioid abuse gets higher the longer you take the medication.
- Taking medications with food, can help decrease the risk of nausea or GI upset.

This pain plan will decrease the amount of narcotics we give you after surgery. Narcotics can significantly slow your recovery and cause constipation.

### UVA ADULT PAIN SCALE TO HELP YOU CONTROL YOUR PAIN





Medication refills may be requested Monday-Friday during business hours 8am to 4pm. Please allow 48 hours for approval of medication refill. Medication refills are not available evenings or on weekends or holidays.

The UVA Orthopaedics On-Call provider WILL NOT refill prescriptions for pain medications. Narcotic prescriptions may not be called in to a pharmacy over the phone.

## Additional Options to Manage Pain and Increase Comfort After Surgery

Your comfort and controlling your pain are very important to us. We like to offer you different ways, in addition to medication, to address your pain as part of your recovery. Please discuss your pain control goals and comfort options with your nurse.

- Aromatherapy:** scented tablets like orange, lavender or eucalyptus can create a calming, scented environment
- Distraction:** focus your mind on an activity like creating art with our art supplies, doing puzzle books and reading magazines
- Ice or Heat Therapy:** ice packs and dry heat packs are available, depending on your surgery
- Noise or Light Cancellation:** an eye mask, earplugs and headphones are available for your comfort and convenience. We can also help you create a sleep plan.
- Positioning/Movement:** changing position in your bed/chair or getting up to walk (with help) can improve your comfort.
- Prayer and Reflection:** connect with your spiritual or religious center of healing and hope through prayer, meditation, reflection and ritual. Also, ask about our chaplaincy services.
- Calm App:** for Android or iOS: if you have a smart device, download the free **Calm** app for meditation and guided imagery. You can find it by searching in the app store.

Misuse of prescription pain medicines is a serious public health concern. Virginia has a Prescription Monitoring Program for all narcotic pain medications. Your health care team will work with you to create a treatment plan based on the medications you are prescribed. If you take your opioid at a higher dose or more frequently than what was prescribed, you will run out of your medication before your pharmacy will allow a new prescription to be filled. Ask your health care team if you have specific questions.

## **After Surgery:**

Within 24 hours after your surgery, you will:



- ☑ Be able to eat regular foods as soon as you are ready.
- ☑ Be encouraged to drink.
- ☑ Likely have your IV stopped
- ☑ Be asked to get out of bed, get dressed, sit in the chair and walk the hallways with help from physical and occupational therapy.
- ☑ Prepare for discharge.

You may be able to go home if you:

- ☑ Are comfortable and your pain is controlled.
- ☑ Are off all IV fluids and drinking enough to stay hydrated.
- ☑ Are not nauseated and able to tolerate medications by mouth.
- ☑ You have worked with Physical Therapy and are able to get around with a walker.
- ☑ Are able to empty your bladder.

## **Discharge**

Before you are discharged, you will be given:



- ☑ A copy of your discharge instructions with detailed wound care instructions.
- ☑ A list of your new and current medications
- ☑ Instructions on how to take your medications
- ☑ Your pain medications or prescriptions for these medications
- ☑ Instructions on when to return to see your surgeon for a post-operative visit
- ☑ Future appointments
- ☑ Activity guidelines

## **Before you are discharged**

- ☑ We will ask you to identify how you will get home.
- ☑ We will ask who will stay with you.

# After Discharge

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## **When to Call**

Complications do not happen very often, but it is important for you to know what to look for and who to call in case you start to feel bad.



### **Red Zone:** Medical Alert – Call 911

- Unrelieved shortness of breath
- Chest pain
- Mental status changes or loss of consciousness



### **Yellow Zone:** Worsening Symptoms – call the orthopedic nurse line.

- Temperature over 101.5 °F
- Increase in drainage from your incision
- Colored or cloudy drainage from your incision
- Odor or redness to the incisional area
- Any increase in swelling or pain in your lower leg
- Severe calf pain
- No bowel movement in 3 days
- You experience unusual signs of bleeding, such as dark brown or red urine, blood in stool (red or black), nosebleeds or any bleeding that does not stop
- You are vomiting, nauseated or have diarrhea
- You have a heart beat that feels fast, too slow, or skips
- You are feeling faint
- You are feeling weaker instead of stronger
- You are unable to pass urine for more than 6 hours
- You notice a change in your leg length
- You fell at home



### **Green Zone:** Symptoms are under control

- Low grade temperature of 100.0-101.4 °F
- Bruising from groin to toes
- Swelling of operative leg
- Mild constipation
- Light drainage on your incisional dressing

If you any have trouble between 8am and 4:30pm,  
**call the orthopedic clinic at 434.924.BONE.** Outside of these hours, call the orthopedic  
resident on call at 434.924.0000

## **Dressing and Wound Care**

You will have a dressing that will cover your incision and stay in place for 7 days. Keep the dressing clean and dry. One week (7 days) after surgery you should remove the surgical dressing and inspect the incision. You will see steri-strips across the incision. Leave these to fall off on their own.



If your incision is closed and no active drainage is observed, you may leave the incision uncovered. If there is active drainage, cover the incision with 4x4 gauze and secure with medical tape. Change the gauze dressing each day to monitor the incision. If you observe an increase in drainage, discolored drainage, gaping or separation of the incision, or a foul smell, contact the clinic immediately.

You may wish to purchase gauze and tape before your surgery to have it on hand.

If you were discharged with an ace wrap on over your dressing, you may remove it on post-op day 1.

### **Showering**

You may shower on the 7<sup>th</sup> day after your surgery once you have removed the surgical dressing. Do not scrub or soak the incision. Do not submerge the incision (bathe, swim, etc.) until your wound has completely healed. Dry the area by gently patting it with a clean gauze or towel. If needed, cover your incision with a clean dressing after it is completely dry. Do not put any creams, lotions, or ointments on your incision.

### **How to Change your Dressing:**

1. Wash your hands
2. Remove the surgical dressing by pulling it down from the top or up from the bottom. Avoid pulling the surgical dressing from the side to remove.
3. Inspect your incision. Some light draining can be expected right after surgery; however, increasing or persistent drainage, redness, separation or gaping of your incision may be a sign that there is infection. Please call the clinic with any concerns.
4. Cover with a gauze dressing if any drainage is observed. Change the gauze dressing daily to monitor for decreasing drainage. If there is no drainage, you may leave it open to air.



**IMPORTANT**

You will want to make sure that your home environment, particularly your bed and resting areas are kept very clean to eliminate risk for infection.

Keep pets out of your bed and away from your incision.

## Cold Therapy and Elevation

### Cold Therapy

- Using cold therapy at your surgical site may reduce your pain and help prevent swelling.
- **Never place ice directly on your skin.**
- There are a variety of cold therapy options which your care coordinator can discuss with you.

### Managing Swelling

- After your surgery, swelling is **expected** and is a **normal** part of healing. Reducing swelling is an important part of recovery and will help control your pain.
- Many people can experience moderate to severe swelling in the first few days or weeks after surgery and mild to moderate swelling for 3 to 6 months after surgery.

### Elevation is key!

- Elevating your leg will help reduce swelling by allowing the fluid to flow back to the body from the legs. Elevate your entire leg down to the ankle.
- You can use pillows but make sure your leg is as straight as possible and **NEVER** place a pillow behind your knee.
- Swelling following a joint replacement will gradually decrease over a few weeks or months for most patients. Regular management of swelling after surgery can lead to a quicker recovery and more effective results.
- It is important to remember that every patient is different and will improve at a different pace.

**REMEMBER- your feet should be above the level of your heart**  
**“Toes above your nose”.**

## Cold Therapy Offerings

Cold therapy is used to help provide pain relief and decrease swelling after your joint replacement surgery. Adequate pain and swelling control will help you successfully participate in physical therapy and recover faster. As part of your recovery plan, you will receive the SMI Cold Therapy™ wrap and gel bags to use while you are at the surgical center and at home. When you are ready to go home, you will be provided with one SMI Cold Therapy™ wrap and additional sets of gel bags. The gel bag and wrap are latex-free and non-toxic. Always follow your medical professional's application instructions upon discharge.

### **SMI Cold Therapy Instructions:**

- Place Gel Bags in a freezer set  $\frac{3}{4}$  of the way to max temperature for at least 4 Hours. For best results, lay the Gel Bags flat and side-by-side in the freezer. Once frozen, slide Gel Bags into the gel pouch and secure your wrap to the affected area with the straps.
- Gel Bags that have been stored in a freezer for an extended period may require a 10-minute period of softening up in a room temperature environment before application.
- The gel pouch acts as a protective barrier. **NEVER** place frozen Gel Bags directly onto skin, as this may cause frostbite injury.
- An additional protective barrier such as clothing, a washcloth, hand-towel or pillowcase may be used during prolonged treatment applications.
- Wrap Application Videos may be viewed at [www.smicoldtherapy.net](http://www.smicoldtherapy.net)

Some patients may choose to purchase additional cold therapy devices for use during their recovery phase. Please note, some of these options require a prescription. Your RN care coordinator can discuss the following options with you:

- **Polar Care® Cube™** provides cold therapy using ice and water. The cold therapy is delivered through a joint specific wrap. This device does not provide compression. For device information, visit [www.breg.com/products/cold-therapy](http://www.breg.com/products/cold-therapy)

## Infection

Signs of infection include symptoms in the **Yellow Zone**.

If you develop a low fever, this may mean that you need to work on deep breathing.

You should walk often to help prevent pneumonia after surgery.

Contact your family physician for treatment as soon as possible for any infections you develop including bladder and sinus infections. This precaution will always be necessary once you have a joint replacement.



## Pain Medication Weaning

If you are taking narcotic pain medication, you will need to wean off these medications as your pain improves. Weaning means slowly decreasing the amount you take until you are not taking it anymore. Weaning to lower doses of narcotic pain medication can help you feel better and improve your quality of life.

It's important to remember that narcotic pain medication may not provide good pain relief when taken over a long period of time and sometimes they can actually cause your pain to get worse.

Narcotic pain medications can also have many concerning side effects including constipation, nausea, tiredness and dependency (addiction). The side effects of narcotic pain medications increase with higher doses which means the more you take, the worse the symptoms may be.

To wean from your narcotic pain medication, we recommend slowly reducing the dose you are taking. This can be done by increasing the amount of time between doses or by decreasing the dose. See the examples below:

***You can increase the amount of time between doses.*** If you are taking a dose every 4 hours, extend that time:

- Take a dose every 5 to 6 hours for 1 or 2 days
- Then, take a dose every 7 to 8 hours for 1 or 2 days.





*You can also reduce the dose.* If you are taking 2 pills each time, start taking fewer pills:

- ☑ Take 1 pill each time. Do this for 1 or 2 days.
- ☑ Then, increase the amount of time between doses, as explained above.

If you are not sure how to wean off of your narcotic pain medication, please contact your family doctor.

Once your pain has improved and/or you have weaned off your narcotic pain medication, you may have pills remaining. The **UVA Pharmacy** is now a **DEA registered drug take-back location**. There is a Drop Box available in the main lobby of the pharmacy 24 hours 7 days per week for patients or visitors to safely dispose of unwanted or unused medications.

Weaning narcotic pain medication too fast can lead to symptoms of narcotic withdrawal. If you experience any of these symptoms, please contact your family doctor:



- Abdominal cramping/Diarrhea
- Nausea/Vomiting
- Flu-like symptoms: runny nose, sneezing, shivering, goosebumps, sweating
- Agitation or restlessness
- Frequent yawning
- Frequent sneezing
- Weight loss

## **Constipation**

Constipation is very common with the use of narcotic pain medicine. We designed the ERAS program to decrease the risk of constipation by using pain medicine alternatives to help keep you comfortable.

It is very important to **AVOID CONSTIPATION AND HARD STOOLS** after surgery.

If you are on a regular diet, include plenty of **fiber**. Good sources include fresh fruits, vegetables, dried beans and whole grains. You may use fiber supplements with water. **It is important that you drink 6-8 cups of non-caffeinated fluids per day to prevent constipation. Water is best.**

We will ask you to take a **laxative medication (MiraLAX®)** to help prevent constipation once you are home. Please continue to take this each night until you stop your narcotic pain medication. If diarrhea occurs, please stop this medication.

Walking and regular activity can also help prevent constipation.



## **Difficulty Sleeping**

Insomnia, or difficulty sleeping, has been reported in patients who receive a total joint replacement. A few of the reasons you may be experiencing insomnia include: pain, medications, anxiety, and a change in your preferred sleeping position. Difficulty sleeping may last weeks to months.

Techniques to help you sleep include:

- Maintaining a routine bedtime each night
- Avoid napping during the day
- Limit distractions including electronic devices at bedtime
- Take your post-operative medications as prescribed
- Use of cold therapy
- Use of aromatherapy
- Avoid alcohol (especially if you are taking narcotic medications)
- We do not recommend or prescribe medications for insomnia; however, you may find over the counter (OTC) medications helpful.

## **Dental Care After Surgery**

You will need to avoid having routine dental cleanings or procedures **for 6 months** after your joint replacement.

Continue to see your dentist and maintain good oral hygiene post joint replacement.

## **Endoscopy Procedures After Surgery**

You will need to avoid having routine colonoscopy or other endoscopy procedures **for 6 months** after your joint replacement.

## **Resuming Sexual Relationships**

Sexual Activity is not recommended immediately after surgery because of pain, swelling and the need to exercise caution with your new joint.

You can often resume sexual activity safely at 6 weeks after surgery, but your surgeon should determine a safe timeline for you.

## **Driving**

You should not drive for a period of time after surgery. There are no forced restrictions regarding operating a motor vehicle, however you must always be the judge of whether you are able to operate it safely.

You should **NOT** drive until you are off narcotic pain medications, have full control of your legs, and are no longer using a walker. You can ride in a car after surgery but you must follow techniques and precautions given by your physical therapist. For most patients, it is at least 4 weeks after surgery before they determine they are ready to drive.

## **Getting In and Out of a Car**

You have done this hundreds of times in your life, but your new joint requires that you take extra care.

### **Before you get in:**

- Make sure that the car is parked in a way that allows you to get in from road level rather than from the curb.
- The car seat should be as far back as possible and reclined past vertical.
- You may need a cushion to raise the height of the seat.
- Putting a plastic bag on the seat can help you slide onto it.
- Have someone hold the door wide open for you.



### **Getting in:**

- Make sure that your operated leg is slightly forward and lower yourself slowly backwards onto the side of the seat. Hold on to the dashboard or seat back for support.
- Slide yourself back into the seat. Lift one leg inside the car, followed by the other.
- If you use a plastic bag, take this out before you set off to prevent you from slipping forward as the car slows down.

### **Getting out:**

- Reverse the above procedure, making sure that your operated leg is in front before you stand up.

## Work

- You should be able to return to work 4–6 weeks after your surgery. This might be longer or shorter depending on your recovery rate, how you are feeling and what type of work you do. Patients with more strenuous jobs may require up to 3 months of recovery before returning to work. Please discuss your specific work activities with your surgeon and check with your employer on the rules and policies of your workplace, which may be important for returning to work.
- If you need FMLA or short-term disability forms completed for your employer, please ensure your full name, date of birth, and all necessary information is complete before submitting to us. You can fax it to our office at 434.244.4454 or drop it off at the Joint Replacement Clinic desk. **Please allow 10-14 business days for the forms to be completed.** If you need a return to work note, please ask for this at your pre-surgical visit or your follow up visit after your surgery.

Write any questions you have here:

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# RECOVERY After Discharge

## Special equipment

Please bring a list of equipment you have access to. We encourage you to get equipment prior to surgery. You can obtain equipment through online stores, borrowing from family/friends, home supply stores, thrift shops, local community resources, and pharmacies.

The following equipment is necessary after surgery:



Front wheeled walker



Single point cane

You will be using your walker for ***at least 2*** weeks after surgery.

The decision to transition to a cane should be led by your physical therapy team.

The following equipment is optional after surgery:



Leg lifter

The equipment shown can help you dress and bath and help decrease pain. An important reminder is to ALWAYS dress your surgical side first. For example, when you are putting on your undergarment and pant, always put the surgical leg in first. You can use a reacher/grabber to assist with getting the undergarment or pant over your foot if necessary. A sock aid can assist with putting on your socks, and a long shoehorn can help with putting on shoes. The occupational or physical therapist will review these techniques after surgery and provide tips and tricks to help you be successful.

## **Bearing Weight After Your Knee Replacement**

After having knee joint replacement surgery, you will be able to bear weight through the joint and allowed to move your knee as tolerated. Occasionally the surgeon may recommend weight bearing precautions and/or restrict your motion after surgery. If this is the case, your surgeon will discuss with you how long you will need to follow these precautions.

Your physical therapist will teach you how to follow these weight bearing precautions while you are exercising and walking.

### **Some other helpful tips:**

- Never rest with a pillow under your knee; you may lose the ability to straighten your knee.
- Carefully follow instructions from your doctor about how much weight you can put on your operated leg.
- Continue to use your walker after surgery as advised by your doctor or physical therapist.
- Get up and walk every hour.
- When you need to stand, remember to come to the edge of the surface when trying to get up.
- Use arm supports when getting up from chairs.
- When showering, stand in the shower or sit on a bath seat if you have one.
- Use grab bars, if installed in your bathroom.
- Lead with your non-operative leg when going up stairs and lead with the operated leg when going down stairs.

## 2 Week Self-Directed Home Exercise and Walking Program

Recent research has shown that it is wise to avoid aggressive exercise in the early phase of recovery after joint replacement so that you avoid inflaming your joint which can slow down the healing and rehabilitation process. Based on this research, your doctor feels that walking and doing some light exercises are enough to facilitate the rehab process for the first two weeks after your surgery before starting a structured outpatient physical therapy program 15 days after surgery.

Your home exercise program will include exercises to help reduce swelling and increase your knee strength and motion. This program will help you move easier and return to participating in activities you enjoy.

The following is a self-guided walking and exercise program for the first two weeks after your surgery.

### **1. Walking program**

Proper walking is one of the best ways to help your knee/hip recover. You will begin walking with a front wheeled walker the first 2 weeks.



- **Frequency:** Walk every hour that you are awake.
- **Distance:** Start with walking a short distance. A distance that is easy and does not feel challenging.
- **Pain:** pain could increase initially because you are moving tissue they cut into, but should level off and/or decrease as you continue. If the pain continues to increase with every step, stop walking. But try walking again in an hour. Sometimes tissue can loosen and may not hurt as bad the next time.
  - If your pain and/or swelling does not increase, walk a little further the next time.
  - If your pain and/or swelling increases a little, walk the same distance the next time.
  - If your pain and/or swelling increases a lot, walk less next time.

## 2. Home exercise guide with instructions

- **Repetitions:** Start with 10 repetitions.
- **Frequency:** 3 times a day
- **Pain:** pain could increase initially because you are moving tissue they cut into, but should level off and/or decrease as you continue. If the pain continues to increase with every repetition, stop the exercise. But try the exercise the next session again. Sometimes tissue can loosen and may not hurt as bad the next time.
- **Progression:** An hour later...
  - If the pain and/or swelling does not increase, add 5 repetitions to your exercise sessions the next day. Do not increase by more than 5 repetitions per day.
  - If the pain and/or swelling increases a little, stay at 10 repetitions.
  - If the pain and/or swelling increases a lot, reduce to 5 repetitions.
  - Do not perform more than 30 repetitions of any exercise.

After exercise and walking, use cold therapy on your joint. Make sure to place a layer (pillow case, towel, etc.) between the cold therapy and your skin to avoid burning your skin. You can leave the cold therapy on for 20 minutes. Repeat as needed.



## Ankle Pumps

This exercise works the calf muscles, helps with your circulation after surgery, and helps prevent blood clots and swelling in your lower legs. To perform this exercise, we recommend lying on your back or in a semi-reclined position and elevated surface such as your bed. **DO NOT LIE ON THE FLOOR.** It will be too difficult to get up and down from the floor after surgery.



Begin by pointing your feet away from you, like pushing on a gas pedal.

Next, pull your feet towards you, like taking your foot off the gas pedal.

Slowly continue pumping your ankles by bending and straightening them.

This exercise should be performed on both legs.

## Quadriceps Sets

The quadriceps are a group of muscles on the front of your thigh. This exercise helps to wake up the muscles, improve your strength, and improve the straightening motion of your knee. To perform this exercise, begin by lying on your back or in a semi-reclined position and elevated surface such as your bed. **DO NOT LIE ON THE FLOOR.** It will be too difficult to get up and down from the floor after surgery.



Slowly tighten the muscles in the thigh of your surgical leg as you straighten and flatten the back of your knee towards the surface you are lying on.

Hold the muscle contraction for 5 seconds before slowly relaxing and returning to the starting position.

Repeat this exercise 10 times.

Keep your toes pointing toward the ceiling during this exercise.

## Gluteal Sets

This exercise works the buttock muscles. These muscles are important for standing and to maintain an upright posture. This exercise also helps with circulation. To perform this exercise, begin lying on your back or in a semi-reclined and elevated position such as your bed. **DO NOT LIE ON THE FLOOR.** It will be too difficult to get up and down from the floor after surgery.



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Slowly tighten your buttock muscles.

Hold the contraction for 5 seconds.

Slowly relax your muscles.

Repeat this exercise 10 times.

## Heel Slides

This exercise works the quadriceps and hamstring muscles to improve range of motion in your hip and knee. To perform this exercise, begin by lying on your back or in a semi-reclined and elevated position such as your bed. **DO NOT LIE ON THE FLOOR.** It will be too difficult to get up and down from the floor after surgery.



Slowly bend the knee of your surgical leg and slide your heel back toward your buttock bending your knee and hip as far as is comfortable.

Slowly slide your knee and hip back to the starting position with the back of your knee straight and resting against the surface you are lying on.

Repeat this exercise 10 times.

You can place a plastic bag under your lower leg and heel to decrease the resistance between your leg and the surface you are lying on.

## Hip Abduction

This exercise helps promote the strength and stability of your surgical leg. It is an important motion for getting into and out of bed. To perform this exercise, begin by lying on your back or in a semi-reclined and elevated position such as your bed. **DO NOT LIE ON THE FLOOR.** It will be too difficult to get up and down from the floor after surgery.



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MEDBRIDGE

Begin by lying on your back on a bed or elevated surface with your legs straight and feet slightly apart.

Slowly slide your surgical leg to your side.

Slowly slide your surgical leg back to the starting position.

Repeat this exercise 10 times.

Keep your toes pointing towards the ceiling. Do not bring your feet together during this exercise.

You can place a plastic bag under your lower leg and heel to decrease the resistance between your leg and the surface you are lying on.

## Short Arc Quad

The quadriceps are a group of muscles in the front of your thigh. This exercise helps wake up the muscles to promote strength, stability, and range of motion on your surgical leg. To perform this exercise, begin by lying on your back or in a semi-reclined and elevated position such as your bed. **DO NOT LIE ON THE FLOOR.** It will be too difficult to get up and down from the floor after surgery.



Place a rolled up towel or pillow behind your knee.

With your toes pointed toward the ceiling, slowly lift your foot and straighten your knee while keeping the back of your knee on the towel/pillow. You will feel your thigh muscles tighten.

Try to hold your knee straight with the muscles contracted for 5 seconds.

Next, slowly lower your leg to the starting position with your thigh muscles relaxed and your heel resting on the surface you are lying on.

Repeat this exercise 10 times.

When you are finished with this exercise, make sure to remove the rolled up towel or pillow from behind your knee. You do not want to position your knee this way when you are not performing this exercise.

## Knee Extension Stretch

The hamstrings are a group of muscles on the back of your thighs. It is important to stretch these muscles after knee replacement surgery. It is important for you to relax your leg during this stretch. If you cannot relax, try this stretch again later. To perform this exercise, begin by lying on your back or in a semi-reclined and elevated position such as your bed. **DO NOT LIE ON THE FLOOR.** It will be too difficult to get up and down from the floor after surgery.



Place a rolled-up towel or pillow under the heel of your surgical leg.

Relax your surgical leg, keeping your knee straight.

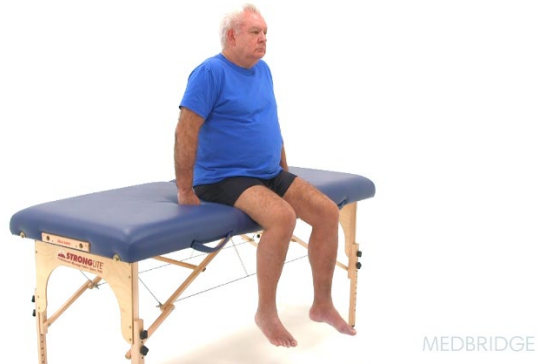
Stay relaxed with your leg in this position for at least 30 seconds.

Do not stay in this position for longer than 5 minutes.

If you cannot relax your leg in this position, try this stretch again later.

## Seated Knee Extension

This exercise helps to strengthen the quadriceps muscles and promote strength, stability, and range of motion in your surgical leg. To perform this exercise, sit upright on a firm chair with arm rests. Rest your feet on the floor.



Begin with your knees bent over the edge of the chair with your feet resting on the floor. Slowly straighten your surgical leg so that your leg is straight in front of you.

Hold for 5 seconds.

Then slowly lower your leg back to the starting position with your feet resting on the floor.

Repeat this exercise 10 times.

Do not lift your upper leg off of the chair during this exercise. You may not be able to get your knee all the way straight initially.



## Seated Knee Flexion

This exercise helps to strengthen the hamstring muscles and helps promote strength, stability, and range of motion in your surgical leg. To perform this exercise, sit upright on a firm chair with arm rests. Rest your feet on the floor.



Begin by sitting upright with your surgical leg extended straight and forward with your foot resting on the floor.

Slowly slide your heel backward, bending your knee as far as you can.

Hold for 5 seconds.

Then return to the starting position.

Repeat this exercise 10 times.

Make sure to keep your foot in line with your leg and do not let your foot rotate outward or inward during the exercise.

## Standing Heel Raises with Counter Support

This exercise works the muscles in your lower leg. To perform this exercise, stand in an upright position facing a sturdy counter. Rest your hands on the counter and space your feet shoulder width apart.



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Begin with both feet flat on the ground with your legs shoulder width apart.

Slowly push up onto your toes and raise both heels off the ground.

Hold briefly.

Then, slowly lower your heels to back to the ground.

Repeat this exercise 10 times.

Make sure to maintain an upright posture and use the counter to help you balance as needed. Do not let your ankles rotate inward or outward

## Total Knee Replacement Weekly Exercise Tracker

### Week 1

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
<b>1. Ankle pumps</b>	AM							
	mid day							
	PM							
<b>2. Quad sets</b>	AM							
	mid day							
	PM							
<b>3. Glut sets</b>	AM							
	mid day							
	PM							
<b>4. Heel slides</b>	AM							
	mid day							
	PM							
<b>5. Hip abd</b>	AM							
	mid day							
	PM							
<b>6. Short arc quad</b>	AM							
	mid day							
	PM							
<b>7. Knee ext str</b>	AM							
	mid day							
	PM							
<b>8. Seated knee ext</b>	AM							
	mid day							
	PM							
<b>9. Seated knee flex</b>	AM							
	mid day							
	PM							
<b>10. Heel raises</b>	AM							
	mid day							
	PM							

\*Enter number of repetitions for each exercise session.

Remember to apply cold therapy to knee after exercises.

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Pain rating (0-10) one hour after exercises:							

## Total Knee Replacement Weekly Exercise Tracker

### Week 2

		Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14
<b>1. Ankle pumps</b>	AM							
	mid day							
	PM							
<b>2. Quad sets</b>	AM							
	mid day							
	PM							
<b>3. Glut sets</b>	AM							
	mid day							
	PM							
<b>4. Heel slides</b>	AM							
	mid day							
	PM							
<b>5. Hip abd</b>	AM							
	mid day							
	PM							
<b>6. Short arc quad</b>	AM							
	mid day							
	PM							
<b>7. Knee ext str</b>	AM							
	mid day							
	PM							
<b>8. Seated knee ext</b>	AM							
	mid day							
	PM							
<b>9. Seated knee flex</b>	AM							
	mid day							
	PM							
<b>10. Heel raises</b>	AM							
	mid day							
	PM							

\*Enter number of repetitions for each exercise session.

Remember to apply cold therapy to knee after exercises.

	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14
Pain rating (0-10) one hour after exercises:							

# **Joint Replacement Surgery**

## **Frequently Asked Questions (FAQs)**

### **1. How much swelling can I expect after surgery?**

You should expect some swelling after surgery, particularly during the first week. The amount of swelling will vary from person to person. For some, the entire leg can be swollen. For others, there will be minimal to no swelling. Swelling after surgery is normal. Swelling can increase when you increase your activity and can last for up to one year after surgery. Using cold therapy and elevation will help with swelling. Swelling will improve over time.

### **2. How much pain should I expect after surgery?**

Joint replacement surgery can be a painful surgery, but we will give you medications to help lessen the pain. You should expect a degree of pain which will vary from person to person based on your pain tolerance. Typically, it is most painful the first week(s) after surgery, and will get better as your healing progresses. To assist with pain management, take your medications as instructed. If you continue to have severe pain after taking your medications as prescribed, call the clinic.

### **3. Will I bruise after surgery?**

You should expect some bruising after your joint replacement surgery. Bruising will vary person to person. For some, the entire leg will be bruised. For others, there may be minimal bruising around the incision or none at all. Bruising is normal and will improve with time.

### **4. What if I can't bend my knee after my knee replacement surgery?**

It is normal to have difficulty bending your knee for the first few days after surgery. This is the time when the swelling and inflammation is the highest. Fully bending and straightening your new knee will take some time. Your physical therapist can help with this.

### **5. Why is the swelling going down my leg after I have hip replacement surgery?**

Movement of the fluid (swelling) in your leg is normal after surgery. Fluid movements with gravity, so if your leg is hanging down or you are standing a lot, you may experience swelling in your lower leg, ankle, or foot. Remember to elevate your leg when you are sitting to help with this.

### **6. Why does my upper thigh hurt after knee replacement surgery?**

Your surgeon used a compression device on your upper thigh during surgery to help control bleeding. The pain you are feeling is due to this and will improve over time. You can try using cold therapy or gentle heat on the thigh area to assist with any discomfort.

## **7. Are there any movements I can't do after hip replacement surgery?**

In general, you should not be doing any movements which would be considered “extreme” or outside of your normal movements. Pain should be your guide when moving after surgery. For some patients, your surgeon may instruct you to follow “hip precautions.” These include:

- Avoid bending more than 90 degrees or picking things from the floor
- Avoid crossing your legs at the knee or ankle
- Avoid twisting your upper body when standing or twisting your surgical leg inward

## **8. What if I can't do all my exercises after surgery?**

It's okay if you can't complete all your exercises when you first try them. In fact, it may take you a few days to be able to complete them all at one time. Do as many as you can and let pain be your guide. If they become too painful or you become too tired, take a break and try again later.

## **9. What if I haven't had a bowel movement since surgery?**

Constipation after joint replacement surgery is VERY common, and prolonged constipation can cause significant issues. You should not go more than three days without a bowel movement. It is important to prevent constipation by drinking plenty of fluids, eating a high fiber diet, and taking a laxative daily, especially while you are taking narcotic pain medications. We recommend daily MiraLAX® (polyethylene glycol) or Senna to prevent and treat constipation while you are taking a narcotic pain medication. These can be purchased at your nearest pharmacy or store. For most, your bowel habits will return to your normal after you stop taking the narcotic pain medication. If you stop passing gas or have significant distention or pain in your abdomen, go to the nearest emergency department for evaluation.

## **10. How long will I need someone to stay with me after surgery?**

You should have someone available to you for the first 3-5 days after surgery, but you may need them longer depending on your body's response to surgery. You may feel more comfortable having someone stay with you for the first week initially. Having a plan in place in case you need them longer is a good idea too.

## **11. I am having trouble sleeping after surgery. What can I do?**

Sleeping difficulties after surgery is very common, and will improve with time. You can do the following to help:

- Maintain a routine bedtime
- Avoid naps during the day
- Take your medication as instructed, making sure you take your pain medication before going to bed
- Avoid completing the exercises too close to bedtime
- If you sleep on your side, use a pillow for comfort
- Still can't sleep? Try an over-the-counter sleeping aid such as melatonin

### **12. What if I run out of pain medications and need more?**

The Joint Replacement Clinic will provide medication refills for you. You can contact the clinic via My Chart messaging or by calling 434.924.2663 and request a refill. Please allow for up to two days for the refill to process.

### **13. Will someone contact me after surgery?**

Yes! You will receive a phone call from your Joint Replacement Care Coordinator approximately 3-5 days after you discharge from the surgical site. They will be assessing how you are recovering and any issues you may be having. You will receive a second, follow-up call on the second week after you discharge from the surgical site to assess your recovery. After this, you will receive My Chart questionnaires to assess your recovery. Please don't hesitate to contact the clinic with any questions.

### **14. I may need to go to a facility after my surgery. What do I do?**

We recommend going home after surgery for your recovery with a care partner to assist you. This is the safest place for you to recover from surgery. Discharge after surgery to a skilled nursing or rehab facility is never guaranteed, and you should have a backup plan with an identified care partner. Have more questions? Please speak with your RN Care Coordinator.

# **UVA Joint Replacement Clinic**

## **Patient Reported Outcome Measure Collection**

UVA Health is dedicated to increasing the safety and quality of hip and knee replacement procedures. Your care team will ask you to fill out surveys about your pain and mobility. Responding to these surveys will encourage shared decision-making and promote collaboration in care planning throughout your recovery.

The goal of the surveys is to measure improvements in your self-assessment of your pain and mobility prior to and after your total hip or total knee replacement surgery. Many patients have a hip and knee procedure to decrease their symptoms and improve their quality of life. You are the only person that can provide information about your health status and this information is important to your care team. By communicating your pain, stiffness, and mobility levels before and after your procedure, you can provide them with information they can use to adjust your care.

### **What are the surveys?**

If you are having a knee replacement procedure, your surgeon will ask you to complete a KOOs, Jr. survey to assess your knee pain and mobility levels. You will also be asked to complete a PROMIS-10 survey to assess additional physical and mental health.

If you are having a hip replacement procedure, your surgeon will ask you to complete a HOOs, Jr. survey to assess your hip pain and mobility levels. You will also be asked to complete a PROMIS-10 survey to assess additional physical and mental health.

### **When will I complete the surveys?**

The surveys will need to be completed 0-90 days before your procedure. They will be assigned to you to complete before or on the day of your pre-op clinic visit. They will also be repeated 300-425 days after your procedure. They will be assigned before or on the day of your one-year post-op visit. We strongly encourage you to keep your one-year post-op visit so that your recovery can be assessed by your provider.

### **How will my responses be used?**

Your care team may use your survey responses to improve the care they provide to you. Your responses will also be used to calculate and publicly report information on how well patients at your hospital improve after a total hip or total knee replacement procedure. This can help other patients decide where to seek care.

### **How can I access and complete the surveys?**

You can find the surveys in your My Chart account before your pre-op clinic visit and before your one year follow up clinic visit. We encourage you to complete the surveys prior to your appointment to help your visit flow smoothly. If you do not have a My Chart account or you did not complete the surveys prior to your appointment, you will receive an iPad at check-in so you can complete them during your visit.

If you miss your clinic appointment(s) or do not complete the questionnaires, a member of the joint replacement team will send you the questionnaires through your My Chart account. We appreciate you taking the time to complete them!