

PART II: AFTER SURGERY / DISCHARGE INSTRUCTIONS

What to expect After Surgery

It is normal to experience pain and swelling after surgery. At the end of the operation Dr. Harb injects the soft tissues around the joint with a long-acting anesthesia medication. This helps with pain control, but will begin to wear off. On day 2-3 after surgery it is not uncommon to feel more discomfort. The goal after surgery is to stay ahead of the pain curve and control your pain and swelling with medication and ice therapy.

Incision Care

- Dr. Harb performs a plastic surgery skin closure for your incision.
- This means that the surgical incision will be closed with absorbable sutures underneath the skin. Skin tape and glue will be applied on top of this, followed by an outer surgical dressing. No sutures or staples need to be removed.
- The outer surgical dressing should stay on for at least 7 days but can be kept on for up to 4 weeks. **The dressing is water-resistant.**
- If the outer dressing becomes saturated, soiled, or moist you can change it with fresh 4x4 gauze and tape that can be purchased at any pharmacy.
- It is important you wash your hands before and after incision and dressing care.
- You may clean yourself with a sponge and soap starting at day 4 but ensure you **keep your dressing and incision site dry.**
- After 1 week from the day of surgery you may begin to shower. If the outer dressing has come off, the tape and glue underneath should be left on. You can **gently** clean the incision with soap and warm water after 1 week.
- Over the course of 2-4 weeks the underneath tape and glue will come off.
- Do not take tub baths, get in hot tubs, swimming pools, soak your incision, or put ointments / gels on your surgical incision until it is completely healed.

Ice Therapy / Reducing Swelling

- It is very important to use ice over your replaced joint. This will help decrease inflammation, swelling, and pain. Never place ice directly on your skin.
- You can use a washcloth to prevent moisture from reaching your skin.
- Ice your knee 3-4 times a day, 15-20 minutes each time.
- You should use ice therapy for 4 weeks after surgery.
- **Ice machines** are incredibly simple and effective at applying cold therapy to the operative extremity. Ask our office if you are interested in an ice machine.



Medications After Surgery

- **Tylenol Extra Strength** 1000mg every 8 hours by mouth (#120 pills, 1 refill)
 - o This is over the counter and is your first line medication for pain control. This should be taken around the clock every 8 hours for at least the first 2 weeks to help with pain control. Do not exceed more than 3000mg of Tylenol in a 24-hour period.
- **Celebrex** 100mg twice a day by mouth (#120 pills, 2 refill)
 - o This should be taken as well in combination with Tylenol for pain control for 4 weeks. Celebrex is a prescribed strong anti-inflammatory that will help with pain. If pain is not controlled you may double the dosage to 2 pills, 200mg twice per day. The maximum daily dosage is 400mg in a 24-hour period.
- **Tramadol** 50mg every 6 hours by mouth as needed for pain (#30 pills)
 - o This is your second line pain medication and should be taken as needed for moderate to severe pain. If needed you may increase the dosage to 100mg every 4-6 hours for added pain control. Maximum dosage in 24 hours is 400mg.
- **Oxycodone** 5mg every 4-6 hours by mouth as needed for pain (#30 pills)
 - o This is prescribed for severe breakthrough pain. You can take 1 tablet for moderate pain or 2 tablets for severe pain every 6 hours as needed. Do not take more than 8 tablets in a 24hour period.
- **Aspirin** 81mg twice daily by mouth for 4 weeks (#60 pills)
 - o This is to prevent blood clots. Start taking aspirin in the evening after surgery.
- **Colace** 100mg twice daily by mouth daily as needed for constipation (#28 pills)
 - o This is an over-the-counter medication and will help to prevent constipation.
- **Keflex/Cefalexin** 500mg four times a day for five days (#20 pills)
 - o This is for infection prevention and should be taken starting when you get home from surgery.
- **Zofran/Ondansetron** 4mg by mouth every 6-8 hours as needed (#20 pills)
 - o This is to prevent nausea and vomiting.
- ***Any allergy or intolerance to one of the above medications may alter your prescription profile slightly.**

PREOP MEDICATIONS/SCRIPTS

- **Journavx/Suzetrigine** – 100mg by mouth (two 50mg tablets) 2 hours before surgery, then take 50mg (1 tablet) every 12 hours non-opioid, pain blocker for 3 days (#7 pills)
- **Hibiclens** - Preoperative scrub to clean the operative area 3 days prior to surgery as well as the morning of surgery.
- **Miralax** - Take one dose which is 1 heaping tablespoon of Miralax daily starting 3 days before surgery, this will regulate their bowel, if you have a history of loose stools or diarrhea you may decrease the dosage of Miralax.
- **Mupirocin** - 22g 2% ointment apply to both nostrils with a q tip twice a day starting 5 days before surgery, this will prevent bacteria from your nose causing an infection.

OPTIONAL SLEEP AID MEDICATIONS

- **Diphenhydramine (Benadryl)** - If you have trouble sleeping over the counter Diphenhydramine sleep aid 25mg by mouth before bed can be used. This can be increased to 50mg if you still have trouble sleeping.

Joint Replacement Medication Schedule Example

Please refer to the **MEDICATIONS** handout for an explanation of each medication.

Tylenol, anti-inflammatories, icing, and elevation are **ESSENTIALS** for pain control. These should not be stopped before your 4-week visit unless you have been instructed otherwise. Narcotic medications will not control your pain unless you are routinely taking Tylenol, an anti-inflammatory, icing, and elevating.

	Wake	Breakfast	11am	3pm	Dinner	Bedtime
Tylenol 1000mg	1 tab			1 tab		1 tab
Celebrex 100mg		1 or 2 tab			1 or 2 tab	
Tramadol 50mg	1 tab		1 tab	1 tab		1 tab
*Oxycodone 5mg		*1 tab			*1 tab	
*Journavx 50mg		1 tab			1 tab	
Aspirin 81mg		1 tab			1 tab	
Keflex/Cefalexin 500mg	1 tab		1 tab	1tab		1 tab
Colace 100 mg		1 tab			1 tab	
*Zofran 4mg	*1 tab			*1 tab		*1 tab

*** Journavx / Suzetrigine – 100mg loading dose (2 tablets) 2 hours before surgery

*** Ice therapy for 20 minutes every hour ***

*** Celebrex 100mg twice a day should be doubled early if pain is not controlled ***

*** **Tramadol is taken as needed for moderate pain** ***

*** **Oxycodone is taken as needed for severe pain not otherwise controlled** ***

*** Zofran is taken as needed for nausea and vomiting ***

Medication Schedule Example – Weeks 4-6				
	Breakfast	Lunch	Dinner	Night
Aspirin 81mg	1 tab		1 tab	
Celebrex 100mg	1 or 2 tab		1 or 2 tab	

*** Ice therapy for 20 minutes every 1-2 hours***

*****Tylenol and Tramadol are taken as needed for mild to moderate pain*****

Other Helpful Medications	
<p>Colace 2-in-1 Senna-S 50-8.6mg MiraLAX</p>	<p>For <i>constipation</i>. For patients who suffer from <i>chronic constipation</i>, you should continue your stool softener until the day of surgery.</p>
<p>Diphenhydramine 25mg</p>	<p>For <i>difficult with sleep</i>. If you are having trouble with sleep, I recommend sleeping on your side with a pillow between your legs or on your back with pillows underneath the ankle to help elevate the limb. This over-the-counter medication can help with sleep post op. This medication can be increased to 50mg if 25mg does not work.</p>

ELEVATION OF YOUR EXTREMITY

- Elevation of the operated side of your body / limb will help reduce swelling.
- The goal is to elevate the extremity above the level of the heart.
- This can be done by placing the leg on a chair or stool or, if laying down, you can place pillows behind the ankle.
- Avoid placing pillows behind the knee as this can cause the knee to get stiff and prevent you from obtaining full extension.



Elevate: Doing this 30-60 mins at a time, 4 to 5 times a day will help

- Lying flat on your back
- Legs above heart level
- Pillow under heels
- Knee not bent

Ice: Apply an ice pack or use an ice machine on the knee for 20 minutes at a time, 3-5 times a day to help with pain and swelling. **Do not apply ice directly on your skin.**

COMPRESSION STOCKINGS

- Compression stockings will help reduce swelling as well as reduce the risk of blood clots. They can be removed for showers, changing clothes, or to give the skin a break for a few hours. **These will be provided by the facility.**
- It is recommended to wear compression stockings for 4 weeks after surgery to decrease swelling in the limb and reduce the risk of blood clots.

Activity

- You are allowed to put all of your weight on your operative leg.
- Be mindful of your pain. If something hurts too much you should stop.
- A walker should be used initially and then you can transition down to a cane.
- From a cane you can transition down to no walking aids.
- The most important goal after surgery is to prevent any falls in the post-operative period.
- Everyone recovers and heals differently and at different speeds.
- There are no restrictions on how much you can walk.
- You can use a pillow between your legs at night to sleep more comfortably, as needed.
- You should receive physical therapy either at home or at a physical therapy facility.

- The goal of the first 6 weeks after surgery is regaining motion, restoring flexibility, and preventing the joint from getting stiff.
- It takes time to improve from joint replacement and most patients will not reach full improvement until 1 year after surgery.
- Try to avoid high impact activities until recovered. The best activities are low impact which include stationary bike, water exercises, aerobics, and elliptical.

Antibiotics After Surgery

- If you had outpatient surgery you will have routine antibiotics for 5 days. You will take Keflex 500mg four times a day for 5 days to prevent infection.
- For inpatient surgery you will receive 24 hours of IV antibiotics in the hospital.

Antibiotics and Dental Work / Other Procedures

- A potential cause of infection after joint replacement is from bacteria that enters the blood stream from dental procedures or urinary tract / skin infections.
- Avoid routine dental work 3 weeks before and 3 months after your operation.
- Antibiotics should be used before all dental work for 2 years after surgery.
 - o Recommended dosage is Amoxicillin 2G one hour prior to the procedure.
- Antibiotics should also be used before all invasive surgical procedures such as genitourinary, gastrointestinal, oral procedures, sigmoidoscopy/colonoscopy, bronchoscopy, liver biopsy, prostate, bladder, or kidney surgery, vaginal exams and GYN surgery, or barium enema.
- After 2 years you may stop taking antibiotics before procedures.

Avoiding Falls

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

Resuming Sexual Activity

Sexual activity is not recommended immediately after your surgery because of pain and swelling. You can resume sexual activity 6 weeks after surgery.

Driving

You can return to driving 2 weeks after your operation if you are no longer on pain medication and have full control of your operative extremity.

Metal Detectors / Airports

It is uncommon, but possible for your new implant to activate metal detectors required for security in airports and some buildings. Tell the security agent about your knee replacement if the alarm is activated. At your follow-up visit we can provide you with a joint replacement card, as needed.

Numbness Around the Skin Incision

You may feel some numbness in the skin around your incision. You also may feel some stiffness, particularly with excessive bending. These differences often diminish with time, and most patients find these are minor compared with the pain and limited function they experienced prior to surgery.

Reducing Risk of Blood Clots

- You will take Aspirin 81mg twice a day for a 4-week time period.
- It is important to mobilize and walk when possible which will prevent blood clots.
- Heel pump exercises will also help to circulate blood and prevent clots.
- Compression stockings are effective at keeping swelling down and venous blood circulating.
- Low impact exercise is also great for recovery and helps to move blood and prevent clots.

Digestive Health (Bowel Regimen)

Constipation is common after surgery. This is due to not being as mobile, dehydration, anesthesia and pain medications.

- It is recommended to take Colace 100mg or Senna 8.6mg 1 or 2 times a day to help with constipation. These medications work best in a hydrated patient. It is recommended to drink water at home, preferably 8 glasses per day.
- These are over-the-counter medications that help to decrease constipation.
- It is also important to eat a healthy high fiber diet and drink plenty of water.
- Finally, it is important to get up and move around periodically throughout the day in order to stimulate the digestive tract. Walking and regular activity can prevent constipation.

Sleeping

- It can sometimes be difficult to fall asleep the first few days after surgery.
- Sleeping with a pillow between your legs or pillows under the ankle of the operative extremity can help reduce swelling and make you more comfortable at night.
- If you have trouble sleeping, over-the-counter **Diphenhydramine (Benadryl)** sleep aid **25mg** by mouth before bed can be used. This can be increased to 50mg if you still have trouble sleeping.

Nutrition and Surgery

Initially after surgery (within the first 24 hours) you may feel slightly nauseas and not have much of an appetite. If this is the case you can start with clear liquids in your diet and then advance to soft and solid foods, as tolerated. You will have oral Zofran to take, as needed, for post-op nausea.

- What you choose to eat and drink can affect your recovery.
- Your body may need more protein to help you heal after surgery.
- It is also important to include fiber in your diet.
- Eating nutrient rich meals and snacks throughout the day can help provide the vitamins and minerals your body needs to recover.
- Avoid excessive alcohol use, foods high in fat, sugar, and tobacco use.
- Drink plenty of water the first 2 weeks at home. Strive to drink 8 glasses per day.
- **Good sources of Protein**
 - o Chicken, fish, beef, pork, milk, yogurt, cheese, cottage cheese, eggs, nuts, seeds, tofu, tempeh, soy, quinoa, beans, peas, lentils
- **Good sources of Fiber**
 - o Shredded wheat, bran, oatmeal, brown rice, flaxseed, chia seeds, barley, beans, corn, almonds, squash, broccoli, sweet potato, nectarines, pears, blackberries, prunes, apples
- **Good sources of Vitamins and Minerals**
 - o **Iron:** meats, beans, spinach, prunes, eggs
 - o **Zinc:** meats, seafood, dairy, beans
 - o **Vitamin E:** nuts, vegetable oils, milk, eggs, beef, liver
 - o **Vitamin C:** citrus fruits, berries, potatoes, tomatoes, melons, peppers
 - o **Vitamin K:** Green leafy vegetables, fish, liver
 - o **Vitamin D:** milk, fish, eggs, fortified cereals

Getting In and Out of the Car

- **Before You Get In**
 - o Please take extra care when getting in and out of the car to avoid falls.
 - o You should get in the car from level ground.
 - o The car seat should be as far back as possible.
 - o You may need cushions to raise the height of the seat.
 - o Using a plastic bag on the seat can help you slide.
 - o Have someone hold the door for you.
- **Getting In**
 - o Back up to the car seat with your walker or cane.
 - o Use the dashboard or seat back for support.
 - o Lower yourself carefully to the seat.
 - o Lift one leg inside the car followed by the other.
 - o If using a plastic bag remove it at this time to prevent sliding.
- **Getting Out**
 - o Reverse the procedure above making sure your operated leg is in front of you before you stand up.

Physical Therapy

- You will have a prescription for physical therapy. You should begin therapy the day after surgery.
- The goal for therapy after knee replacement is regaining flexibility and range of motion. Flexion and extension stretching are the most important in the first 6 weeks after surgery.
- Walking will make you strong and restore muscle balance and strength.

Returning to Work

- You should be able to return to work in about 4-6 weeks after surgery. This can be longer or shorter depending on how you feel, your recovery rate, and what type of work you do.
- Patients with very strenuous jobs may require up to 3 months of recovery before returning to work.

Weaning from Narcotics (Pain Medication)

- After surgery you may be taking narcotic medication to help you with your pain. As your pain improves you will need to wean off your narcotic pain medication. Weaning means slowly reducing the amount you take until you are not taking it anymore. You may find the pain is better controlled with NSAIDS (Celebrex / Ibuprofen) and Tylenol (Acetaminophen).
- Taking narcotics will not provide good pain relief over long periods of time. The body develop tolerances to them and requires more to provide the same effect. There are many side effects to narcotics including constipation, nausea, tiredness, and even dependency. These side effects increase with higher dosages. Weaning off and stopping narcotic medication will help you feel better and improve your quality of life.
- Once your pain is improving and you have weaned off narcotics you may have narcotics remaining. You can bring them to your local pharmacy for proper disposal of the medication.

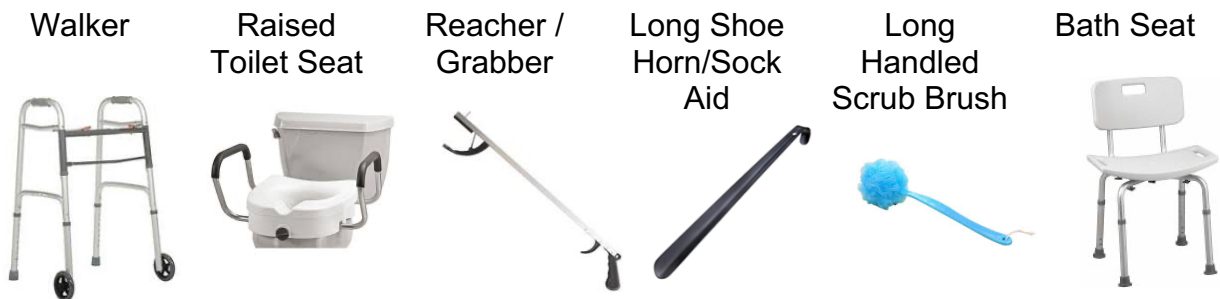
Comfort Techniques

There are various ways to address pain in addition to medications. Below are some examples of comfort techniques that may help reduce or distract you from pain and help you feel more comfortable in the post-operative period.

- **Aromatherapy:** Scented tablets like orange, lavender or eucalyptus can create a calming, scented environment.
- **Distraction:** Focus your mind on an activity like creating art, doing puzzles, reading books and magazines.
- **Ice Therapy:** Ice can reduce inflammation, swelling and pain and will provide comfort. Ice machines are a simple and effective way to apply cold therapy.
- **Massage Therapy:** Massage is a comfort technique that can ease pain after surgery.
- **Noise or light cancelation therapy:** An eye mask, earplugs, or headphones may reduce light and outside noise and make you feel more comfortable.
- **Pet Therapy:** Home pets or animals may provide comfort and a distraction for you after surgery.
- **Positioning / Movement:** Changing positioning in the bed or chair or getting up to go for a walk can help improve you comfort. It is recommended to walk as much as possible.
- **Prayer / Reflection:** Connect with your spiritual or religious side of healing and hope through prayer, meditation, reflection, and ritual.
- **Controlled Breathing:** Taking slow deep breaths can help distract you from the pain you are feeling. This can also help with nausea. Use the 4-7-8 technique. Breathe in quietly through your nose for 4 seconds, hold your breath for 7 seconds, breath out through your mouth for 8 seconds.
- **Calm App:** The calm app is an excellent app for Android and iOS phones that provides meditation and guided imagery. You can find it by searching in the app store. It is a great method to help you feel more relaxed and comfortable after surgery.

Equipment After Surgery

- A rolling walker is necessary after surgery and will be provided by the facility.
- Optional Equipment includes:



Exercises After Knee Replacement Surgery

The focus after knee replacement is regained range of motion and flexibility. The range of motion you have at 4 months after surgery will likely not improve. It is important to perform flexion and extension stretching to get the maximal range of motion after surgery before that time period. After 6-8 weeks and range of motion is restored the focus can shift to strengthening and endurance exercises.

Ankle Pumps

- Slowly push your foot up and down. Do this several times, as often as every 5-10 minutes. This helps circulate blood flow and prevents blood clots. Repeat 20 times.



Heel Slides

- Lie on back, slide your heel toward your buttocks, bending your knee and keeping your heel on the bed. Do not let your knee roll inward. Repeat 50 times. Can do this 3-4 times a day



Straight Leg Raises

- Lie on back, unaffected knee bent, and foot flat. Lift opposite leg up 12 inches. Keep knee straight and toes pointed up. Relax. Repeat 20 times.



Quadricep Sets

- Lie on back, press surgical knee into mat, tightening muscles on front of thigh. Do NOT hold breath. Repeat 20 times



Short Arc Quad

- Lie on back, place towel roll under thigh. Lift foot, straightening knee. Do not raise thigh off roll. Repeat 20 times.



Seated Knee Flexion

- Sitting on straight-back chair with operated leg outstretched, gently slide the affected leg underneath chair. Keep your hips on the chair. Try to stretch and bend knee as far back as possible under the chair. Plant foot and move bottom forward on chair. This will further stretch the affected knee. You can also try placing your non-surgical leg over the front of the operative leg's ankle and pull backwards. This will increase knee flexion. Repeat 20 times.



Extension Stretch

- Prop foot of operated leg up on chair. Place towel roll under ankle and ice pack over knee. Put 5-10 lbs. of weight on top of knee (a 5-10 lb. bag of rice works well). Do for 20 minutes.



Walking

- The best exercise you can do after knee replacement is getting up and walking around. At first you may need a walker or cane to prevent falls and rebuild strength. This should be your main focus for exercise. In the beginning, walk 5 or 10 minutes 3 or 4 times a day. As your strength and endurance improves, you can walk for 20 or 30 minutes 2 or 3 times a day. Once you have fully recovered, regular walks, 20 or 30 minutes 3 or 4 times a week, will help maintain your strength

Exercise Bike

- Stationary Bike is an excellent activity to help you regain muscle strength and hip mobility. Adjust the seat height so that the bottom of your foot just touches the pedal with your knee almost straight. Pedal backwards at first. Pedal forward only after comfortable cycling motion is possible backwards. As you become stronger (at about 4 to 6 weeks) slowly increase the tension on the bike. Exercise forward 10 to 15 minutes twice a day, gradually building up to 20 to 30 minutes 3 to 4 times a week.



Follow-Up

- Dr. Harb would like to see you back in the office 4 weeks after surgery.
- Call 202-835-2222 for an appointment or schedule this at your final preoperative visit. At this office visit an x-ray will be taken and your incision will be examined.
- The next follow up appointment will be 4 months from surgery and then 1 year from surgery.
- After that Dr. Harb likes to see his patients every 5 years following surgery.

When to Go to the Emergency Room

- Sudden increase in pain with activity and rest not relieved with medication
- Uncontrollable nausea or vomiting
- Inability to bear weight or walk
- Shaking chills
- Fever greater than 101.3
- Shortness of breath or chest pain
- If you have increasing discharge or drainage from your surgical incision

Thank You

It has been a pleasure taking care of you and getting to know you. I hope that you enjoyed your operative experience. Please remember that your health and recovery are extremely important to me. I look forward to seeing you again at your follow-up appointments.

Matthew Harb, MD
Orthopedic Surgeon, Hip and Knee Specialist