Dr. Paul Enns
Total Knee Replacement
Discharge Instructions

Activity:

1. Weightbearing: You can put as much weight as you can tolerate on your knee *unless specifically instructed by Dr. Enns otherwise*. First, use the walker to ambulate until you are comfortable using a cane. Next, use a cane until you are comfortable not using anything. This takes anywhere from 1-6 weeks. The physical therapist will help guide you. Rushing this process can result in a fall so take your time.

2. Range of Motion: *Unless Dr. Enns or his office specifically instructed*, you do not have any precautions with regards to your knee range of motion. You may bend and straighten your knee as much as it allows. **Physical therapy is the best tool to prevent stiffness and achieve full knee range of motion.** Please follow the recommendations of your physical therapist.

3. **During the daytime for the first ~2 weeks following surgery, at least every 1-2 hours you should be mobilizing to take steps or work on your home exercises from physical therapy. In between those times – ICE, ELEVATE, and COMPRESS the knee.**

4. High impact, high velocity activity (running, jumping, jogging etc.) is not recommended during the first 3 months after surgery. Beyond 3 months – it is up to you. Your knee replacement is meant to last decades but can fail if abused or injured.

5. **Driving:** You should be able to meet these criteria to start driving after surgery, each patient's progress will vary and practice in a safe setting before resuming typical commutes.

    a. *Be able to safely enter and exit the vehicle independently.*
    b. *Be able to comfortably look over either shoulder.*
    c. *Be able to firmly press on the brake and switch pedals with your right foot without hesitation or significant pain.*
    d. *No consumption of medication with sedative side effects prior to driving (e.g. opioids, muscle relaxers, etc).*

    Typically, patients undergoing right sided surgery return to driving in 2-4 weeks. Patients undergoing left sided surgery return in 1-3 weeks.

Swelling, bruising, warmth and insomnia:

1. You should expect moderate to significant swelling and bruising. The swelling and bruising are typically located in the thigh and knee area, **but often extends below the knee into the lower leg, ankle, and even the foot/toes**. All patients will have warmth in the operative knee. The swelling, bruising, and warmth can often be impressive but in almost all settings - **this is a normal and expected temporary change.**

2. The swelling, bruising, and warmth develops soon after surgery and may progress for 1-2 weeks. It should then begin to **slowly improve over weeks 3-6.** However, it can often take 3-6 months for these changes to fully disappear, especially in more active or larger patients.

3. Provided you have been taking your blood thinner since surgery (usually low dose Aspirin) and you are mobilizing as instructed, **the risk of a blood clot is low**. Again, the swelling, bruising and warmth you will experience is an expected part of recovery.

Swelling, bruising, warmth and insomnia (cont'd):

4. **ICE, ELEVATION and COMPRESSION are very important tools for pain control in the days and weeks following total knee surgery.**

    a. In the first two weeks following surgery, you should be icing, elevating, and compressing at most times when you are awake and not ambulating.

    b. Following this two-week period, many patients gradually transition to using these measures after PT sessions or long days on their feet.

    c. **ICE** - Ice packs or polar packs are the best way to ice your knee. Keep a cloth barrier (towels, pillowcases, sweatpants etc) in between the ice pack/polar pack and the skin. Give your skin a break from the ice for 20 minutes every hour.

    d. **ELEVATION** – Use pillows or towels to elevate your knee as close to the level of your heart as possible. Leave the space directly behind your knee free of any material as to **rest your leg straight, not bent at the knee**. Put the pillows under your calf and heel.

    e. **COMPRESSION** - Use the ACE wrap that was on your knee in the hospital to compress your knee. Wrap your leg from the foot arch to the thigh. You may also use a thigh length compression stocking (e.g., TED hose) instead of the ACE wrap.

5. Insomnia or sleep disturbance can be a very common post-operative symptom following knee replacement.

    a. This will improve as your recovery progresses; however, it may take weeks and sometimes even months.

    b. Practice good sleep hygiene:
        i. Consistent schedules, quiet and comfortable bedroom, removing screens and electronics from the bedroom, sleeping with a fan or ambient noise maker, avoiding large meals or stimulants like caffeine or nicotine before bedtime, etc..

        ii. Going to bed with your knee iced/elevated/compressed.
            1. DO NOT USE THE POLAR PACK if you are going to bed with ice on your knee. Use a Ziploc or similar bag of ice that will melt with time to protect from damaging the skin.

    c. Medication
        i. If you are on a previously prescribed anti-insomnia medication, use as directed, **do not mix** with prescriptions pain medication or muscle relaxers.

        ii. If you are not, consider the following as options (pick one, **do not mix**)
            1. Prescription pain medication taken near evenings or bedtimes
            2. Over the counter medication such as Benadryl or Melatonin, used as directed
            3. Prescription muscle relaxer taken near evenings or bedtimes

        iii. In general, be careful when using medication for insomnia. The prescription pain medication and muscle relaxers mentioned above are meant more for pain or spasm than insomnia. There is potential for side effects or drug interactions.

Dressing and wound management:

1. There is a grey "mepilex" surgical dressing covering the incision on your knee. You should leave your dressing in place until seen in clinic for your first post op visit. It will be removed at the office. **If the dressing comes off sooner than your first post op visit, please notify our office**.

2. After dressing removal at the office, please leave the incision open to air unless otherwise instructed. Beneath the dressing, on the incision itself, is a layer of liquid adhesive (glue) meant for surgical wounds. Do not attempt to remove. The adhesive will wear away with time once the dressing is removed.

3. There are no sutures or staples to remove. The suture material keeping the wound closed is buried beneath the skin and will dissolve with time.

4. Please note that small amounts of bloody, amber, or yellow tinged drainage can normally occur in the 1-2 weeks following surgery.

   -While the dressing is still on, any drainage should be contained by the dressing. **If drainage soaks through the dressing while it is still in place, please notify our office.**

   -If you experience drainage following dressing removal, please notify our office. We will ask questions regarding the quality and amount of drainage and provide further instructions.

   -While waiting to speak with the office, simply tape a dry gauze pad over the area and replace as needed.

   -Keep the wound clean and dry as best possible and sponge bath instead of showering if you are experiencing drainage.

5. If your wound is dry, and no drainage is noted, there is no need to apply a dressing. You may keep the wound exposed to air.

   -Do not apply any lotions, gels, creams, or ointments to your surgical site until cleared by Dr. Enns.

6. Swelling, bruising and warmth of the incision and knee are all expected changes following surgery, especially early after surgery. See page 2.

   -Minimal to mild amounts of redness near to the incision can also be normal changes in the 1-2 months following knee replacement.

   -If you experience significant new onset wide-spreading redness, please notify our office.

   -If the wound edges begin to separate, please notify our office.

Showering/bathing:

1. Your bandage is water-resistant. *Please begin once daily showers* starting 24 hours after surgery, provided that the dressing is intact. There is no need to seal off the entire leg for showering. Let the water hit your upper body first and run gently down over the dressing on your knee. Please do not spray the bandage directly. Once the bandage is removed at your first post op visit, you can continue to allow water to gently run down the incision during once daily showers.

2. Any submersion in water, including a bath, jacuzzi, or swimming is **NOT permitted during the first 6 weeks unless Dr. Enns specifically approves.**

3. Most patients will need about **6 weeks healing time** to allow for the incision to have a newly formed scar. Only when there is no scab or glue left on the scar, can the incision then be subjected to bathing, frequent showering and/or topicals such as scar cream or lotion.

4. You should not scrub the dressing or the incision until fully healed. Be sure to gently pat the dressing or incision dry with a towel after showering while it is still healing.

5. If wound drainage is noted, you should sponge bathe instead of showering until the drainage resolves (see dressing and wound management #3)

PLEASE NOTIFY THE OFFICE IN CASE OF THE FOLLOWING:

- Body temperature above 101.5 by thermometer. Please note that a low-grade temp below 101 is not uncommon in the first 3-7 days after surgery. Do not take serial temperature measurements unless you have a reason to (e.g., feeling ill or feverish)
- Persistent nausea and vomiting
- Uncontrolled pain despite following instructions regarding ice/elevation/compression and pain medication
- Increased drainage from incision (see above page 4, #4)
- New and sudden onset painful swelling and redness in calf of operative leg (see below page 6, #4)
- Trauma to the operative area such as a fall
- Chest pain and/or shortness of breath (please seek emergent care BEFORE you notify our office)
- You feel the need to go urgent care, emergency room, hospital, or your primary care physician for reasons directly or indirectly related to your recent total knee replacement.

CALL 316-838-2020 AND ASK TO SPEAK WITH EITHER DR. ENNS OR A MEMBER OF HIS STAFF

-During business hours, the office will take your call, or we will return it as promptly as possible

-After hours and weekends, the paging service will notify Dr. Enns and either he or the on-call provider will return your call

Post-operative medications, DVT prevention and pain control:

1. You will be discharged with a blood thinner, pain medications, a muscle relaxer, an anti-inflammatory, and an antacid. Please follow the instructions regarding these medications as listed below.

2. You should stop taking your opioid pain medication whenever you feel you can. Recommended time frames are listed below in the medication instructions. A good way to wean off the pain medication is to cut the doses in half and/or increase the time between doses. For example, if you are taking 1 tablet every 4 hours extend that time to every 6 hours, then every 8 hours and so on. If you are taking 2 tablets at a times, cut it down to 1 then ½. **You should also start to use over the counter Tylenol instead of opioid pain medication as your symptoms lessen.**

3. Patients typically no longer need regular opioid pain medication by 4-6 weeks following surgery, if not sooner. *Opioid side effects are harmful with long term use.* Dr. Enns' office will only continue to refill opioid pain medication for up to 3 months following surgery. The strength and/or amount of medication will also be decreased with subsequent refills after the initial post-op script. Patients previously taking opioids as a part of a supervised home regimen will be referred to their original prescriber at 3 months following surgery.

4. Knee replacement surgery temporarily places you at risk for a type of blood clot called deep vein thrombosis (DVT). This type of blood clot should be taken seriously. Unless otherwise instructed, you have been provided with a prescription for the following to prevent a potential DVT:

   -Aspirin 81 mg, to be taken twice a day, with food, for 28 days.
   -This is the only medication that must be taken post-operatively, above all else.

   -Safely increasing your ambulation and participating in physical therapy are equally as important as Aspirin in preventing DVTs.

   -Symptoms of a DVT include **quick onset of new hard swelling and new redness** (unrelated to previous surgical swelling and redness), in **back of the calf of the operative leg**. The swelling is often tender to squeeze, and it can be very painful in the calf to lift your foot and toes towards the ceiling.

5. You should restart all your previous home medications once discharged unless specifically instructed otherwise. If you wish, you may also resume your supplements once home from surgery.

6. If you were taking Coumadin(warfarin) as a regular home medication before surgery - please follow-up with your internist within the first 2 business days after discharge so the medication can be appropriately bridged from Lovenox. Dr. Enns' office prefers that your internist takes the lead in re-establishing your intended INR range.

7. Stay on top of your pain for the first 48-72 hours. You may not feel the need to take pain medication when you first get home from the hospital but resist this urge. When the block wears off around 24 hours from surgery, the knee will feel MUCH different. If you are behind in taking pain medication when this happens, it can be quite uncomfortable to get back in front of the pain.

8. **Ice, elevation, and compression of your knee should always be the first line of treatment for pain and swelling before taking additional medication.**

Medication list:

PLEASE BE AWARE OF THE FOLLOWING

-- Unless otherwise specified, these medications will be prescribed electronically to the pharmacy of your choosing near the time of discharge. --

-- Some of these medications can be obtained over the counter (OTC) and some can only be obtained through the pharmacy (Rx). --

-- Opioid pain medication such as Percocet and Tramadol can be habit forming as well as cause sedation, confusion, dizziness, nausea, vomiting, constipation --

-- Muscle relaxant medication such as Flexeril can cause sedation --

-- If you experience any of these side effects to a severe extent, you should contact our office. --

-- Avoid driving and/or alcohol consumption after you have taken an opioid or muscle relaxer –

*****Opioid pain medication will only be refilled when Dr. Enns is in the office, which is typically Tuesdays and Wednesdays. Refill requests are reviewed on those days and granted when appropriate. See page 6, #3. The prescriptions are usually sent at the end of the business day after clinic has concluded.*****

Definitions

-Scheduled basis – take these medications on schedule as directed, until instructed to stop or medication runs out.

-As needed – take these medications ONLY IF NEEDED, as directed by dosing instructions.

1. Aspirin 81 mg – This is a medication for blood clot prevention and pain control. Aspirin is available OTC.

-This is the only absolutely REQUIRED post-op medication.

-Take one tablet twice a day on a **scheduled basis** for 4 weeks / 28 days following surgery

-Your script is for 56 tablets. Zero refills.

-Start on post-operative day 1.

-If you are on long term anticoagulants (e.g. Coumadin, Eliquis, Xarelto, Plavix) please resume taking them. These medications will act as your blood clot prevention, and you will not be prescribed aspirin.

-***Discontinue this medication 4 weeks after surgery when the tablets run out.***

2. Percocet (oxycodone/acetaminophen) 5/325 mg –This is a powerful opioid medication for pain relief. (Percocet is Rx only)

-Take 1-2 tablets by mouth every 4-6 hours on an **as needed** basis for moderate to severe pain.

-Your script is for 40 tablets. Zero refills. If a refill is needed, please contact the office.

-Start on post-operative day 0.

-Do not take more than 4000 mg of Tylenol(acetaminophen) per 24h period

-The goal is to discontinue this medication by ~2 weeks after surgery. See page 6, #2-3.

3. Ultram (tramadol) 50 mg – This is a mild opioid medication for pain relief (Ultram is Rx only)

-Take 1 tablet by mouth every 4-6 hours on an as needed basis for mild to moderate pain.

-Your script is for 30 tablets. One refill. If an additional refill is needed, please contact the office.

-Start on post-operative day 0.

-Use this medication *in between* Percocet doses if your pain is severe (Weeks 1-2)

-Use this medication *instead* of Percocet if your pain is only mild (Weeks 3-4)

-The goal is to discontinue this medication by 3-4 weeks after surgery. See page 6, #2-3.

4. Mobic (meloxicam) 7.5 mg – This is a non-steroidal anti-inflammatory drug (NSAID) for relief of pain and swelling. You will not receive this medication if you have a contraindication to NSAIDs. **Discontinue all other NSAID medication such as Aleve, Motrin, Ibuprofen etc**. Mobic(meloxicam) is Rx only.

-Take 1 tablet by mouth twice daily WITH FOOD on a **scheduled basis** for 6 weeks / 42 days following surgery.

-Your script is for 84 tablets. One refill.

-Start on post-operative day 2.

-Discontinue this medication 6 weeks after surgery when the tablets run out.

-Some patients continue to find this medication helpful past 6 weeks, so a refill is available.

5. Flexeril (cyclobenzaprine) 10 mg – This is a muscle relaxer used to treat muscle spasms. Flexeril(cyclobenzaprine) is Rx only.

-Take one tablet by three times a day (or every 8 hours) **as needed** for muscle spasm.

-Your script is for 15 tablets. One refill.

-Start on post-operative day 0.

-***The goal is to discontinue this medication by 2 weeks post-op.***

6. Prilosec (omeprazole) 20 mg – This is an antacid medication. Prilosec(omeprazole) is available OTC.

-Take one tablet by mouth daily on a **scheduled basis** for 6 weeks / 28 days following surgery

-This medication is meant to protect against acid reflux while taking Aspirin and/or Mobic(meloxicam)

-Your script is for 42 tablets. One refill.

-Start on post-operative day 1 and take daily as long as you are taking either Aspirin and/or Mobic.

-If you already take a proton pump inhibitor or antacid on a regular basis at home (e.g. Pepcid, Prevacid, Nexium, Protonix, etc..) - you may resume taking it instead.

-Discontinue this medication after 6 weeks once you are no longer taking Aspirin or Mobic.

Bowel Regimen:

Constipation can occur after knee replacement due to decreased ambulation and opioid pain medication. Constipation should be taken seriously. *The best thing you can do to avoid constipation is to safely increase your activity, add extra fiber to your diet, stay hydrated, and wean away from opioids.* If you are still experiencing constipation despite this, follow the instructions below.

1. First, obtain an over-the-counter medication called **Senokot S**. Take as directed until symptoms resolve.

2. If you are still experiencing constipation despite the use of Senokot S, please obtain an over-the-counter medication called **Miralax**. Take as directed until symptoms resolve.

3. **If you are unable to have a bowel movement despite the use of Senokot S and Miralax, please contact your primary care physician.**

Patients with chronic constipation should return to their normal home regimen and contact their primary care physician if further instruction is needed.

Diet:

Resume a well-balanced home diet with a *focus on increased protein and fiber intake*. It is recommended to supplement daily with OTC high protein nutritional shakes in the 6-week post-operative period.

-If you have Diabetes Mellitus (Type 1 or 2): Please maintain safe and appropriate blood glucose control (ideally below 140), it is vitally important for wound healing and infection prevention.

Physical Therapy:

Begins 1 – 3 days after discharge from hospital and lasts typically for 6 weeks, 3x a week.

-This is an essential part of your recovery process to achieve full range of motion with your new knee and regain leg strength and stability.

-It is important to also work on home exercises as well during your recovery. Physical therapy is not only at the PT office, but also performed at home on your own every day.

-Your first therapy visit should already be scheduled, if you are unsure when or where this is, **please contact the office.**

Return to work:

Return to work typically occurs around 6-8 weeks after surgery, sometimes earlier or later depending on the patient and the type of work. Every patient's recovery process is different. Your specific plan for return will be discussed with Dr. Enns before surgery as well as at your 2-week and 6-week post op visit.

Follow up:

-The 1st and 2nd post-operative visits are usually scheduled at the time of surgery scheduling. If unsure, please call the office to confirm dates and times.

-The **1st post-operative visit** is about 2-3 weeks following surgery. The purpose of this visit is to remove the dressing, check the wound, assess mobility progress, and go over any new questions or concerns.

-At this stage, most patients are still needing varying amounts of prescription pain medication and walking assistive devices, with knee range of motion around 5-90+ degrees.

-Patients typically see the mid-level provider at this visit, Dr. Enns is available if needed

-The **2nd post-operative visit** is about 6-7 weeks following surgery. The purpose of this visit is to take new x-rays and ensure that wound healing and rehabilitation has progressed appropriately.

-At this stage, most patients are only needing occasional over the counter pain medication such as Tylenol or NSAIDs. They are not requiring any assistive devices. Patients are returning gradually to their normal daily routines, activities, and employment if applicable. Knee range of motion at this stage is ideally 0-120+ degrees. PT is complete or nearly complete, *however the healing process is not.*

-Dr. Enns will discuss with you what to expect as the healing process continues during the first year following surgery. Topics regarding living with total knee replacement will be also discussed.

-Provided that things are going well, patients are typically seen for a **3rd post-operative visit** about a year out from surgery to ensure that they have fully recovered. New x-rays are taken at this visit as well.

Final Advice:

-The first day following surgery, patients often experience higher function and lower pain than expected. This is due to the presence of nerve block(s) from the anesthesia team as well as medication administered to the soft tissues of the knee at the time of surgery. You may feel as if you need little if any pain medication.

-However, the second day following surgery, the nerve blocks will have worn off and the knee is often significantly more painful and stiff. This is an expected change, do not worry. Remember to try and stay in front of the pain for the first 48-72 hours.

-The first week following surgery is the most difficult to overcome in terms of pain, stiffness, insomnia, and slow/limited ambulation. While these symptoms do not disappear after the first week, but they are usually the worst at this time and can be discouraging to some patients.

-Please have patience and perseverance with your knee and with your recovery, especially early. The symptoms WILL IMPROVE with time. If you are icing, elevating, and compressing your knee as instructed above; if you are using medication as instructed above; if you are gradually and regularly increasing your activity as described above - YOU WILL SUCCEED.

Example Medication Schedule – Weeks 1-2

Resume normal home medications unless otherwise instructed
Adhere to bowel regimen while taking opioid medication
Breakfast – **Aspirin 81mg** + Mobic 7.5 mg + Prilosec 20mg with food
Morning – alternate Percocet and Tramadol as needed for pain, Flexeril as needed for spasm
Afternoon – alternate Percocet and Tramadol as needed for pain, Flexeril as needed for spasm
Dinner – **Aspirin 81mg** + Mobic 7.5 mg with food
Evening – alternate Percocet and Tramadol as needed for pain, Flexeril as needed for spasm

Example Medication Schedule – Weeks 3-4

Resume normal home medications unless otherwise instructed
Adhere to bowel regimen while taking opioid medication
Breakfast – **Aspirin 81mg** + Mobic 7.5 mg + Prilosec 20mg with food
Morning – alternate Tylenol Extra Strength (OTC) and Tramadol as needed for pain
Afternoon – alternate Tylenol Extra Strength (OTC) and Tramadol as needed for pain
Dinner – **Aspirin 81mg** + Mobic 7.5mg with food
Evening – alternate Tylenol Extra Strength (OTC) and Tramadol as needed for pain

Example Medication Schedule – Weeks 5-6

Resume normal home medications unless otherwise instructed
Breakfast – Mobic 7.5 mg with food + Prilosec 20mg with food
Morning/afternoon – Tylenol Extra Strength (OTC) as needed for pain
Dinner – Mobic 7.5mg with food
Evening– Tylenol Extra Strength (OTC) as needed for pain