

Total Knee Arthroplasty (Knee Replacement)

A total knee replacement involves making an incision on the front of the knee, removing arthritic or damaged cartilage in your knee joint, and resurfacing the joint with metal and plastic implants. The new components are aligned and secured to the thigh bone and the shin bone. The surgery takes approximately 1.5 hours.



Recovery

A total knee replacement is an extensive surgery. **It is important to read through this document** to ensure your knee replacement is a positive experience and leads to a better quality of life. You should expect post-operative pain, which can vary for each patient. It can take 3 months to 1 year before you are pain free and back to all activities. Recovery times for each patient vary. We expect that you will begin to wean from your pain medication as soon as tolerated post-surgery.

Prior to Surgery

Share the information in this document with anyone who will be supporting you through this process. Additionally, **read the “PREPARING FOR SURGERY” document** for greater details on surgery preparation. Ask your surgical team for the “Preparing for Surgery” document if you have not received it.

IMPORTANT: Your surgery may be postponed if there is a change in your health status before surgery. If you begin experiencing a fever, rash, or cold, call our office immediately at (928) 773-2280.

NO dental cleanings or dental procedures may be performed **within 2-weeks prior to surgery.**

Pre-Operative Testing

Prior to surgery, you will be required to go to a laboratory or testing center for basic pre-operative (pre-surgery) testing. Tests ordered may include blood tests, nasal swab tests, and electrocardiogram (EKG). Tests will be ordered at your pre-op visit, or sooner, and are expected to be done the same day at a designated outpatient service facility.

Office Visit- Pre-Surgery

You will have a **mandatory pre-operative visit** at Flagstaff Bone and Joint, **2-3 weeks prior to surgery.**

During this office visit you can expect the following:

- Review of your current medications and discussion of medications to discontinue before surgery.
- Discussion of all necessary medications to be prescribed after surgery.
- Review of any pre-operative studies (“Pre-Operative Testing”) for surgery clearance.
- Review of surgery clearance information from your primary medical physician and/or specialist.
- The surgery facility team will ensure you will be discharged after surgery with any required post-surgery medical equipment such as a rolling walker. Per request, you may use a prescribed *non-rolling* walker or single-prong cane, which can be ordered at your pre-op appointment in advance.
- Cold therapy units are optional and available for purchase (cash-pay only). These devices provide cold therapy to your knee by circulating cold water from a main unit into a pad, which is placed around the knee. If you are interested, call our office at (928) 213-6231 to connect with our DME technician.

Physical Therapy Visit- Pre-Surgery

Prior to your surgery, you **must attend one physical therapy (PT) session** (unless instructed otherwise). During this appointment you will learn about the home exercise program you will be performing both before and after surgery. You will learn pre- and post-surgery precautions, practice walking with a walker, and learn what preparations to make in your home prior to surgery. This physical therapy session can be attended at Flagstaff Bone and Joint or another therapy clinic of your choosing. Flagstaff Bone and Joint provides the option of this appointment either in person or via telehealth.

What to Expect Day of Surgery

The Hours Before Surgery

- Surgical and anesthesia consent forms will need to be signed.
- Pre-surgery sedatives and antibiotics will be administered to you through an IV.
- A nerve block will be performed by the anesthesiologist.
- Your knee will be shaved and cleaned with topical antiseptics Betadine, Hibiclens, **or Chlorhexidine**.
- You will meet with your surgeon in the pre-op area and your surgeon will answer any remaining questions you may have before surgery.
- Your surgeon will confirm and mark your surgical leg.
- You will be transferred to the operating room for your surgery.

Immediately After Surgery

After surgery is completed, the anesthesiologist will gradually bring you out of **anesthesia**. You will be transferred to a recovery room, where you will wake up. You will have a compression stocking on your non-surgical leg.

You will then be monitored in the recovery area for a few hours. Nurses will monitor your vital signs and keep you comfortable, administering any medications necessary for your post-surgery pain and/or nausea. The medications administered at the surgery center and the nerve block should provide excellent pain relief.

Immediately following surgery, you will be allowed to put full weight on your leg, and you will **need to start frequently moving the knee**, including bending and straightening the knee. At the surgery center, a physical therapist will instruct you how to walk with your walker. It is important to move the knee as much as possible and avoid resting it or leaving it partially bent for long periods of time. The physical therapist will review your post-surgery exercises and remind you how to keep your knee moving.

You will be discharged home once the medical staff determines your pain is well managed, you can walk safely to the car with your walker, and all necessary medical equipment is acquired.

Plan to have someone drive you home and stay with you the first night (for at least 24 hours).

If you have surgery at Flagstaff Medical Center (FMC), or at the **Arizona Specialty Hospital** (in Phoenix), you might be admitted as inpatient to **stay overnight** (or to stay a few nights). Speak with your surgeon about your plan.

For 24 hours after anesthesia, and while taking opioid pain medication, you are deemed to be under the influence of drugs: **do NOT** drive, run machinery, drink alcohol, smoke, or make final decisions during this time.

The First Night after Surgery

- Take first dose immediately upon arriving home, unless instructed otherwise.
- Pain medications will not take away all the pain but should increase your comfort level.
- Take pain medication with food, allowing 30-45 minutes for the medication to be effective.
- Take first dose of Meloxicam at 6:00 pm the night of surgery.
- Take other prescribed medication as indicated on page 4.
- Keep the surgical wound bandaging dry and intact.
- Keep your compression stocking on your non-surgical leg.
- Note: the muscles in your leg may still be weak from the nerve block for approximately 24-hours following your surgery.

Call Our Office IMMEDIATELY if ANY of the following arise after surgery:

- Chills or fever above 101°F
- Severe nausea, vomiting, rash, and/or itching.
- Pain not relieved by oral pain medication.
- Sudden increase in leg pain and sudden increase in swelling in calf.
- Inability to urinate or empty your bladder.
- Signs or symptoms of infection including excessive redness, drainage, or signifi
- Discharge from the surgical wound that has an offensive odor.
- Opening (or pulling apart) of the surgical wound.

Flagstaff Bone & Joint:
(928) 773-2280

If you feel you
need URGENT
MEDICAL HELP,
call 911 or go to
the nearest
hospital.

If you have trouble breathing or chest pain, call 911.

IMPORTANT GUIDELINES Post-Surgery

Dentist or Colonoscopy: You **cannot** go to the dentist (even for a routine cleaning) or have a colonoscopy **for 3 months following surgery** due to risk of infection. These procedures may increase the risk of bacteria entering the bloodstream and traveling to your new knee joint.

Ice & Elevation: Ice and elevate the knee at least every 1-2 hours for 15-20 minutes at a time for at least the first **3-days** after surgery. Continue to ice and elevate as needed throughout the first two-weeks. You may remove the ace bandage to ice the knee, but you should immediately rewrap it after icing. Always place a barrier between the ice pack and your skin to prevent freezing the skin. **Keep the knee straight while icing and elevating**, putting pillows under the ankle, NOT under the knee. Do not put a heating pad over the incision/surgical wound. You may use a heating pad on legs or shoulders for aches or muscle spasms.

Swelling, Bruising, Numbness: Swelling into the lower leg is common following surgery and may extend into the foot and toes. The thigh, knee, and lower leg may become very discolored and bruised and may hurt away from the surgery site. It is common for your knee and leg to feel warm. You may have numbness and tingling into the foot/toes during elevation of the leg. If any of these symptoms worsen or appear severe, call the office.

Bathing: Expect to take **SPONGE BATHS** for the **first 2-weeks** after surgery. You may shower **ONLY** if you can keep dressing well covered and your knee stays completely dry (for example, by placing leg in a large plastic bag or cast cover when showering). Ensure all surfaces inside and outside of your shower are non-slip. Consider using non-slip safety shower mats or shower chair to decrease risk of falling. When entering the shower, place walker into shower for support. Step in with your surgical leg first. If you cannot fit your walker into the shower area, step in backwards using your non-surgical leg first. **No pools or soaking** until cleared **after 6-week** follow-up appointment.

Toilet Use: DO NOT attempt to use your walker to pull yourself up to standing from the toilet seat; the walker is not stable. Instead, push from the seat or railing and reach forward with one hand at a time to your walker.

- In public, use handicapped restrooms. Use additional supports provided, such as grab bars.

Medications to Take After Surgery

You will be prescribed medications to take post-surgery. These medications include opioid (narcotic) and non-opioid medications to help with pain, a blood thinner to help prevent a blood clot, a stool softener (laxative) to relieve constipation, as well as antacids and anti-nausea pills to take as needed.

We request 72-hours to process medication refills. Please notify us if you need a refill before you run out.

Pain Relievers (non-opioids): take both medications on a scheduled basis after surgery.

- **Meloxicam 15 mg:** take 1 tablet, by mouth, every day at 6:00 pm for 15 days (*helps treat inflammation*)
 - BE SURE TO TAKE WITH FOOD TO AVOID UPSET STOMACH
- **Tylenol (Acetaminophen) 1,000 mg:** take 1 tablet, by mouth, every 8 hours for 30 days (*for pain relief*)

*Ice and elevation are also very beneficial to help to control post-operative pain. *

Opioid Pain Medication: you'll be prescribed one of the following to take as needed after surgery.

- **Tramadol 50 mg:** take for breakthrough pain, *do not exceed* 1 tablet, by mouth, every 8 hours.
or
- **Oxycodone 5 mg:** take for MODERATE to SEVERE pain, 1 tablet, by mouth, every 6-8 hours as needed.

*If your pain remains poorly controlled despite taking the medication as instructed, please call our office so the appropriate changes can be made.

Blood Thinner: you'll be prescribed one of the following to take for 4 weeks, to help prevent a blood clot.

- **Aspirin 81 mg:** take 1 tablet, by mouth, twice daily.
or
- **Eliquis 2.5 mg:** take 1 tablet, by mouth, twice daily.

*Frequent standing & walking to be performed *in addition to* taking blood thinner to prevent blood clots.

Stool Softener/Laxative: *treats constipation by softening your stool to make bowel movements easier.*

- **Colace 100 mg:** take 1 tablet, by mouth, twice daily (as needed for constipation)
- Drink plenty of water, about 8 glasses a day or more. Eat foods that are high in fiber such as whole grains, beans, fruits, and vegetables and limit dairy products to help prevent constipation.

*If constipation persists despite taking Colace, MiraLAX and/or Senna may be added. If these do not work, milk of magnesia and enemas may be used. These medications are available at your local pharmacy over the counter (*does not require a prescription*).

Antacid: *helps reduce risk of stomach ulcers while taking aspirin.*

- **Famotidine 20 mg:** take 1 tablet, by mouth, twice daily (until no longer taking opioid pain medication)

Anti-Nausea Pill: *to use as needed if the narcotic pain medication causes nausea or vomiting.*

- **Ondansetron 4 mg:** take 1 tablet, placed under the tongue, every 6 hours, (as needed for nausea/vomiting).

*Most nausea is relieved by reducing oxycodone dose or frequency.

Activity After Surgery

Knee Motion: Start bending and straightening the knee **as much as possible** following surgery. It is also important to keep the knee either fully straight or fully bent when at rest to prevent stiffness. Always **avoid resting with a partially bent knee**.

Walking: Walking every day is strongly encouraged (short walks every 1-2 hours), increasing distance as you are able. This will help you regain strength and function of your knee. Follow your physical therapist's guidelines for exercise and other activity. High-impact activity (e.g., running and jumping) is generally discouraged after a knee replacement due to faster wear on the implants.

Driving: You may not drive until cleared by your physician. It is illegal to drive while taking opioids (narcotics). You may be released to drive once you are **no longer taking pain medication and** the following is met:

- **LEFT knee surgery:** If you drive a manual transmission, you may drive only once you have good muscular control of the leg to efficiently operate the clutch, and you are cleared by your physician. If you drive an automatic, you may drive once you can comfortably get in and out of a vehicle.
- **RIGHT knee surgery:** you should not drive until you have good muscular control of the leg and are able to brake quickly, and effectively, and you are cleared by your physician.

Exercises: It is important to complete your prescribed **home exercises (on pages 7-9) at least twice a day**. Your physical therapist will also help you improve your range of motion at your knee (how far you can bend and straighten the knee). It is very important to also perform exercises on your own every day. **Starting your home exercise program prior to surgery is also beneficial to a better outcome after surgery.**

Post-Surgery Precautions:

- **Using Walker:** Use your walker whenever you are walking or standing. Do not use walker to pull yourself up from sitting position; it is not stable. Rather, push yourself up with one hand, and grab walker with other hand. Use a small grocery bag tied to walker to carry belongings; do not lift or carry items while walking.
- **Entering Vehicle:** To enter passenger seat in car; push seat all the way back. Back up to seat using walker, then reach backwards to feel the chair seat and slowly start to lower yourself, reaching back with other hand as you sit.
- **Stairs:** "Up with the good leg, down with the bad." To go up stairs, step up onto first step with your non-surgical (good) leg, then follow with your surgical (bad) leg, and opposite for going downstairs (bad leg first). Use walker for a curb/single step only. Use handrail or cane for support instead of walker on stairs or multiple steps.



"Up with the good leg."

Other:

- **Get into bed** with non-surgical leg first, and out of bed with surgical leg first.
- Avoid cords, small pets, and remove throw rugs to minimize risk of falling.
- **DO NOT drive** until cleared to do so by your doctor (*reference above for more driving details*).
- Ensure you have adequate room at the side of your bed to walk with walker.
- Avoid pivoting or twisting on the surgical leg & avoid walking on slippery or unstable surfaces.
- Avoid pushing yourself to exhaustion with activity & avoid reaching far overhead or down low.
- To minimize risk of injury, *slide* any bowls, containers, pots, pans, along the counter. Do not carry them.

Incision / Bandage / Bracing

Incision Site

- Keep incision (surgical wound) clean and dry until your 2-week follow-up visit.
- Wear clean clothing and use clean bedding to avoid infection.
- Remove ace bandage (only) to look for any signs of infection, including presence of drainage, excessive redness, and for large amounts of swelling or bruising. **DO NOT** remove the adhesive surgical bandage. Leave the adhesive dressing in place (*example adhesive bandage shown in picture on right →*).
- Do not apply any creams, lotions, or ointments to the surgical knee.
- If bloody drainage is noted coming from the surgical wound after you return home, **CALL US IMMEDIATELY** at (928) 773-2280.



Surgical Adhesive Bandage

- Keep the bandage in place until your 2-week post-operative visit in the office.
- If you feel the bandage needs to be removed, call Flagstaff Bone and Joint or consult with your physical therapist at your next session. Your physical therapist can assist in removing the bandage (if needed) and instruct you on further dressing/bandaging of the surgical incision.

Thigh-High Compression Stocking

- Must be worn 24/7 for 2 weeks on non-surgical leg to help prevent blood clots.

Knee Immobilizer Brace

- If your surgeon prescribed you a knee immobilizer brace, wear brace **only while walking & sleeping**.

Post-Surgery Timelines

Most people can return to work doing seated duties within 1-2 weeks as tolerated. You should expect post-surgery pain, which varies for each person. It can take 3 months to 1 year before you're pain free and back to all activities (recovery time varies for each person).

Physical Therapy: it is mandatory to start formal physical therapy **within 3-5 days** after surgery (starting on day 3 or sooner is preferred), unless instructed otherwise. You will continue formal physical therapy until your therapist feels comfortable releasing you to perform exercises on your own. If you are unable to secure travel to physical therapy appointments and need to be admitted to a Skilled Nursing Facility (SNF) after surgery, discuss with your physician.

Follow-up Appointments: please **wear or bring shorts to your post-operative follow-up appointments**.

Below are the typical scheduled follow-up appointments after surgery.

- 2 weeks (with x-rays)
- 6 weeks
- 3 or 6 months (with possible repeat x-rays)
- Annually (with x-rays)

IMPORTANT: although you may feel that you are doing extremely well after surgery, it is important to still attend all routine follow-up appointments at 6 weeks, 3 months, and 1 year from the date of your surgery.

2-Week Follow-Up Visit

During your scheduled office visit at two-weeks post-surgery, you can expect the following:

- Removal of your bandage, and assessment of your surgical incision.
- Evaluation of your pain levels and your day-to-day function.
- Assessment of how far your knee bends and straightens.
- Discussion of discontinuing your compression stocking on the non-surgical leg.
- Likely permission to resume activity as tolerated.

Long Term Expectations

The components of your new knee joint are the result of extensive research, but, like any device, its lifespan depends on how well you care for it. To ensure longevity of your new knee, it is important you take care of it appropriately.

Illness/Sickness: Infections of the knee joint after surgery are not common. However, bacteria from other wounds or infections can travel to, and gather around, the metal components of your knee replacement, infecting the joint. If at any point you become sick with an infection or high fever, you should contact your primary care physician immediately for early treatment.

Deep/Dirty Cuts or Infected Bug Bites: After having a total knee replacement, if you sustain a deep and dirty cut, or have an infected bug bite, you will need to take antibiotics. Please call our office to obtain a prescription.

Future Surgeries: Moving forward, if you undergo *any type* of surgical procedure, no matter how minor, inform your surgeon that you've had a knee replacement.

Sports & Activities: Your new knee is designed for activities of daily living and lower-impact sports. Lower-impact activities (including walking, cycling, and swimming) are highly recommended to stay active and in good health. Higher impact activities (including running, jogging, jumping, heavy lifting, or repeated climbing) may compromise the function and longevity of your new knee and should be avoided.

Home Exercise Program- Page 1

The following exercises will help your recovery from your Knee Replacement. **Perform at least twice a day.**

Ankle Pumps



Bend your foot up and down. Perform this exercise as much as possible throughout the day to prevent blood clotting and reduce swelling. We recommend you have your leg elevated while performing this exercise to help decrease swelling.

Repeat 20 times.

Perform throughout the day while at rest.

Quad Sets (towel under knee)



While seated (or lying on your back), straighten the surgical leg in front of you while pressing the back of your knee down into a rolled towel (or the ground) by tightening your thigh muscles. Hold for 3 seconds, pressing down into the towel or ground, then release. Maintain normal breathing, do **NOT** hold your breath.

Repeat 20 times.

Home Exercise Program- Page 2

The following exercises will help your recovery from your Knee Replacement. **Perform at least twice a day.**

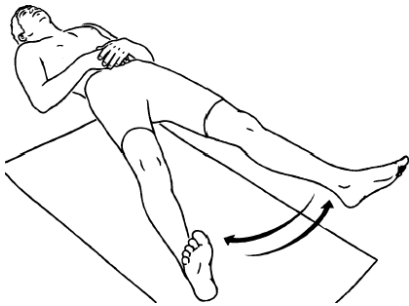
Gluteal Squeezes



Lie on your back. Then squeeze your gluteal (buttocks) muscles, hold for 3 seconds, then release. Always maintain a normal breathing pattern, do NOT hold your breath.

Repeat 20 times.

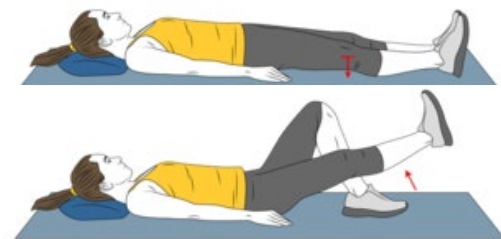
In & Out Heel Slides (hip abduction/adduction)



While lying on your back, slide your surgical leg out to the side, while keeping the toes pointed up and knee straight, not allowing your feet to roll to the outside. Then bring your leg back to the starting point, keeping the toes up the entire time.

Repeat 20 times.

Straight Leg Raise



Lie on your back with the surgical leg flat on the ground. Bend the non-surgical knee and place foot flat on ground. From this starting position, lift the surgical leg up ~12 inches while tightening your thigh muscles to keep the knee straight and toes pointed upwards. Relax, and then repeat.

Repeat 20 times.

Heel Slides



Lie on your back with both legs straight. Then, slide the heel of your surgical leg toward your bottom as far as you can, straighten your leg back out, and repeat.

Repeat 20 times.

The following exercises will help your recovery from your Knee Replacement. **Perform at least twice a day.**

Seated Knee Flexion



Sit upright on a chair or couch. Bend your surgical knee as far back as you can by sliding your foot backwards. Cross your good leg over the ankle of your surgical leg to help bend the knee further. Scooting forward in chair will also help bend the knee further.

Hold position for 20-30 seconds keeping back straight. Relax.

Repeat 5 times.

Seated Knee Extension



Sit upright on a chair or couch with both feet flat on floor. Lift your foot, trying to straighten the surgical knee as much as you can while using your thigh muscles. Hold this position for 1-2 seconds, then relax.

Repeat 20 times.

Seated Hamstring Stretch



Sit on couch or chair with your leg extended. Gently lean forward and pull the ankle up. Stretch until you feel a pull. Hold position for 20-30 seconds. Keep back straight. Relax.

Repeat 5 times.

Weighted Knee Extension Stretch



Prop the foot of your surgical leg onto a chair or stool. Place an icepack on top of the knee. Add 5-10 lbs. to the knee, either by placing weight on top of the icepack, or hanging weight from the knee (pictured). A 5-10 lbs. bag of rice works well for this stretch.

Sit in this position for 20 minutes. This stretch is uncomfortable, but **VERY important**. Bend the knee occasionally for some relief as needed.