

Knee Preserving Surgery: Tibial Tubercle Osteotomy

Dr. James Wylie

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About Open Knee Preserving Surgery

Knee preserving surgery with tibial tubercle osteotomy is done when the surgeon believes that arthroscopic knee surgery will not properly correct the mechanics of the patellofemoral joint and therefore not provide a reliable outcome. It can take longer to recover from compared to arthroscopy but can provide a more durable result in proper patients.

Articular Cartilage Defect

Patellofemoral Ligament Reconstruction

Other

Preparation for Surgery

Time off work – if you are taking time off work, please provide to our office any paperwork you need filled out at least 2 weeks prior to surgery. Include a name and fax number where the documents need to be returned.

- Fax attention “Dr. Wylie Team” 801-314-4919

Typical time frames off work

- 2-4 weeks off work, resting at home is required
- Return to desk job as tolerated by most patients around 2-4 weeks
 - o you may require more and this will be assessed on a case by case basis
- Physical jobs require 3 months off unless you can return with restrictions
- You will need to be prepared to use crutches for up to 6-8 weeks (determined by your PT and /or Wylie) and used at all times. Older patients generally spend longer on crutches due to the time needed for bone healing.

Equipment

- **Crutches:** You may bring them to surgery or a pair will be given to you upon discharge from the hospital. You will be on crutches until you can walk without a limp or pain with walking (typically 6-8 weeks)
- **Ice Unit:** you can obtain motorized ice unit to take home upon discharge or use the gel pack that is provided on discharge. A motorized unit is commonly an out of pocket expense. It is recommended you use as often as able for the first 1-2 weeks. Please keep a barrier/cloth between the skin to keep it from getting too cold.

Young Families

- If you are a caregiver for young children, you will need to arrange help in the first couple of months while you are on crutches and lifting restrictions.

Driving

- You may drive when off narcotics and walking with good control
- Left knee likely to be quicker than right knee
- Your right foot needs to be able to get comfortably from the gas to the brake
- This will likely be 6-8 weeks for the right leg

Medications / Anesthesia

Prior to surgery – if you are taking medications, the nurse at Pre-admissions, will guide you on what you can and cannot take prior to surgery

- Regular use of narcotics prior to surgery will make it more difficult to manage your post-operative pain
- We strongly recommend you reduce or stop narcotics prior to surgery

Post - operative medications

Narcotics:

- Standard protocol is Oxycodone. You will need to let Dr. Wylie know if you cannot take Oxycodone as Hydromorphone is our standard alternative.
- Narcotics are given for acute post-operative pain. After the two weeks, pain is best controlled by anti-inflammatories, Tylenol, rest, ice and modification of activity. Infrequent use at night to sleep is common for the first month.
- These are addictive and we try to minimize use to what is needed.

Anti-inflammatories:

- Meloxicam is normally prescribed for the first 2 weeks to help with pain and inflammation

Tylenol:

- If you were prescribed Oxycodone, then there is no Tylenol in that and you can take Tylenol 1000mg three times daily.
- Maximum of 3000 mg in a 24-hour period.

Aspirin:

- This is given twice a day (81mg) for DVT (blood clot) prevention for 30 days
- Eliquis is used when the patient has a history of prior DVT or is predisposed

Supplements:

- Calcium and Vitamin D are encouraged during the first 3 months post-operatively to assist with Bone healing. This is especially important after osteotomies and in patients with known Vitamin D Deficiency or during the winter.
- If there is difficulty with appetite or limited protein intake, then a meal supplement like Ensure is encouraged to assist with tissue and bone healing.

Pain medication side effects

- Constipation.
 - o Take over-the-counter stool softeners (Colace am and pm while on pain medications as needed). Miralax daily and Drink at least 8 glasses of water a day during the first couple weeks following surgery. Hold constipation meds if loose stools develop.

Day of Surgery

General anesthesia

- You will meet the morning of surgery with the anesthesiologist
- Discuss any concerns you have about medications during surgery at that time.
- General anesthesia can cause nausea and difficulty with memory for the first several days
- A nerve block can be commonly performed along with the anesthesia to assist with pain control during and acutely after surgery

Length of surgery

- Estimation of surgery: 1-2 hours depending upon the surgery performed
- Cartilage transplant or ligament reconstruction can make the surgery last longer than just the TTO.

First week at home

Showering

- Leave surgical dressing in place for 3 days after discharge
 - o If water gets underneath the dressing, please remove the dressing and change daily with dry gauze
- **Please do not put any lotions or ointments on the area.**

Crutches

- 30% WB using 2 crutches at least 4-6 weeks depending upon the surgery and PT/Dr. Wylie will wean you based on function and X-ray healing if an osteotomy was performed

Signs of infection

Call 801-314-4900 (24/7)

- Fever greater than 101 degrees F, Redness beyond the incisions, Worsening / intolerable pain and possibly – nausea, pus or smelly discharge

Rest

- Ice for the first week home when you are not taking care of basic needs or doing your physical therapy) to manage post-operative inflammation / swelling.
- Put layer (pillow case) between your skin and ice pad
- I.e.: For every 30 mins. you are up, lie down for the next 1.5hours

Home therapy program?

- You should begin within the first 24-48 hours. (Page 10)
- If your pain is increasing more than 2 points on the scale of 0-10, back off of your stretches by being less aggressive or reducing the number of reps.

Post-operative pain

- Pain is individual, however, it is recommended you take your pain medication as prescribed for the first week.
- Ice is a natural analgesic: ice for the first 1-2 weeks continuously to control pain and swelling

Post-Operative Expectations

Recovery time

- You will feel 60-70% by approximately 3 months (for the average patient).
- Patient commonly return to sport at 6-10 months after surgery.
- It will take up to a year to work toward full recovery for most patients.
- Complete relief from pain and return to all desired activities might not be a realistic goal depending upon your knee findings during surgery. This is linked to the level of wear in your knee.
- When you experience a setback or begin limping again – go back onto your crutches

0-6 weeks: activities for grooming, bathing and general light activity in the home / desk job at 2-4 weeks / no more than 30 mins continuously without rest in community after the first week
Crutches for most procedures 6-8 weeks. Off when you are not limping

- **Pain changes in 3 ways – Frequency, Intensity and Duration as you move toward pain-free.**

6-10 weeks: light activities in the community, up to 30-60 mins duration of community ambulation / light house work / no heavy lifting at home or work. Crutches for most procedures 6-8 weeks.

- Guided gym activities – cycling with no resistance, swimming (if wound fully healed) and upper body. Lower body as guided by PT based upon your hip symptoms.

8-12 weeks: Progressing to normal ambulation, moderate activity in the community (1 hour walking), at work (up to 10 lbs. carrying or lifting, and at home moderate house work but no twisting. Light to moderate gym activity with guidance.

12 + weeks: ramping up of activities / hobbies as pain dictates. Sport specific training. Do not jump or run prior to 16 weeks.

- All procedures may begin higher level activities or return to walk/jog program if approved by therapist / MD

Home Exercise Program

Begin the day you go home from the hospital and continue for the 1st week - Complete your HEP every 2-3 hours while you are awake.

Ankle Pumps - For Blood Clots

- Laying on your back, move the ankle through full range of motion. Complete 10-15 reps 6 times per day. **START THESE WHEN YOU WAKE UP FROM SURGERY**
- TED hose knee high both legs for first week



Quad Sets

- Place towel under back of the knee. Push knee into the towel contracting the quadriceps. Hold for 5 seconds. Complete 10-15 reps 3-4 times per day



Glut sets

- Laying on your back, contract your gluteal. Hold for 5 seconds. Complete 10 reps 3-4 times per day



Crutch Ambulation

- Crutch walking as tolerated helps you feel better by being up and active

Early Pitfalls following Open Knee Surgery

Joint swelling / edema

- Early weight-bearing without crutches can significantly delay your recovery or cause the bone to not heal
- Persistent swelling / edema will prevent successful transition to normal daily activities and return to higher level activities
- This delay can add an additional few weeks to few months to your rehabilitation, resulting in longer time frame with pain, higher usage of pain medications

Range of motion

- Delay in restoring your symmetric motion is directly related to joint swelling /edema.

Too much too soon

- Activity progression: if activity is ramped up too quickly, you may experience soft tissue pain. This is most commonly associated with overload /overuse.

Satisfaction Surveys

Part of your TOSH experience will include receiving a survey in the mail to assess how satisfied you were with your physical therapy and physician visits. These surveys are a valuable asset to our team to know what we are doing well and how we may improve to better serve future patients. We appreciate you taking the time to respond to these.

Ice Gel Pack Wrap

You will go home with an ice gel pack unit for your knee.

The placement of the pad

- Anterior on the knee. The straps go around your upper and part of your knee.
- The Velcro should be snug but not restrictive
- Place either the white pad or a pillow case between the pad and your skin

Precautions

- Make sure a barrier is between you and the pad. Burning from the cold is possible if you do not have enough of a barrier.
- Take off to walk

Purpose

- To help control soft tissue edema and joint swelling
- To help knock down pain 1-2 points on a pain scale
- Important after 1st week to manage increased evening and night time pain

How to Use Crutches

Walking with Crutches

1. You should bear the weight on your hands and not lean on the crutch pads at the armpits when walking.
2. Place crutches forward first.
3. Move your injured leg forward and place heel down landing in line with crutches.
4. Shift 30% of your weight onto surgical leg and push down on crutches to “unload” weight as needed
5. Step through with healthy leg.
6. Roll over toe and bend knee to move your injured leg forward again.
7. Go slowly at first.



Going Up Stairs

1. Approach step closely.
2. Place your health leg up on the step – keep your injured leg and crutches on the ground.
3. Place your weight on your healthy – step up.
4. Bring the crutches and surgical leg up to same step.

Going Down Stairs

1. Approach edge of stair closely, and place weight on healthy leg.
2. Lower crutches and step down leading with the involved leg.
3. Shift your weight to the crutches and injured leg.
4. Carefully place your healthy down on the step.

REMEMBER: UP WITH THE GOOD...DOWN WITH THE BAD

Research Team

Dr. Wylie and physical therapy will be asking you to fill out many forms.

- We use forms in assessing how you are doing pre-surgery, post – surgery and after you are discharged from formal care
- We will send you forms after you are discharged from formal therapy; you will receive one of these at 12 months post-op and yearly thereafter post-op.
- Please help us by filling these out and returning especially after the 12 months mark. You will receive these via email or mail and it will include a self-addressed envelope stamped.
- These forms, especially when you are discharged from formal therapy, are reviewed by your therapist and Dr. Wylie. We will contact you if we have questions or concerns about your scores.

Phone Numbers

Dr. West/Wylie's Office

801-314-4900

Contact MD office if you go to the emergency department post operatively, need medication refills, have problems with your pain medications or other post- operative concerns - Reaches the MD on call.

- **Office Hours: Monday – Friday 8:30 am – 4:30 pm**

Physical Therapy Department at TOSH

Structured Physical Therapy will normally start 1-2 weeks after surgery.

**Physical therapy Office Number:
801- 314-4040**

**Mon, Tues, Wed, Thurs 8:00 -5:00
Fri 8:00 – 3:00**