

Explanation of Procedure and/or Diagnosis

High tibial osteotomy is a surgery that is indicated to treat deformity of the knee caused by sports injuries, trauma, rickets and poliomyelitis. Deformity at the knee can eventually lead to premature wear and tear, reduced function, and accelerate knee osteoarthritis.

Conservative treatment includes a variety of non-surgical options.

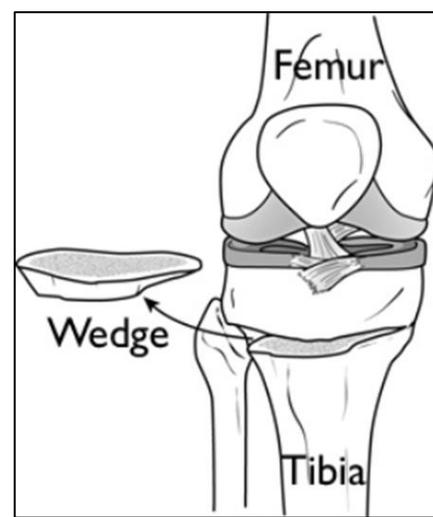
- Pain medication, NSAIDs, viscous-supplementation and other medications and supplements
- Use of cane/assistive device
- Knee bracing may be helpful

Typically, this condition will progress/become worse with time.

High tibial osteotomy is a surgical procedure utilized to restore alignment of your knee. The intent of surgery is also to improve mechanical alignment and muscular line of pull, reduce pain, improve quality of life, improve function, and potentially prolong the life of your natural knee joint. Most patients experience significant objective (strength, range of movement, function) as well as subjective (pain) improvement. Over time, the pain may gradually return in some patients.

Many different techniques of HTO exist. Each technique has its pros and cons and no technique is applicable to all situations. It is important that you and your surgeon review what, if any, of the options are best for you and your individual situation.

The most common procedure is the wedge osteotomy. This procedure involves taking a wedge of bone from the outer side of the tibia (shinbone). This helps to position the bone and allow weight to pass through the outer undamaged part of the knee.



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Preparing for surgery

Once you have made the decision to proceed with surgery and have chosen a date for your procedure, it is time to start planning for the procedure and your recovery. It is best to prepare early. Arrangements should be made to meet with the following people before your surgical date:

- **Orthopedic Surgeon:** Your surgeon or PA will meet with you a few days before your scheduled surgery to finalize plans and answer any remaining questions you may have. The procedure, including risks and benefits, will be explained thoroughly to ensure complete understanding.
- **Primary Care Physician:** We would like you to see your primary physician for medical optimization and clearance before your surgical procedure. Your primary doctor will review medical risk factors you have for surgery, discuss your medications, and make appropriate changes. Please call for an appointment with your primary physician after choosing a surgical date. You will need laboratory tests and other studies before surgery. If you have questions about what tests you need before surgery, our surgical schedulers can help you.

Medications

There are some medications that are important to stop before surgery. If you are taking any of the medications below, please discontinue them as indicated, unless otherwise discussed with your surgeon. Some medications cannot be stopped due to medical conditions; your surgeon and primary physician will address this.

- Aspirin and aspirin containing products: 10 days before surgery
- Non-Steroidal Anti-Inflammatory (NSAIDs): seven days before surgery
This includes: Ibuprofen, Advil, Naprosyn, and Aleve
- This does NOT include: COX-II inhibitors such as Bextra or Celebrex
- Coumadin (Warfarin): usually five days before surgery. This needs to be discussed with your primary physician. For some patients, “bridge therapy” with low- molecular weight heparin injections (Lovenox) may be beneficial between the time you discontinue your Coumadin and the date of surgery. A blood sample may be drawn the morning of surgery to check your blood’s clotting ability.
- Steroids and Immunosuppressant’s (e.g. Prednisone, Arava, Enbrel, Methotrexate, etc.): Optimal to discontinue before surgery, but this will be discussed between you, your surgeon, and your primary physicians.

Stop Smoking

If you are a smoker, we recommend you stop smoking before surgery and continue as a non-smoker until your wound heals, or give up smoking all together. Smoking affects your body in many negative ways, including: decreasing your body’s ability to heal your wound, fight infection, and prevent medical complications.

Change in Medical Condition

If there is any change in your medical condition before surgery, such as fever, cough, vomiting, diarrhea, skin breakdown, or other concerns, please notify your primary physician and your surgeon.

The Night before Surgery: Do’s and Don’ts

- Do take a shower the night before surgery; lightly scrub your affected knee and entire leg with the chlorhexidine scrub that you can buy at your local pharmacy. Wash the rest of your body with anti-microbial soap and water. Do not apply any lotion or ointments to the skin on your affected leg.
- Do eat a light meal the night before surgery.
- Do pack a hospital bag with your necessities such as your personal care items, non-skid slippers, a comfortable robe, and an outfit to wear home. A jogging suit, sweat pants, or loose fitting slacks would be most suitable. It is also a good idea to bring some reading material or activities to do during your hospital stay.
- Do bring all of your medications in their bottles to show your nurse.
- Do remove all nail polish.
- Do bring your walker to the hospital before discharge so you can trial it with the therapist.
- Do NOT shave the area of surgery. If necessary, your surgeon will take care of it in the operating room.
- Do NOT eat or drink anything after midnight. When you arise in the morning, you may take your morning medications with a small sip of water.
- Do NOT bring any jewelry, cash, credit cards, or important items with you to the hospital. It is best these stay safe at home.
- Do NOT take your own medications in the hospital unless specifically told to do so.

What to expect at surgery

Morning of Surgery

Complete your usual morning routine the day of surgery including taking your instructed medications with a small sip of water. It is best to leave your skin clean and not apply makeup or any heavy lotions. Arrive at the hospital at your instructed time, ready for surgery.

At the Hospital/Surgical Center

You will be checked in by the surgical staff and brought to the preoperative area to prepare for surgery. Here you will be asked to change into a hospital gown with support stockings. All your personal items will be marked and placed in a bag for you after surgery.

Once you are dressed, your nurse will take a complete set of vitals including blood pressure, heart rate, temperature, respiratory rate, and oxygen level. An intravenous line will be placed to administer fluids into your vein. Because you have been fasting, your body will require fluid supplementation through this intravenous line. It is also an access to administer medications during and after surgery.

A member of the anesthesia team will meet with you in the preoperative area. They will discuss with you the available types of anesthesia, recommendations, and answer any questions you may have.

Before being transported to the operating room, your surgeon will mark your operative site. It is also a good idea to empty your bladder before going to the operating room.

There will be a designated area for your family and friends to wait while you are having surgery. A surgical communicator will be available to keep your family and friends aware of your progress. Your surgeon will contact them shortly after the completion of surgery.

Diet

Once you are alert and feeling well, you may begin taking oral liquids such as ice chips and water. If you tolerate this without nausea, you can order a light meal the night of surgery or the following day. It is important to advance your diet slowly. If you do become nauseated or vomit, you should stop eating and notify your nurse who can administer medications to relieve this. Restart with liquids once you are feeling better. You must tolerate a regular diet before you leave the hospital.

Circulation

It is important to promote circulation after any surgery, especially after orthopedic surgery. This will help decrease your chance of forming a blood clot. Immediately after surgery, you will have a surgical dressing on your operative leg and a support stocking (TED hose) on your non-operative leg. On postoperative day two, your surgical dressing will be removed and your new dressing held in place by a TED hose. You should wear your support stockings (TED hose) throughout your stay and for the following six weeks.

Depending on any other medical conditions and risk factors, you may or may not be started on a blood thinner. Your orthopedic surgeon will specifically evaluate this.

Activity

The evening of surgery, the nursing staff will help you get out of bed and up in a chair. They will discuss activities you can do on your own to encourage motion and promote circulation. The physical therapist will also see you the evening after surgery and help you ambulate. You will be fitted for an appropriate gait aid to assist you during recovery.

Throughout your hospital stay, you will be encouraged to work on your exercises in your room and ambulate through the halls. In the beginning, you will likely need assistance when transferring from the bed, completing your daily tasks, and ambulating. The nursing staff is available to help you. Your family and friends may also participate in your care and help you with your activities.

Care After Surgery

Physical Therapy:

Physical Therapy is one of the most important factors in the recovery from HTO surgery. Once surgery has been completed, a physical therapy program will be started immediately. Full rehabilitation is a long process that requires hard work and attention to detail, however, this is necessary to help you regain function of the knee. The program is designed to first regain motion of the knee, then to regain strength and coordination of the leg, hip and trunk, and finally the therapists will work with you to allow you to return to the activities/sports that you enjoy and work related activities that you require.

You will not be bearing weight through your leg for 6 weeks and will have a brace on your knee. During this time, you will be using crutches or a wheelchair. You can expect to be in physical therapy for three to six months (depending on your specific case), and can expect to return to sports between four and six months after surgery (again, depending on your case).

Medications

Pain Management

After surgery, it is normal to have pain or discomfort. Inform your nurse if you are uncomfortable and they can administer appropriate medications. You may be asked to rate your pain on a scale of 1-10, with 10 being the worst pain ever. If your pain is not being relieved with the ordered medications, your surgeon should be notified. The goal is to control your pain so that you can begin aggressive therapy immediately after surgery and start on the road to recovery.

If you are not nauseated after surgery, you will be able to start on oral pain medications immediately. Otherwise, you may receive intravenous medications. By postoperative day one, we would like to have your pain managed by oral pain medications. With new surgical techniques including smaller incisions, less invasive surgery, and local anesthesia, patients have less postoperative pain that can be treated with lower dose pain medications. This allows you to feel less groggy and be more active with therapy.

Antibiotics

Antibiotics will be administered through your IV before and after surgery. Usually patients will receive antibiotics for the first 24 hours after surgery. Antibiotics are important to reduce your risk of infection after surgery.

Recovery

The success of your surgery will depend in large measure on how well you follow your orthopedic surgeon's instructions regarding home care during the first few weeks after surgery.

Wound Care

You will have stitches or staples running along your wound or a suture beneath your skin. The stitches will be removed approximately 2 weeks after surgery. Avoid getting the wound wet until it has thoroughly sealed and dried. A bandage may be placed over the wound to prevent irritation from clothing or support stockings.

Diet

Some loss of appetite is common for several weeks after surgery. A balanced diet, often with an iron supplement, is important to promote proper tissue healing and restore muscle strength. Be sure to drink plenty of fluids.

Activity

Exercise is a critical component of home care, particularly during the first few weeks after surgery. Your weight bearing will be restricted generally for about 6 weeks following surgery, limiting some of your activities accordingly. Some discomfort with activity and at night is common for several weeks. Your activity program should include:

- Specific exercises several times a day to restore movement
- Specific exercises several times a day to strengthen your hip joint

Avoiding Problems After Surgery

Blood Clot Prevention

Follow your orthopedic surgeon's instructions carefully to minimize the potential risk of blood clots, which can occur during the first several weeks of your recovery.

Warning Signs

Warning signs of possible blood clots include:

- Pain in your calf and leg that is unrelated to your incision
- Tenderness or redness of your calf
- Swelling of your thigh, calf, ankle, or foot

Warning signs that a blood clot has traveled to your lung include:

- Shortness of breath
- Chest pain, particularly with breathing

Notify your doctor immediately if you develop any of these signs.

Ongoing Care

A member of the surgical team would like to see you back two to three weeks after surgery for a wound check and suture removal. At approximately eight and 16 weeks postoperatively, you will return for radiographs followed by an examination. If needed, your surgeon may ask you to return for a recheck at a time other than stated above. Each patient is an individual and may require a different follow-up schedule. Your first follow-up visit is usually arranged before surgery. If you did not receive an appointment or are unsure of your follow-up, please call our office.

Questions

The CORE Institute is dedicated to your outcome. If any questions or concerns arise, please call The CORE Institute at 1.866.974.2673.