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Posterior Tibial Tendon Tear/Insufficiency/Rupture
PTTD Posterior Tibial Tendon Dysfunction
Flatfeet Deformity, Pes Planus, Fallen Arches

Fallen arches or flatfoot deformities can be a painless condition you have had all your life. It also may be a result of a traumatic injury. Flatfoot deformities involve the posterior tibial tendon, which runs down the inside of the ankle/back of calf and across the instep of the foot. The main function of this tendon is to support the arch and help to lift the heel off the ground during walking. Stretching or rupturing of this tendon can lead to collapse of the arch, which will most likely progress over time.

You may experience pain over the tendon as well as the outside of your foot due to the flat foot deformity progression. Eventually the muscles/tendons of the foot are unable to support the height of the arch and unable to maintain good alignment of the foot. Onset may be slow and progressive or abrupt.

Diagnosis is made after clinical evaluation. X-rays and an MRI scan also assist in the diagnosis and treatment options.

Conservative treatment such as a good supportive orthotics, activity restrictions, and anti-inflammatories can help decrease pain symptoms and slow progression of the deformity in early stages of PTTD. Physical therapy and immobilization of the foot/ankle in a brace or cast are also all temporary options. The goal of these treatments is to take stress off the tendon, decrease pain, and maintain good alignment of your foot.
Steroid injections are not recommended due to the increased risk of tendon rupture after the injection. If your flatfoot deformity and pain symptoms continue despite conservative management, surgical reconstruction is recommended.

Surgery

The surgical treatment includes reconstruction of the torn or degenerated tendon and correction of the arch in your foot. It is common for another tendon to be transferred from another part of your foot to repair the posterior tibial tendon. A torn or degenerated tendon may not be able to be repaired by sewing the torn tendon together. Your surgeon will use a tendon from the bottom of your foot and attach it to the bone so that your new tendon can function as the old, torn tendon.

In conjunction with the tendon transfer described above, a procedure called a calcaneal osteotomy or heel slide is performed. During your foot examination you will notice your heel tilting out causing your arch to sag or fall. If this is the case, your heel will be m repositioned to properly align your foot and therefore increase your arch.

Posterior tibial tendon repair surgery requires a lengthy recovery, however, if left untreated is likely to progress and affect your ability to walk.

A bone graft or small piece of bone from your hip (iliac crest) and/or iliac crest stem cells may be used in the surgery to help correct your flatfoot deformity and incorporate bone healing. This requires an incision about 1.5-2 inches along on your hip. Some patients complain of temporary, postoperative hip soreness, which can be managed by pain medication.

The main goal of your surgery is to decrease pain symptoms, get the best possible correction of your flatfoot deformity, and cause as little of an inconvenience to you and your family as possible. The surgery itself takes anywhere from 3-5 hours depending on your deformity.

Your foot reconstructive surgery is done at the **Hospital for Special Surgery**, which is located at 535 East 70th Street between York and the river. You will arrive at the hospital the day of surgery and will stay at least 2 nights. The type of anesthesia used is usually an epidural/spinal anesthesia where an anesthetic block is administered which numbs the area below your waist. You will speak to the anesthesiologist prior to surgery to discuss pain management options. You will have an intravenous (IV) running throughout the procedure.

Preoperative Medical clearance
You will need to have preoperative screening done at the Hospital for Special Surgery. This includes lab work, a chest Xray and EKG (if indicated) as well as a physical examination by an HSS Medical Doctor medically clearing you for surgery. If you have any previous medical problems, please call Dr. Deland's Nurse Practitioner, Kristine, prior to surgery.

Crutches/Walker/Roll-A-Bout
Most posterior tibial tendon surgeries require you to be non-weightbearing for the first **8-10** weeks after surgery. This means you will use crutches or a walker to keep all your weight off the operative foot. The Roll-A-Bout device is a 4-wheeled walker that you can order which may be easier depending on your lifestyle needs.

Before Surgery
Do not eat or drink anything after midnight the night before surgery. You may take your high blood pressure medications with a small sip of water. Stop all aspirin, Ibuprofen, Advil, Motrin, Aleve, Naprosyn or any other Nsaids (non-steroidal anti-inflammatories) one week before surgery. These medications thin your blood and may delay bone

healing. Mobic/Celebrex should be discontinued one week prior to surgery. If you take Prednisone or any other steroid, the dosage should be reduced as much as it is safely possible as steroids delay wound and bone healing. Any Rheumatoid Arthritis medication such as Enbrel, Remikade, or Methotrexate should be stopped 1-2 weeks before and after surgery. If you take a blood thinner such as Coumadin, please let us know and we will speak to your primary care physician about safely stopping it.

Swelling and Elevation
You should spend the first 10-14 days after surgery elevating your operative foot. This means you keep your toes above your heart or at the level of your nose 90% of the time. You may get up to use the restroom and eat your meals but the majority of the postoperative period should be elevating your leg. This elevation helps decrease pain, decrease swelling, and therefore decrease the risk of infection. During the third week, you should elevate the foot about 60-70% of the time. Your foot will begin to throb, swell, and become more painful if you are not elevating it enough.

Pain Control (see Postoperative Pain Medication handout sheet)
In the first 24-48 hours after surgery, you will use a PCA (patient controlled anesthesia) for pain management. You can control your pain medication through an IV in which you press a button when pain medication is needed. As your postoperative pain subsides, you will start pain medication by mouth. Do not take your pain medication on an empty stomach. You may be given a prescription medication, Vistaril (Hydroxyzine Pamoate), which may be taken with your pain medications to decrease nausea caused by the pain medications. **Take 1-2 Advil 200mg every 4-6 hours with food for the first 3 days after surgery.** This will help decrease pain symptoms and postoperative inflammation. After postop day 3, do not take Advil, Ibuprofen, or any other NSaids (non-steroidal anti-inflammatories) because these medications may delay bone healing.

Anti-Depressant Medication
SSRI Anti-Depressant Medications have an adverse affect on bone healing. If possible, please take the lowest and safest dosage of SSRI meds. If you would like us to speak to your prescribing doctor, please call the office.

Bathing
It is crucial that your splint remain dry and intact during the first 2 weeks after surgery. We recommend a "bird bath" for the first 2 weeks. You may also obtain a plastic cast covering called **Seal Tight** (purchased at your local surgical supply store or at our office) to cover your dressing so you can sit and shower. If your splint/cast gets wet please call and come in for a new cast.

Work
If you have a sit down job you may return to work 10-14 days after surgery. Jobs that require standing or moving around should be returned to later and we can discuss this.

Commuting to work on a crowded subway, train, or bus is not recommended while you are non-weight bearing.

Blood thinner/Coumadin Therapy
If you are overweight, have a history of blood clots/phlebitis, smoke, or take hormone replacement therapy, you may be at a higher risk for a postoperative blood clot due to the use of a cast. Your medical doctor and Dr. Deland may put you on an Aspirin daily, Lovenox injections daily, or Coumadin therapy (a blood thinner) to prevent post operative blood clot complications while you are in a cast or boot. If you are started on Coumadin, you will need to have a blood test done 1-2 times a week to monitor the dosage of Coumadin. Your medical doctor will follow these blood tests post operatively.

Hardware/Screws/Temporary Pins Removal
Posterior Tibial Tendon surgeries require the use of stainless steel screws, wires, and temporary pins which are required for adequate fixation of your foot deformity correction. Some of the temporary pins can be taken out in our office after 3-6 months. We take an x-ray of your foot, give you some local anesthesia, and remove the temporary pins. Some of the screws/wires need to be removed in a minor procedure room at the hospital. This is usually done at least 6 months after your surgery and only if the hardware bothers you. You will be able to start weight bearing after the procedure, and schedule an appointment 2 weeks after for suture removal. This hardware may or may not set off airport alarms. You can obtain an airport hardware card in the office.

Vitamin D Level
A normal Vitamin D level is imperative for good bone healing after surgery. Your Vitamin D level will be checked prior to surgery. It is recommended you take over the counter Vitamin D3 1000mg 1-2 daily after surgery.

Dental work after surgery
Due to the hardware in your foot, you will need prophylactic antibiotics an hour before any dental procedures the first 6 months after surgery. After 6 months, pre dental work antibiotics are not necessary.

Driving
If your surgery is done on the right foot, we do not allow driving for 10-12 weeks. If the left side is operated on, you may drive after 3-4 weeks.

Physical Therapy
Physical therapy for upper body strengthening and unoperative leg strengthening is fine postoperatively, however, we will delay formal PT until 8-10 weeks after surgery for the operative leg. We will teach you exercises to do on the operative foot when it is appropriate.

Shoewear
Approximately 14-16 weeks after surgery, you can start progressing to wearing a sneaker or a shoe. Sometimes swelling lasts for up to 9-12 months so a wider, larger size sneaker or shoe may be necessary.

Scar Healing (see Scar Healing handout)
Once cast is removed, you may use silicone gel strips, Vitamin E, Cocoa Butter, etc. for scar healing.

Complications
With any type of a surgery there is a small chance of a wound infection, nerve damage, and residual pain symptoms. If a wound infection does occur, we will treat you appropriately with antibiotics and/or surgery. Recurrence of flat foot deformity can occur in a small percentage of patients, however, this is extremely rare.

Patient Contact
If you would like to speak to a patient whose has had PTT surgery, please email or call Kristine for post op patient contact information.

Surgical correction of flatfoot deformities should give you substantial pain relief and greatly improve your foot alignment. We are committed to your receiving excellent care. Do not hesitate to call with any concerns you may have regarding your surgery. If you have any questions or problems, call Kristine Viscovich, Nurse Practitioner or Dr. Jonathan Deland at 212-606-1665 or e-mail viscovichk@hss.edu

Posterior Tibial Tendon Repair

Post Operative Visits	First Visit 12-14 days after surgery	Second Visit 7 weeks after surgery	Third Visit 10-12 weeks after surgery	Fourth Visit 16-18 weeks after surgery	Fifth Visit 5-6 months after surgery	12 months after surgery

Treatments	You will be seen by the Nurse Practitioner, Kristine Stitches/ Staples will be removed A nonweight bearing fiberglass cast will be applied You will remain non weight bearing on operative foot for next 6 weeks after surgery Use crutches/ Walker/ Roll-a-bout	You will be seen by Dr. Deland and Kristine CT Scan is usually done to assess healing. Your cast is removed and a non weight bearing foot Xray is done if healing ok, a removable boot is applied and you will progress your weight bearing at the 8-10 week point. Occasionally, a wb cast is applied for a few weeks prior to removable boot Exercises for Range of Motion begin.	You will seen by Dr. Deland and Kristine A non weight bearing foot Xray is done Progress weight bearing in removable boot You may continue to have swelling of the operative extremity until 9-12 months after surgery	You will be seen by Dr. Deland and Kristine Weight bearing foot Xray Usually progress to wearing sneakers/removable boot A CT scan may be planned to reassess healing of the bones	You will be seen by Dr. Deland and Kristine Weight bearing foot Xray Orthotics may or may not be recommended Minor procedure may be planned to remove hardware/screws from foot If screws/wires are removed, you will wear a postoperative dressing and sandal for 2 weeks. At 2 weeks postop, the sutures are removed and you will progress to a sneaker	You will be seen by Dr. Deland and Kristine Weight bearing foot Xray A repeat foot pressure/ gait analysis will be scheduled

**** This is an approximate postoperative timeline. It may vary slightly with each patient****