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## Posterior Tibial Tendon Problems



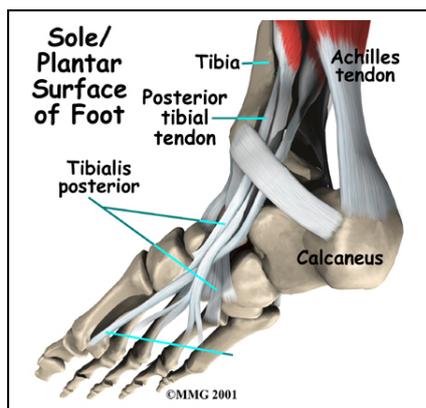
Posterior Tibial Tendon Problems

Because we use our feet continuously, tendonitis in the foot is a common problem. One of the most frequently affected tendons is the posterior tibial tendon. Most commonly seen in middle aged patients It is a common cause for acquired or adult onset flatfoot

### Where is the posterior tibial tendon, and what does it do?

The posterior tibial tendon runs behind the inside bump on the ankle (the medial malleolus), across the instep, and into the bottom of the foot.

The tendon is important in supporting the arch of the foot and helps turn the foot inward



### How does tendonitis of the foot develop?

Problems with the posterior tibial tendon seem to occur in stages. Initially, irritation of the outer covering of the tendon, called the paratenon, causes **paratendonitis**. This means the tendon is inflamed where it runs through the tunnel behind the medial malleolus.

As we age, our tendons can degenerate, or wear down and weaken over time. Degeneration in a tendon usually shows up as a loss of the normal arrangement of the fibers of the tendon. **[Tendinosis]**

The weakened tendon sets the stage for the possibility of rupture of the tendon. Tendonosis may develop into tendonitis if the weakened area becomes inflamed.

Because of weakness of the tendon, foot rolls out [**valgus deformity**] at the heel.  
Last change: is **arthritis** of the heel and ankle joint

### **What does tendonitis of the foot feel like?**

- Pain and swelling on the inside of the ankle
- Loss of the arch and the development of a flatfoot
- Gradually developing pain on the outer side of the ankle or foot
- Weakness and an inability to stand on the toes
- Tenderness over the midfoot, especially when under stress during activity
- Foot rolls out and increase pain over the outer aspect of the foot
- In some difficult cases, a magnetic resonance imaging (MRI) scan is necessary
- X rays : looks for any evidence of arthritis of the joint [Ankle and subtalar]

### **Nonsurgical Treatment**

1. The use of a firm arch support inserted into your shoe.
2. Anti-inflammatory medications, such as ibuprofen or aspirin.
3. A cortisone injection, sometimes used to ease inflammation

### **What should I expect following treatment?**

May benefit with physical therapy treatments. Treatments directed to the painful area help control pain and swelling. Examples include ultrasound, moist heat, and soft-tissue massage. Therapists design stretches to improve flexibility in the calf muscles and to encourage healing in the posterior tibialis tendon.

Exercises to strengthen the posterior tibialis muscle and the small muscles within the feet (the intrinsic) help support the arch. Therapists also design orthotics to support the arches of the feet. Wearing orthotics in your shoes may allow you to resume normal walking immediately, but you should probably cut back on more vigorous activities for several weeks to allow the inflammation and pain to subside.

### **Surgery**

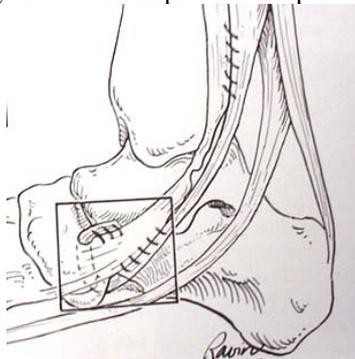
#### **1. Tendon Debridement**

If the problem appears to be primarily tendonitis with thickening of the tissue around the tendon (the tendon sheath), a tendon debridement operation can be performed to remove the thickened tissue around the tendon. This is done to try to decrease the symptoms of pain and to prevent rupture of the tendon.

This procedure is usually done through a small incision in the instep of the foot just over the posterior tibial tendon. The surgeon simply identifies the tendon and removes the thickened tissue.

#### **2. Tendon transfer:**

A badly degenerated or a ruptured tendon may require a tendon transfer. Usually, another tendon in the foot, such as the tendon that flexes the four smaller toes (the flexor digitorum longus), is used as a tendon graft to work in place of the posterior tibial tendon.



#### **3. Fusion**

A fusion is an operation where a joint between two bones is removed and the two bones on either side of the joint are allowed to fuse.

This type of operation is used to stop pain from joints that are worn out. It can be used to realign the bones when the mechanisms for maintaining normal alignment are lost, such as when the tendons and ligaments no longer work properly.

**4. Osteotomy:** This procedure changes the alignment of the heel bone (calcaneus). The surgeon may sometimes have to remove a portion of the bone.

**5. Lateral column lengthening:** In this procedure, the surgeon removes a small wedge-shaped piece of bone from the hip and places it into the outside of the calcaneus. This helps realign the bones and recreates the arch.

### **After Surgery**

1. It will take about eight weeks before the soft tissues are well healed after surgery.
2. If the tendon has been repaired or grafted, you will be placed in a cast or cast boot during this period to protect the tendon while it heals.
3. You will probably need crutches as well.
4. A physical therapist may be consulted to help you learn to use your crutches.
5. Physical therapy may be needed after a repair or graft procedure for up to four months.

### Risk factors

Posterior tibial tendon dysfunction often occurs in women over 50 years of age and may be due to an inherent abnormality of the tendon. But there are several other risk factors, including:

- Obesity
- Diabetes
- Hypertension
- Previous surgery or trauma, such as an ankle fracture on the inner side of the foot
- Local steroid injections
- Inflammatory diseases such as Reiter's syndrome, rheumatoid arthritis, spondylosing arthropathy and psoriasis

Athletes who are involved in sports such as basketball, tennis, soccer or hockey may tear the posterior tibial tendon. The tendon may also become inflamed if excessive force is placed on the foot, such as when running on a banked track or road.