

Posterior Tibial Tendon Problems

Introduction

Posterior Tibial Tendon Problems



Welcome to BodyZone Physiotherapy's patient resource about 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.

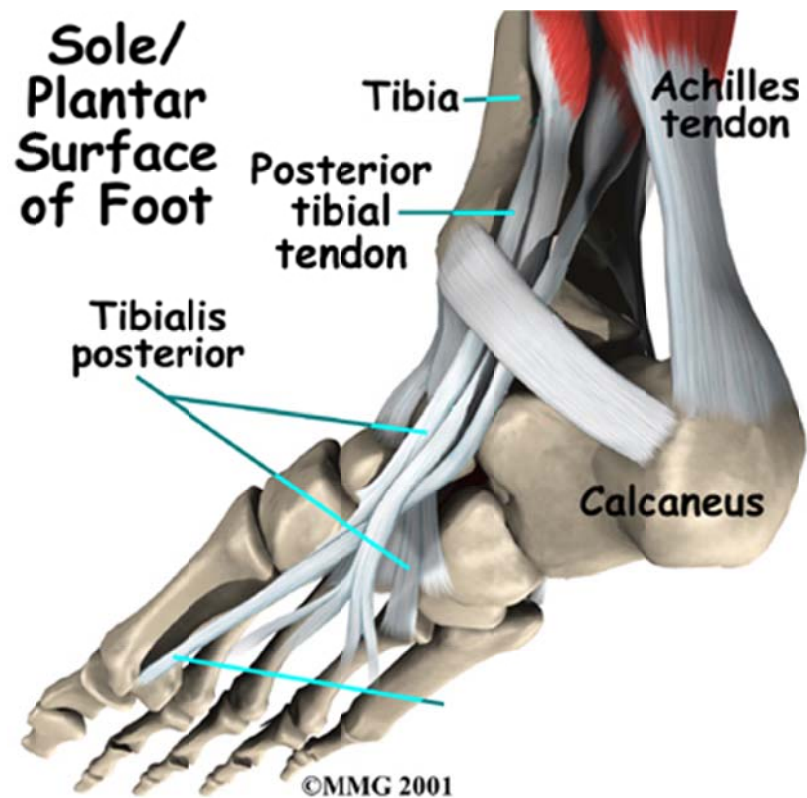
This guide will help you understand:

- how posterior tendonitis develops
- how the condition causes problems
- what can be done to treat it

Anatomy

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

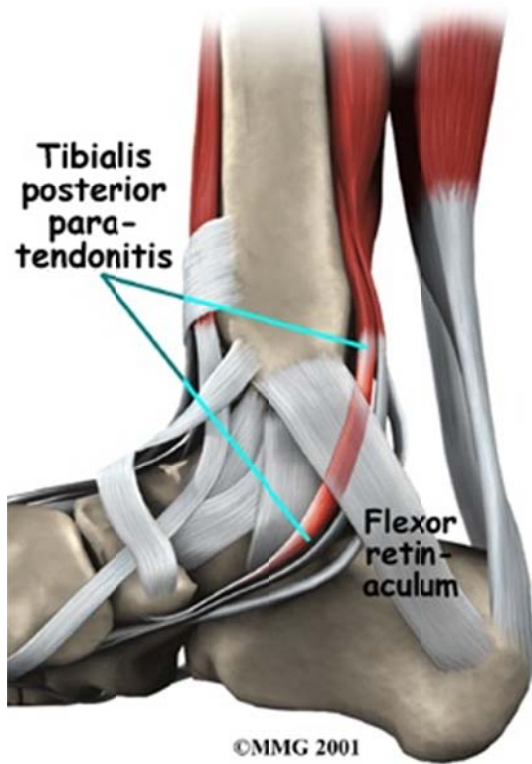


Causes

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.

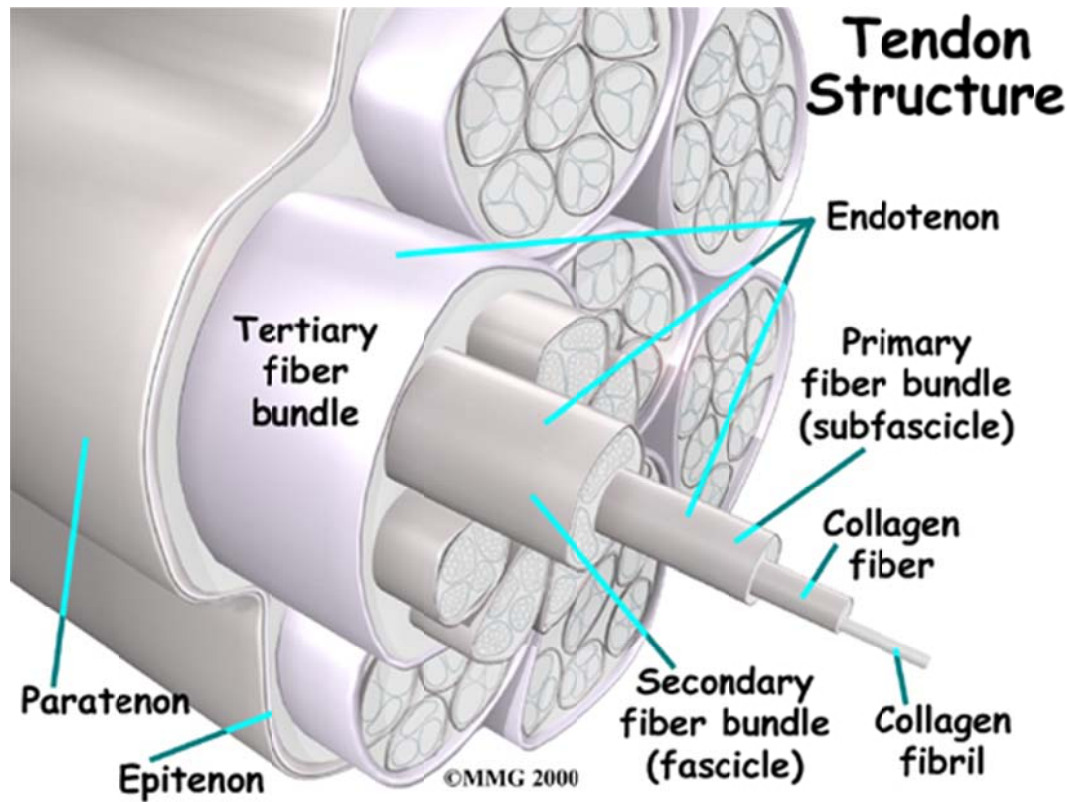
Paratendonitis



As we age, our tendons can degenerate, or wear down and weaken over time. Degeneration in a tendon usually results in a loss of the normal arrangement of the fibers of the tendon.

Tendons are made up of strands of a material called **collagen**. Think of a tendon as similar to a nylon rope and the collagen as the nylon strands. Some of the individual strands of the tendon become jumbled because of degeneration. If fibers break, and the tendon loses strength.

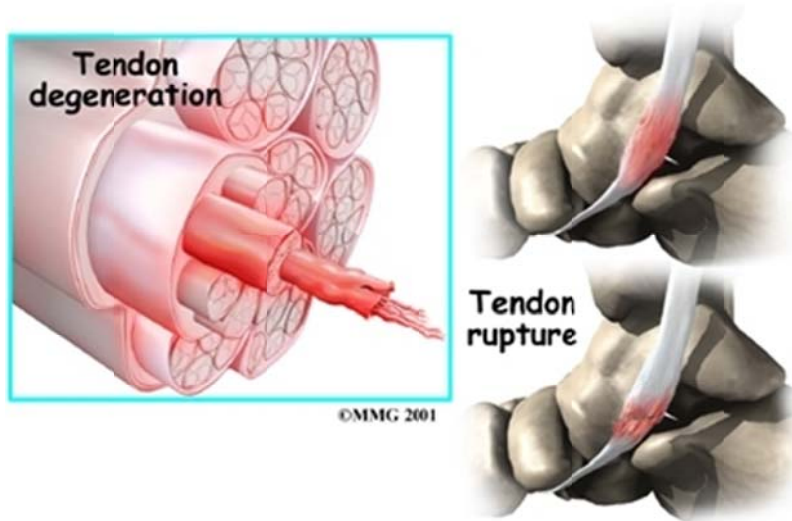
Collagen



As the tendon heals itself from wear and tear, scar tissue forms, thickening the tendon. This process can continue to the extent that a nodule, or knot, forms within the tendon. This condition is called *tendonosis*. The area of tendonosis is weaker than normal tendon. 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.

Tendonosis

Posterior Tibial Tendonosis



Symptoms

What does tendonitis of the foot feel like?

The symptoms of tendonitis of the posterior tibial tendon include pain in the instep area of the foot and swelling along the course of the tendon. In some cases the tendon may rupture, due to weakening of the tendon by the inflammatory process. Rupture of the tendon leads to a fairly pronounced flatfoot deformity that is easily recognizable.

Diagnosis

How do health care providers identify tendonitis?

When you first visit BodyZone Physiotherapy, we will do a complete history and examination of your foot. Diagnosis of posterior tibial tendonitis is usually apparent on physical examination.

Some patients may be referred to a doctor for further diagnosis. Once your diagnostic examination is complete, the physiotherapists at BodyZone Physiotherapy have treatment options that will help speed your recovery, so that you can quickly return to your active lifestyle.

Our Treatment

Non-surgical Rehabilitation

When you begin your rehabilitation program at BodyZone Physiotherapy, our physiotherapist may recommend to rest the tendon for a while, so you may need to decrease the time you spend on your feet. Our physiotherapist will provide treatments to the painful area to further help control pain and swelling. Examples include ultrasound, moist heat, and tissue massage.

We will also design stretches to improve flexibility in the calf muscles and to encourage healing in the posterior tibiotalar tendon. Exercises to strengthen the posterior tibialis muscle and the small muscles within the feet (the *intrinsic*s) help support the arch.

Our treatment of posterior tibial tendonitis typically includes the use of a firm arch support inserted into your shoes. These supports are called orthotics, and are useful because they support the arch and take some of the stress off the tendon. Wearing orthotics in your shoes may allow you to resume normal walking immediately, but you may have to cut back on more vigorous activities for several weeks to allow the inflammation and pain to subside.

Post-surgical Rehabilitation

Although each patient recovers at a different rate, it generally takes about eight weeks before the soft tissues are healed after surgery. If the tendon has been repaired or grafted, you will be placed in a cast or cast-boot during this period to immobilize the tendon while it heals. Our physiotherapists can help you learn to use crutches properly to keep weight off of your foot when you are first beginning to heal.

You will likely wear a bandage or dressing for about a week following the procedure. The stitches will be removed within 14 days. If your surgeon used dissolvable stitches, these will not need to be removed.

Physiotherapy sessions at BodyZone Physiotherapy can help speed your recovery after a repair or graft surgical procedure. Our physiotherapist may use ice, massage, and whirlpool treatments at first to control swelling and pain. We also use manual massage and ultrasound help heal and strengthen the tendon.

When you are ready, our treatments will progress to include more advanced mobility and strengthening exercises, which may be done in a pool. The buoyancy of the water enables people to walk and exercise safely without putting much tension on the healing tendon.

When your recovery is well under way, regular visits to BodyZone Physiotherapy will end. Although we will continue to be a resource, you will eventually be in charge of doing your exercises as part of an ongoing home program.

BodyZone Physiotherapy provides services for Physiotherapy in Calgary.

Surgery

If nonsurgical treatment fails to resolve your condition, surgery may be required.

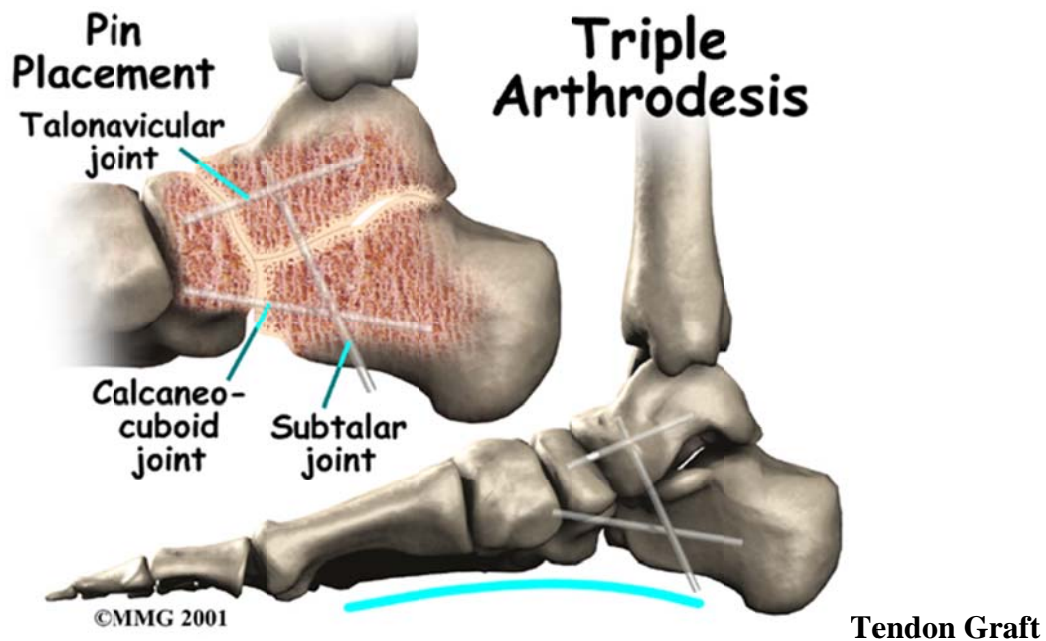
Tendon Debridement

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

Tendon Repair

A degenerated tendon that has not ruptured may only need to be repaired. The surgeon divides the sheath around the tendon. Areas where the tendon is degenerated are carefully removed. Tears within the tendon are sutured along the length of the tendon. If the surgeon is concerned that the repaired tendon is at risk for rupturing, a graft procedure to add strength to the tendon may be needed (described below). The tendon sheath is repaired, and the skin is closed with sutures.



A badly degenerated or a ruptured tendon may require a tendon graft. Usually, another tendon in the foot, such as the flexor digitorum longus, is used as a tendon graft to work in place of the posterior tibial tendon.

Fusion

Finally, in cases which have been neglected and a fixed flatfoot deformity is present, a **fusion** (or *arthrodesis*) of the ankle may be required. 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 grow together, or fuse. This type of operation is used to stop pain from joints that are worn out. It can also be used to realign the bones when the mechanisms for maintaining normal alignment are lost, such as when the talar ligaments no longer work properly. Usually, several joints must be fused to control a **flatfoot deformity** that develops after a posterior tibial tendon rupture.

Flatfoot Deformity

