Anniston Orthopaedics

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Posterior Tibial Tendon Dysfunction

Posterior tibial tendon dysfunction is one of the most common problems of the foot and ankle. It occurs when the posterior tibial tendon becomes inflamed or torn. As a result, the tendon may not be able to provide stability and support for the arch of the foot, resulting in flatfoot.

Most patients can be treated without surgery, using orthotics and braces. If orthotics and braces do not provide relief, surgery can be an effective way to help with the pain. Surgery might be as simple as removing the inflamed tissue or repairing a simple tear. However, more often than not, surgery is very involved, and many patients will notice some limitation in activity after surgery.

The posterior tibial tendon attaches the calf muscle to the bones on the inside of the foot and helps create the arch of the foot.



Cause

An acute injury, such as from a fall, can tear the posterior tibial tendon or cause it to become inflamed. The tendon can also tear due to overuse. For example, people who do high-impact sports, such as basketball, tennis, or soccer, may have tears of the tendon from repetitive use. Once the tendon becomes inflamed or torn, the arch will slowly fall (collapse) over time.

Posterior tibial tendon dysfunction is more common in women and in people older than 40 years of age. Additional risk factors include obesity, diabetes, and hypertension.

Symptoms

- Pain along the inside of the foot and ankle, where the tendon lies. This may or may not be associated with swelling in the area.
- Pain that is worse with activity. High-intensity or high-impact activities, such as running, can be very difficult. Some patients can have trouble walking or standing for a long time.
- Pain on the outside of the ankle. When the foot collapses, the heel bone may shift to a new position outwards. This can put pressure on the outside ankle bone. The same type of pain is found in arthritis in the back of the foot.

Nonsurgical Treatment

Symptoms will be relieved in most patients with appropriate nonsurgical treatment. Pain may last longer than 3 months even with early treatment. For patients who have had pain for many months, it is not uncommon for the pain to last another 6 months after treatment starts.

Rest

Decreasing or even stopping activities that worsen the pain is the first step. Switching to low-impact exercise is helpful. Biking, elliptical machines, or swimming do not put a large impact load on the foot, and are generally tolerated by most patients.

Ice

Apply cold packs on the most painful area of the posterior tibial tendon for 20 minutes at a time, 3 or 4 times a day to keep down swelling. Do not apply ice directly to the skin. Placing ice over the tendon immediately after completing an exercise helps to decrease the inflammation around the tendon.

Nonsteroidal Anti-inflammatory Medication

Drugs, such as ibuprofen or naproxen, reduce pain and inflammation. Taking such medications about a half of an hour before an exercise activity helps to limit inflammation around the tendon. The thickening of the tendon that is present is degenerated tendon. It will not go away with medication. Talk with your primary care doctor if the medication is used for more than 1 month.

Immobilization

A short leg cast or walking boot may be used for 6 to 8 weeks. This allows the tendon to rest and the swelling to go down. However, a cast causes the other muscles of the leg to atrophy (decrease in strength) and thus is only used if no other conservative treatment works.

Orthotics

Most people can be helped with orthotics and braces. An orthotic is a shoe insert. It is the most common nonsurgical treatment for a flatfoot. An over-the-counter orthotic may be enough for patients with a mild change in the shape of the foot. A custom orthotic is required in patients who have moderate to severe changes in the shape of the foot. The custom orthotic is more costly, but it allows the doctor to better control the position the foot.

Braces

A lace-up ankle brace may help mild to moderate flatfoot. The brace would support the joints of the back of the foot and take tension off of the tendon. A custom-molded leather brace is needed in severe flatfoot that is stiff or arthritic. The brace can help some patients avoid surgery.

Physical Therapy

Physical therapy that strengthens the tendon can help patients with mild to moderate disease of the posterior tibial tendon.

Steroid Injection

Cortisone is a very powerful anti-inflammatory medicine that your doctor may consider injecting around the tendon. A cortisone injection into the posterior tibial tendon is not normally done. It carries a risk of tendon rupture. Discuss this risk with your doctor before getting an injection.

Surgical Treatment

Surgery should only be done if the pain does not get better after 6 months of appropriate treatment. The type of surgery depends on where tendonitis is located and how much the tendon is damaged. Surgical reconstruction can be extremely complex. The following is a list of the more commonly used operations. Additional procedures may also be required.

- Gastrocnemius Recession or Lengthening of the Achilles Tendon.- This is a surgical lengthening of the calf muscles. It is useful in patients who have limited ability to move the ankle up. This surgery can help prevent flatfoot from returning, but does create some weakness with pushing off and climbing stairs.
- Tenosynovectomy (Cleaning the Tendon) - This surgery is used when there is very mild disease, the shape of the foot has not changed, and there is pain and swelling over the tendon. The surgeon will clean away and remove the inflamed tissue (synovium) surrounding the tendon.
- Tendon Transfer- Tendon transfer can be done in flexible flatfoot to recreate the function of the damaged posterior tibial tendon.
- Osteotomy- can change the shape of a flexible flatfoot to recreate a more "normal" arch shape. One or two bone cuts may be required, typically of the heel bone (calcaneus).
- Fusion (arthrodesis)- of a joint or joints in the back of the foot is used to realign the foot and make it more "normal" shaped and remove any arthritis.

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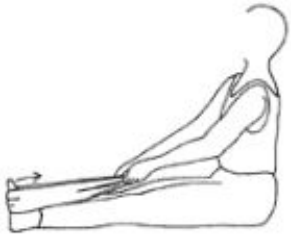
Posterior Tibial Tendonitis Exercises



Towel stretch



Heel raises



Standing calf stretch



Resisted inversion



Static and dynamic balance exercises



Perform 2-3 sets of 12-20 times depending on strength and conditioning level. Hold stretches for 30 seconds 3 times. The image on right is inversion exercises performed with elastic band

Eccentric strengthening heel drops off the edge of a step are also a very good strengthening exercise. Eccentric strengthening is defined as contracting (tightening) a muscle while it is getting longer. *Lift your heels off the ground then slowly lower your heels to the lowest point possible. Repeat this step 20 times. This exercise should be done in a slow, controlled fashion. Rapid movement can create the risk of damage to the tendon. As the pain improves, you can increase the difficulty level of the exercise by holding a small weight in each hand.*