

# **POSTERIOR TIBIAL TENDINOPATHY**

## SUMMARY

Posterior tibial tendon tendinopathy is a common degenerative condition of the posterior tibial tendon, the large tendon that runs along the inside part of the ankle. The onset is generally insidious and often the result of repetitive loading of the tendon during walking and performing activities of daily living. Over time the tendon becomes stretched, swollen, painful and develops micro-tearing. As the tendon is the most important structure that supports the arch, individuals with this condition typically note that their foot becomes “more flat”. This progressive flatfoot deformity ultimately leads to a sensation in which the ankle feels as if it is “rolling inward”.

The condition can be treated nonoperatively with a combination of relative rest, orthotic support, bracing, physical therapy, modalities and a period of immobilization. When nonoperative management fails, surgery is often required to repair or replace the injured tendon and correct any bony ankle malalignment with realignment procedures. Prognosis is generally good when aggressive treatment is initiated.

## ANATOMY

The posterior tibial tendon is the largest of the three tendons that run along the inferior aspect of the ankle. The function of the posterior tibial tendon is to help power the ankle plantarly, that is help the ankle push-off. In addition, the posterior tibial tendon supports the inside aspect of the ankle including the arch. When the tendon fails, the arch collapses and the foot becomes flat and deformed.

## SIGNS AND SYMPTOMS

Patients with posterior tibial tendinopathy complain of pain and swelling along the inside part of the ankle. The foot loses its support and the arch eventually collapses resulting in a flexible flatfoot that feels somewhat loose and, in advanced conditions, unstable. Over time pain and swelling also may occur along the outside part of the ankle. There is weakness and inability to stand on the toes as well as weakness when trying to turn the ankle inward.

## RISK FACTORS

Posterior tibial tendon disease typically occurs in females who are 50 years and older. Older men are also at risk. Patients with posterior tibial tendencies typically are overweight and not infrequently have diabetes, high blood pressure, a history of prior steroid injections, as well as previous trauma to the ankle such as a prior ankle fracture.

## DIAGNOSIS

The condition is diagnosed clinically on the basis of the history and physical examination. Individuals with this condition have palpable tenderness and swelling along the posterior tibial tendon. A diseased posterior tibial tendon makes it very difficult to stand on one foot and frequently individuals with posterior tibial tendon disease cannot perform a single-leg heel rise. The joint itself may feel somewhat loose and unstable.

X-rays often times can reveal signs of midfoot and arch collapse. MRI scans are helpful in demonstrating actual tearing and degeneration to the tendon.

## TRADITIONAL NONOPERATIVE TREATMENT

Traditional nonoperative treatment begins with relative rest, activity modification, as well as

support to the foot and ankle. Early conditions can be treated with anti-inflammatory medicines and orthotics. More advanced conditions may require bracing and/or immobilization for a period of up to 6-8 weeks followed by transitioning to an orthotic. Nonoperative management tends to be quite lengthy and may or may not be helpful.

## SURGICAL OPTIONS

Surgery options include debridement of damaged components of the tendon with removal of scar tissue that surrounds the tendon and most commonly a bone realignment. If the tendon itself is severely damaged, a tendon transfer may be required. Bony realignment procedures are also commonly performed in order to off-load a tendon that has been treated surgically. Finally, in very, very severe cases limited or partial ankle fusions may be required.

To learn more about posterior tibial tendon tendinopathy, see the following web sites:

[www.aoss.org](http://www.aoss.org);

[www.aofas.org](http://www.aofas.org);

[www.footeducation.com](http://www.footeducation.com)