

# Tibialis Posterior Dysfunction

Tibialis posterior dysfunction is a term used to describe a complex series of symptoms and joint changes of the mid-foot, rear-foot, and ankle that result in a flattening appearance of the arch. Posterior tibial tenosynovitis was initially described in 1930 but it was not until the 1990's with the discovery of magnetic resonance imaging that we were able to piece together the puzzle of posterior tibial tendon insufficiency (dysfunction).

In layman's terms, tibialis posterior muscle arises from an interosis membrane between the big bones in the lower leg, tibia and fibula. It passes in the medial aspect of the ankle and attaches into several bones in the foot. Basically, tibialis posterior muscle is the strongest muscle on the inside of the ankle and the foot that actually maintains the arch. Normal gait contraction of tibialis posterior muscle creates a lever for forward propulsion of the foot over the metatarsals. If the tendon is partially torn it creates a bi-mechanical alternation of the gait. Because of the vascular supply to the tendon right where the tendon wraps around the ankle there is an area of hypovascularity. This is the most common area of the tendon rupture and tendonopathy. In addition vascular and mechanical origins leading to posterior tibial tendon insufficiency, a number of other factors contributing to injury has been suggested. They can be congenital, trauma, and systematic disease processes.

The typical patient affected by tibialis posterior tendon insufficiency is a middle age woman (70%). The factors that predispose are hypertension, obesity, diabetes mellitus, previous surgery or trauma. There are several stages of the tenopathy that are treated in several different ways, anywhere from cam walker, steroid injections, functional orthotics, Ritchie brace to reconstructive surgery. Diagnostic tools to fully understand the posterior tibial tendon insufficiency are standard x-rays, magnetic resonance imaging, computerized tomography, tenography and electro myograms. If you have any additional questions regarding the deformity please do not hesitate to ask Dr. Wellens.

