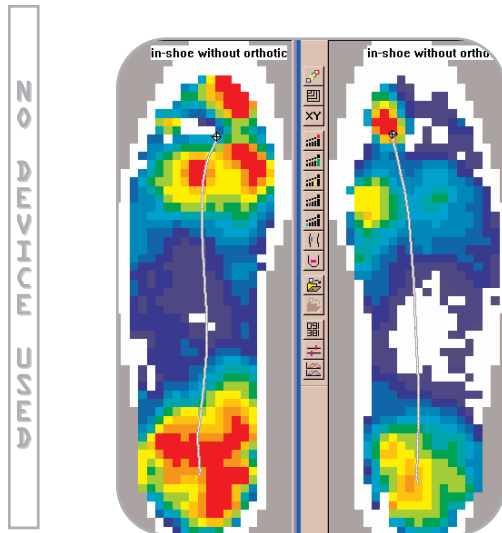


Using F-Scan® to Treat Posterior Tibial Tendon Dysfunction with Custom Foot Orthotics and the Richie Brace™

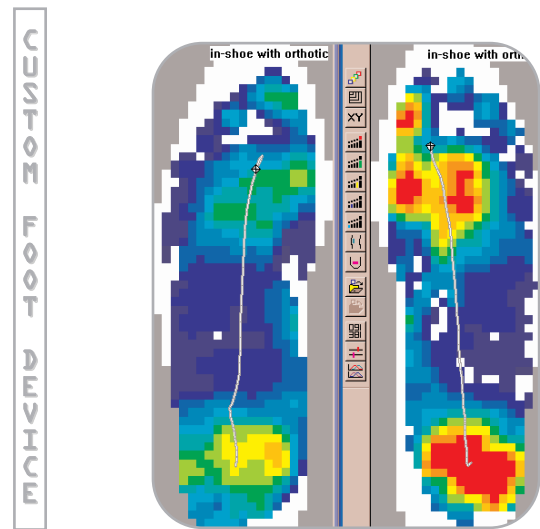
by Bruce E. Williams, DPM

Posterior Tibial Tendon Dysfunction (PTTD) is a very debilitating disease. As the posterior tibial (PT) tendon becomes weakened or severed, the medial arch will fall and the patient will experience severe deformity of the medial arch. Using the *F-Scan* In-Shoe Pressure/Force System to perform analysis, you can note the differences in pressures and how they improve when using different custom foot orthotics and/or braces. By "seeing" improvements in the center of force progression and reduction of the foot pressures, you can achieve drastic improvement in desired and expected treatment outcomes with this debilitating disease.

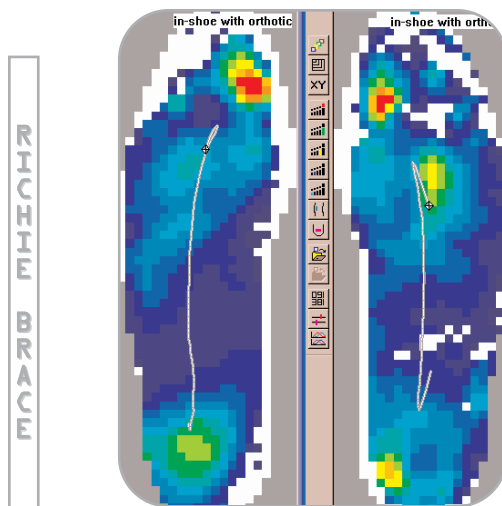
F-Scan foot pressure profiles of Posterior Tibial Tendon Dysfunction before treatment and after treatment with a foot orthotic and with a Richie Brace™



Above are *F-Scan* pressure profiles with no orthotics. The PT tendon is not functioning appropriately in this foot. Notice the gradual medial progression for the center of force line (gray line) on the right foot. Notice also the high pressure under the first metatarsal head.



Above are the pressure profiles with the use of custom foot orthotics. Note that the center of force progression is still moving medial, and that there is actually an increase in pressure under the medial arch and in the metatarsal area



Above are the pressure profiles with the use of a Richie Brace™. Notice the more midline progression of the center of force and the more balanced metatarsal pressures.

SUMMARY

Posterior Tibial Tendon Dysfunction (PTTD) can be very difficult to treat. Because of the lack of support of the medial column, you can: 1) quickly have loss of medial arch height, 2) have abduction of the forefoot on the rearfoot at the mid-tarsal joint (MTJ), and 3) have severe talar declination in the sagittal plane that will exacerbate an ankle joint equinus. When analyzing these patients with the *F-Scan*, you will see several things: 1) severe delay in the progression for the center of force, because these patients cannot move forward over the affected foot until the other foot has made contact, 2) a medial progression for the center of force as the medial arch continues to fall, forcing the 1st metatarsal to dorsiflex, and 3) early heel lift as the MTJ collapses completely and the calcaneus is literally lifted superiorly by a tight Achilles tendon, and this even as the midfoot is still in complete contact with the ground.