

Late Stage Posterior Tibial Tendon Dysfunction

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The posterior tibial tendon (PTT) is the primary dynamic stabilizer of the foot arch. Posterior tibial tendon dysfunction (PTTD) is caused by an elongated or degenerative tendon over the course of its watershed area from the tip of the medial malleolus to 2 cm distal. In addition to tendon dysfunction, other structures can be involved and exacerbate pain and deformity. The spring ligament, talonavicular capsule, and deltoid ligament all may contribute to pathology.

Late stage PTTD (stage III and IV) is defined as a fixed hindfoot valgus deformity accompanied by other deformities. Operative management of late stage PTTD can be challenging. Successful treatment of a fixed deformity involves operative reconstruction to obtain a plantigrade foot, eliminate pain, and limit the progression of arthritis in adjacent joints.

The classic triple arthrodesis, consisting of fusion of the subtalar, talonavicular, and calcaneocuboid joints, is most frequently advocated for correction of a rigid adult acquired flatfoot deformity. It is generally accepted that a combination of arthrodesis is able to achieve the goals of reconstruction. However, controversy exists concerning which joint fusions must be performed to place the foot in optimal position.

Selective arthrodesis is another option that has gained recent popularity. Several studies described the concept of 'limited fusions', in which isolated fusions of only 1 or 2 of the 3 classically fused joints were adequate to correct the deformity, relieve pain, and preserve motion in surrounding joints. For the severe flatfoot deformity, subtalar distraction arthrodesis is another effective method to achieve deformity correction.

To prevent complication as arthrosis of adjacent joint, optimal treatment strategy is necessary to establish plantigrade foot according to the severity and associated other deformities.