Northwestern Medicine
Feinberg School of Medicine

Northwestern Memorial Hospital – Lavin Pavilion
259 E Erie St. Chicago, IL 60611
(312) 695-6800

NORTHWESTERN
DEPARTMENT OF ORTHOPAEDIC SURGERY

Dr. Milap S. Patel

Dr. Anish R. Kadakia

Posterior Tibial Tendon Reconstruction

Reconstruction for a pathologic flatfoot - more appropriately termed posterior tibial tendon dysfunction is reserved for patients that do not improve from nonsurgical treatment. Non-surgical treatment can involve the use of therapy, orthotics and bracing with the need for permanent bracing in some patients that wish to avoid surgery. In patients where minimal relief is achieved or the use of a long-term brace is not acceptable or possible, surgery may be considered.

Surgery for this condition is not isolated to the tendon that is degenerated (posterior tibial tendon) because the ligaments that help support the structure of the foot have lengthened and do not provide the stability that is required. This leads to the deformity – what is termed a flatfoot, that allows the heel to shift to the outside, with additional secondary deformities occurring such as loss of stability of the middle of the foot and a tight calf muscle. In order to provide a more reliable and long-standing surgical outcome, the foot requires a larger reconstruction. Your surgeon will determine the most appropriate choice of surgical procedure based on your symptoms, the physical examination, xrays in addition to a weightbearing CT in some cases. Our goal is to maximize your function with the least amount of motion limiting surgery, however, the extent of the damage to the foot does require a fusion in some cases that limits motion.

In most cases the heel bone, the calcaneus need to be cut and shifted more toward the central aspect of the body (medial shift) to realign the forces on the foot to a more neutral position. This is then fixed with screws. The ligament on the inside of the foot and ankle (deltoid/spring ligament) may need to be reconstructed with shortening and augmentation with what is called the Internal Brace to realign the arch and restore the ligament to a more neutral resting tension. The calf muscle, if tight – is lengthened through an incision in the middle of leg, to lengthen the lining (fascia) – not the muscle itself. This minimizes the tension on the tendon and ligaments in the foot for patients with this condition. The tendon – the posterior tibial tendon is damaged and unfortunately cannot simply be "cleaned up", therefore it is reconstructed by transferring the tendon that pulls the toes down – the FDL (flexor digitorum longus) to restore some function of the tendon. The middle of the foot (midfoot) in some cases must be "pushed down" (plantarflexed) to improve the arch – this is done by breaking a bone in the foot called the cuneiform and adding bone graft to improve the arch. In some cases, the ligaments in the middle of the foot are loose and fusion (where the bones are "glued together" is required.

If the foot is very stiff and not mobile, or there is arthritis – then a fusion of the back of the foot (hindfoot) is required. This may be of one joint (subtalar) or commonly the three joints in the back of the foot – called a triple arthrodesis. This surgery is effective at reshaping the foot and minimizing the pain from arthritis, however, does limit the side to side motion of the foot. A combination of bone graft, screws, and orthopedic staples is commonly used for this procedure. Most of the up and down motion of the ankle is preserved allowing for non-impact activity, with some limitation of activity on uneven ground.

The main predictable outcomes from surgery are decrease in pain with daily activities and non-impact activity as the foot cannot be returned to normal. Modern data has shown that it is not predictable to achieve a return to impact (running, jumping, sports) after surgery – regardless of whether a motion preservation or fusion is required. The shape of the foot will improve slightly, however, it is not predictable to restore the shape of the foot to "normal". Full recovery commonly takes a full 11-12 months from surgery to achieve a maximal level of function, however – walking in gym shoes commonly occurs between 3-4 months from surgery with the use of an over-the counter orthotic.