



Flat Foot

Flat foot is a common condition of the foot structure. In infants and toddlers, prior to walking, the longitudinal arch is not developed, and flat feet are normal. Most feet are flexible, and an arch appears when children begin standing on their toes. The arch continues to develop throughout childhood, and by adulthood most people have developed normal arches.

Flat feet are generally associated with pronation, a leaning inward of the ankle bones toward the center line. Shoes of children who pronate, when placed side by side, will lean toward each other (after they have been worn long enough for the foot position to remodel their shape). Many people with flat feet do not experience pain or other problems. When pain in the foot, ankle or lower leg does occur, the feet should be evaluated.

Painful progressive flatfoot, otherwise known as *tibialis posterior tendonitis* or *adult-acquired flatfoot*, refers to inflammation of the tendon of the tibialis posterior. This condition arises when the tendon becomes inflamed, stretched or torn. Left untreated, it may lead to severe disability and chronic pain. People are predisposed to tibialis posterior tendonitis if they have flat feet or an abnormal attachment of the tendon to the bones in the midfoot.

Nonsteroidal anti-inflammatory medications, icing, physical therapy, supportive taping, bracing and orthotics are common treatments for painful progressive flatfoot. In some cases, a surgery may need to be performed to repair a torn or damaged tendon and restore normal function. In the most severe cases, surgery on the midfoot bones may be necessary to treat the associated flatfoot condition. Adult-acquired flatfoot or posterior tibial tendon dysfunction (PTTD) usually leads to a gradual loss of the arch. The posterior tibial muscle is a deep muscle in the back of the calf and has a long tendon that extends from above the ankle that attaches into several sites around the arch of the foot. The muscle acts like a stirrup on the inside of the foot to help support the arch. The posterior tibial muscle stabilizes the arch and creates a rigid platform for walking and running. If the posterior tibial tendon becomes damaged or tears, the arch loses its stability and collapses, causing a flatfoot.

Surgery is often performed to give the patient a more functional and stable foot when conservative treatments fail. Several procedures may be required to correct a flatfoot deformity, depending on the severity of the problem. These may include:

- **Tenosynovectomy** —a procedure to clean away (debride) and remove any of the inflamed tissue around the tendon
- **Osteotomy** —removal of a portion of the heel bone (calcaneus) to move the foot structure back into alignment.
- **Tendon Transfer** —in which replacement fibers from another tendon are inserted to help repair damage.
- **Lateral Column Lengthening**—a procedure that implants a small piece of bone, usually removed from the hip, outside of the heel bone to create the proper bone alignment and rebuild the arch.
- **Arthrodesis**—fusing of one or more bones together to eliminate any joint movement and stabilize the foot to prevent any further deterioration or damage.

Flat Foot Surgery

Adult-acquired flatfoot or posterior tibial tendon dysfunction usually leads to a gradual loss of the arch. The posterior tibial muscle is a deep muscle in the back of the calf and has a long tendon that extends from above

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