

Tarsal Coalitions

Anatomy

A tarsal bone is a bone that is located in the middle or back part of the foot. There are 7 tarsal bones in each foot and they include: calcaneus, talus, navicular, cuboid and 3 cuneiform bones. During normal development, these structures separate to form each individual bone. However, in 1-2% of the population they fail to separate and an abnormal connection occurs. These abnormal connections are called coalitions. Tarsal coalitions can be made up of fibrous tissue, cartilage or bone.

The most common coalitions in the foot include the calcaneonavicular and talocalcaneal coalitions.



Symptoms

The abnormal connections between the bones in the foot limit normal motion and can cause deformity, pain or both. Most commonly, tarsal coalitions cause people to have rigid and flat feet. Although most people with coalitions do not have pain, these feet may become painful because of increased stress on other joints in the foot or degeneration that occurs at the coalition site. Some common symptoms include:

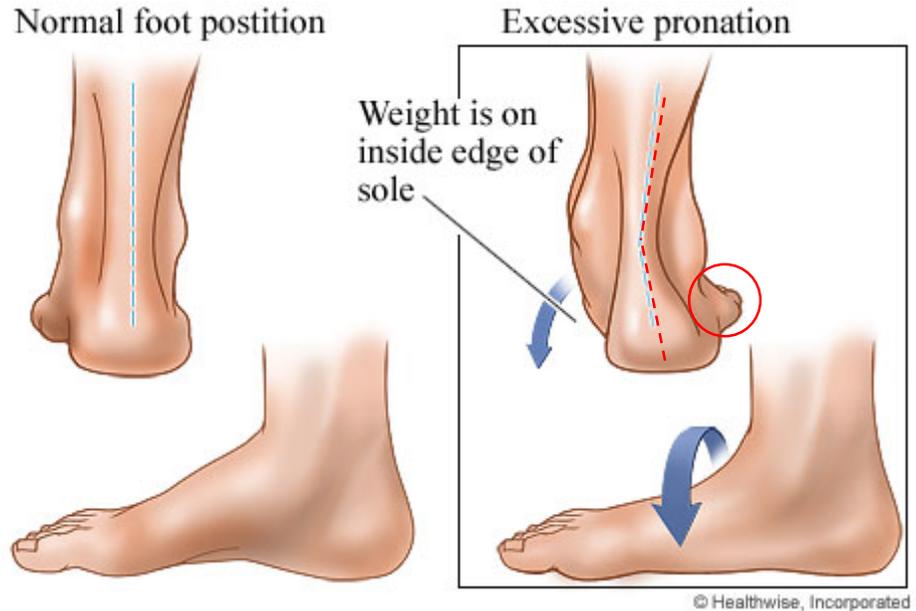
- Pain at the coalition site (site varies)
- Recurrent ankle sprains
- Worsening pain with activity

Diagnosis

Diagnosis of tarsal coalitions is based on clinical exam and imaging studies. The most common deformity caused by coalitions is a heel that is tilted out, a flat or pronated midfoot and an abducted forefoot (toes that point out rather than straight ahead).

Tarsal Coalitions will sometimes be evident on x-rays but when they are not, a CT scan or an MRI is used to visualize the coalitions, especially with coalitions that are

made of cartilage or fibrous tissue.



Treatment

As approximately 70% of tarsal coalitions are not symptomatic, usually no treatment is required. However, when tarsal coalitions become painful, initial treatments include shoe inserts and good shoe wear, a walking boot or a period of immobilization or casting. Anti-inflammatory medications can also be helpful to lessen symptoms.

When is Surgery Needed?

Surgery is recommended when the above treatments fail to improve symptoms. Having a discussion with your orthopedic foot & ankle surgeon will determine which surgery is best for your situation but may include resection of the coalition, correction of the associated foot deformity or fusion of the involved joints. The length of recovery will vary depending on which surgical procedure is chosen.