

Tarsal Coalition

A Tarsal coalition is the abnormal connection or joining that can develop between the tarsal bones in the back part of the foot. The abnormality can be composed of cartilage, bone or tissue, which can lead to limited range of movement and pain in the feet.

Tarsal coalition is most often present at birth (it is a gene mutation that causes it), but children may not show signs of the condition until teenage years. It may be noticeable by an awkward or unnatural gait, a dropped arch, a rigid foot, or difficulty with participating in some sports. Less commonly, the coalition might be the result of arthritis, infection or a previous injury to the site.

Normally two bones grow into each other and fuse. The extra bone is known as a bar which covers the space between the two bones.

Tarsal Coalition Anatomy

The tarsal bones include the heel bone, navicular, talus, cuneiform and cuboid bones. All of the bones work together to provide your foot with the normal movement needed to function properly.

The toes and the forefoot are composed of several bones. All of the four smaller toes begins with a metatarsal bone in the forefoot. As you move down the foot from the metatarsal, there are three smaller bones (phalanges). First, is the proximal phalanx. The middle phalanx comes next. Last is the distal phalanx.

The bones of the toes connect to form the toe joints. The MTP joint is the first one connecting the foot and the toe together. The MTP joints form the ball of the foot. The second joint is the PIP joint, while the last one of the DIP joint. All of the joints are surrounded by a capsule that is composed of ligaments holding the bones together. Two tendons run down the base of each toe, which allows you to curl your toes. A tendon running along the top of the toe helps to raise it.

How to Treat a Tarsal Coalition:

1. Oral Medication

An anti-inflammatory medication can help to reduce inflammation and pain in the injured site. Use for no longer than 2 weeks and under guidance from your doctor.

2. Physical Therapy

Physical and manual therapy often includes massage, ultrasound therapy and range of movement exercises. Physical therapy, and other forms of manual therapy are generally recommended first.

3. Steroid Injections

An injection of cortisone into the joints that are affected will help to reduce pain and inflammation. It might be necessary to have multiple injections into the site.

4. Orthotic Devices

A custom orthotic device often proves beneficial in distributing weight from the joint, thus limiting movement and helping to relieve pain.

5. Immobilization

Depending on the situation, the foot might have to be immobilized to allow it the time it needs to heal. The foot might also have to be placed into a cast boot or cast and crutches have to be used to help avoid placing any weight onto the foot.

6. Anesthetic Agent Injections

Injecting an anesthetic agent into the leg might also be used for relaxing spasms before immobilization occurs.

7. Surgery

Resection is a surgical procedure where the bar/coalition is removed and replaced with muscle or fatty tissue in the gap left behind. More severe coalitions are usually due to severe arthritis, and the foot may need to be fused.

Tips:

- Muscle spasms in the leg that cause the foot to turn inward when walking need to be evaluated.
- Ankle and foot stiffness are not normal and should be looked at by a medical professional.
- Pain that occurs when standing or walking might be a sign of something more serious.
- Flatfoot in either one or both feet might be an indication of a tarsal coalition.