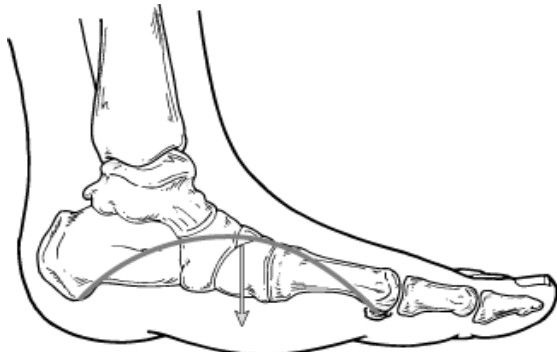




## FLATFEET



Flat Foot

Your feet are highly specialized structures. Each foot is made up of 26 bones held together by 33 joints and more than 100 muscles, tendons and ligaments. The intricate alignment of these structures results in the formation of your arches.

As you walk, these springy, elastic arches help distribute your body weight across your feet and legs. Your arches also play an integral role in how you walk. They act as rigid levers for proper mobility, but they must also be resilient and flexible to adapt to various surfaces.

Flat feet are normal in infants and toddlers, because the foot's arch hasn't developed yet. Most people's arches develop throughout childhood, but some people never develop arches.

This is a normal variation in foot type, and people may or may not have problems without arches. Lax ligaments can cause flatfeet, as can congenital conditions that affect the foot.

Arches can also fall over time. Years of wear and tear can weaken the posterior tibial tendon, which runs along the inside of your ankle, from above your ankle to your arch. The posterior tibial tendon is the main support structure for the arch. An overload to this tendon can cause inflammation of the tendon (tendinitis) and even tearing of the tendon. Once the tendon is damaged the foot's arch loses support and can flatten.

### Signs and symptoms

With flatfeet, you may experience the following signs and symptoms:

- A flat look to one or both of your feet
- Uneven shoe wear and collapse of your shoe toward the inside of your flat foot
- Lower leg pain
- Pain on the inside of your ankle
- Swelling along the inside of your ankle
- Foot pain

### You may lose support in your arches due to:

Ongoing stresses in your feet. One of these stresses may be long-term wearing of high heels, which can affect your Achilles tendon and change the mechanics of your ankles. Compensation by the posterior tibial tendon may eventually cause it to break down and your arches to fall.

- Obesity.
- Traumatic injury to your foot or ankle.
- Rheumatoid arthritis.
- Diabetes.



### Diagnosis

Your doctor will discuss your medical history and examine your feet. As part of the examination, your doctor will observe your feet from the front and the back and ask you to stand on your toes so he or she can view the mechanics of your feet.

To view the interior structure and bones of your foot, your doctor may request an imaging test of your foot, which may include an X-ray, a computerized tomography (CT) scan or a magnetic resonance imaging (MRI) scan.

## Treatment

If you experience symptoms with flexible flatfoot, the podiatric surgeon may recommend various treatment options, including:

- **Orthotic devices.** Your podiatric surgeon can provide you with custom orthotic devices for your shoes to give more support to the arches.
- **Activity modifications.** Cut down on activities that bring you pain and avoid prolonged walking and standing to give your arches a rest.
- **Physical therapy.** Ultrasound therapy or other physical therapy modalities may be used to provide temporary relief.
- **Weight loss.** If you are overweight, try to lose weight. Putting too much weight on your arches may aggravate your symptoms.
- **Medications.** Nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, help reduce pain and inflammation.
- **Shoe modifications.** Wearing shoes that support the arches is important for anyone who has flatfoot.

## PEDIATRIC FLATFOOT

Flatfoot is common in both children and adults. When this deformity occurs in children, it is referred to as "pediatric flatfoot," a term that actually includes several types of flatfoot. Although there are differences between the various forms of flatfoot, they all share one characteristic, partial or total collapse of the arch.

Most children with flatfoot have no symptoms, but some children have one or more symptoms. When symptoms do occur, they vary according to the type of flatfoot. Some signs and symptoms may include:

- Pain, tenderness, or cramping in the foot, leg, and knee
- Outward tilting of the heel
- Awkwardness or changes in walking
- Difficulty with shoes
- Reduced energy when participating in physical activities
- Voluntary withdrawal from physical activities

Flatfoot can be apparent at birth or it may not show up until years later, depending on the type of flatfoot. Some forms of flatfoot occur in one foot only, while others may affect both feet.

### Types of Pediatric Flatfoot

Various terms are used to describe the different types of flatfoot. For example, flatfoot is either asymptomatic (without symptoms) or symptomatic (with symptoms). As mentioned earlier, the majority of children with flatfoot have an asymptomatic condition. Symptomatic flatfoot is further described as being either flexible or rigid. Flexible means that the foot is flat when standing (weight-bearing), but the arch returns when not standing. Rigid means the arch is always stiff and flat, whether standing on the foot or not. Several types of flatfoot are categorized as rigid. The most common are:

**Tarsal coalition.** This is a congenital (existing at birth) condition. It involves an abnormal joining of two or more bones in the foot. Tarsal coalition may or may not produce pain. When pain does occur, it usually starts in preadolescence or adolescence.

**Congenital vertical talus.** Because of the foot's rigid "rocker bottom" appearance that occurs with congenital vertical talus, this condition is apparent in the newborn. Symptoms begin at walking age, since it is difficult for the child to bear weight and wear shoes.