

Heel Pain Has Many Causes

In our pursuit of healthy bodies, pain can be an enemy. In some instances, however, it is of biological benefit. Pain that occurs right after an injury or early in an illness may play a protective role, often warning us about the damage we've suffered.

When we sprain an ankle, for example, the pain warns us that the ligament and soft tissues may be frayed and bruised and that further activity may cause additional injury.

Pain, such as may occur in our heels, also alerts us to seek medical attention. This alert is of utmost importance because of the many afflictions that contribute to heel pain.

Heel Pain

Heel pain is generally the result of faulty biomechanics (walking gait abnormalities) that place too much stress on the heel bone and the soft tissues that attach to it. The stress may also result from injury, or a bruise incurred while walking, running, or jumping on hard surfaces; wearing poorly constructed footwear; or being overweight.

The heel bone is the largest of the 26 bones in the human foot, which also has 33 joints and a network of more than 100 tendons, muscles, and ligaments. Like all bones, it is subject to outside influences that can affect its integrity and its ability to keep us on our feet.

Heel pain, sometimes disabling, can occur in the front, back, or bottom of the heel.

Heel Spurs

A common cause of heel pain is the heel spur, a bony growth on the underside of the heel bone. The spur, visible by X-ray, appears as a protrusion that can extend forward as much as half an inch. When there is no indication of bone enlargement, the condition is sometimes referred to as "heel spur syndrome."

Heel spurs result from strain on the muscles and ligaments of the foot, by stretching of the long band of tissue that connects the heel and the ball of the foot, and by repeated tearing away of the lining or membrane that covers the heel bone. These conditions may result from biomechanical imbalance, running or jogging, improperly fitted or excessively worn shoes, or obesity.

Plantar Fasciitis

Both heel pain and heel spurs are frequently associated with an inflammation of the band of fibrous connective tissue (fascia) running along the bottom (plantar surface) of the foot, from the heel to the ball of the foot. The inflammation is called plantar fasciitis. It is common among athletes who run and jump a lot, and can be quite painful.

The condition occurs when the plantar fascia is strained over time beyond its normal extension, causing the soft tissue fibers of the fascia to tear or stretch at

points along its length; this leads to inflammation, pain, and possibly the growth of a bone spur where it attaches to the heel bone.

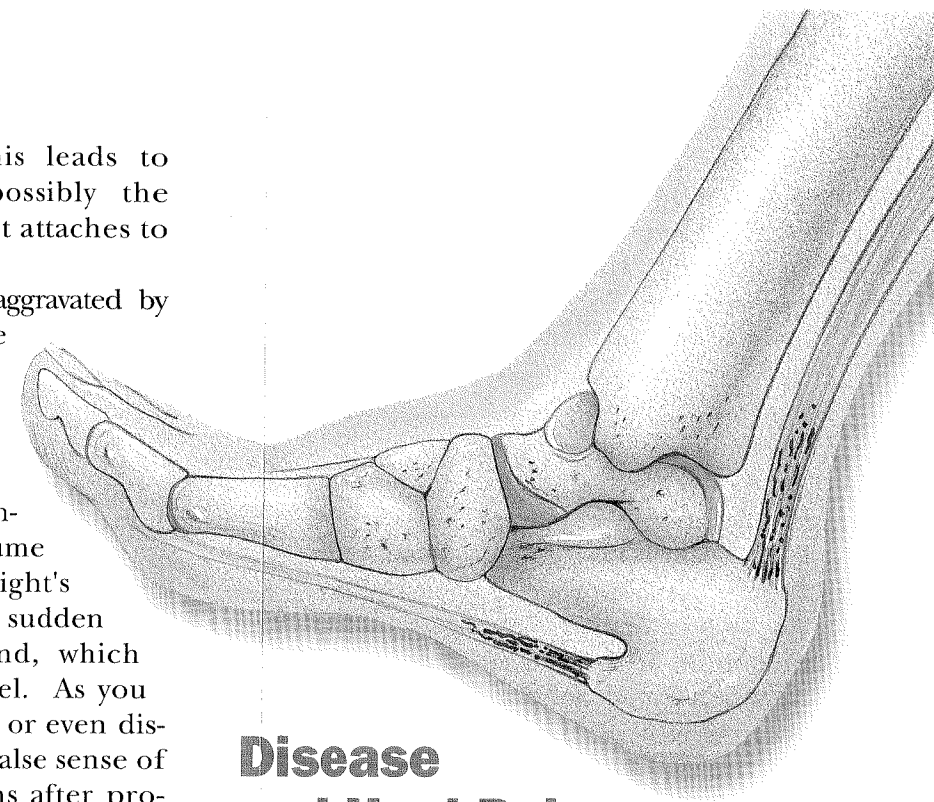
The inflammation may be aggravated by shoes that lack appropriate support, especially in the arch area, and by the chronic irritation that sometimes accompanies an athletic lifestyle.

Resting provides only temporary relief. When you resume walking, particularly after a night's sleep, you may experience a sudden elongation of the fascia band, which stretches and pulls on the heel. As you walk, the heel pain may lessen or even disappear, but that may be just a false sense of relief. The pain often returns after prolonged rest or extensive walking.

Excessive Pronation

Heel pain sometimes results from excessive pronation. Pronation is the normal flexible motion and flattening of the arch of the foot that allows it to adapt to ground surfaces and absorb shock in the normal walking pattern.

As you walk, the heel contacts the ground first; the weight shifts first to the outside of the foot, then moves toward the big toe. The arch rises, the foot generally rolls upward and outward, becoming rigid and stable in order to lift the body and move it forward. Excessive pronation—excessive inward motion—can create an abnormal amount of stretching and pulling on the ligaments and tendons attaching to the bottom back of the heel bone. Excessive pronation may also contribute to injury to the hip, knee, and lower back.



Disease and Heel Pain

Some general health conditions can also bring about heel pain. ♦ **Rheumatoid arthritis** and other forms of arthritis, including gout, which usually manifests itself in the big toe joint, can cause heel discomfort in some cases.

♦ Heel pain may also be the result of an inflamed bursa (*bursitis*), a small, irritated sack of fluid; a *neuroma* (a nerve growth); or other soft-tissue growth. Such heel pain may be associated with a heel spur or may mimic the pain of a heel spur.

♦ **Haglund's deformity** ("pump bump") is a bone enlargement at the back of the heel bone, in the area where the Achilles tendon attaches to the bone. This sometimes painful deformity generally is the result of bursitis caused by pressure against the shoe and can be aggravated by the height or stitching of a heel counter of a particular shoe.