

HEEL PAIN

Causes, Prevention, and Treatment

HEEL PAIN

Heel Pain is generally the result of faulty biomechanics (walking gait abnormalities) placing too much stress on the heel bone and the soft tissues that attach it. The stress may 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 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.

PLANTAR FASCITIS

Both heel pain and heel spurs are frequently associated with an inflammation of the long band of fibrous connective tissue running from the heel to the ball of the foot, a main cause of rear-foot pain. Plantar Fasciitis (heel spur syndrome) is sometimes caused by shoes that cramp the feet – especially in the arch area. It is common among athletes who run and jump often, and can be quite painful.

The condition occurs when the plantar fascia flattens out and elongates over time beyond its normal extension, causing the soft tissue fibers of the fascia to tear or stretch at various points along its length, including at the heel bone. A gap occurs, which between the fascia and the heel bone may be filled in with the growth of the new 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 a false sense of relief. The pain often returns after prolonged rest.

HEEL SPURS

A common cause of heel pain is plantar fasciitis, which may result in a bony growth or heel spur on the underside, forepart 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 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 excessive worn shoes, or obesity.

EXCESSIVE PRONATION

Heel pain sometimes results from excessive pronation. Pronation is the normal flexible motion 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 to the outside of the foot, then moves toward the big toes. 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 fascia while jogging or running, for example. Excessive pronation may also contribute to the hip, knee, and lower back.

PREVENTION

A variety of steps can be taken to avoid heel pain and accompanying afflictions.

- Wear shoes that fit well – front, back, and sides and have shock-absorbent soles, rigid shanks, and supportive heel counters.
- Wear the proper shoes for each activity.
- Do not wear shoes with excessive wear on heels or soles.
- Prepare properly before exercising. Warm up before running or walking, and do some stretching exercises afterward.
- Pace yourself when you participate in athletic activities.
- Do not underestimate your body's need for rest and good nutrition.
- If obese, lose weight.

TREATMENT

Improvement may take longer than expected, especially if the condition has existed for a long time. During recovery, loss of excess weight, good shoes, and sedentary activities all help the injury to mend. You should return to full activity gradually.

REST. *Use pain as your guide. If your foot is too painful, rest it.*

ICE. *Ice the sore area for 30 to 60 minutes several times a day to reduce the inflammation.*

Apply a plastic bag of crushed ice over a towel. You should also ice the sore area for 15 minutes after activity.

MEDICATION

Anti-inflammatory/analgesic medication, coupled with heel pads may also be initiated to relieve the heel pain. If the pain fails to respond to these measures, your doctor may inject cortisone and local anesthetic into the involved area.

HEEL PADS

A heel pad can help to spread, equalize and absorb the impact as the heel lands, thus reducing the pressure on the painful area. The heel pads with a hole in the middle of the pad are

most beneficial.

HOME EXERCISES

The following are exercises designed to strengthen the weakened and damaged area.

Towel Curls. Place a towel on the floor and curl it toward you, using only the toes of your injured foot. Resistance can be increased with a weight on the end of the towel. Relax, then repeat the towel curl.

Shin Curls. Run your injured foot slowly up and down the shin of your other leg as you try to grab the shin with your toes.

Stretches. Stand at arms length from a counter/table with your back knee locked and your front knee bent. Slowly lean toward the table, pressing forward until a moderate stretch is felt in the calf muscles of your straight leg. Hold 15 seconds. Keeping both heels on the floor, bend the knee of your straight leg until a stretch is felt. Hold 15 seconds more. You should feel a moderate pull in your muscles and tendon, but no pain. Change legs and stretch the other leg.