

Plantar Fasciitis



Plantar fasciitis is a very common condition that most frequently affects the heel (approximately 80% of the cases) and occasionally affects the arch, or even both the heel and the arch.

Patients with plantar fasciitis of the heel will often complain of a toothache like pain on the bottom of the heel, while those with plantar fasciitis of the arch will often complain of a burning/tearing feeling in the arch. The pain can range from mild to very severe and disabling. The pain is most noticeable in two circumstances: 1) with the first steps after sleeping or sitting for a while (called post-static pain), and 2) with standing or walking for a period of time.

The plantar fascia is a strong ligament-like structure that runs from its attachment on the bottom of the heel out to the ball of the foot. Because of its strength and location, the plantar fascia helps to support the arch of the foot. Because of its structure, the plantar fascia is not very elastic, and is fairly unyielding.

Plantar fasciitis is not usually caused by an isolated injury, but instead is caused by gradually progressive overload of the plantar fascia. The chronic overload of the plantar fascia eventually results in a strain-like injury of the plantar fascia – usually near its attachment to the heel or by it pulling away at its attachment to the heel (the strain-like injury can also occur in the arch). The result of the injury is an inflammation of the plantar fascia at the location of the injury. The injury and inflammation often worsen by continued unprotected activity.

The cause of the chronic overload is usually a combination of factors that can put excess stress on the supporting structures of the arch (which includes the plantar fascia). These factors can include: overweight, tight calf muscle, prolonged time standing or walking on the feet, footwear with inadequate arch support, and sports overload. The problem can be associated with feet that pronate (flatten) excessively. However, the condition can also occur in high arched feet with a tight plantar fascia.

Patients often needlessly worry about a so-called “heel spur”. It is not unusual for a projection of bone to occur along the top surface of the plantar fascia, parallel to the ground. However, the “spur” is rarely, if ever, the source of the patient’s pain. Patients with heel pain only demonstrate a “spur” on x-rays about 60% of the time. Patients that have never had heel pain can demonstrate the same “spur” on x-rays about 40% of the time. It is simply wrong to think that the pain is caused by walking on a downwardly protruding “spur” (even though it might feel that way). The bottom line is that the presence or absence of a “spur” does not influence the selection of treatment or the result of the treatment.

Treatment of plantar fasciitis must be comprehensive and continuous until the pain has been resolved at least 3 months. In other words, multiple simultaneous treatments work more effectively than trying one thing, then trying another. The condition takes time to resolve – sometimes 3-12 months, so perseverance with the treatments is a must. The rule of thumb applied here is that one must continue the treatments until the pain has been resolved for 3 months.

What can I do for myself?

You should use as many of these treatments as possible concurrently:

- q Wear supportive shoes.
- q Add a good arch support or orthotic in your shoe. (We prefer Superfeet orthotics – they can be purchased at The Depot Store next to the Department of Foot and Ankle Surgery.)
- q Avoid standing or walking barefoot or in unsupportive footwear like slippers or sandals. (Instead, you should be in supportive shoes with Superfeet orthotics as much as possible every day.)
- q Perform calf stretching exercises for 30-60 seconds on each leg at least two times per day. (Stand an arm's length away from the wall, facing the wall. Lean into the wall, stepping forward with one leg, leaving the other leg planted back. The leg remaining back is the one being stretched. The leg being stretched should have the knee straight (locked) and the toes pointed straight at the wall. Stretch forward until tightness is felt in the calf. Hold this position without bouncing for a count of 30-60 seconds. Repeat the stretch for the opposite leg.)
- q Lose weight.
- q Modify your activities. (Decrease the time that you stand, walk, or engage in exercise that put a load your feet. Convert impact exercise to non-impact exercise – cycling, swimming, and pool running are acceptable alternatives.)
- q Use a night splint each night while you sleep. (This brace keeps your plantar fascia stretched while you sleep by holding your foot at 90 degrees to your leg. You can purchase a Dorsiwedge night splint at The Depot Store next to the Department of Foot and Ankle Surgery.)
- q Use ice on the painful area for 15-20 minutes, at least 2-3 times per day -especially in the evening. (Option A - Fill a styrofoam or paper cup with water and freeze it. Peel back the leading edge of the cup before application. Massage the affected area for 15-20 minutes. Option B – Fill a small 2-3 inch diameter plastic bottle with water and freeze it. Roll your heel/arch back and forth over the bottle for 15- 20 minutes. Option C – Rest the affected area on an ice pack for 15-20 minutes. CAUTION: AVOID USING ICE WITH CIRCULATION OR SENSATION PROBLEMS.)
- q Use an oral anti-inflammatory medication. (We recommend over-the-counter ibuprofen. Take three 200mg tablets, three times per day with food – breakfast, lunch, and dinner. To obtain the proper anti-inflammatory effect, you must maintain this dosing pattern for at least 10 days. Discontinue the medication if any side effects are noted, including, but not limited to: stomach upset, rash, swelling, or change in stool color. IF YOU TAKE ANY OF THE FOLLOWING MEDICATIONS, DO NOT TAKE IBUPROFEN: COUMADIN, PLAVIX, OR OTHER PRESCRIPTION OR OVER-THE-COUNTER ORAL ANTI-INFLAMMATORY MEDIATIONS. IF YOU HAVE ANY OF THE FOLLOWING HEALTH CONDITIONS, DO NOT TAKE IBUPROFEN: KIDNEY DISEASE OR IMPAIRMENT, STOMACH OR DUODENAL ULCER, DIABETES MELLITUS, BLEEDING DISORDER.)
- q See your doctor when you have failed to respond to the above regimen after three months of application.

What can my doctor add?

- q Administer cortisone injections. (Injection of cortisone is a potent way to reduce inflammation and expedite the recovery process. Cortisone does not replace the need for supportive shoes, foot orthoses, calf stretching, and other physical measures. Cortisone is typically injected at 2 month intervals, until the condition resolves or 3 injection have been administered, whichever comes first. The risks of cortisone injections for plantar fasciitis are: increased pain for 24-72 hours following the injection (30%), plantar fascia rupture (<1%), infection (<0.1%), and heel fat pad atrophy (<0.1%). Systemic side effects of this type of injection are extremely rare.)
- q Prescribe physical therapy. (Ultrasound and interferential electric current therapy can be useful methods of reducing inflammation.)
- q Teach you how to tape your feet.
- q Refer you for custom-made foot orthotics. (Custom foot orthoses are not a covered benefit of the Kaiser Health Plan. However, custom foot orthoses are available through the Department of Foot and Ankle Surgery on a fee for service basis.)
- q Put you in a cast. (A cast is applied from below the knee to the toes typically for 6 weeks. The patient is encouraged to use crutches and not put weight on the foot while the cast is on. Occasionally, an injection of cortisone will be administered immediately prior to applying the cast.)
- q Perform surgery. (Surgery involves detaching the plantar fascia from the heel. The anesthesia is usually general or spinal. The surgery is done on an outpatient basis. A below-knee walking cast is used for 3 weeks, followed by a removable walking cast until shoes can be comfortably resumed. Recovery takes 4-12 months. The success rate is about 70%. About 25% are better, but still have some problems. About 5% are no better or worse. Risks include, but are not limited to: infection, nerve injury or entrapment, prolonged recovery, incomplete relief of pain, no relief of pain, worsened pain, recurrent pain, lowered arch, and joint impingement pain on the top of the foot. Patients who have this surgery are advised to use foot orthotics after the surgery on an ongoing basis.)