



# Heel Pain

## Alliston Foot & Orthotic Clinic

**Plantar Fasciitis - Heel Spur Syndrome** is the most common foot pain that we treat at the Alliston Foot & Orthotic Clinic. This condition can occur in our athletic or non-athletic patients, seniors, students, office workers and those who work in construction and in factories.

The plantar fascia is a thick non-elastic band of tissue which runs from all five metatarsal heads and attaches onto the calcaneus (heel bone). Its main function is to maintain the medial longitudinal arch and stabilize the foot during the push-off propulsion phase of gait.

The problem begins when there is stress applied to the plantar fascia causing it to stretch excessively, pulling the fascia away from its weakest point at its insertion in the heel. This causes micro-tearing, localized inflammation and pain. Sometimes we can pin-point the cause of the plantar fasciitis e.g. increased or new activities, new fitness programs, new job, injury or trauma, and weight gain. Sometimes it will just build up over time and can suddenly appear for no good reason overnight.

Often in chronic cases when it's been going on for months, as the fascia pulls away from the bone, the body reacts by filling in the space with new bone. This causes the classic "heel spur." The heel spur therefore is a secondary x-ray finding to the tearing of the fascia and is not the problem but the result of the problem.

### Signs & Symptoms

Typically patients report a gradual onset of heel/arch pain but sometimes can occur overnight. The pain can be sharp and is often worse with the first few steps in the morning or after extended periods of non-weight bearing rest such as eating lunch or driving in a car. The plantar fascia contracts back to its original shape and inflammation collects around the injury site. In more chronic cases, the pain can become more constant and duller and present for most of the day.

### Causes of Plantar Fasciitis

- Over-pronated (flat feet) which results in the arch collapsing upon weight bearing.
- A foot with an unusually high arch.
- A sudden increase in physical activity
- Excessive weight or increased weight gain e.g. pregnancy
- Improperly fitting or worn out footwear
- Overuse and excessive periods of standing (hard surfaces e.g. concrete)
- Increasing age

## Alliston Foot & Orthotic Clinic Comprehensive Treatment Plan

In the nearly twenty years of treating this condition at the Alliston Foot & Orthotic Clinic, we have formulated a comprehensive treatment plan that results in the best outcomes for our patients suffering from plantar fasciitis and preventing it's re-occurrence.

### Prevention and Treatment

#### Custom Made Orthotics

Custom Made Orthotics are the most effective long and short term treatment of plantar fasciitis, which addresses both your present pain and prevents the pain from returning. Orthotics are custom made insoles, prescribed by your chiropodist to improve the alignment and function of the foot and most importantly, stop the micro-tearing of the plantar fascia with each step. These are made from three dimensional impression scans of your feet, after a full biomechanical assessment and gait analysis. Just like prescription eye glasses, custom made orthotics come in different materials (soft & hard), designs, styles, shapes and corrections.

### Night Splints

These splints are designed to keep the plantar fascia in an elongated position overnight to reduce the initial stretch/tear that occurs when you take the first morning step. Strassburg sock or Dorsal Night Splint.

### Shoes- Footwear

Supportive footwear, both indoor and outdoor, plays an important role in the recovery of plantar fasciitis. Suggestions will be provided to assist you in the selection of appropriate footwear for your feet.

### Physiotherapy Modalities Shockwave

Shockwave therapy is a safe and effective but aggressive treatment. A chronically injured area of your foot is targeted with several high-energy acoustic waves to stimulate an inflammatory response to heal a chronic injury. Shockwave therapy stimulates blood flow and forms new blood vessels, increasing your body's ability to heal itself. Shockwave can break up calcification and chronic scarring of injured tissue. Shockwave therapy can provide a sustained pain-relieving effect on the injured area, making you feel better right away.

### Medication

Your chiropodist may prescribe anti-inflammatory medications to help reduce the inflammation and manage pain. However; this is not a long-term answer and is often used as a short-term treatment in both chronic and acute cases.

**Oral:** Non-Steroidal Anti-Inflammatory Drugs (NSAIDs—*pronounced “en-saids”*) are oral medications used in the short term to alleviate pain by reducing the inflammation and providing some analgesia. NSAIDs come in different strengths and formulas. Some may work better for you than others. Your chiropodist can help you find the dose and medication that works best for you.

**Injection:** Cortisone is a powerful anti-inflammatory and can be very useful for treating the acutely painful or long term chronic forms of plantar fasciitis. The chiropodist will first palpate the plantar fascia to find the most painful area and then inject cortisone, usually mixed with a local anesthetic to help reduce the pain of the needle. Sometimes multiple injections are required with 2-3 week intervals between injections. No more than three cortisone injections are performed in an area in a 12 month period. This is not a cure but temporarily mask acute pain.

**Topical:** The chiropodist may prescribe topical medications such as topical anti-inflammatory (Voltaren Emulgel, Pennsaid) or analgesics (Biofreeze) to help increase circulation to the painful area and reduce inflammation. This is useful in both acute and chronic conditions or in cases where oral medications cannot be used.

### Hot & Cold Therapy

Alternating heat and cold cause the circulation in the region of the plantar fascia to open and then close reduces inflammation. Heat is always applied first (3-5min) followed by cold (3-5min) alternating for a total of 30 min, two times per day.

### Strengthening Exercise & Stretches

*Thera-band* elastic resistance has been proven to increase strength, mobility and function as well as reduce pain. Your Chiropodist may prescribe a series of exercises designed to stretch and strengthen the small muscles of the foot and encourage blood flow and reduce pain. They may include the following: *Wall stretches, Toe Flexion, Ankle Dorsi/Plantar flexion, etc...*

### Off-the-shelf Arch Supports

The Alliston Foot & Orthotic Clinic offers a line of off-the-shelf arch supports which can be used for first line of therapy for milder conditions, offer some relief while waiting for custom made orthotics or as an extra device for a second pair of shoes. These do not function as effectively or replace custom made orthotics in the treatment of plantar fasciitis.

### Surgery

Surgery is rarely required for plantar fasciitis, but in some cases a plantar fasciotomy can be performed, where the fascia is surgically lengthened by making small incision in the arch on either side of the fascia to allow the fibers to elongate.

[www.allistonfootclinic.com](http://www.allistonfootclinic.com)

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