Plantar Fasciitis

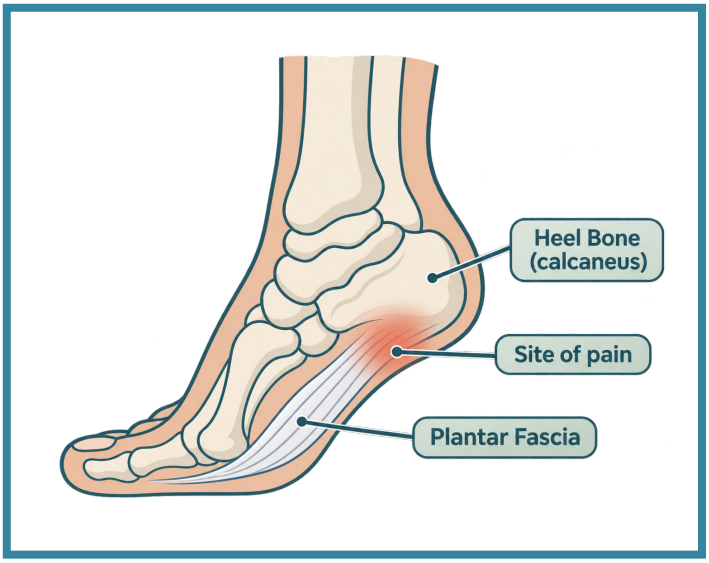
WHAT IS PLANTAR FASCIITIS?

Plantar fasciitis is the painful inflammation of the ligament attaching to the base of the heel, which provides foundational support to the arch and foot.

HOW DOES IT OCCUR?

There are several possible causes of plantar fasciitis including:

- **POOR, FLEXIBLE SHOE GEAR**
  - Shoes that bend in half can result in unnecessary strain on the heel and ligamentous attachment of the plantar fascia. This can result in micro tearing which is painful. Stiff, rigid shoes and avoidance of barefoot is recommended.
  - Shoes that elevate your heels (pumps, cowboy boots) can cause shortening to the Achilles tendonwhich is connected to the plantar fascia and results in further strain and contracture.
- **INCREASED WALKING OR BURST OF ACTIVITY**
  - Without proper stretching, warm up or conditioning the Achilles tendon and plantar fascia may react to new onset of activity.
  - Impact on hard manmade surfaces can apply additional force to the heel and arch causing wearand tear.
- **GAINING WEIGHT**
  - Additional forces of personal weight gain can result in inflammatory pain due to strain along the bottom of heels and arches.
- **TIGHT ACHILLES/CALF MUSCLES**
  - With natural aging, tendons and ligaments may become stiff and less pliable. Natural contracture can occur with time and sedentary lifestyle. A lack of stretching and movement can predispose a patient to Achilles tendonitis and plantar fasciitis.
- **FOOT TYPE**
  - High or low arches apply increased biomechanical forces through the plantar fascia that can result in pain.



WHAT ARE THE SYMPTOMS?

- Location: Bottom, inside aspect of heel (pictured)
- “Post Static Dyskinesia” is pain after periods of rest.
- Due to contracture of Achilles tendon and plantar fascia. Reduces with walking or stretching. You may feel no pain when you are sleeping because the position of your feet during rest allows the fascia to shorten and relax.
- Severe inflammation can cause limping, swelling and inability to walk on heel. Central heel pain that doesn’t improve walking could be “Calcaneal Bursitis.”

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HOW IS IT DIAGNOSED?

Your provider will walk you through features of your exam that may include the following:

- Location of Pain: Bottom, inside aspect of heel is primary location.
- Pain with first steps out of bed or resting position.
- Evaluating foot type for low or high arch.
- Observing ankle range of motion and potential stiffness of the Achilles tendon.
- X-rays can be done, however the presence of a "heel spur" does not cause plantar fasciitis or pain.

HOW IS IT TREATED?

- Rest! Breaking the cycle of inflammatory pain is essential. Reduce unnecessary, repetitive activity and avoid impact. "Hurting is not Healing."
- Exception: stretching will cause some pain or hurt! This is good pain!
- Start your day with HEAT and MOTION. Moving your foot/ankle in bed prior to getting up allows the tendon to 'warm up" before hitting the floor. A hot shower or heating pad are alternatives.
- Supportive shoes: Avoid barefoot, especially on hardwood, tile or concrete flooring. Shoes that are flexible and can be bent in half do not protect the fascia and can result in repeated strain or injury.
- Consider use of "NSAIDs" or anti-inflammatory medications that can be prescribed by your provider. Healing from the "inside out" is important.
- Intended to reduce inflammation, not just fight pain
- Stretch 3x per day (AM, Noon, PM) for approximately 5-10 minutes to lengthen your Achilles tendon.
- Steroid Injection: this is a direct way to apply stronger anti-inflammatory medication specifically to the plantar fascia. This is another way to "break the cycle" of pain, however still important to use in combination with other treatments.
- Ice: apply ice or roll foot on frozen water bottle at the end of the day.
- Use of orthotics can be an additional way to stiffen shoe gear, support arches and avoid unnecessary force through the plantar fascia. Over the counter or customized devices can be discussed with your provider.

Persistent heel pain should prompt you to further follow up with your provider. Considerations at that time can include:

- Physical Therapy: provided focused stretching, anti-inflammation with ultrasound/topical steroids, taping, dry needling.
- Night Splint: Stretching Device worn at bedtime or periods of rest
- Surgery is rarely necessary. MRIs can be considered if pain continues beyond these treatments.

HOW LONG WILL EFFECTS LAST?

Plantar Fascial pain can be persistent if protocol above is not fully adhered to. It is essential to "break the cycle" of inflammation. A steroid injection alone will not provide lasting relief. However, an injection with active participation in stretching, modifying shoes and activities should result in significant improvement after 4 weeks. Longstanding plantar fasciitis can take a few months to resolve. Once pain subsides, it's important to maintain awareness of what caused your initial pain and avoid recurrence.

WHEN CAN I RETURN TO MY SPORT OR ACTIVITY?

The goal of rehabilitation is to return you to your sport/activity as soon as it is safely possible. If you return too soon you may worsen your injury, which will prolong healing. Everyone recovers from injury at a different rate. Returning to your activities will be determined by how soon your foot recovers, not by how many days or weeks it has been since your injury occurred. Remember, "Hurting is not Healing," so do not work through excessive pain. Generally, the longer you have symptoms before you start treatment, the longer it takes to get better.

HOW DO I PREVENT PLANTAR FASCIITIS?

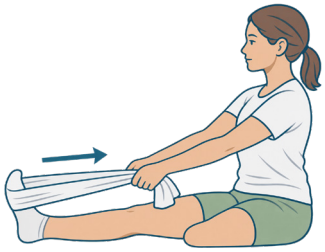
- Proper shoe gear, as outlined above.
- Replace athletic shoes every 300-400 miles (approximately).
- Avoid Barefoot. Designate shoes to be worn inside that have structure and arch support.
- Stretch. Tendon and ligament health requires regular stretching and mobility.
- Recovery. Avoid over training or repetitive/excessive training.
- Maintain a healthy weight.

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Plantar Fasciitis Rehabilitation Exercises

Perform the following stretches 3x per day (AM, Noon, PM) for approximately 5-10 minutes.



1. TOWEL STRETCH:

Sit on a hard surface with your injured leg stretched out in front of you. Loop a towel around the ball of your foot and pull the towel toward your body, stretching the back of your calf muscle. Hold this position for 30 seconds. Repeat 3 time. When the towel stretch becomes too easy, you may begin doing the standing calf stretch.



2. STANDING CALF STRETCH:

Facing a wall, put your hand against the wall at about eye level. Keep the injured leg back, the uninjured leg forward, and the heel of your injured leg on the floor. Turn your injured foot slightly inward (as if you were pigeontoed) as you slowly lean into the wall until you feel a stretch in the back of your calf.

Hold for 30-60 seconds. Repeat 3 times. When you can stand comfortably on your injured foot, you can begin stretching the planter fascia at the bottom of your foot.



3. PLANTAR FASCIA STRETCH:

Stand with the ball of your injured foot on a stair. Reach for the bottom step with your heel until you feel a stretch in the arch of your foot.

Hold this position for 30-60 seconds and then relax. Repeat 3 times.



4. TOE EXTENSION:

Grasp toes with one hand and bend toes and ankle upwards allowing stretch of Achilles/calf and plantar fascia. Hold for 10 seconds and repeat for 2-3 minutes.

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