

# Plantar and Medial Heel Pain - Diagnosis and Management

## Common Causes and Treatment of Heel Pain

Heel pain is a common ailment that is frequently misdiagnosed because there can be a lot going on in a small space. A review article recently looked at the most common diagnoses and their causes. The authors challenge that a thorough exam should result in a correct diagnosis, which usually can be treated conservatively with over the counter anti-inflammatory medication (NSAIDs), rest, shoe modification, or physical therapy. Corticosteroid injections should be used with caution because of the multiple side effects and brief relief of symptoms. Surgery should only be considered when all other options have been completely explored.

Plantar fasciitis (PF) is the most frequently diagnosed cause of heel pain. The plantar fascia is a stiff piece of tissue that originates at the inner heel and is responsible for helping with maintaining an arch during push off while walking or running. PF is a slow degeneration of this tissue and is often caused by micro-trauma or strain. The telltale symptom is the dreaded first step in the morning that is painfully sharp but does not radiate. Pulling the big toe up or pushing on the PF itself recreates this pain. Effective treatment includes physical therapy, rest, stretches, store bought orthotics, ice, NSAIDs, and weight loss. Evidence is mixed on long-term outcomes for night splints, prescription orthoses and the use of walking boots. Corticosteroid injections improve pain initially but can increase risk of PF rupture, along with skin and fat pad shrinking, or an increase in pain following the injection.

“Heel pad atrophy” occurs when the fat pad under your heel bone, usually responsible for shock absorbance begins to break down. Pain is deep and localized in the center of the heel and is often mistaken for PF. Treatment should include NSAIDs, padded shoes, silicone heel cups, and low impact activities. Corticosteroid injections should not be performed as this can shrink the fat pad further and surgery should be avoided as there are no existing techniques that effectively address this problem.

The Baxter nerve travels down the inner side of the heel and can be squished, or entrapped, between a foot muscle or at the level of the heel bone. Burning pain is felt on the inside of the heel bone, or calcaneus, toward the arch in the foot. About half of patients with Baxter nerve entrapment usually also have PF. Conservative treatment includes physical therapy, rest, NSAIDs, and orthotics for proper heel alignment. Surgery is only considered if conservative measures have not worked and symptoms have lasted greater than three months. The most common surgical technique is to cut the fibrous tissue of the main foot muscle that is crushing the nerve, the abductor hallucis. Other surgical techniques include removing bone spurs and cutting other muscle and fascia involved.

Calcaneal stress fractures, or tiny breaks in the heel bone, are often caused by a sudden increase in intensity of exercise. Pain is felt on the inside of the heel about 1 to 2 centimeters up from the pad of the foot and is a deep ache that increases with bearing weight but can become bad enough to feel even at rest. Stress fractures show up on an x-ray about two to eight weeks following injury. Treatment includes rest and wearing a walking boot or cast for four to eight weeks.

Tarsal tunnel syndrome happens when the tibial nerve, which normally travels through a tunnel created by fibrous tissue and the heel (calcaneal) bone, becomes trapped. This most commonly affects people with flat feet. The pain is not well pinpointed but is often behind the inside ankle bone and is tingling or burning and can radiate to the foot. Conservative treatment includes NSAIDs, immobilization, or custom orthoses. Surgery is an option when conservative treatment fails and involves careful release (cutting) of the fibrous tissue making up the roof of the tunnel. Good outcomes for surgical intervention, however, are around 50 per

cent.

Reference: Craig R Lareau, M.D. et al. Plantar and Medial Heel Pain: Diagnosis and Management. *The Journal of American Academy of Orthopaedic Surgeons*. June, 2014. Vol 22, No. 6. Pp 372-380.

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