

Stretching or Shock-Wave Therapy for Plantar Fasciopathy?

Many people suffer from foot pain attributed to plantar fasciitis. But when the pain becomes chronic and lasts months to years, the problem isn't one of inflammation but rather a failure to heal. The condition is referred to as plantar fasciopathy. What can be done to help?

The plantar fascia is a thick band of connective tissue along the bottom of the foot. It goes from the calcaneus (heel bone) to the metatarsal bones (toes). It supports the arch of the foot and helps carry the load of body weight during standing and walking activities.

Usually treatment of musculoskeletal conditions depends on the cause of the problem. But with plantar fasciopathy, the cause remains unknown. Or rather, we should say, the cause is poorly understood. For some people (like runners), overuse, training errors, and poor footwear may be contributing factors. Older adults who are overweight or who have problems with foot alignment may be at increased risk for plantar fasciopathy.

Chronic pain from plantar fasciopathy likely starts out as plantar fasciitis, a true inflammatory process. If caught early, such cases can be cured with conservative care such as stretching exercises. But a failed healing response can lead to continued, unresolved pain.

In this study, researchers from Germany compare two treatment methods for acute pain associated with the plantar fascia. Adults between the ages of 27 and 70 were included. Everyone had plantar fascia pain for less than six weeks. No one had received any treatment of any kind for the problem.

They were divided randomly into two groups. One group received a stretching program for the plantar fascia. The stretches were done three times daily for eight weeks. The second group received low-energy radial shock-wave therapy to the bottom of the foot. The shock wave therapy was given once a week for three weeks.

The patients were followed for three years. Results were reported comparing pain levels and foot function. They found that in the short-run (first four months), the stretching group had significantly better results. But by the end of 15 months, there was no difference between the two groups.

The authors concluded that their belief that any treatment for plantar fasciitis when delivered early in the process would have the same curative effect. But that didn't turn out to be the case as the patients who did the stretching exercises had much better results than those who received the shock-wave therapy.

The results might seem logical if shock-wave therapy was a placebo or bogus treatment. But it is not. Shock-wave therapy has been shown effective in other conditions because it gets rid of substance P (P stands for Pain) in the sensory nerve fibers and in the spinal cord (pathway to the brain). Shock-wave therapy also stimulates and speeds up the healing response -- at least that's what other studies have shown when using this tool.

So why does stretching work and shock-wave therapy doesn't? The answer to that may take more study. For now, it is suggested that perhaps more time is needed for the healing response to kick in.

Maybe two or even four months isn't enough time to see the desired results. Maybe three sessions over a three-week period of time is just the beginning of what's really needed. The authors even suggested it's possible that stretching isn't necessary. If everyone was pain free by the end of 15 months, maybe the condition will resolve on its own in the end no matter what treatment is applied.

The dilemma of finding an effective early treatment for plantar fasciopathy continues. The results of this study add some information by comparing two specific treatment approaches (stretching and shock-wave therapy). More study is needed to solve this puzzle.

Reference: Jan D. Rompe, MD, et al. Plantar Fascia-Specific Stretching Versus Radial Shock-Wave Therapy as Initial Treatment of Plantar Fasciopathy. In *The Journal of Bone & Joint Surgery*. November 3, 2010. Vol. 92. No. 15. Pp. 2514-2522.