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804-594-0403

Stretching Exercises Delay Time to Recovery

Some recent research published by Podiatrist Lance Barry puts into serious question standard stretching exercises as treatment for plantar fasciitis. Plantar fasciitis (pronounced fashee-eye-tus) is an over use injury affecting the sole of the foot. Typically it involves inflammation of the tough fibrous band of tissue (fascia) that connects the heel bone to the toes.

Standard treatment options for plantar fasciitis are many and varied and include medication, steroid injection, rest, shoe gear changes, orthotic/shoe inserts, strapping/taping, ice, massage, night splints, and stretching.

To date, the gold standard treatment for heel pain has been "stretching exercises". The medical literature is deep with anecdotal and research papers extolling the virtue of using stretching exercises to treat heel pain. The American Foot & Ankle Society prominently recommends stretching exercises as the "mainstay of treating the condition". A simple Internet search for plantar fasciitis will illustrate just how widespread these stretching recommendations are.



In 1991 researchers at Thomas Jefferson Hospital in Philadelphia identified a unique treatment approach for heel pain by using night splints. A night splint is an appliance that holds the foot and ankle in an optimal position while sleeping, the rationale being that this facilitates the healing of the injured plantar fascia. It is comparable to wearing a cast on the foot and ankle, but using it only when resting/sleeping. This approach has proven useful adjunct to the treatment of heel pain. Night splints are available for purchase on the Internet, and through running shoe mail order catalogues.

A further review of the literature reveals that studies on the effectiveness of night splints have typically included stretching exercises as part of the treatment regimen. Barry designed his investigation to address the question whether night splints alone are more effective than using stretching exercises.

One hundred and sixty individuals with plantar fasciitis participated in the study and were treated according to the standard regimen in addition to either night splints or stretching. Seventy-one patients performed standing stretching or the gastrocnemius soleus complex. Eighty-nine patients used a prefabricated night splint without standing stretching. The group treated with just the night splint showed significantly shorter recovery times, fewer follow up visits, and fewer total additional interventions.

The measure of time to recovery was rigorous. Recovery was defined as no pain in the morning, no pain with first step after a period of inactivity, and no pain on direct palpation of the heel.

Previous investigations reported recovery time to vary from 8 weeks to 44 weeks. Dr. Barry's study reported an average recovery time of 2.5 weeks. Barry's study reported an average recovery time of two and half weeks for the night splint group, with all but two of the subjects reporting recovery within 8 weeks. This is a remarkable time for recovery from plantar fasciitis. The results suggest that stretching exercise for heel pain slows down recovery, challenging the well-established beliefs of many health care professionals.

When you think about using a night splint without stretching exercises, it does make some sense. A well-established principle of bone and soft tissue healing is immobilization of the damaged tissue in an anatomical position or alignment that allows healing to occur. This is what you would expect if you broke a bone; the physician would line up the two loose ends and put the bone in a cast. Stretching exercises do not begin until the bone has healed. It seems logical that this principle should apply to plantar fasciitis injuries as well.

It is not clear why the standard treatment for plantar fasciitis has historically included stretching exercises beginning on the day of diagnosis. A possible explanation may deal with concern about the calf muscles. It is known, for example, that individuals with short or tight calf muscles that limit ankle flexion are at higher risk for plantar fasciitis. Possibly by extension, and believing that these calf muscles need elongating and lengthening, health care professionals began recommending stretching exercises.

I admit that over my 30 years of being a physical therapist I have recommended to patients with heel pain that they should do stretching exercises. I followed the protocol recommended by experts. When the patients asked how often they should stretch I told them "you can't do it often enough, the more the better". However over the years I changed my approach to treating heel pain as well as my approach to using stretching exercises to treat and prevent injuries.

I believe that treatment should be based on the clinical evidence the patient presents with. If the calve is tight it should be stretched. If the plantar fascia is tight it should be stretched. If the calve is normal length or loose it should not be stretched. If, the plantar fascias is normal length or loose it should not be stretched. The challenge of course is to assess whether the soft tissue is normal length or lax. This recent study by Dr Barry provides some research evidence to support this philosophy.

Stretch what is short do not stretch what is normal or loose/lax.

L. D. Barry, A. N. Barry & Y. Chen. A retrospective study of standing gastrocnemius-soleus stretching versus high splinting I the treatment of plantar fasciitis. *Journal of Foot & Ankle Surgery*, 41(4)221-227, 2002