

## **Plantar fasciitis injury**

**Peter Sandery Level IV ATFCA Coach**

If you develop pain in the mid section of the bottom of the heel there are several possible causes, one of the most common of which for runners and walkers is plantar fasciitis. The cause of this pain is degeneration of the plantar fascia, the collagen based connective tissue that maintains the longitudinal arch of the foot and provides dynamic shock absorption in the foot. For athletes, this damage results from repetitive small tears (microtears) of the plantar fascia that accumulate to exceed the capacity of the body to repair itself. It is normal for training to cause microtrauma - tissues break down and are rebuilt to better withstand the demands put on them. Problems result when tissue damage is excessive or the rebuilding cannot be completed before the next demand is made on the body. The most likely causes of the injury may be an increase in intensity or volume of training, excessive impact forces on the body from hard surfaces, or worn/unsuitable shoes. It may also be caused by tight calf muscles pulling on the calcaneus (heel) bone or by Achilles tendon problems. Some elderly people develop the problem as a result of biomechanical faults, often associated with a decrease in muscle strength and in the capacity of tissue to absorb impacts, combined with decreased healing rates. For runners and walkers, the most likely cause is overuse, resulting in cumulative impact forces that exceed the capacity of the tissue to absorb them.

The usual sign of plantar fasciitis is severe pain in the bottom of the heel with the first few steps you take in the morning or, if the condition worsens, when you take the first few steps after sitting for some time during the day. It may also occur after a period of prolonged standing. In the early stages of the injury the pain usually goes away or lessens as you warm up. There are other conditions that cause heel pain and it is a good idea to seek medical advice if the problem persists or worsens. In any case, early diagnosis and treatment is likely to reduce the time taken to alleviate the injury.

The most effective cure for this injury in most cases is to stop training and racing until the symptoms go away - not surprising if the cause is overuse. This could take anything from 6 to 18 months depending on the severity of the tissue damage. This is unlikely to have much appeal to most athletes, so what is plan B? Research lists a range of things that may alleviate the pain. The fact that people have found relief using different treatments ranging from rest to surgery suggests that the specific causes of the pain vary from person to person.

Plantar fasciitis is a self-limiting condition in that if you persist with the things that cause it, the pain will eventually force you to stop or at least back off. Things like replacing worn shoes, changing the style of shoe, reducing the amount of running you do on hard surfaces, substituting an alternative activity such as cycling or swimming for some running sessions, etc, will reduce the potential for aggravating the injury. The idea is to lower the rate of injury below the rate of the capacity of the body to heal it.

For active treatment of the problem there are a few stretching and strengthening activities you can try. Whether they are effective or not (and you will have to persist

with the exercises for an extended period of time) will depend on the nature of your problem. Stretch the calf muscles regularly to improve flexibility with a straight leg for soleus stretch, bent knee for gastrocnemius stretch. Flex the foot in a regular pattern to improve the intrinsic strength of the muscles that power its motion and hence its capacity to absorb impact forces. Roll a tennis ball along and across the longitudinal arch of the foot for periods of 10 to 15 minutes several times a day, using sufficient force to stretch and massage the plantar fascia.

More drastic, and expensive, treatment can involve wearing special night splints, use of orthotics, injections, low voltage electrical impulses, shockwave therapy or surgery, but these are measures that would only be taken on medical advice following failure of the things suggested above.