



# Stretching exercises : plantar fasciitis

## Intervention

Stretching of the plantar fascia ligament in adults with chronic heel pain due to plantar fasciitis.

## Indication

Adults with chronic heel pain due to plantar fasciitis. The aim is to reduce pain and improve physical function.

### Diagnosing plantar fasciitis

- Patients experience intense sharp pain with the first few steps in the morning or following long periods of having no weight on the foot. The pain can also be aggravated by prolonged standing or sitting.
- The pain is usually experienced on the plantar surface of the foot at the anterior aspect of the heel where the plantar fascia ligament inserts into the calcaneus. It may radiate proximally in severe cases.
- Some patients may limp or prefer to walk on their toes.
- Alternative causes of heel pain include fat pad atrophy, plantar warts and foreign body.

## Precautions

Emphasise the need to perform the stretches correctly to minimise the risk of injury and maximise the benefits of the stretch.

## Adverse Effects

In the clinical trials, adverse effects were generally infrequent and usually of a mild to moderate intensity. They included possible increased heel pain on stretching, and calf pain or a new pain in the lower limb. However, participant numbers in these trials were small and the duration of the interventions were brief.

## Availability

The plantar fascia stretch can be easily explained to patients during a consultation.

## Description

10 repetitions of the stretch should be performed at least 3 times a day (more often is preferable) for at least 8 weeks.

The most important times to perform the stretch are before taking the first step in the morning and before standing after a period of prolonged sitting.

### Plantar fascia stretch



The patient sits down and crosses their affected leg over their non-affected leg.



With the hand of the affected side, the patient grabs the toes of their affected foot and pulls them back towards their shin for a count of 10 seconds. This stretches the plantar fascia in the arch of the foot.



To check if the foot is being stretched correctly, the patient can gently rub the thumb of the other hand over the arch of the affected foot while doing the stretch. The plantar fascia should feel firm like a guitar string.

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## Tips

Performing an Achilles tendon stretch may give additional benefit but should not be done until after the plantar fascia stretch to avoid the micro-tearing and inflammation that is associated with plantar fasciitis.

## Grading

NHMRC Level 2 evidence

## References

DiGiovanni BF, Nawoczenski DA, Lintal ME et al. Tissue-specific plantar fascia-stretching exercise enhances outcomes in patients with chronic heel pain: a prospective, randomized study. *J Bone Joint Surg* 2003;85-A: 1270–77.

## Consumer resources

The **HANDI Plantar fascia stretch handout** can be downloaded and printed.

[www.racgp.org.au/your-practice/guidelines/handi/interventions/stretching-exercises-for-plantar-fasciitis#downloads](http://www.racgp.org.au/your-practice/guidelines/handi/interventions/stretching-exercises-for-plantar-fasciitis#downloads)

Other consumer resources about this stretch may have additional advice where the evidence may not be robust or have been properly reviewed.