HEEL PAIN AND PLANTAR FASCIOPATHY (Pain beneath the heel)

What is it?

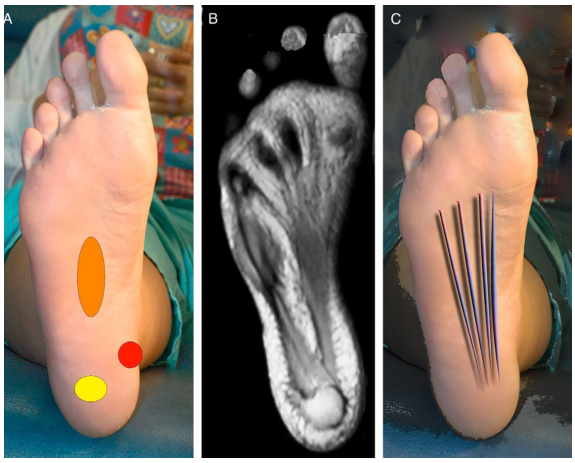
Persistent pain beneath the heel is one of the most common symptoms within the foot and ankle.
Numerous medical terms are used to describe heel pain including plantar fasciitis or policemans heel. Clinicians prefer to use the terms plantar heel pain or plantar fasciopathy. These refer to pain under the sole of the foot (Plantar), within collagen connective tissue (Fascia) and disorder (opathy).
The plantar fascia is a broad band of fibrous tissue located from the heel to base of toes, beneath muscles of the foot, assisting in stability of the arches during weightbearing.

What does it do?

It stores and releases energy making walking and running activities more efficient.

Why does it get painful?

Pain occurs after unaccustomed increased activities such as prolonged standing or running. Excessive strain loads the fascia, result in fraying, tearing and secondary thickening of the tissue. It becomes irritable at its attachment to the heel bone (calcaneum) known as traction periostitis.



A – common sites of heel pain
B – MRI scan showing the plantar fascia
C – sites of tension strain within the plantar fascia

James L. Thomas et al. 2010

How long does it last?

Pain may settle without treatment, but pain is better managed in those who follow advice. Typically, it lasts for six to nine months but may remain for up to 3 years in few cases, but 80% of peoples' symptoms are clear by 24 months.

Are there other reasons it may occur?

It most common in people over 40 years of age. Theories why people experience pain include:

- Excessive, intense or sudden spikes in exercise
- Weight gain
- Stiffness or weakness about the foot, ankle or lower limb
- Foot posture e.g., those with high or low arches
- Occupations that require long periods of standing upon hard floors

Signs and Symptoms

Pain typically occurs gradually without a specific injury. It is triggered by sudden increases in activity or a sudden change in the style of footwear used, e.g., walking for long periods in flat shoes after normally wearing heeled shoes.
This results in excessive loading of the plantar fascia, inability for the tissue to comfortably adapt, tissue injury and pain.

Typically, one foot is affected, but one third of people experience pain in both.
Pain upon standing and getting going is common, easing as you move during the day but returning at the end of the day.
It is known that long periods of standing aggravate pain.

If you experienced an injury with sudden pain, swelling, bruising, redness or changes in the appearance of your foot shape, ask your GP to refer you into your local Musculoskeletal (MSK) service for opinion from a Foot & Ankle Health professional.

How can I manage my heel pain?

It can be managed with simple activity changes and exercise without the need to see a medical specialist. The following strategies may reduce your pain and lead to a quicker recovery:

- **Rest / activity modification:** Avoid aggravating activity if possible and allow tissues time to repair and adapt.
  A reliable indicator of improvement is how pain feels upon standing. If pain lasts longer or is more intense, this is a sign that you have overdone things the day or two before, so ease back on your activity and gently ease back over time
- **Footwear:** Use a soft cushioned sole, well fitted and wide enough to allow the toes to comfortably spread out. Avoid walking barefooted and using thin soled unsupportive footwear. Wearing a shoe with a small heel may feel more comfortable.
- **Medication:** National guidelines suggest paracetamol for pain and an anti - inflammatory tablet (NSAID) such as Ibuprofen to reduce pain and inflammation. Take these only after food for 3-4 days only. Follow the recommended dosage advice. NSAIDS can raise the risk of heart attack or stroke and you should ideally consult with a pharmacist or GP if concerned and have a known history of cardiovascular disease.
- **Heel pads:** Use soft foam or gel heel pads or an insole with arch support which can be purchased in shops or online, to improve comfort.
- **Ice massage:** roll your barefoot back and forth from toes to heel over a frozen plastic bottle or can. This may gently desensitise your pain symptoms and can be comforting at the end of the day.
- **Taping the foot:** using sports tape attempts to rest the plantar fascia, this allows a patient to walk more comfortably. Avoid tape if you have fragile or sensitive skin. If concerned or if a rash occurs stop using. Follow the steps below to apply the tape.

- **Fascial mobilisation:** Gently bend your toes upwards and push with your finger or thumb into your arch, changing location frequently. Perform this 10 times for 10 seconds, three times per day.

- **Calf stretches:** This is important to perform each day, as frequent calf stretching may ease symptoms in the heel. Stiff calf muscles may cause plantar fascia irritation during standing and walking.
  The aim of these exercises is to increase ankle motion during activity and reduce tension at the plantar fascia.

  Keep your feet pointing straight ahead and heels flat to the floor. Swap feet over and repeat. Hold for 15 seconds avoiding bouncing forwards and backwards. Progressively increase the hold for 60 seconds 5 times per day. Swap feet and hold again. Perform 5 x day.

- **Strengthening exercises:** Improvement in calf muscle strength may assist ability of the leg, foot and ankle to better tolerate mechanical loads.
  Roll a small towel and place it on the floor. Place your toes on top of the roll under both feet. Lift your heels from the floor. Return to the start position and repeat until you can perform 15 easily. Progressing to repeating this exercise upon 1 leg is a good sign of leg strength.

Continue performing the exercises once pain has settled, to reduce the risk of pain returning.
It is normal to feel some discomfort whilst performing the exercises, but pain experienced during exercises should be managed by reducing the repetitions and take rest days between and slowly build up again.

Summary

Heel pain usually occurs from overdoing things, with symptoms that may settle quickly or last for one to two years if not managed appropriately.
By following advice, you should be able to self - manage and reduce the length of time taken for pain to settle down.
If you have tried the exercises for at least 3 months but continue to experience pain. Request a review with your GP or health professional.
Pain management interventions in the form of Electro Corporal Shockwave Therapy (ESWT) is considered for heel pain of less than 12 months. Pain that has not responded to ESWT or if a patient is not suitable for ESWT may be considered for steroid injection therapy. This comes with risks of pain, infection risk of plantar fascia rupture. Both strategies are not guaranteed to reduce pain.

Sources of information

James L. Thomas et al. The Diagnosis and Treatment of Heel Pain: A Clinical Practice. Guideline–Revision 2010. The Journal of Foot & Ankle Surgery 49 (2010) S1–S19.

Rehab My patient: plantar fascia exercises:
https://app2.rehabmypatient.com/exercise-plan?id=0&mode=plan

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After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

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Reference

The following clinicians have been consulted and agreed this patient information:
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The directorate group that has agreed this patient information leaflet:
Community Health and Integrated Care - Podiatry ESHT NHS

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