

PLANTAR FASCIITIS

Plantar Fasciitis is characterized by pain (with or without inflammation) localised underneath your heel. The plantar fascia is a thick band of tissue which comes from the heel and attaches into to the underneath of your toes. It acts as a shock absorber and support for the arch of your foot. Repeated small trauma and overload is thought to be the main cause for plantar fasciitis. This can occur with or without active inflammation.



It is one of the most common foot pathologies, accounting for about 15% of all foot injuries (2). Roughly 10 % of the population will get it at some point in their lifetime. It is most common in people between the ages of 40 and 60 years old, but it can occur at any age. It accounts for 8% of running injuries (2)

The condition does usually settle with time and good early management. Prognosis is good as virtually all trials report improvement or resolution of symptoms regardless of intervention at 1 year. (1) But sometimes more chronic or severe cases require further treatments.

SYMPTOMS

Pain is the main symptom. Usually felt in a very localised area underneath your heel. The pain is usually at its worst first thing in the morning, especially when you take your first steps in the morning. You can also feel stiffness and pain when you get up after a period of rest. Sudden stretching of the sole of the foot, for instance when you go up or downstairs can also be difficult.

CONTRIBUTING FACTORS



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- Being overweight. This will put extra strain on your heel. BMI>30 linked to increased risk
- Standing at work. Being on your feet a lot during your normal day.
- Tightness in calf muscle and Achilles. This causes reduced ankle range of movement and leads to excessive pressure on your heel.
- Poor and unsupportive footwear.
- Sudden increase in activity or training.
- Women twice as likely to have it as men.

TREATMENT

1. Initial Management

- Attention to footwear
- Weight loss
- Occupational factors
- Stretching
- Off the shelf Orthotics
- Heel pads
- Analgesia (pain relief)
- Ice packs

2. Second Line Treatment

- Custom made orthotics (for specific biomechanical problems)
- Dorsiflexion Night Splint
- Physiotherapy Specific Stretching Exercises

3. Third Line Treatment

- Hydro cortisone Injection into Plantar Fascia
- Immobilisation in Boot or Plaster
- Surgery (decompression plantar Nerve)
- Acupuncture
- Extra corporeal shockwave therapy (ESWT)



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PHYSIOTHERAPY

General advice regarding foot wear, off the shelf heel pads/orthotics, weight loss, reassurance, specific stretches, Taping (short term relief), Ice application and behavior modification.

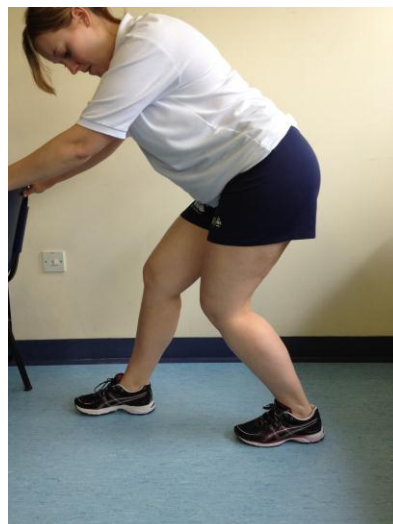
SPECIFIC STRETCHES

Evidence suggests that the Achilles tendon attaches to plantar fascia. Also that Incidence of Tendonopathy and Plantar Fasciitis is high. Therefore Gastrocnemius (Calf muscle), Soleus and Plantar Fascia stretches may be of benefit (Moderate Evidence in Literature (2)).

Calf stretches – Stand about an arms length away from a wall or chair. Stand with one foot in front of the other and toes pointing forwards (the affected leg at the back). Bend your front knee and you should feel a stretch in the back leg in the calf (keep both heels on the floor), hold for 20 – 30 seconds and repeat 3 times.
http://www.youtube.com/watch?v=1-TNX177_RU

Soleus stretches – In the same starting position as the calf stretch, but this time bend both knees – you should feel the stretch lower in the calf, hold for 20 – 30 seconds and repeat 3 times.

<http://www.youtube.com/watch?v=PQcn2L3rtBM>



Plantar fascia stretch.



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Below are pictures of 2 ways to stretch the plantar fascia directly. First exercise is standing in front of a wall or step. Put your big toe up onto wall/step, then lean forward and push your knee forward over your toes. You should feel a stretch in the sole of your foot and possibly Achilles tendon.

The second option can be a bit easier. If you have a sore or arthritic big toe, pushing it up on the wall may be uncomfortable. As an alternative you can do this stretch with the help of your hands. Sit with your affected leg crossed over the other knee as shown. Then use your hand to pull the toe then the ankle up towards you.



<http://www.youtube.com/watch?v=vWtaJuHrzWU>

Stretching may be repetitive 20-30 sec holds or longer sustained holds of up to 3 minutes. Evidence suggests both are equally effective. (2). You should perform 3 to 4 sets of each exercise daily.

Other Common exercises.

From clinical experience, we know that there can be other Biomechanical factors that can further impact on Plantar fasciitis. Such as weakness of stabilizing muscles around your hip, weakness of small (intrinsic) muscles on the sole of your foot and tightness of the hamstring muscles at the back of your thigh. So here are a few other exercises which you might be guided to do by your physiotherapist.

BRIDGING – Lie on the floor with your knees bent to about 90 degrees, your feet should be spaced equally to your shoulders. Slowly tighten your bottom muscles and



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lift hips off the floor. Hold this position for a few seconds then lower back down.
Repeat 10 – 15 times.

<http://www.youtube.com/watch?v=TNIAiAJwqgA>



CLAM (HIP ABDUCTION) – Lie on your side with affected leg on top. Bend your knees to about 90 degrees; make sure your shoulders, hips and feet are all in line. Keeping your feet together, lift your top knee up making sure your hips do not roll back. Hold for a few seconds then lower back. Repeat at least 10 – 15 times.

<http://www.youtube.com/watch?v=QJ9Rmst88iE>



Hamstring stretch.



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Sit on the edge of a chair or bed. Straighten your affected leg in front of you keeping knee straight. Then tip forward from your hips, ensuring you keep your back straight as shown. You should feel the stretch in the back of your thigh and down towards the back of your knee.



Toe scrunches.

Put a towel on the floor and rest your foot on it. Then scrunch the towel up by pulling toes in towards you. You will feel the muscles tighten in the sole and arch of your foot. Hold contraction for 3 to 5 seconds and repeat 10 to 15 times.



References

1. Clinical Practice Guideline Heel Pain Panel The diagnosis of heel pain. J Foot Ankle Surg 2001 40 329-40



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2. Heel Pain-Plantar Fasciitis *Clinical Practice Guidelines Linked to the International Classification of Functioning, Disability and Health from the Orthopaedic Section of the American Physical Therapy Association.* J Orthop Sports Phys Ther 2008:38(4)
3. East Lancashire Foot and Ankle Hyperbook; Heel Pain>Clinical Features
<http://www.foohyperbook.com/elective/HeelPain/heelPainClinical.htm>

**This leaflet is available in larger print and other formats
please contact physiotherapy department on the address
below.**

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