

# Self-management of Plantar Fasciitis

Information and Exercises

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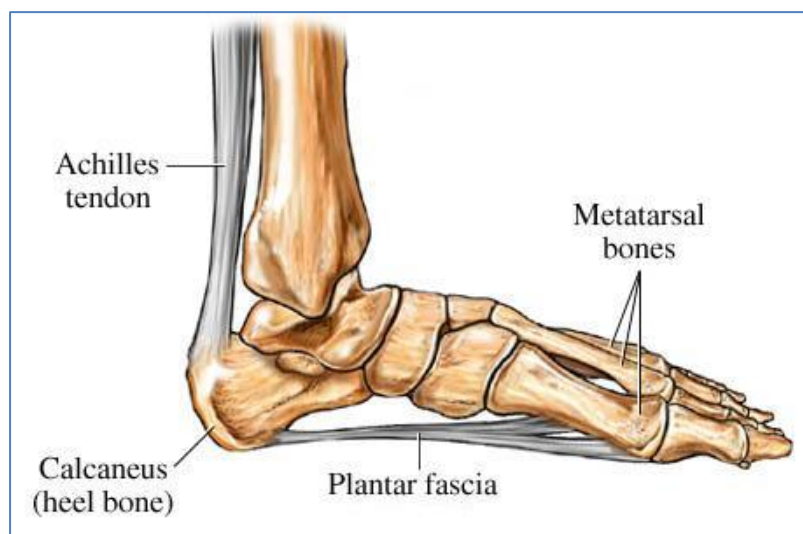
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**This booklet has been designed to help guide you through the management of your Plantar Fasciitis. It is important that you read this booklet so that you have a better understanding of the condition and its management.**

## What is the Plantar Fascia?

The Plantar Fascia is a fibrous band of soft tissue that connects the heel bone (Calcaneum) to the toes in your foot and help to reinforce the arch of your foot. It acts like a bow string to stiffen the foot when you walk.



## Prevalence of Plantar Fasciitis :

Plantar Fasciitis is a relatively common soft tissue injury that is thought to affect 10% of the adult population at least once in their lifetime. Plantar Fasciitis can affect both athletes and non athletes and is most prevalent between the ages of 40 to 60 years and is more common in the female population. Plantar Fasciitis is more common in occupations requiring prolonged standing on hard surfaces and in sporting activities such as long distance running.

## Causes of Plantar Fasciitis

The cause of Plantar Fasciitis still remains unclear. Plantar Fasciitis is believed to be a result of excessive repetitive strain through the plantar fascia which may be tight.

This causes degenerative changes in the fascia resulting in pain. The term Plantar fasciitis is misleading as the term is suggestive of inflammation. However the presence of inflammation in the Plantar fascia remains elusive.

There are many factors thought to contribute to the onset of Plantar fasciitis.

These may be:

- Age: More common between the age of 40 and 60 years
- Gender: More common in the female population.
- High Body Mass Index
- Reduced ankle movement
- High arched feet
- Long distance running
- Occupations requiring prolonged time on feet
- Poor unsupportive footwear

## Clinical Diagnosis

The clinical diagnosis is relatively straightforward with pain typically localised around the heel bone. Morning stiffness and/or pain on rising from bed or a chair after resting is typical. The pain usually reduces with walking.

## Imaging

An Ultrasound Scan is commonly used to confirm the diagnosis of Plantar fasciitis. This is a quick, safe and effective way of visualising the Plantar fascia. Sometimes the clinical signs are enough to diagnose without the use of an ultrasound.

If the diagnosis of Plantar fasciitis is uncertain the clinician may arrange an X-ray or Magnetic Resonance Imaging (MRI) to ascertain a diagnosis. Sometimes an X-ray may show a heel spur which is a spur of bone on the heel at the insertion of the plantar fascia. However this can be misleading because approximately 30% of patients have a heel spur but do not have heel pain.

## Common symptoms associated with Plantar Fasciitis

The most common symptoms that people complain of when presenting with Plantar fasciitis are:

- i) Morning stiffness: Many people complain of stiffness around the heel bone on rising in the morning which usually resolves after a few minutes of walking. In some cases the stiffness may last longer.
- ii) Tenderness on the heel bone with prolonged walking or standing and when pressing the heel.
- iii) Variable pain: Some people can 'exercise' through the pain. This means that the pain settles during exercise but after resting the pain may increase. Some people can experience severe pain from the Plantar fascia which stops them doing their sport and may cause a limp.

## Treatments

### Simple pain relief:

**Ice:** Applying ice wrapped in a damp tea towel to the tendon helps reduce pain. Apply for 20 minutes, 4 times a day or after exercise.

**Simple pain killers:** Paracetamol or anti-inflammatories such as Ibuprofen or Diclofenac.

**Relative rest:** Maintain fitness using different forms of exercise but resting the tendon e.g. Swimming, cycling, aqua running.

**Stretching the Plantar fascia** (see page 6).

### Other Self- Management Strategies:

The treatment of Plantar fasciitis is varied and may include a combination of different treatment modalities.

The treatment consists of a combination of the following under the guidance of your clinician:

- Stretches,
- Orthotics,
- Advice, on management of Plantar Fasciitis
- Activity modification
- Night splints
- Weight loss if appropriate
- Pain relief
- Referral to Physiotherapy

The following information in this booklet provides guideline for the initial treatment of this condition

If your consultant feels that it is appropriate, they may suggest you also have some physiotherapy. The physiotherapists may provide additional treatments to assist your progress.

## Stretches

*Always stretch after you have warmed up, never cold. Stretch both legs although only one is illustrated here.*

### *Left Plantar Fascia Stretch-Standing*



Hold the Stretch for at least 1 minute(time it!)

Place your foot and toes against the wall and lean forwards

Repeat several times throughout the day

### *Left plantar fascia stretch-sitting*



Hold the stretch for 1 minute(time it!). Repeat little and often

Sit in a chair, cross legged, with your effected leg crossed over. Grab hold of your toes and pull them backwards until you can feel a stretch in the sole of your feet.

*Left Soleus muscle stretch*



Hold the stretch for 1 minute(time it!).

Do not let your heel come off the ground. You should feel a stretch in your calf

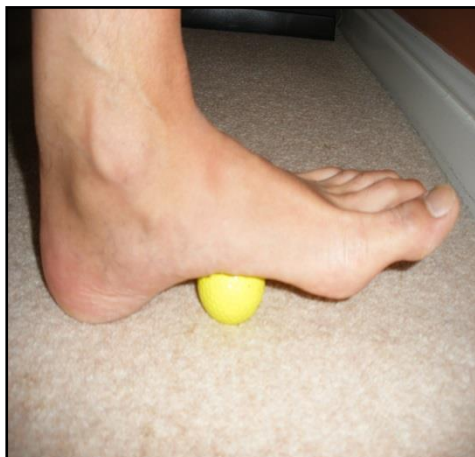
*Left Gastrocnemius muscle stretch*



Hold the stretch for 1 minute(time it!).

Do not let your heel come off the ground. You should feel a stretch in your calf

*Left plantar Fascia soft tissue release with golf ball*



Place your bare foot a golf ball. Put some pressure through the foot and roll the golf ball backwards and forwards for approximately 1 minute. This should help reduce the tightness in the plantar fascia



### *Frozen bottle massage*



Place your bare foot on the frozen bottle of water and roll the bottle backwards and forwards.

Repeat for a few minutes.

Avoid ice burns so monitor your skin.

If you have altered sensation in your foot then do not do this exercise

## What happens if I do not respond to treatment?

There are alternative options available for the treatment of Plantar fasciitis that are resistant to conservative treatments.

### Dry Needling

This technique is only used when other treatments have failed to resolve the condition. Dry needling is a technique that the radiologist may consider under the advice of your clinician. The Radiologist will use Ultrasound imaging to ensure correct needle placement into the plantar fascia. The radiologist, will 'pepper' the plantar fascia with the needle to create an inflammatory response. This will help 'kick start' the healing process. However it is a relatively new technique and does not guarantee a cure. Occasionally it is also helpful to inject autologous blood or platelet rich plasma at the same time.

Before these options are considered you will need to discuss the pro's and con's with your consultant.

### Shockwave therapy

This technique involves applying high frequency ultrasound waves to the plantar fascia. This technique helps to break down the affected tissue so it can reform more

normally. There is good data to support this type of treatment. Normally you would require between 3 and 5 treatments spaced a week apart. If you would like to consider this, please discuss with your consultant.

## FAQ's

Q. Will I always have to do my exercise programme?

A. Not normally. If you find your symptoms returning then it is advisable to return to your exercise programme initially. However, if your symptoms do not improve then see your GP.

Q. Is there a surgical solution to Plantar Fasciitis?

A. Surgery tends to be the last resort when all other modalities have failed. It is not guaranteed to relieve your symptoms

Q. Will I benefit from a steroid injection into the Plantar fascia?

A. There is evidence to suggest that there is a risk of the Plantar fascia rupturing following a steroid injection so it is not encouraged. A steroid injection is often associated with post injection pain. Steroid injections are used for inflammatory conditions and there is no evidence of inflammation within the Plantar fascia

Q. Is there a risk that the Plantar fascia will rupture while doing my exercises?

A. There is no evidence that the Plantar fascia is at risk of rupture while doing these exercises

## Tips for treating Plantar Fasciitis

- Try to alter your work pattern if you are on your feet for long periods
- Weight management if appropriate.
- Wear footwear that has arch supports and with soft heels. Avoid walking in bare feet or 'flip flops'

## Training tips for your rehabilitation phase:

- ✓ Increase your running distance or time by 10% each week.
- ✓ Renew your trainers every 300 to 500 miles. Consider having two pairs of trainers 'on the go' at the same time.
- ✓ Vary your training. Combine different speeds, distances and times during your training period. This will allow the tendon to adapt to the loads placed upon it.
- ✓ Plan your training regime. Use websites such as [www.runnersworld.co.uk](http://www.runnersworld.co.uk) for advice on training tips.
- ✓ Make training more fun. Vary your exercise in different ways to train other parts of your body. This is termed 'cross training' and is a valuable method of reducing injury by distributing the loads placed upon your body.
- ✓ Examples of cross training that you may find useful:
  - Cycling is an excellent form of rehabilitation exercise because it will train both strength and maintain cardiovascular fitness
  - Cross training is particularly useful for runners and many people with Plantar fasciitis find they tolerate it well in the rehabilitation phase
  - Cross country skiing
  - Swimming
  - Rowing
  - Pilates
  - Circuit training
  - Spin classes

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