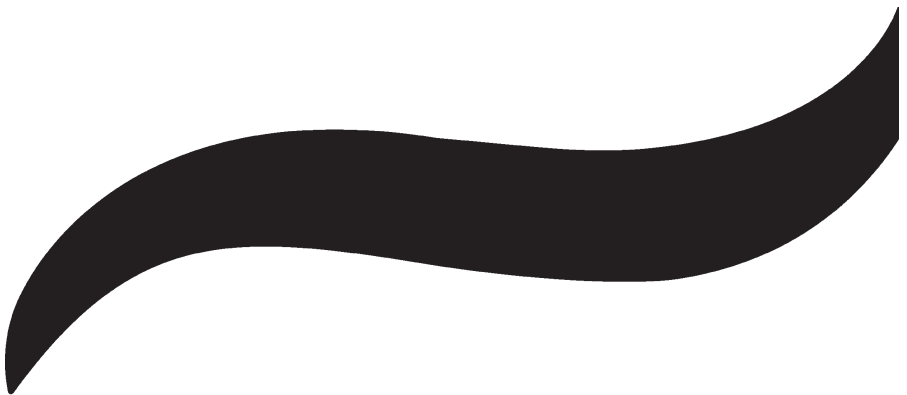




# Fat Pad Syndrome

Information for patients  
Podiatry



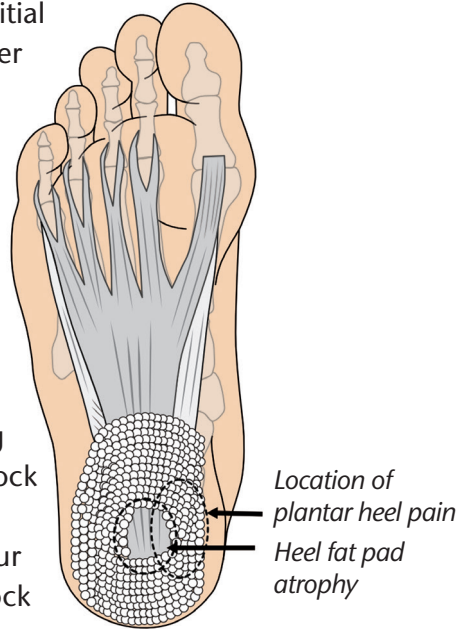
# WHAT IS FAT PAD SYNDROME?

Fat pad syndrome is a condition that usually happens in the centre of your heel and is most often due to thinning and degeneration of the fat pad. Symptoms can appear very similar to those of plantar fasciopathy. However, fat pad syndrome differs slightly. With initial first steps in the morning and after periods of rest, the discomfort is not as painful, the pain tends to build with increased weight bearing activity.

The plantar fat pad is the soft tissue layer in between the skin and the heel bone. It has a honeycombed structure with fibro-elastic chambers containing fat globules which helps with shock absorption and the spreading of pressure across the surface of your heel during activity. Reduced shock absorption will make the heel bone more vulnerable to repetitive microtrauma.

This can lead to chronic inflammation, bruising, swelling and pain within the heel bone.

Increased load can lead to irritation/ inflammation of the bursa which sits under the fat pad. A bursa is a small fluid filled sack that is found between the heel bone and the soft tissue. The bursa helps with shock absorption and to reduce friction.



## **Classic signs and symptoms:**

- ❖ A gradual onset of a dull achy pain under the centre of the heel.
- ❖ Pain increases with activity during periods of standing or walking.
- ❖ Localised swelling that can cause discomfort when wearing footwear.
- ❖ Can feel tender or warm and is more painful when you press directly on it.

## **WHAT CAUSES THE PROBLEM?**

In most cases, fat pad syndrome develops as a result of repeated overuse.

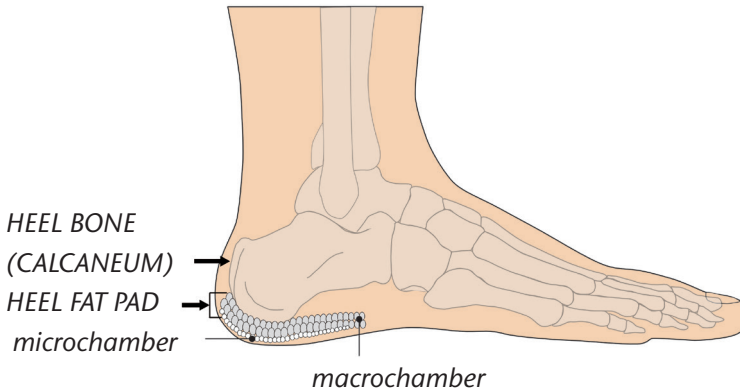
### **Other contributing factors**

- ❖ Being overweight
- ❖ Age (from 30+ years) natural thinning of the fat pad
- ❖ Wearing inappropriate unsupportive footwear
- ❖ Spending long periods standing or walking, especially with a sudden increase in these activities
- ❖ Diabetes
- ❖ Inflammatory conditions i.e. rheumatoid arthritis, psoriatic arthritis etc.
- ❖ Weakness in the muscles within your feet or leg
- ❖ Tightness of the muscles in the backs of your legs
- ❖ Not allowing adequate recovery time between activities
- ❖ Prolonged use of oral corticosteroids

## WHAT CAN I DO TO HELP?

Unfortunately there is no quick or easy fix and your symptoms will not improve overnight. The advice below is focused on reducing your symptoms to help you get back to normal activity. Most peoples' symptoms improve but it may take several months to get better.

It is important to note that if you have any of the above contributing factors you will need to consider making the necessary changes to your lifestyle to help aid your recovery. The only person who can help you get better is you!



## WEIGHT MANAGEMENT

Increased weight will place extra stress on your joints and soft tissues in your feet. Losing even a small amount of weight will make a big difference to this especially when walking, running, or going up and downstairs.

If you need help with weight-control, you can find information, advice and groups you can join to help you manage your weight better. To access the NHS BMI Calculator go to: [www.nhs.uk/live-well/healthyweight/bmi-calculator/](http://www.nhs.uk/live-well/healthyweight/bmi-calculator/) or otherwise open your camera on your smartphone or tablet and hold it up to the code and the link should appear on your screen, press this link and you'll be taken to this web address. This guide will help you on whether you should consider weight management.



## FOOTWEAR

Shoes that have flexible soles generally offer the foot less support and can increase the stress in soft tissues such as your plantar fascia. If you have shoelaces make sure they are tied appropriately. Avoid wearing hard, flat or unsupportive shoes.

## PAIN MANAGEMENT

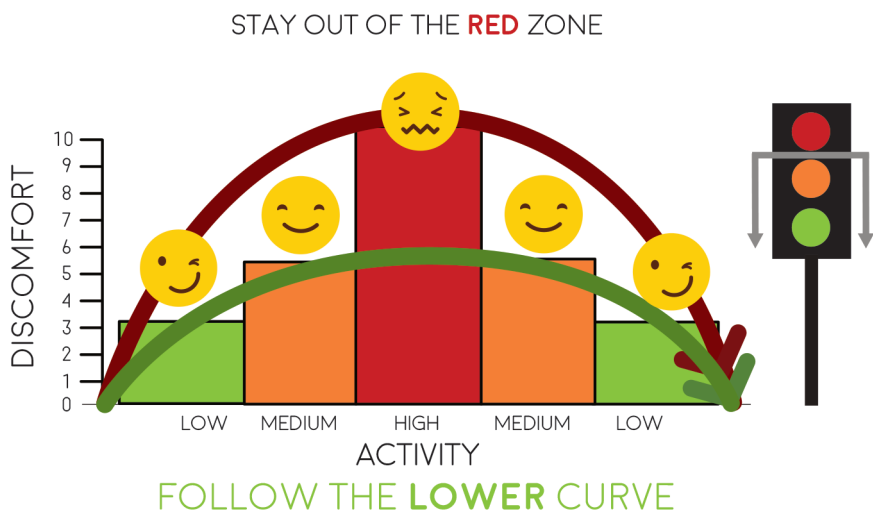
Pain medication can help reduce your symptoms, allow you to move more comfortably which will aid your recovery. Your community Pharmacist can provide guidance on specific medication or other methods of pain relief (always read the label and manufacturer's guidelines).

## INJURY MANAGEMENT

The P.O.L.I.C.E guidelines describe what you should do for the first 24 to 48 hours after suffering a mild sprain, strain or sports injury.

**P**rotection - Protect or support your injured body part for the first 24 to 48 hours after injury. Use a light bandage to support the injury.

**O**ptimal **L**oading - Early activity encourages early recovery. The key of optimal loading is movement of the injured area within a pain-free range to help promote optimal healing.



Prolonged rest could lengthen your recovery period and it may impact on your health and wellbeing.

**I**ce- If you've had an injury or flare-up in the last two days:

- ❖ wrap crushed ice in a damp towel
- ❖ hold it for 20 minutes against the part of your body that hurts. Make sure you use a damp towel between the ice and the skin to avoid the ice burning you.

Alternatively, you could try sports sprays and gel/cool packs, which do a similar job. You can do this every two to three hours.

## **SHOULD I USE A HEAT PAD?**

After two days, you may find that heat is more relaxing. You could use a heat pad or a hot water bottle with an insulated cover on it. Make sure this is not too hot and is not directly touching your skin. You should do this three to four times a day for 10 to 15 minutes.

**C**ompression- Apply compression with a bandage or tubi-grip type of support until the swelling goes down. Wrap the bandage starting from the end furthest from your heart. Loosen the bandage if the pain increases or the area becomes numb.

**Don't make the bandage too tight and do not wear tubigrip or any compression bandage in bed at night.**

**E**levation- Elevate your foot / ankle above the level of your heart as much as possible during the first 24 to 48 hours, especially when sitting or lying down. Make sure you use pillows underneath your foot for support.

After 48 hours:

- ❖ Try to weight-bear more, loading with a limp is generally normal in this phase, exercise can help relieve pain
- ❖ Do whatever you normally would and remain at work, or return to work
- ❖ Avoid sports or heavy lifting until you have less discomfort and improved movement

If you are in pain do not try and do all your normal daily activities such as housework, at once. Break the harder jobs down into smaller time frames and do something gentler in between. Extensive walking or standing should be avoided if it aggravates your pain. It is recommended to modify activities rather than to fully stop all forms of movement or exercise, so try swimming or cycling instead of walking or running.

## **STRENGTHENING AND STRETCHING EXERCISES**

Current evidence based strengthening and stretching exercises for the muscles in and around your foot and ankle can help to improve your heel pain.



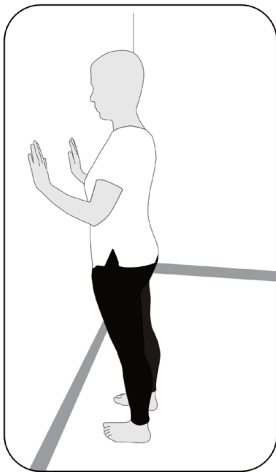
## STANDING CALF STRETCH

This exercise is done in two parts.

First support yourself by placing both hands shoulder height and width apart against the wall. Once supported take a step back with your painful foot. Make sure your heels are in contact with the ground and remain like this throughout this exercise with both feet also pointing forwards towards the wall.

Now slowly begin to bend your front knee whilst moving your upper body towards the wall until you feel a stretch in the calf muscles in the back of your leg.

Hold the stretch for 20 seconds and repeat three times with a small period of rest in between stretches.



The second part of this exercise is designed to stretch the soleus muscle which is one of your calf muscles. Starting in the same position as before slide your painful foot towards the front foot as being demonstrated. Now when bending the front knee also

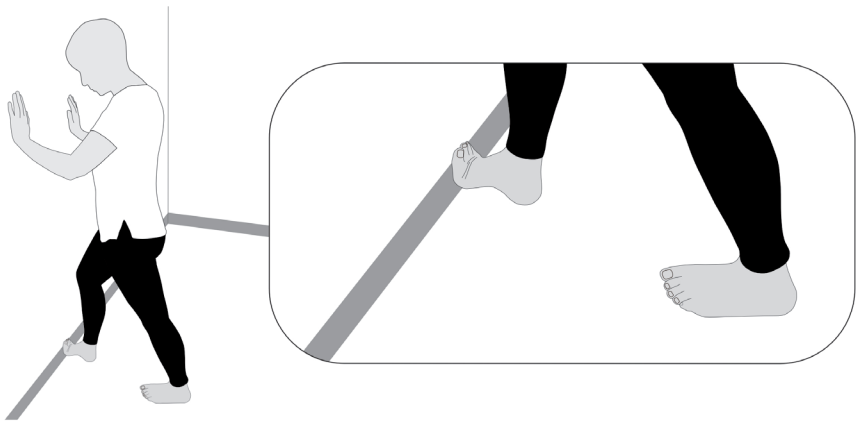
bend the knee of the back leg until you feel a deeper stretch in the calf muscle. Like the other stretches make sure your heel is in contact with the ground throughout the exercise. Hold this stretch for 20 seconds and repeat three times.

**If you feel this stretching exercise is making your pain worse then please focus on the strengthening exercises.**

## PLANTAR FASCIA WALL STRETCH

This exercise is designed to stretch the plantar fascia as well as the calf muscles.

First support yourself by placing both hands shoulder height and width apart against the wall. Place your painful foot in front of you and slowly begin bending your toes against the wall with the foot angled at around 45 degrees. Your heels must be kept on the ground throughout this exercise.



Now, start bending your front knee whilst moving your upper body towards the wall until you feel a stretch in the calf muscles in the back of your leg and the plantar fascia along the bottom of your foot.

Hold the stretch for 20 seconds and repeat three times with a small period of rest in between stretches.

This stretch can be done with or without footwear.

**If you feel this stretching exercise is making your pain worse then please focus on the strengthening exercises.**

# STANDING DOUBLE HEEL RAISES

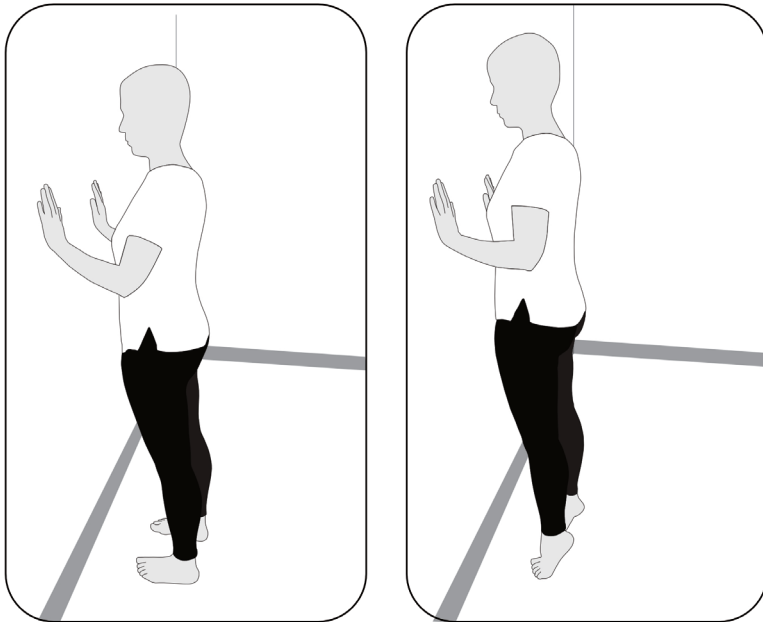
This exercise is designed to strengthen the plantar fascia as well as the calf muscles.

Standing close to the wall place both hands shoulder height and width apart as this will help with support.

Slowly start to raise up onto your tip toes lifting both heels off the ground. When you have raised the heels up as far as you are comfortable, begin to slowly and in a controlled way, lower the heels back down towards the ground.

Strengthening exercises should be built up gradually over a periods of weeks, so to begin with do as many repetitions as you can manage.

The aim is to do three sets of around 10-15 repetitions but remember it may take you several weeks before you are able to reach close to this.

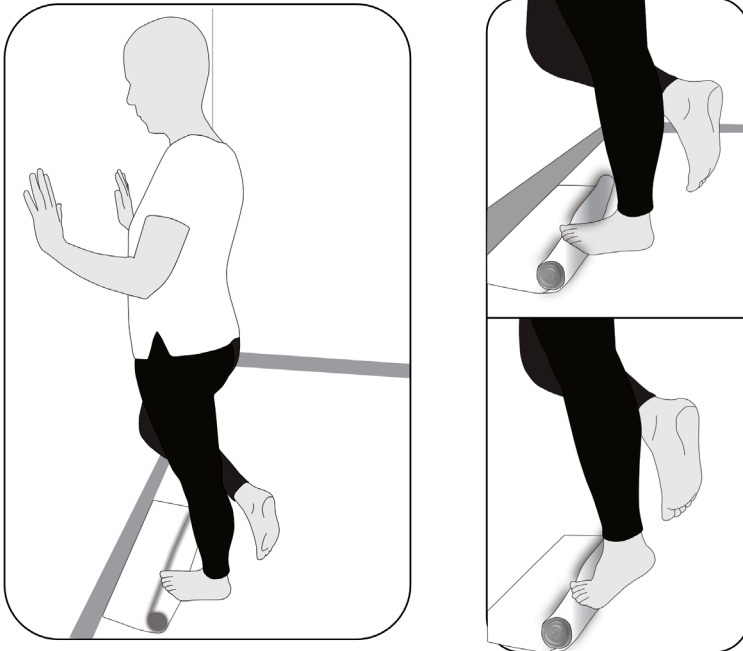


## PLANTAR FASCIA LOADING EXERCISE (HIGH LOAD EXERCISE)

This exercise is designed to strengthen the small muscles in your foot.

Place a rolled up towel on the floor. Place the toes of your painful foot against the rolled edge of the towel in as fully a flexed position as you can comfortably manage.

Now, begin to raise up onto your tiptoes lifting your heel off of the ground for a count of three seconds. Pause at the top for two seconds and then slowly lower your heel back down to the ground for a count of three seconds. One set of 15 is recommended.

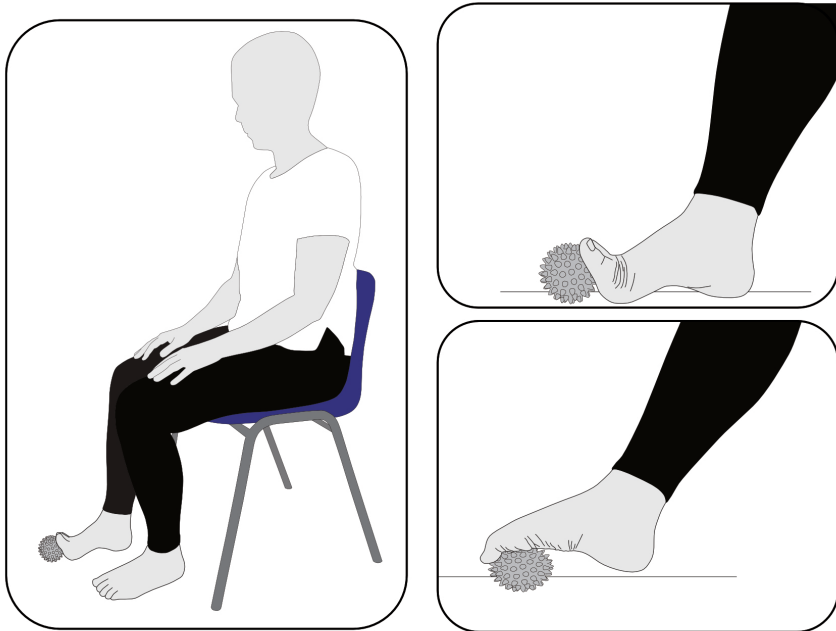


**This exercise should be performed every second day.**

## FOOT ARCH EXERCISE

This exercise is designed to strengthen the muscles in the arch of the foot.

Sitting comfortably in a chair, flex your toes against the friction ball with your heel and ball of the foot placed on the ground.



Slowly lift your heel and start to roll the ball under your toes. Your toes must continue to stay in contact with the ball at all times. Hold this position for three seconds and then slowly roll the ball backwards to bring the foot back to its starting position. When rolling the ball back make sure your heel touches the ground first before the ball of the foot.

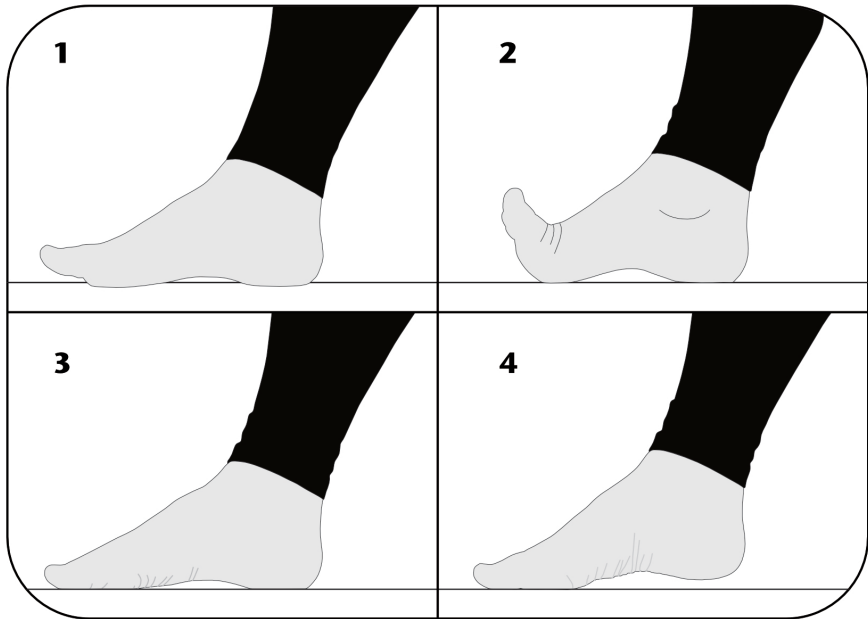
You should be able to feel the effects of this exercise in the arch of your foot and the muscles in the back of your leg.

# TOE MOTION EXERCISE

This exercise is designed to strengthen the small muscles in your foot and can be done with or without footwear.

In a seated position place your heel and ball of the foot on the ground and lift your toes towards you holding this for five seconds. Slowly bring your toes back down to the ground. Now with the tips of your toes grip the ground and slowly lift your heel up very slightly. Hold this position for five seconds. Relax and bring the toes back towards holding again for five seconds. Continue to work between these two positions for 10 repetitions.

If you experience some cramping in your foot when doing this exercise you should reduce the number of repetitions.



## PLANTAR FASCIA TOWEL STRETCH

This exercise is designed to stretch the plantar fascia.

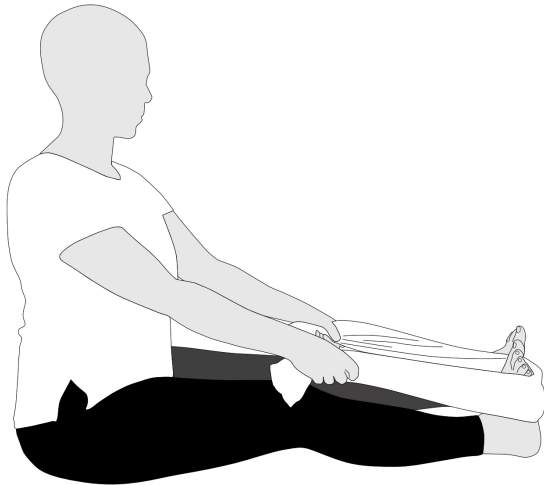
Start by placing a towel around the ball of the painful foot keeping your heel in contact with the ground and avoid bending your knee.

Pull the towel towards you until you feel a stretch along the bottom of your foot and the calf muscles in the back of your leg.

Hold the stretch for 30 seconds and repeat three times with a small period of rest in between stretches.

It is particularly useful to perform this stretch first thing in the morning and after periods of rest.

**If you feel this stretching exercise is making your pain worse the focus on the strengthening exercises.**

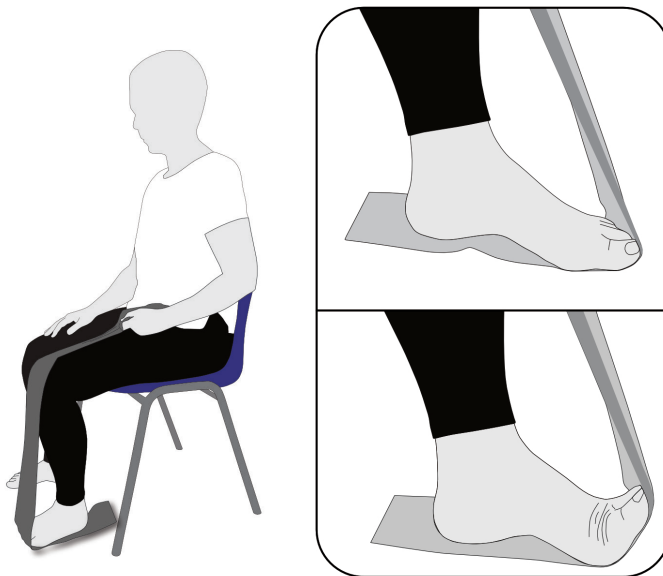


## INTRINSIC FOOT EXERCISES (THERABAND)

This exercise is designed to strengthen the small muscles in the foot. This exercise is performed in a seated position making sure your back is straight and leg bent comfortably at 90 degrees with your painful foot placed on a strip of Theraband.

Pull the end of the Theraband over your knee towards you which in turn will pull your toes up into a flexed position. Anchor the band on your thigh maintaining a good level of tension throughout the exercise. Hold the band tight and begin to slowly push your toes down towards the ground against the resistance of the band. When your toes reach the ground allow them to slowly raise back to their starting position.

You are aiming to do three sets of around 10-15 repetitions. You can adjust the difficulty of the exercise by creating more or less tension on the Theraband. Make sure your heel stays in contact with the ground throughout the exercise.

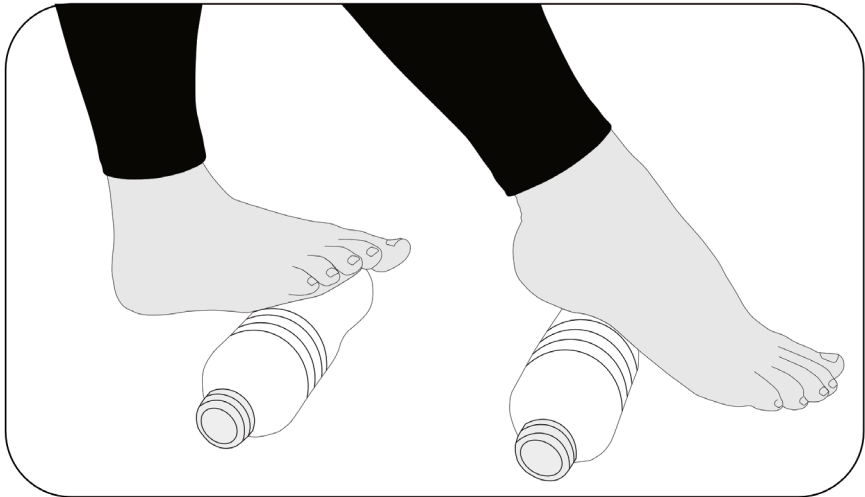




## COLD THERAPY

This exercise is an effective way of massaging the plantar fascia. Fill a small bottle  $\frac{3}{4}$  full with water and place in the freezer until frozen.

To use place the frozen bottle on the ground placing your painful foot on top and begin slowly rolling your foot back and forwards over the bottle from your heel to your toes. Apply as much pressure as you are comfortable with and continue to do this for around five minutes.



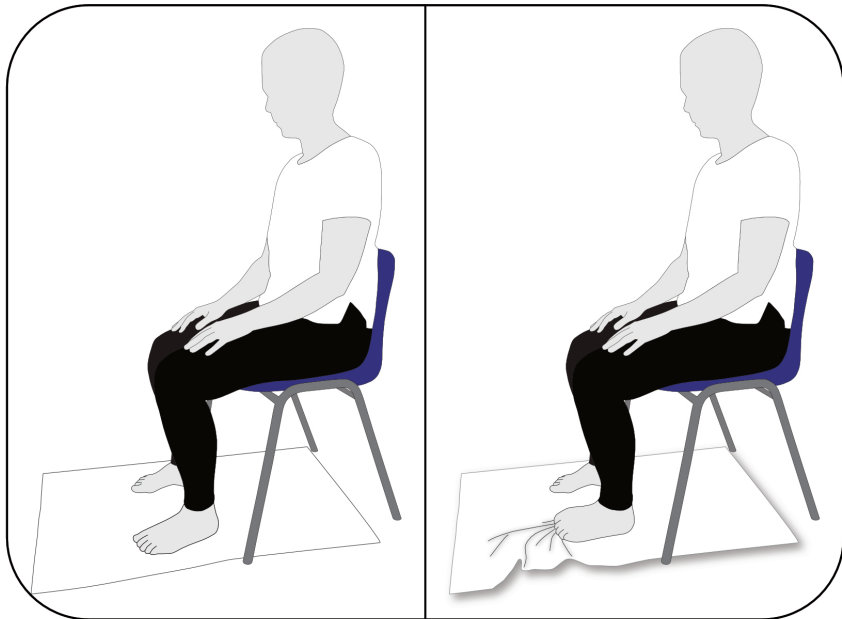
## INTRINSIC TOWEL STRENGTHENING

This exercise is designed to strengthen the small muscles in your foot.

Start by placing a small towel flat on the ground. This exercise is performed in a seated position making sure your back is straight and legs bent comfortably at 90 degrees.

Place your painful foot on top of the towel and using your toes start scrunching the towel so that it is being pulled towards you. Do this in a slow controlled manner, making sure your heel remains in contact with the ground throughout this exercise.

When you have pulled the towel in as far as possible, flatten it back out and repeat the process between three and five times.



## STRAPPING

Strapping/Taping can be used to help support the arch of your foot and reduce some of the load on the plantar fascia. This can be a useful short term treatment that can help reduce your symptoms.

- ❖ The aim of low dye taping is to help remove some of the load on the plantar fascia and reduce discomfort.
- ❖ The tape used for this is a rigid strapping called zinc oxide tape. It's available in most pharmacies and can also be bought online.
- ❖ Taping is only a short term treatment and we recommend it's used until your pain levels decrease.

We advise that each application of the tape is kept in place for a maximum of 3 to 4 days. You may find that the tape needs to be replaced more frequently in order for it to remain effective.

Before you start it can sometimes be helpful to have your strips of tape pre-cut. For this taping technique you will need 2 different lengths of the zinc oxide tape.

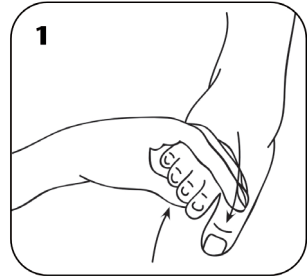
The long strip is measured by starting at the base and side of the big toe take the tape along the inside of your foot, around your heel up to the base of your small toe. You will need 3 of these strips.

The short strip is measured by starting the tape on the outside of your foot and taking it across to the inside. You will need to cut at least 8 strips this size.

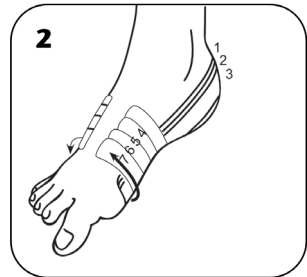
## HOW TO APPLY THE TAPE

When applying the tape each strip should overlap the one before, applying enough tension as to avoid any wrinkling of the tape. You might have to get someone to help you with this.

1. First point your big toe downwards as being demonstrated.

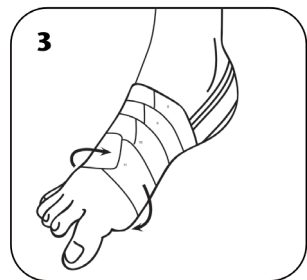


2. With your first long strip of tape start at the base and side of the big toe joint and wrap it around your heel and up towards the base of your small toe.



The second long strip will start on the opposite side from the first one, at the base of the small toe and will wrap around the heel and attach to the base of the big toe.

The third strip will be the same as the first and will go from the inside of your foot to the outside.



With the first of your shorter strips starting on the outside of your foot, take the tape across to sole of your foot just in front of the heel and attach it to the inside of your foot.

Apply 3 more of the shorter strips in the same way keeping going, overlapping until the tape is just behind the ball of your foot. foot and take the tape across the top of your foot attaching it to the outside of your foot.

Initially the tape might feel slightly tight but this should ease off.

The tape should be removed immediately if you experience any

- ❖ increased discomfort
- ❖ itching
- ❖ Irritation
- ❖ pins and needles.

## **PATIENCE**

Have patience, most people's symptoms should start to improve within three months of following this advice.

## **FREQUENTLY ASKED QUESTIONS**

The information below will answer many of the questions you may have in the early part of your treatment. We aim to ensure your specific needs are considered throughout. A shared decision making process is used by our teams. This means you will be informed about the treatment options open to you the risks and benefits of each option. You will be supported to make a choice about which treatment best meets your needs.

We hope the following questions that have been developed on the back of MSK focus groups, will provide you with some answers and information around your condition.

### **What is wrong? Why? What is the cause?**

Fat pad syndrome is a condition that usually happens in the centre of your heel and is most often due to thinning and degeneration of the fat pad. Reduced shock absorption will make the heel bone more vulnerable to repetitive micro-trauma. This can lead to chronic inflammation, bruising, swelling and pain within the heel bone.

### **What is the possible impact on my health and function?**

It can be very disabling, each step can become painful, which in turn can lead to strains elsewhere in the body.

### **Will I get better or worse?**

The good news is that with appropriate advice and treatment this will resolve in the vast majority of cases.

## **Is it curable?**

Unfortunately, there is no quick or easy fix and your symptoms will not improve overnight. The advice below is focused on reducing your symptoms to help you get back to normal activity. Most peoples' symptoms improve but it may take several months to get better.

## **How long will it take to get better?**

Most people's symptoms should start to improve within three months of following the self-help advice. It can take several months to achieve a significant improvement.

## **What are you (the health professional) able to do about my problem?**

By using our self-help tool, we would like to help you to better understand your condition and provide you with the tools which should help support your recovery.

## **What is the treatment that is most appropriate for me?**

Treatment protocols for heel pain almost always start with basic principles and we would encourage you to consider trying some self-help treatment in the first instance before making a referral to your local Podiatry department.

## **What can I do to help myself to alleviate it?**

We would encourage you to consider trying some selfhelp treatment in the first instance.

## **How can I reduce or control my pain?**

Pain medication can help to reduce your pain and help you move more comfortably to help aid your recovery. Speaking to your community Pharmacist can provide guidance on specific medication or other methods of pain relief.

## How can I maintain my function and do the things I want to and need to do?

If you are in pain do not try and do all your normal daily activities such as housework, at once. Break the harder jobs down into smaller jobs and do something gentler in between.

Extensive walking or standing should be avoided if it aggravates your pain. It is recommended to modify activities rather than to fully stop all forms of movement or exercise. Swimming or cycling are an alternative to walking or running as these activities are non-weight bearing.

## What activities can I do and how should I adapt them (e.g. sports, work)?

Avoid high impact activities like running or activities which involve long periods of standing which will significantly increase load through the plantar fascia, we would encourage you to participate in low impact activities like walking, swimming, cycling etc.

## Have I made an improvement?

Most people's symptoms should start to improve within three months of following the self-help advice, you should notice that although you may still have episodes of pain they will be becoming less frequent and severe.

## Why am I not improving? Where have I gone wrong?

### Am I doing the right things?

There could be a number of reasons why your symptoms may not be improving. If you have followed the self-help advice for three months and your pain has not started to improve please contact your local MSK Podiatrist or email **[PodiatryMSK@lanarkshire.scot.nhs.uk](mailto:PodiatryMSK@lanarkshire.scot.nhs.uk)**.

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