

Flat Feet (Pes Planus)

What is a Flat Foot?



The arch is the area on the inside of the foot that does not touch the ground. It can vary in height from high to very low and this variation is usually completely normal. The arch in young children starts low and should develop between the ages of 3-10yrs. However, in some cases this will remain low and will not affect development or function into adult life and is usually pain free (asymptomatic). People with a low or absent arch are said to have flat feet, sometimes referred to as ‘fallen arches’, although the term is misleading as a flat arch profile is completely normal for some.



Flat feet are normally flexible and an arch should form if you rise up onto your tip toes as in the picture above. When we walk, our foot strikes the ground at the heel and then rolls in, in a term called “pronation”. This helps our foot absorb shock and in some people this process may cause discomfort, particularly if there is weakness in the supporting muscles/ligaments which control how long and hard we pronate. Other factors that will also influence this are bodyweight, activity and general fitness levels.

What causes flat feet?

A flat foot that moves freely without stiffness is a normal presentation in some children and adults and is due to an increase in flexibility of joints and ligaments. There can be a family history of this foot type and it tends to affect both feet equally.

Flat feet in children

Flat feet in children tend to be normal and pain free (asymptomatic). Occasionally there may be some aching in the arch or at the back of the leg on walking and physical activities.

Other rarer causes of pain related to flat feet may be due to:

- **Hypermobility-**
Hypermobility is the term used to describe the ability to move joints beyond the normal range of movement. Joint hypermobility is common in the general population. It may be present in just a few joints or it may be widespread. If severe there may be a contributory genetic factor which may need further investigation from your GP.
- **Problems with foot development in the womb (Congenital)-**
Joints may not have formed correctly or bones may be abnormally joined together (fused). This leads to a 'rigid flat foot' (the arch does not appear when you rise onto tip toes). This would require further investigation from your GP or Podiatrist.
- **Weight gain (above average BMI)-**
This may lead to increase strain on the muscles and ligaments in your feet leading to pain on walking.
- **Muscle weakness and tightness-**
Sudden growth spurts may lead to pain in the foot sometimes caused by tightness in your calf muscles.
- **Problems with footwear –**
Shoes with soft uppers and soft outer soles do not control motion around the heel when walking and can lead to increased strain on the feet.
- **Poor fitness-**
Lack of exercise may lead to reduced strength and inability for the foot to tolerate normal levels of activity.
- **Neurological problems-**
There are conditions that affect the nerves supplying the muscles in the foot. These can lead to changes in foot profile, causing weakness, stiffness and altered sensations in the feet and require consulting your GP.

Flat feet in adults

As with children, flat feet in adults do not usually cause problems unless combined with:

- **Tendon weakness or injury-**
Adults can develop a lowering of their arch due to injuring a tendon (usually the posterior tibial tendon). This is referred to as 'adult acquired flat foot' and may only affect one foot at a time.
- **Increased weight-**
Increases in weight can cause more strain on the muscles, tendons and ligaments that support the arch leading to pain.
- **Arthritis-**
This can cause pain, swelling and stiffness, which can alter how the foot looks and moves.
- **Poor fitness -**
Lack of exercise may lead to reduced strength and an inability for the foot to tolerate normal levels of activity

When to consult a professional

Most of the time your flat foot can be self-managed with some simple changes; supportive footwear, weight loss, strengthening exercises and improved fitness.

If these simple measures do not manage your symptoms and you have any of the following, consult your GP or Podiatrist for further investigation-:

- Increased aching or pain
- A reduction in your ability to perform normal tasks and reduced activity levels.
- Sudden unexplained flattening of your arch.
- Sudden increases in the wear marks on the soles of shoes, especially the insides of the heel on shoes less than six months old.
- Weakness or numbness in the feet.

What can be done if flat feet give pain?

• **Supportive footwear-**

Wearing a shoe with the properties listed below will help support a flat foot and lessen the chances of developing symptoms

- A trainer/walking type shoe with a supportive upper
- Fastening that holds the foot firmly such as a lace, buckle or Velcro fastening
- Heel height of no more than 3 cm
- Moulded rubber sole
- Broad heel for stability
- If you have diabetes then try and avoid a shoe that has seams that can rub the foot

• **Insoles/orthoses-**

A shop bought simple arch support insole may reduce the strain in your feet and help reduce any painful symptoms.

Bespoke insoles/ orthoses

In certain cases a podiatrist might prescribe an in shoe insole to help resist pronation to positively influence pain or foot function.

• **Ankle Braces-**

These can be used to support the ankle and reduce how hard your muscles are working. They may help with symptom reduction when used alongside supportive shoes and strengthening exercises.

• **Pain relief (Always ask your pharmacist or GP before taking new medication)-**

Paracetamol can help mild to moderate pain. Ibuprofen is also a medication that can be used for moderate pain and swelling but avoid taking this if you have diabetes, stomach complaints or problems with your heart.

Ice is also a good pain reliever, place the ice over painful areas for 10 minute periods using a towel between the skin and ice to prevent ice burns and skin damage.

• **Lifestyle adjustment-**

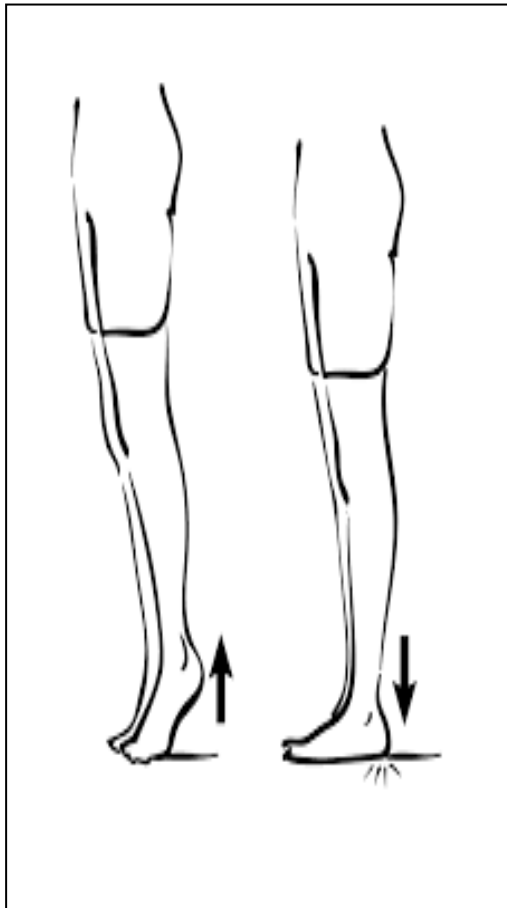
Keeping active and eating a healthy diet helps reduce unwanted weight gain. Aim to sleep 7-8 hrs+ each night, as pain is often worse without adequate sleep.

• **Exercises-**

Exercises are also a powerful tool to help manage pain. By strengthening your muscles and tissues they will be able to better tolerate how hard and long they have to work.

Simple exercises (as shown below) like going up onto tip toes, strengthen the muscles that support the arch. (These can be performed holding onto a stable immovable surface/object e.g. a kitchen worktop. Please ensure you flooring is non slip and check for any wet areas)

NB If you are at risk of falls, have had a fall or problems with your balance please DO NOT undertake these exercises without a family member or carer with you at all times



Aim- Improve strength in the muscles at the back of your leg and reduce foot pressure during walking

- Stand with feet hip width apart, holding on to a solid structure with your hands for support.
- Slowly go up onto to balls of your feet, putting pressure through your big toe, hold for 2 seconds then come down
- With this exercise you should aim to work till you feel tired and find it hard to lift your heel off the ground (fatigue), but do not exercise through increasing pain.
- This exercise is not about how many raises you can do, but about building strength. Add a rucksack with some heavy books to make it harder if you are finding it easy.
- Aim to undertake this exercise 3-4 times a week, but choose less active days as you may already be tired and do not exercise two days in a row.

If these non-surgical measures do not settle your symptoms or you have further concerns, it may be necessary to see an Orthopaedic Foot & Ankle Consultant. They can discuss surgical management if appropriate. This comes with significant risks, such as pain, infection and reoccurrence. Surgery will impact upon your everyday activities such as your ability to drive or exercise for 3 or more months and should always be considered as a last resort.

Get immediate help for your flat feet if you notice they have developed alongside the following-

- * **A high temperature or you feel hot and shivery**
- * **If your foot is painful, red hot and swollen**
- * **If your foot is persistently painful and is keeping you awake at night.**
- * **You have an open wound on your foot due to trauma from footwear, which may happen if you have reduced sensation in your feet, which can occur with medical conditions like diabetes.**

For more information

If you require any assistance then please contact Podiatry services on 0300 1314536

Or email

Esh-tr.podiatryenquiries@nhs.net

Sources of information

East Sussex Healthcare NHS Trust <https://www.esht.nhs.uk/service/podiatry/>
The Health and Care Professions Council www.hcpc-uk.org
The College of Podiatry www.cop.uk
Chartered society of Physiotherapy www.csp.org.uk
British Orthopaedic foot and ankle society www.bofas.org.uk
NHS choices www.nhs.uk

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Hand hygiene

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Other formats

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Tel: 0300 131 4500 Email: esh-tr.AccessibleInformation@nhs.net

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

Reference

The following clinicians have been consulted and agreed this patient information:

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The directorate group that have agreed this patient information leaflet:

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