Flat Feet

Vivid childhood memories are often profound. I vividly remember the school doctor, stern and formal, white-coated, telling my mother and me that I had flat feet. I had to stand on a wet surface and then on some dark tiles. The whole foot was outlined in the footprint. Off I went for exercises every Saturday. I have beautiful arches now. Perhaps an early success for a fledgling NHS.

So flat feet (also referred to as fallen arches) occur when the arch formed between the toes and the heel is lost so that much more of the foot touches the floor. The medical term is pes planus.

The normal foot appears as below with the arch or instep in place and putting a wet foot on the floor produces a print as shown in the diagram above.

In a flat foot the arch is lost resulting in increased contact and a footprint as above.

What causes flat feet?
There are a number of reasons why people may have flat feet:

- There is an inherited tendency
- Young children don’t always have an arch and it develops as they get older (perhaps those exercises of mine weren’t strictly necessary)
- Weak arches
- Damage may occur to the arch from aging, obesity, excessive recurrent strains or arthritis, notably rheumatoid
- Nerve and muscle damage as in e.g. cerebral palsy
- Foot bone or connective tissue abnormalities

Does it matter if the feet are flat?

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In simple terms the arches are maintained by the structure of the foot, with the tarsal and metatarsal bones creating the arch supported by ligaments, tendons and muscles.

The arch allows a certain degree of springiness so that, as the foot is placed on the ground, there is a little flattening of the arch which absorbs some of the impact resulting in reduction in possible juddering as we walk or run.

However, many people have flat feet without experiencing any symptoms or adverse signs.

In some, though symptoms do develop, in large part because the reduction or loss in the arch results in the foot being a little rotated inwards (excessive pronation) which can cause pain in the feet, ankles and even in the knees, hips and lower back.

Sometimes flat feet lead to foot injuries and stiffness, weakness or numbness. Shoe wear and tear is often increased.

How is the diagnosis made?

Normally it is not difficult to make a diagnosis and it can be established from the symptoms, if present, the history and the examination.

Sometimes the diagnosis has already been made by an eagle-eyed parent or other person who spotted the tell-tale wet footmarks. Shoe wear also gives a clue to the diagnosis.

In some cases it may be necessary to X-ray the feet if the symptoms indicate that some sort of intrusive intervention is required.

What do you do if you have flat feet?

For many who are symptom-free the answer may be ‘nothing’.

For others the answer may be

Avoidance of trainers and plimsoles and wearing more supportive shoes

- The use of insoles, of which there are a host of different designs available from high street foot clinics, pharmacies or online.
- Addressing obesity where relevant
- The use of exercises. Simple exercises such as screwing up the toes regularly may be helpful or the
use of devices that improve the arch may be of value.

The devices may be useful by rolling the foot backwards and forwards over them whilst applying some downward pressure. Referral to a physiotherapist may be a key part of such treatment.

- For some people painkillers if the symptoms become troublesome are sufficient.
- Rarely the symptoms are sufficiently problematic that surgery may be considered. Each case is assessed on its own merits and arches can be raised by adjusting the shortening the connective tissue sheet beneath the foot or altering the tendon support.

The human arch is an adaptation that has evolved in association with walking upright. Such arches are not present in the feet of primates who transfer their weight from the heel to the outside of the foot and the small toe.

Although an inefficient way of walking, they are not primarily bipedal and so they have no reason not to be flat footed.

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