**Are your arch supports crippling you?**

Isn’t it amazing how there is such a trend to support the human foot when it is designed to be functional without shoes, and has such mobility that it can flex and mould itself to so many different surfaces?

I have been fascinated that intelligent professionals continually prescribe ‘arch’ supports and shoe inserts to treat many variable conditions. What disappoints me more is the fact that a complete bio-mechanical assessment has not been completed to ascertain whether there are any other muscle/soft tissue imbalances which could be the true cause of the condition.

Even worse, I have observed shoe inserts being sold over the counter at exhibitions without any assessment at all! They are sold to ignorant customers with the promise of solving foot pain and more. This is paramount to selling a cancer cure over the counter. It is just not possible!

In my 20+ years as a Physiotherapist I have also seen my colleagues use some of the latest electronic feedback machines and software to analyse foot position and pressures when walking, using software supplied by orthotic companies to see where assumed pressures are incorrect.

What these fancy devices do not advise is the possible causes of the dysfunction and how to fix it. What they do advise is that a shoe insert/orthotic, surprisingly enough, supplied by the same company will be necessary to correct the fault.

This is tantamount to putting a piece of paper under a wobbly table leg. I am sure many of you have done that! To supply an orthotic without a thorough assessment of strength and flexibility of the bio-mechanics from the hips to the feet is bordering on unethical and un-professional.

In my years of treating athletes, in particular runners, I have filled up dustbins and dustbins with pieces of shoe inserts not to mention very expensive orthotics as they are crippling the wearer. Chucking a £300.00 orthotic or $500.00 orthotic in the bin can be stressful for a person, but if they only knew how they could have avoided paying for it in the first place, they would be even more pleased.

So why are these inserts bad for us and why have shoe companies decided that most people over-pronate and therefore require orthotics in regular shoes? Why are Physiotherapists so keen on prescribing orthotics? Are they overlooking obvious imbalances? Are they ignorant of the bigger bio-mechanical picture? Could they be causing more harm than good?

To answer these questions, it is important to see how the foot really works mechanically.

Without getting too intricate and anatomical, the foot has 32 joints designed for mobility. Why would we want to prevent this movement taking place? Words like ‘support’ and ‘comfort’ are too often used as an excuse for inserts in shoes and many inserts are being prescribed without a complete biomechanical assessment from the hips down. This is both un-professional and unethical.

The basic pattern of walking on the foot is as follows:

* The heel strikes the ground first, hopefully in the centre.
* The so-called ‘arch’ of the foot drops down
* Contact is made with the outside of the foot nearest the heel
* Almost simultaneously, the balls of the toes contact the ground
* The toes splay (spread open)
* Toes make contact with the ground

I mention the “*so-called ‘arch’*” as it is a bit of a misnomer. An arch by definition is a fixed entity, however, the foot’s ‘arch’ is a mobile entity, flattening when the foot is on the ground. By flattening it builds up tension in the sole of the foot which assists with the opening/splaying of the toes and to assist the spring-loaded push-off part of walking.

This natural tension and recoil allows power to be exerted by the foot to accelerate us forward. It is a vital part of foot action and should not be restricted. Unfortunately, in many running shoes, sneakers or other shoes, the shoe manufacturers have been mis-informed that the majority of people over-pronate, i.e. their feet roll from out to in when walking.

It is hard to believe that this is so, but even if it was, would it necessarily be a bad thing. There are millions of people walking around with this type of action and not suffering pain, as are the millions of people walking with flat feet, believed to be unnatural. There is nothing unhealthy or wrong with flat feet. It is when normal movements in the feet are restricted by footwear that we develop problems.

Coming back to the foot action in walking, this is interfered with in many ways by poor footwear, even very expensive ones, supposedly researched scientifically to assist and support the foot to improve performance. How can performance be improved when you take away the body’s own ability to control mechanical movements?

So how do the inserts in the shoes affect the foot? The inserts I refer to mainly are those in the inside part of the shoe which are built up from the flat part of the insole. When the foot strikes the ground and the ‘arch’ drops it comes into contact with this insert and being very sensitive to anything getting in the way of normal movement, the foot immediately pulls away from this insert.

This causes what is termed supination, where the foot rolls outward and you tend to walk on the outside of your foot. So in essence, your foot is walking around the obstacle (the insert), and to square up again, the foot then pushes back inwards, jarring the load onto the ball of the big toe.

The pulling up of the inside of the foot is done by muscles up the inside of the calf behind the shin bone (tibia) and this develops tightness from overuse, which in turn can lead to weakness of the local muscles in the calf and of those opposing muscles in the front of the shin that lift the foot up. Weakness like this results in overcompensation higher up and can eventually affect hip muscle function.

The consequences can be far-reaching and can lead to pain and injury and loss of performance or stopping sport altogether. The body is not a piece of machinery that you can just add things to, it is sensitive to change and continuously monitors its environment, both inside and out. Putting inserts in shoes, even when the feet are painful is as good as putting a piece of paper under the wobbly table leg; it just treats the symptom, NOT the cause.

Yet it is amazing how these inserts can be sold over the counter by representatives of companies, without any form of mechanical assessment done. It is as bad a pain killers, symptomatic treatment at its best. Even some top Physiotherapists with the modern foot analysing software do not do a full biomechanical assessment, relying rather on a machine to say what is necessary.

Blaming the foot for trouble caused by the hips, which is the most common cause, is ignorant and bordering on unprofessional, especially when you are talking about $500 inserts having to be made in Canada or other foreign places. These expenses could mostly be averted by a thorough assessment of the TRUE causes of imbalance leading to foot pain or dysfunction.

In conclusion, the feet are meant to be free and mobile and have natural support that we need to maintain, and any interference in these normal functions should be avoided as much as possible. For healthy pain-free feet try the following basic rules:

* Wear shoes about ½ to 1 size bigger than normal to allow more space in the shoe
* Buy shoes which are wide in the front where possible
* Do not tie shoe laces too tight, give the foot space and reduce circulatory restrictions
* Avoid, where possible, (sorry Aussies) wearing sandals or shoes or thongs which do not have a strap at the back. This causes the toes to unconsciously grip onto the footwear t prevent them flying off your feet. This results in tension up the back of your legs and can result in low back pain.
* Wear open sandals where possible, they allow for best movement of the foot, have a strap at the back and protect the soles of your feet from damage.
* Go barefoot where possible, this is how we are designed to be.

Happy walking.