



Inspire Fitness for Wellbeing

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How to Select Your Running Shoe

To minimise injury and maximise performance

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Shoes are worn by millions of people everyday. There are hundreds of shoe stores, stocking *thousands* of different shoes, so finding the most suitable one for you can be a difficult task. When your shoes fit and function well, your feet can be taken for granted. But if you start experiencing foot pain, they can quickly become the centre of attention.

As podiatrists, we tend to see feet when they become a problem. One in 5 people in our community (Journal of Foot and Ankle Research) currently suffer from foot pain. However, there are a few simple things you can do to minimise your risk of injury and maximise performance. To ensure you don't become part of the statistic, check that your shoes are fitting correctly, and seek professional podiatry advice immediately for any foot and lower limb problems.

A qualified podiatrist will gather a comprehensive history and will conduct a thorough biomechanical assessment. This will allow an accurate diagnosis to be made, and will inform the development of a personalised treatment plan, to ensure your rapid recovery. However, good footwear is always required as the initial foundation for your feet.

Good Shoe Features



The features of the shoes pictured on the left are the minimum requirements of any good shoe. The next time you walk into a shoe store, pick up the shoe and test these features before trying the shoes on.



What type of shoe is best for me?

Shoes have come a long way, with many companies spending millions on technology to maximise performance of their shoes. However, it doesn't matter how good the shoes are if they don't complement your feet and the activities you plan to use them for!

Considerations to find the perfect shoe for you:

To narrow down the selection of shoes that will be most appropriate for you, consider:

- Activity,
- Frequency,
- Orthotic (if applicable), and
- Injury history.

To match the best shoe for your biomechanics:

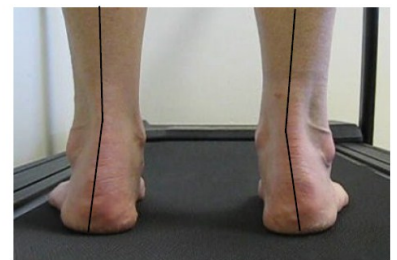
- Have a **barefoot gait analysis** conducted. This will allow for the observation of your movement patterns, to find the source of any anomalies in the lower limb (e.g., over-pronation or an excessive “rolling in” motion).
- **Try on shoes and re-assess your gait** while walking or running, depending on your chosen activity.
- Ensure correct fit of your shoes, for **length, width, and depth**.

What is PRONATION?

Pronation is a term used in podiatry to describe the motion of rolling in at the feet. **Pronation is a vital component of normal gait**, as it is our natural shock absorption system. However, **excessive pronation or over-pronation** increases your risk of injury.

Over-pronation or rolling in too much can be easily demonstrated when standing with your feet shoulder-width apart. Now try to roll your foot inwards as if you were touching the inner part of your ankle to the ground (i.e., the opposite motion to rolling your ankle outwards).

Excessive motion within the foot such as this increases the chance of sustaining over-use related injuries, due to the increased stretch and strain on the inside structures of your leg and foot. Injuries that are commonly associated with over-pronation are heel pain, ankle pain, shin pain, and knee pain.



Signs of Over Pronation (Excessive Rolling in)



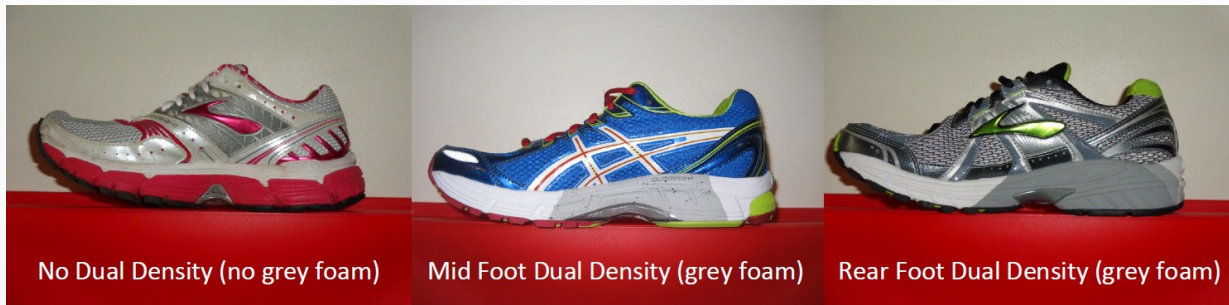
Ideal Foot Alignment



How do shoes work?

Shoes all differ in their function through the midsole (cushioning) of the shoe. Some shoes are designed with increased support through this area. This **dual density midsole** is normally located on the arch side of the shoe, and is usually a different colour (e.g., grey, as shown in the photos below). This higher density material is firmer, so it acts **to limit the amount your feet pronate** (roll in), ultimately holding you in a better biomechanical position.

The dual density in each model of shoe varies in its position. Each brand of shoe will have a range of positions of the dual density foam in the midsole and will have a unique density of the material. Therefore, every shoe will function slightly differently.



Do I need runners or cross trainers?

Runners and cross trainers are totally different categories of shoes, designed for different activities. **Runners are designed purely for walking and running in one direction.**

Cross trainers are designed for your multi-directional activities, such as netball, basketball, and tennis.

Due to the considerable differences in the nature of the sport, the foot also needs to be placed and supported in different positions, to reduce injury risk and maximise performance.

*What are **runners**?*

Runners are designed for your straight line walking or running. Because it is a highly repetitive motion, the alignment of the shoe is crucial. The shoes should aim to eliminate any excessive pronation / rolling in.

Runners are normally designed with a mesh upper to reduce the weight of the shoe. They are also slightly more cushioned to ensure maximum comfort during high impact running.

*What are **cross trainers**?*

Cross trainers are a highly stable shoe designed to withstand the force of multidirectional activities. The upper of the shoe is reinforced on the sides to ensure your foot does not penetrate the sides of the shoe during activity. The motion of multidirectional sports are not repetitive in nature, therefore the alignment of the shoe is different to the runner. The shoes aim to hold you in a stable position, however slight over pronation is encouraged to reduce risk of ankle sprains.

Due to their stability, cross trainers are recommended for free weight sessions and long hours of standing.

Orthotics and shoes

Orthotics and shoes work slightly differently to correct foot posture. Orthotics can be worn in most shoes and complement footwear well if appropriately prescribed. However, if you wear a shoe with dual density (grey foam), particular **caution must be taken to ensure that the support is appropriate when combining the support built into the shoe and that provided by your orthotic**. If the orthotic is quite supportive, you will require less support in the form of dual density within the shoe, and vice versa.



What if...

...I have the wrong shoe for my activity?

This will increase your chance of injury, as your body must compensate during strenuous activity. Pain is a sign where your body is no longer coping, indicating that something must be changed. Inappropriate shoes will also impact on your performance. When a shoe is fitted correctly to your foot type and activity, your feet and shoes should work in harmony.

...the tread on my shoes is still okay?

Shoes last 800km to 1000km before the midsole of the shoe compresses and does not offer adequate cushioning. Therefore, **it depends on how much activity the shoes have done**. For a person running or walking 3 km three times per week, shoes should be changed every 12-18 months. The shoes may wear out more quickly, depending on whether or not the shoes are used daily or on alternate days.

It is also important to note that the tread wear of your shoes can be misleading. For example, if majority of your training is primarily indoors, the tread may appear to stay intact. However the weight transferred through your feet through repeated foot strikes over time will still compress the midsole, and will reduce the cushioning provided by your shoes.

...I choose my shoes based on looks?

Caution must be taken when choosing athletic shoes purely based on appearance. This is because the support in every model and brand differs. Therefore, if the support in the shoe doesn't complement your unique biomechanics, **your risk of injury increases and performance may be affected**. Choosing the shoe based on its appearance is like entering a lottery!

The best way to find out what shoe is most appropriate for your feet and activity is to have your feet and gait cycle assessed by a podiatrist, to see what will work best for you. There are also some shoe stores that use treadmill-based gait analysis to ensure correct fit and shoe function. This will aid in making an accurate assessment of your movement, to select the most appropriate shoe for you.

Summary

Running shoes

(straight-line movements only)

- Walking
- Running
- Minimal amounts of machine weights

Cross-training shoes

(multidirectional activities)

- Free weights training
- Aerobics classes, e.g., Zumba, step classes, etc.
- Court sports, e.g., basketball, netball, tennis, cricket, etc.
- Standing activities (e.g., PE teacher, personal trainer)