

Footwear



Welcome to the world of footwear!

Treads, joggers, kicks, runners, sneakers, pumps, sporting equipment.

Laces (round, flat, **elliptical**), velcro straps, buckles, elastic laces, pull ties, lacing techniques.

Brooks, asics, new balance, nike, adidas, saucony, puma, newtons, hokas, ultra, topo....etc

Neutral,

stability,

guidance,

motion control.

Where do we start?!?!?

Shoe Purchase Considerations

Age, Gender, Weight, Activity, Running Surface,

Biomechanics, Injury History, Running style, Comfort



The Fit

The **Last** is shaped to resemble the outline of the foot and determines all the characteristics of footwear including size and shape. Most shoe companies basically have one and the same last. They then change/add to the midsole to create a curved, semi curved or straight last. The main thing is to **measure the outline of your foot to the shoe** to ensure its going to be the right fit. The upper is another aspect to consider when looking at undue pressure across your foot along the sides and on top of the foot. As runners we tend to buy either what the latest trend is, what looks good, 'feels okay' and we compromise our foot health for fashion and trends. We need to look after our feet so put them into a shoe that they will be happy in.



Length

Sounds easy enough to get the length right but in Podiatry land we still see people in the wrong size shoe regarding their foot length. Runners do not like sloppy fitting shoes. However they tend to go the other way and wear shoes that are just too short. Hence the black toenails, blisters or corns. Plus it's not just about the toes, your **forefoot needs to sit in the right zone** (usually at the widest part of the shoe) for the bending moment of the shoe. Beware that people usually have one foot longer than the other, buy for the long foot and get a filler for the short foot. Purchase in the latter half of the day when your feet are generally at their largest.

Rule of thumb! Stick your thumb between your longest toe and the end of the shoe so there is adequate space, in case your foot slides forward for situations like stairs or downhill running.



Aaron Strickland. Podiatrist.

Width

Round, pointy, square, 'foot' shaped. Wide feet, narrow feet, wide forefoot with narrow heels. Bunions. Have you ever looked at the shape of your foot and toes, then compared it to the running shoes you are trying on? Not all brands have appropriate width fittings for everyone. Some will simply make a regular and a wide fitting for that style. Some will have A to E width fitting. A-C for narrow feet, D for medium width, E-6E for wide feet and those with bunions. You can generally find the width fitting on the tongue of the shoe with the other details. This is important for those who suffer pinch calluses, corns, blisters or achy 1st toe joints. If you can see the shoe bulging or being stretched due to your bony prominences, you need to go wider. You shouldn't feel any edges of the midsole or upper meeting the sole when purchasing.

Depth

Clawed digits, hammer toes, retracted toes, toes crossing over others, end of the big toe aiming towards the sky and bunions again are all affected by the depth of the toe box. Rubbing, blisters, callus and corns are the outcome. The toes need room to move and to avoid pressure. Some running shoes will taper to the distal edge and others will have a boxier look. If you need a bit more room for your digits, then look for a deeper toe box or see if you can thin down the innersole without affecting the cushioning for the toes too much.

Lacing

Round, flat, elliptical, elastic, pull tabs. If you prefer to tie them up, **elliptical** shaped laces are the best for keeping them locked and reducing injury to the top of the foot. Pull ties/tabs or elastic are a popular choice which are quick and easy to lock off. Just be wary of how tight you do or don't pull, and you can be a bit more limited when trying to adjust the positioning for dorsal foot issues like bony prominences at the mid/forefoot. There a myriad of lacing techniques to reduce pressure or maneuver around bony landmarks, swelling, tendons or nerves. A small collection included on the graphic.

There is heel lock lacing to keep your heel snug and reduce slipping or rubbing. You can skip eyelets as you criss cross up the foot to offload bony landmarks. You can even start the lacing higher up the foot to avoid pressure across the ball of the foot and bunions. The one thing you want to do is **avoid just loosening the lacing**, as this will cause the shoe to be sloppy which will allow your foot to slide forward into the toe box and alter your strike pattern. The shoe should feel firm but comfortable on your foot.



Which shoe and does it matter?

When we go shopping for a pair of running shoes we have lots of options. Some important and others not so much. Neutral, stability, guidance, motion control. Minimal and maximal cushioning. Heel drop or stack heights. Designs with big ticks, zig zags, straight lines, crossing lines. Flashy or plain colours. Bulky or slimline. Runners can be extremely loyal to one brand, whether it's good or bad, and for the weekend warrior they just want something that will work.



Stability versus Neutral

Does it matter? Not really, because the same last is cut for most brands between styles. There is effectively no more 'controlling' shoe between 'stability and neutral'. Shoe companies are moving away from dual density and anti-pronation features as research has shown that the heel and midfoot do what it does regardless. It is more important what the midsole does at the midfoot section. It is more important how quickly you transition from heel to toe and or get over the foot to push off. The midfoot

support or stability of the shoe can be slightly different between brands and their types. If you grab the shoe at both ends and squeeze together, you should notice the forefoot bends. The midsole however, should maintain its shape and not collapse at the midfoot. If you are used to a particular type of shoe and not having any troubles or injuries then sticking to something similar is probably best for you.

Minimalist V Maximalist

Cushion or basically none? The barefoot argument. How much cushion you have under your foot will change how you strike the ground and how you transition from foot contact to toe off. Then there is the issue of shoe weight! If you're doing a few kilometers a week and looking to manage your load then having some cushion will be a bit nicer on your joints and bones. If you reduce the cushion and continue the high k's you may get a nasty surprise without the adequate transition. It is much easier for someone to adapt to a thicker cushion like a HOKA or Altra shoe, compared to transitioning to a Vibram 5 fingers or racing flat. Certain footwear will benefit people who have recurrent knee issues or calf/achilles pain or ankle restrictions. The main thing is that you transition slowly and have a chat to your running focussed podiatrist to help with understanding the implications of changing and what you should change too. Keeping shoe gear lightweight is key.



Heel Drop or Stack Height



It really depends what you are used too and what style of runner you are. Standard running shoes and what most people run in is 8-12mm heel stack or drop. For the more serious runner who is conditioned and strong in their calves/achilles will tend to have a lower drop between 4-8. Those who are just forefoot strikers and of the minimalist belief will get to 0-4mm drop. If you are looking at

changing, beware, a large change quickly will lead to breakdown or injury. Achilles strain, calf tear, heel bruise or stress fracture to name a few.

If you are new to running start somewhere between 8-12mm. If you have trained for a long time and used to a certain heel drop then stick to it for the moment, especially if you are close to a race. You can lower the heel height over time if you are strong enough in the achilles calves and have enough range of motion in your ankle to cope with the change. If you are in training, you can have a little flutter with varying heel heights to change things up, but only small differences (2-4mm). Take it easy if you are trialling a lower heel drop, **short runs to start off with**, slow the run down and do it at the end of your normal run when your already warm. Gradually build up over time. If you're a 'forefoot' runner you 'might' feel better in a lower drop shoe (0-6mm) than someone who is a heel striker who will most likely benefit from higher heel drop (8-12mm). **Avoid big changes too quickly** and if you're unsure of what to do, drop into your local podiatrist who has a keen interest in running (pun intended!).



Lightweight v Heavy

"Weight is the enemy of the runner"
Simon Bartold

Basically weight influences everything. Our gait alters as soon as we put shoes on. The muscles work differently. You want the **least amount of shoe to perform the task you want to achieve**. If you are in training, a more cushioned shoe will assist with load. It might be heavier than a racing flat but if your doing long k's in training your body will thank you. Not all thicker cushioned shoes are heavy, you can get styles that are still light. Some runners will go the other way and train in a 'minimalist shoe', it depends what you are conditioned to handle. In training, for most people, a shoe that will assist in reducing the impact in the lightest version that the individual runner can handle will work best. Come race day, a shoe that is light and built for your needs to put in your maximal effort without discounting protection.



When to change your shoes

The general rule is 600-800km. If you run frequently and do many k's in a week you are best to change around the 500km mark.



Some people will automatically change shoes every 6-12 months. If you're alternating with other shoes, you'll need to work out the number of k's rather than the length of time you've had them. Alternating footwear is good for shoes and you. The midsole rebounds properly so it performs appropriate. It changes the input and load, reducing the repetitive stress to the feet and lower limb. Therefore reduced chance of injury!

If you are developing achy feet or lower leg muscle strains it 'might' be time to look at updating. However there are many things to consider such as are you wearing appropriate shoes for the terrain and style of training that the shoe is built for? Also, **consider your training load** as this might be causing you those aches and strains. Abnormal wear patterns either on the outsole or the innersole are always a tell tale sign that it's time to replace them before an injury is sustained.

There are many shoes with many design features some technical and others for fashion. **Shoe weight is highly important.** You want a shoe that is **lightweight**, but can handle the robust nature of the training. If you can afford it have 2 training pairs and a lighter pair for races or when you want to go for that PB. **Go with comfort.** Ask if the store has a return policy in case you need to **trial them on a treadmill** to make sure they are right for you. If you have a podiatrist, take your shoes into them, jump on the treadmill and get them to watch you for some expert advice before you hit the road.

Happy running!