

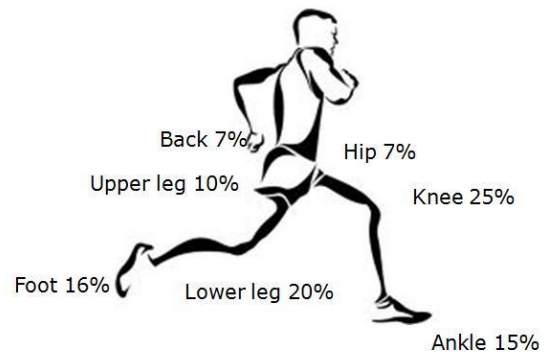
PREVENTION of RUNNING INJURIES

Patient Resource

Quick Statistics

- 75% of all runners will get injured once every twelve months
- 90% of the running population DO NOT KNOW how to run
- 75-80% of these runners are functionally too weak to sustain the loads they place in their bodies as they run

Injury Rates



INJURY PREVENTION – RUNNING TECHNIQUE TIPS

- Reduce unnecessary forces on the body
- Reduce braking effect on foot – land with foot directly under your centre of gravity
- Decrease unnecessary rotation of the body, utilise small arm swing rather than twisting
- Decrease vertical oscillation of the body – decrease excessive pushing from back foot, you shouldn't be "bouncing" up and down as you run
- Use gravity to your advantage to propel you forward with a 3-4% anterior lean
- Minimise hip internal rotation and knee abduction through stance phase – keep knees pointing forward as you run, don't let them turn inwards
- Ensure appropriate amount of functional strength and endurance suitable for volume of training, environment, surface type, footwear, eg are you strong enough in your gluteals, quads and calf. Do you have good core control? These are the main muscle groups you should be targeting with your strength training.
- Ensure your training is specific to your goals: eg training surface, distance, intensity.

FREQUENTLY ASKED QUESTIONS

1. ***Should I land on my heels, toes or mid-foot?***

Studies have shown that landing on your heel usually means you are striding out too far in front of you which results in more "braking" effect required as you land, this can decrease the efficiency of your running style. Landing on your toes can place excessive amounts of forces on your foot intrinsic muscles and calf muscles. If you aren't functionally strong enough in those muscles to handle this running style then you may be susceptible to tendon injuries and metatarsal stress injuries. Mid-foot strikers usually tend to land with their foot

directly under their centre of gravity which has been shown to be the most efficient way to land whilst running.

2. *Should I try bare-foot running?*

Bare foot running requires a lot of functional strength to be able to do. It is important to make sure you introduce yourself to this running technique gradually and ensure you do it under the guidance of a trained professional. Of course bare foot running comes with its own set of risks such as skin injuries and overuse injuries, if you lack the strength to cope with this demanding running style.

3. *What type of footwear is best for me?*

Studies have failed to show any convincing evidence that footwear and orthotics enhance running efficiency. Sometimes, footwear and orthotics may be prescribed to treat running injuries, but the cause of the injury has not been identified. By identifying the cause, advice and recommendations can be made to alter the effects of the problem. Footwear alone cannot increase running efficiency; we need a combination of training strategies, motor skill development and running technique modification.

4. *Should I try compression garments such as skins?*

Studies have shown that there may be benefits to wearing compression garments. It may be effective as a recovery strategy 24-84 hours post high impact or high intensity eccentric exercise, they can decrease an athlete's perceived pain levels, and may decrease muscle tissue oscillation (movement) which can reduce muscle fatigue. It is important to consider whether you will actually be comfortable running in such garments, you need to consider the environment and training patterns.

5. *Can I train on a treadmill for my race?*

Treadmill running and surface running is very different. Studies have shown that our running pattern can change immensely with using a treadmill. One of the most important factors in successful training is specificity. You should train on the surface that you are required to race on. This will ensure that you have strengthened and conditioned your body to be able to cope with the impact and forces required to race on that particular surface. Treadmill running is great for general fitness, but will not prepare you for a long race on bitumen.

Early identification of risk factors and early signs and symptoms are important in minimising chronic injuries in the running population. Appropriate assessment of training patterns and biomechanical analysis may be very helpful in injury prevention.

This patient resource was provided by Proactive Physiotherapy (07)40536222.