



Running

by Tom Austen, Podplus

How running impacts on the foot

Whether you are running for fun, fitness or running a marathon, you put yourself and your feet under great stress. On average, you put six times your body weight through each foot when running, which can emphasise any minor or major potential problems significantly!

In the sprints and middle distance events, the style of running is typically different to long distance running or jogging. The emphasis is to run on the forefoot and spend the least amount of time in contact with the floor. The athlete would normally try and lean forward a lot more than normal to achieve this. This results in striking the ground on the forefoot and necessitates more of the leg muscles to control the heel drop as well as facilitate the push off/drive phase of the style of running. The foot therefore requires more strength.

Long distance and marathon running would traditionally have seen athletes strike the ground with their heel first and then progress over the leg in contact with the ground. This would mean the foot, as a mobile structure, can be used to absorb some of the impact from the ground (pronation). This allows forward progression and the foot can then become more rigid (re-supination) to allow a good push off. Many of the leading athletes are now trying to use the forefoot strike method of running for these longer distances. The research would suggest it may be more economical, leading to quicker times.

Potential problems and when to seek the help of a podiatrist

Pain is the body's way of letting you know that something is wrong. Listen to your body and act on it! Training can cause normal aches and pains. Something called **Delayed Onset Muscle Soreness (DOMS)** is a normal response from muscles repairing themselves after training. This typically occurs one to two days after a training session, and only lasts a couple of days. An injury is typically something that does not go away and causes you to stop or reduce your training. The most common injuries for runners are listed below:

- **Pain at the front of the knee** - Referred to as **Patellofemoral pain syndrome**, this is pain in and/or around the front of the knee or knee cap. This typically is worse with repeated bending of the knee (i.e. running) and going up or down stairs. The pain is typically non-specific with little or no swelling.
- **Pain typically on the outside of the knee** - Referred to as **Iliotibial band friction syndrome (ITBFS)**, this is typically an overuse injury with a tightening of the band of tissue which runs

Please turn over...



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down the outside of the thigh and inserts into the outside of the knee. Pain typically occurs as the foot hits the ground when running, due to the increased angle of the leg.

- **Achilles Tendon Pain - Achilles Tendinopathy**, is another overuse injury, involving the tendon at the back of the leg and foot. This can either have a gradual onset or become painful after a particularly gruelling session. Early treatment is ideal with ice, compression and elevation (ICE), addressing any biochemical abnormalities that are present, leading onto a strengthening programme.
- **Shin splints** - This term is used to describe a group of leg injuries. A common problem is **Tibial stress syndrome**, this is a pain that occurs either in the front or inside of the shin which typically improves once you have warmed up and then is painful the following morning after exercise. It is a mechanical cause in relation to lower leg alignment can be a big influence in shin pain, and this should be addressed.
- **Heel pain** - Otherwise known as **Plantar Fasciitis**, this usually happens on standing up first thing in the morning or after a period of rest. This improves as you warm up but then gets worse the more activity you do. Podiatrists are in an ideal position to treat this, as orthoses can reduce the stress on the band of tissue under the foot.

All of the above injuries need treatment

If you think you have one of the above problems, you should consult a podiatrist. The podiatrist can also assess your mechanics - the way you run or walk and they can offer advice, stretches or exercises to aid performance and prevent injury in the future. They also assess the need for orthoses, which are special inserts that go inside your shoe to address abnormalities in the way your foot works.

How podiatry can help

Podiatry can help with the superficial problems of running such as *blisters*, *bruised toe nails (subungual haematomas)*, *fungal skin infections (athlete's foot/Tinea Pedis)* and *hard skin (callus)* and *corns*.

Specialist podiatrists can also assess and treat injuries alongside checking your running or walking style (gait) known as your *biomechanics*. The foot mechanics can contribute to some of the common injuries that are seen with running and getting this assessed in detail can help to treat injuries. It is also a sensible approach to get this assessed regularly as highlighting potential frailties in your mechanics can prevent problems from occurring in the first place.

Maintaining healthy feet for running!

Keep your feet clean and dry to prevent blisters. Ensure you shower and dry your feet thoroughly after you have been for a run, to prevent athlete's foot. Change your trainers every 500 miles, to prevent general pain from lack of cushioning or reduction of support. Trainers do not last forever!

Trainers

It is essential to get the right footwear, as this is vital to keeping you injury-free and at peak performance. There are a number of companies that make functional footwear for running, rather than fashion-based footwear. There are also a multitude of trainers with differing amounts of support to suit different foot types. Find a specialist retailer who can assess your foot properly and fit the correct type of trainer for your foot type.

Socks

Specialist retailers should be able to advise you on specialist socks that have an improved fit, wick away sweat from the foot, prevent blisters and some even have silver threads to reduce smell and prevent athlete's foot infections.

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