

FROM THE SOLE

Tips to keep you running at your best



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OSSICLES

An adult human has 206 bones. There are 270 bones at birth but that is reduced during childhood as some of the bones fuse together. Sometimes the bones do not fuse by adulthood and you are left with an extra bone known as an ossicle. Most people will have a few of these extra bones around their body and not know it. Ossicles can be bones floating within tendons or bones where the growth plate did not end up fusing with the main part of the bone. They can include cartilage or a fibrous joint with the adjacent bone. In most cases they cause no problems however they are an extra source of anatomy that can be aggravated.



Accessory ossicles can take up more space and protrude from the foot to be irritated by your shoes. They are more prone to trauma being a bit of a weak link in your foot structure. Most of the bones in your foot have the potential to have an accessory bone. The Os Trigonum is an accessory bone deep to your Achilles. It can be hurt with a forced plantarflexion (pointing) of your foot. Treatment can run from rest and anti-inflammatories to wearing a boot for a few weeks or even surgical removal. My favourite ossicle is the fabella. It is a rare extra sesamoid bone in the lateral head of the gastrocnemius or calf muscle. So in fact 206 bones is the minimum number of bones in an adult and most people will have a few extra bones.

By Steve Manning (Podiatrist & Coach)

FOOTWEAR AND FOOT STRIKE

What is the ideal gait pattern and foot strike for running? Truth is, there's no hard and fast answer – everyone is different.

Strike patterns are highly variable (even between individuals), depending on footwear, running distance, speed and cadence, amongst other factors. This article will briefly explore the influence of footwear on strike patterns and running gait.

A vast majority of people will midfoot or forefoot strike when running barefoot. This is because even

striking is by far the most common, with research reporting figures of at least 75%. Footwear offers cushioning, and much more protection from GRF. Generally, shoes with greater heel pitch (elevation of heel compared to forefoot) further encourage heel striking because there is more bulk underneath the heel.



The best running style is one that's most efficient and least injury risk for the individual. When purchasing footwear you should consider many factors, including heel pitch. Running shoes should work with your feet to encourage a running style that is smooth and natural.

By Emily Donker (Podiatrist & Coach)

DIETITIAN

You've paid your entry fee and are busy training for your race. But what should you eat before you run?

A key fuel for exercise especially when running at a high intensity (i.e. racing) is carbohydrate. The body metabolises carbohydrate into a sugar called glucose which is either used immediately or stored as glycogen in the liver and muscles until required for use. Carbohydrate can be found in a wide variety of foods including grain (cereal) foods, fruit, starchy vegetables such as potato, sweet potato or corn, legumes (beans), milk and yoghurt and in anything that tastes sweet such as honey, jam, sugar and sports products such as bars, gels, drinks etc. We cannot store unlimited amounts of glycogen so runners need to ensure they have adequate fuel available.

It makes sense then that the pre-event meal should be a high carbohydrate choice. Due to the gravitational nature of running (think stomach contents jiggling up and down), allow adequate time for digestion (2-4 hours for meals, less for snacks) and practice this meal before a couple of training runs that are the most similar to (and ideally run at the same time of day as) your race. For example the Twilight Bay Run 10km and Half Marathon start at 5pm. Suitable food options are high carbohydrate, low fat, low fibre choices which for meals could be a pasta or rice based meal or sandwiches. Snacks consumed nearer to the event could be fruit, yoghurt, cereal and milk or rice cakes with honey or jam. Individual tolerance varies so you need to see what works best for you and how much time to allow between eating and running. You train hard for an event, so do not leave race day nutrition to chance.



though the heel fat pad is designed to cushion the body from impact forces, it can withstand very little force compared to the ground reaction forces (GRF) experienced during running. The

However, running in shoes changes everything. Heel

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- Thurs 4:15pm **** Junior Development Squad (ages 11 +)
(must contact coaches prior to attending this session)

Contact: Margot Manning 0437026092



GLUTEAL INJURIES

The Gluteal muscles (also known as the 'buttocks') are found on the posterior and lateral hips. They play an important role in standing, walking, running and jumping. There are three different Gluteal muscles. The Gluteus Maximus – which is the largest of the group - works with the hamstring muscles to move the thigh in a backwards movement. It is a large, thick muscle and can generate a lot of power particularly during sprinting, squatting and jumping. The Gluteus Medius and Minimus muscles are relatively smaller and help to keep the hip steady while standing, walking or running and can rotate the thigh and knee outwards. These are found on the upper part of the hip bones towards the outside.

In distance runners, a vast majority of Gluteal muscle injuries will occur to the smaller Gluteus muscles (the Medius and Minimus). The Gluteus Maximus may occasionally become strained or torn, but this is more likely seen in sprinters, weight lifters, or jumping athletes performing explosive movements. The Gluteus Medius and Minimus are important muscles for runners, and are more likely injured in females and runners over the age of 40. The injuries that can develop in these muscles ranges from relatively mild injuries such as strains or slight tears; through to a full rupture of the muscle or tendon (which is more severe but thankfully much less common).

Tendonitis (inflammation with possible degeneration) of the Gluteus Medius/Minimus tendons can be a slow healing and nagging injury. This can become complicated by developing bursitis (swelling) on the outside of the hip which often flares up with running and is painful to lie on.

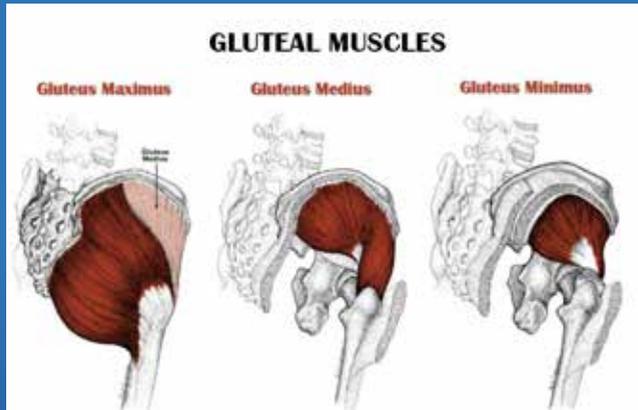
Most injuries to the Gluteus Medius / Minimus are due to overuse or weakness. Overtraining and/or

dramatically increasing the distance of a run will cause your muscles to fatigue and become sore. Due to their relatively small size, the Gluteus Medius and Minimus are likely to fatigue earlier than the Gluteus Maximus, Hamstrings and Quadriceps (thigh) muscles. As these muscle fatigue, they can become damaged, and the risk of knee and ITB injuries sky rockets. Muscle imbalances can also increase the risk of Gluteal muscle injuries. Tight hip flexors and weak Gluteal muscles can cause the pelvis to tilt forward putting strain on muscles and joints in the hips and lower back. In some cases excessive foot pronation (rolling in) or incorrect footwear may contribute to Gluteal muscle injuries.

The key to preventing these injuries is to ensure that the hip stabilising muscles (namely the Gluteus Medius and Minimus) are strong and have good endurance. Strengthening these muscles, along with your core (e.g. Pilates) can not only help to reduce Gluteal muscle injuries but also reduce your risk of hamstring, ITB, and knee injuries. Making sure your hip flexor muscles are sufficiently flexible can also help. Having a proper biomechanical assessment of your footwear, running technique and hip flexibility can identify risk factors and give insight into how to avoid or fix Gluteal injuries.

The intraining running injury clinic can help diagnose and fix your Gluteal (and other) injuries. Running shoe and biomechanical assessments can be performed by the experience podiatrists and physiotherapist to help get your back running sooner. Pilates classes are also available and are great for both preventing and treating hip, glute and other injuries. **Call today for a booking: 3367 3088.**

By Doug James (Podiatrist and Physiotherapist)



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