

FROM THE SOLE

Tips to keep you running at your best



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FOOTWEAR PARADIGM SHIFT

In July this year Benno Nigg and his researchers at the University of Calgary published an article in the British Journal of Sports Medicine called "Running shoes and running injuries: mythbusting and a proposal for two new paradigms: 'preferred movement path' and 'comfort filter'." This article reviewed the research over the past 40 years and in particular the relationship between impact characteristics and ankle pronation to the risk of developing a running related injury. He questioned whether or not running shoes had any influence on injury rates, but concluded that the change in demographics of the running population and the inconsistent definition of running injuries made a comparison over time inappropriate.

There were multiple research studies that found that cushioning did not have a significant effect on injury frequency. Another study found a 200% increase in running injuries between a neutral shoe and a minimalist shoe with the minimalist shoe being more injury prone. With regards to orthotics and injury a softer insole reduced injuries which was the not what was found with a soft shoe midsole. Self-selected comfort of an insole/orthotic had the biggest impact on reducing injury rates.

In the past, without any research evidence, it was thought that foot pronation and impact forces were the main factors in injury risk. Most of the research on impact forces was inconclusive due to the small sample sizes and the fact that faster runners with

higher impact peaks or loading rates did not have increased impact related injuries. One study with a very large sample size found an inverse relationship between foot pronation and injury rates. It found that injury frequency decreased as pronation increased. So the two variables that were considered to be the greatest risk factor for running injuries were not valid.

So how can we select shoes that will reduce our injury risk?

Nigg proposed two new theories of the 'preferred movement path' and the 'comfort filter'. Fortunately this is the way we have always selected shoes at the intraining Running Centre. We try to let the runner and his foot decide which shoe works best. The most critical factor is to run in the shoes before you make any decision. During the trial run we tell our customers to pick the shoe that feels like it gives the most even support on both sides of the foot, has the smoothest action making it easier to roll off the forefoot and is the quietest when running. Different runners will find different shoes that meet that criteria.

By following this simple procedure you can purchase the best shoe to suit you and reduce your injury risk.

[> READ FULL ARTICLE](#)

By Steve Manning (Podiatrist and Coach)

DO YOU NEED A SECOND PAIR OF SHOES?

If you are running more than 40km a week then it becomes worthwhile having a second pair of shoes. It should be a different type of shoe to your first pair so that your foot will be having different stresses on it and injury risk from overtraining will be reduced. For many people it is better to have the second pair as a lighter weight shoe that can be used for speedwork and racing. When you are running faster you will generally need less support in a shoe since your running technique is better. A shoe that is too bulky can be a greater injury risk because you are fighting the shoes support when you run faster. There are many lightweight racer/trainers available now as well as straight racing shoes to consider. Make sure you run in the shoes at your faster race pace when you are trying them on in the shop. This second pair of shoes could be the key to running PB's in 2016.



By Steve Manning (Podiatrist and Coach)

FUN FACT *Strength of the Achilles tendon*

Ever thought about how your body absorbs impact when running? While you might assume it's either absorbed by your knees or shoes, the majority of impact is actually absorbed by the tendons in our feet and legs.

In most runners, the Achilles tendon absorbs the biggest portion of this – around 35% of the total impact. The tendons and fascia in the arch absorb the next highest amount, whereas your leg muscles only actually account for less than half of the shock



being absorbed.

The tendons in your feet and legs act like springs as they temporarily absorb and stretch under tension before

recoiling and providing propulsion. These can become stronger and more efficient with specific training and strength work (see article below) which can not only improve your speed and running performance, but potentially reduce your risk of certain injuries.



STRENGTH: *Using drills as strength training*

As mentioned in the Fun Fact, the Achilles tendon is particularly important for running. While general running will help your Achilles gradually become stronger (up to a certain point), you can gain greater improvements through performing running drills. While most running drills will help you become a stronger runner, Plyometric drills can offer potentially the greatest benefit for runners looking to improve speed and efficiency.

Plyometric drills are high impact exercises that develop strength and improved 'springiness' in your tendons and muscles. Due to the high impact nature, they shouldn't be attempted if you currently have or are recently recovering from a tendon or bone injury.



Drills such as 'marching', 'bounding' and 'skipping' train slightly different elements of running. These three drills encourage high knee lift, and require swift movement to absorb-then-generate power. Running drills are a great way to develop strength and improve your running. Learn more about these during the Running Form Workshops hosted by intraining in February 2016. See the website for more details.

By Doug James (Podiatrist and Physiotherapist)



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TRAINING 101

Training is challenging. In theory a good training program should be easy to follow and should culminate in the perfect race, or fitness outcome. But we all know this isn't the case.. There's the ideal training program, and then there's reality – riddled with interruptions from sickness, injury, fatigue, work, and life. So, what can you do to boost your training capacity and give yourself the best chance of reaching your goals?

Achieving consistency is key. Whether you're training 5 hours per week to maintain or increase your, or you're a seasoned professional Ironman athlete training 5hrs every day – being consistent is the most influential factor to achieving success.

Interruptions to training (especially for extended periods) will result in reduced fitness and training capacity. You forfeit the benefits gained from your previous training, take a step backwards and then need to build up your training again. Injury prevention and management plays an essential role in achieving consistency. Managing niggles and being able to train, or at least cross train, during injury rehabilitation can significantly improve training outcomes.

Managing injury and taking a conservative approach when starting or returning to exercise is critical. Overtraining is the number one cause of injury amongst runners. It's important to ensure your training program accounts for your busy work schedule, incidental exercise, late nights etc. Training volume should not increase by more than 10% per week, overall or for any given session.

Consider not only the volume (distance) covered, but also the intensity and frequency of your training. Ideally if you're running 3 times per week, they shouldn't be on consecutive days and definitely shouldn't be running twice in one day.

Your training should also be periodized and structured to contain easier and harder sessions. This gives the body a chance to recover, adapt, and benefit from the training. Alternating these sessions, or adding cross training activities on 'easy' days is another way to reduce load and injury risk. Applying specificity and variety are also very important to keep you motivated about training. Whilst the sessions should be specific to your goals, try to vary your training (simply changing your footwear or running surface is an option) such that repetitive injuries are less likely.

You can gain an extra edge over your competitors by including speedwork, tempo running and hills into your program. Generally these sessions are recommended for more experienced runners. You don't have to be fast or fit, just have some running km's in the legs such that injury risk isn't exponential. These sessions are another great way to add variety, and improve work to improve speed, pace judgement, anaerobic fitness, strength and power.

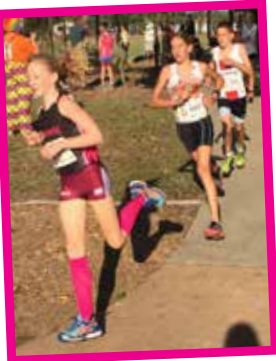
By no means is training simple, but changing your approach to training and being aware of some key training principles can make a big difference. If you're looking to improve your fitness or your running performance, it might be time to reinvigorate your program. Find some motivation, avoid overtraining and be consistent – this will get you a long way!

By Emily Donker (Podiatrist and Coach)



TEENAGERS RUNNING

The physical development that occurs for girls and boys during preteens and teens has a significant impact on their participation in sport. Boys make the gains of strength with surges of testosterone. During growth spurts this can create a disparity between their strength and co-ordination leading to growth related and sporting injuries. Girls have physical changes that will make them stronger, but can also change their body shape more dramatically. Physical activity can become more uncomfortable, and it is not uncommon for girls to experience knee pain and shin pain. As a result their lunchtime activities shift from games of chase to sitting and chatting. Unfortunately for the teenagers, these physical factors are combined also with social and emotional factors.



Running, as a sport, can actually become a deterrent for them to exercise. Running is painful, and uncomfortable, and the schooling environment has a natural focus on competition. Running, however, is one of the easiest ways for them to exercise and become fitter and gain a sense of

empowerment. The challenge as parents is to find ways that entice the teenagers to start or even to keep running. Most times, this will come from activities outside school. Fun Running is one of the best avenues to use. Being amongst a crowd of runners takes the focus off them. Fun runs are a non threatening environment where a teenager can see others panting hard, stopping for walks, and also sharing words of encouragement. It may take only a few of these experiences to make the change from them being dragged out of bed, to them willingly talking about going.

Over the summer, intraining running centre will be offering some training sessions designed specifically for the non-competitive teenager. Setting a goal to complete one of the distances at the Twilight Running Festival will be encouraged but not enforced. The training sessions will be following a program towards this event. Creating an individualised program can have the added benefit

of helping the runner be able to plan their weekly activities and to become more internally motivated to run.

Bookings at intraining Running Injury Clinic can be made for an individualised program.

Tuesday Evenings 6:15pm UQ
Thursday 5:30pm
Sunday 5pm Runs various locations

By Margot Manning (Podiatrist and Coach)

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