

# ATHLETE'S EDGE



## EDITOR'S NOTE

This edition of Athlete's Edge gives information on what type of shoes might be good for your running, the dreaded plantar fasciitis, as well as some helpful tips on running and nutrition.

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## THE PERFECT SHOE FOR YOU

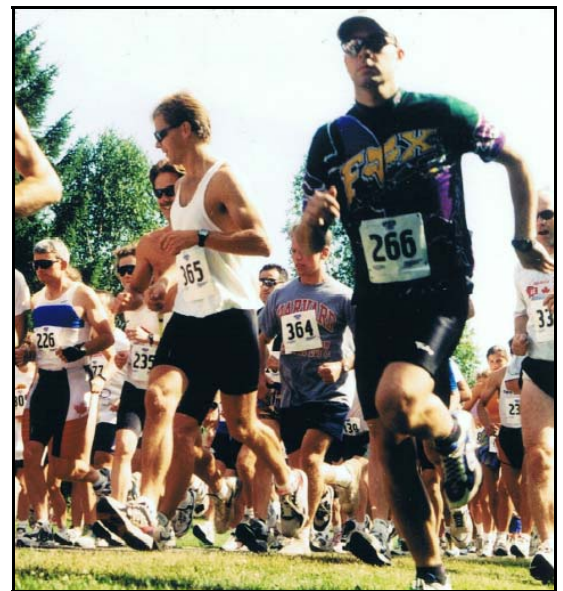
*Simple advice on finding the right shoe for your needs as a runner*

Choosing the proper shoe is an overwhelming task as runners are inundated with new models and often forced to give up old favourites that are altered or discontinued altogether. A good understanding of foot function, running mechanics and running shoe design is paramount to appropriate selection.

The function of the foot is to provide a stable base of support while at the same time functioning as a shock-absorbing mechanism so that the impact of striking the ground with every step is not sent through the rest of the body. The running shoe is designed to facilitate the foot in achieving these functions.

Running is repetitive in nature in that the body goes through the same motions over and over again. There are no stops and starts, no change of direction, no jumping and landing — simply the same forward motion of striking at the heel followed by total foot contact with the ground followed by push-off of the forefoot.

In running, the foot must be stable as the heel strikes so we don't collapse, and it



must be stable as we push off the forefoot to propel us forward. Just following heel strike as the foot approaches its flat or total contact position, it must become flexible to absorb the impact of the ground on our foot. The foot must follow a stable-flexible-stable pattern with every step and as one foot leaves the ground to swing through, the other one is striking with the same pattern.

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**The sports medicine newsletter for the Region of Waterloo,  
supporting the safe pursuit of sports  
and physical activity**

# Local Retailers Serious About Running Equipment

In Waterloo region, professional and recreational runners can be seen beating the paths of local roads and trails.

Their love of this sport requires dedication, medical observation and the proper equipment.

Local athletes are blessed with several retail outlets that cater to the needs of various types of runners. They carry the latest equipment, including running shoes, clothing and tracking devices, that help these

athletes remain in top form.

## STORE OPENING

Kitchener is now home to one of the newest locations of The Running Room. The store officially opened Feb. 15 and is located at:

500 Fairway Rd. S. Unit 15  
Kitchener, ON N2C 1X3  
(519) 893-4346

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The goal in the design of all footwear for running is to create a lightweight shoe with rearfoot stability, good shock absorption and torsional stability. While new technologies result in an ever changing and often overwhelming number of choices for running shoes, this goal remains constant. This is achieved through specific design features in the upper, midsole and outsole of the shoe.

**1. The upper** of the shoe is the component that encompasses the foot. It is comprised of combinations of nylon mesh (for breathability), leather, suede and synthetic leather (for support and durability).

**2. The Heel Counter** is the cup in the rearfoot that surround the heel and is made of thermoplastic. This heel counter and the heel stabilizer (rigid plastic that reinforces the heel cup) stabilizes the rearfoot at the heel strike.

**3. The Midsole** is the platform of the shoe. It is thick at the heel for better shock absorption and tapers thinner to the ball and forefoot. This wedge formation helps promote propulsion and aids toe clearance dur-

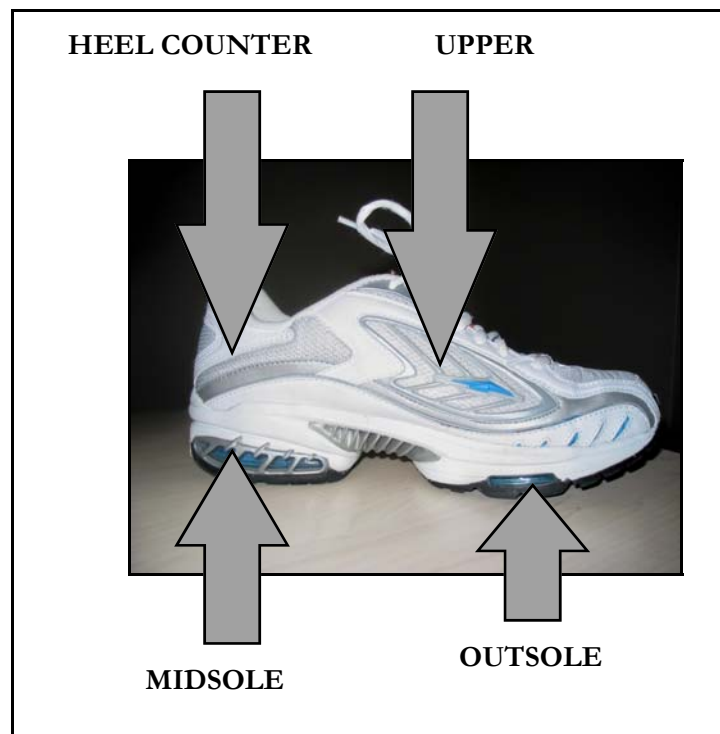
ing the swing phase (try running long distances in a flat shoe!) Midsoles are designed to absorb shock from the ground but at the same time, must supply a stable platform for the foot and prevent unwanted

twisting or torsion at toe-off. Running shoe manufactures patent their midsole designs (eg. Air, gel, grid, roll bar, torsion bar, encap, stability web—combined with materials called EVA and PU) and each claim that their technology is the best to achieving these goals.

**4. The outsole** is the last component of the running shoe and is responsible for the ground/foot interface. It must be highly durable (often made of carbon rubber) and is primarily important for traction and pressure dispersion in running. Various tread pattern designs and prominences (eg. Waggles, triangular lug) are utilized for maximal achievement of these goals.

A clear understanding of foot function, running mechanics, and running shoe design should ensure proper selection of the optimal footwear for all runners.

- Kim Rau is a certified pedorthist at WSM.



# Running On Glass

Mention the word Plantar Fasciitis and almost every runner nods their head knowingly. It usually starts as a sensation of a pebble under their heel in the shoe, but no pebble is found. Next, the pain begins to spread up through the medial arch of the foot during longer runs. Finally a searing knife-like pain slashes through the foot during the first few steps out of bed in the morning and the much-anticipated daily run to nirvana becomes a one-legged hobble through death valley!

The above description may sound over dramatized, but to the survivors of plantar fasciitis, it is a serious reality. What can start as a simple pain in the foot affecting the morning jog, can quickly become a lancinating pain that makes a simple trip to the grocery store an almost impossible task.

The plantar fascia is a group of strong bands of connective tissue on the base of the foot running from the heel to the base of the toes. The plantar fascia covers all the soft tissue on the base of the foot and acts to supply tension to the medial arch. This fascia is important in running to help absorb some of the force upon landing and supply rigidity to the foot during propulsion.

There are many reasons that the plantar fascia becomes aggravated during running:

- Poor running style, such as toe running.
- Improper or old shoes that don't absorb enough shock or control the motion of the foot adequately.
- Anatomical deficiencies such as excessively high arches or flat feet.
- Weak or tight muscles especially the posterior

calf muscles and the tibialis posterior muscle (the shin splint muscle)

- And finally the curse of many runners, too many kilometres on hard terrain.

**Plantar Fascia:** *The group of strong bands of connective tissue on the base of the foot running from the heel to the base of the toes.*

The final word on plantar fasciitis is, "don't ignore the early warning signs." If you catch the problems early you can usually recover quickly by simply changing your shoes,

decreasing your running time, or adding a few simple stretches or strengthening exercises into your running program. Ignore the signs and you will find yourself caught in the vicious cycle of inflammation, increased tightness and pain that has caused many runners to kiss goodbye an entire running season.

- Randall Helm is one of the physiotherapists at WSM.

Special thanks to Saucony Canada for

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**Grid Trigon**






Grid Trigon (L)  
Light  
Cushioning




Grid Trigon (R)  
Responsive  
Cushioning




Grid Trigon (D)  
Durable  
Cushioning

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CRM in the Grid Trigon Provides the neutral runner cushioning with **3 versions**: Light Cushioning - ideal for the slight build runner or the runner who prefers a **softer ride**. Responsive cushioning - ideal for the medium build runner or the runner who prefers a comfortable, **balanced ride** and Durable Cushioning - ideal for the larger build runner or the runner who prefers a more resilient, **firmer ride**.



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*Athlete's Edge supports community and amateur sports and activities in the Kitchener-Waterloo region through the Waterloo Sports Medicine Centre's two locations.*

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Since 1986, over 50,000 athletes and active individuals have relied on the experience and expertise of the medical and therapy staff of WSM.



WATERLOO SPORTS MEDICINE CENTRE

## Balancing Running and Nutrition

What to eat before exercise is a common question among runners. Some people find they can't eat for 2 to 3 hours before a run. Other runners seem to be able to eat anything and they are not affected. The best guideline for eating before any type of exercise is to find out what works for you. Here are some suggestions to consider when choosing a pre-exercise snack:

1. A snack 2 to 3 hours before exercise can help to maintain your energy level and boost your muscle fuel stores.
2. Choose foods that are high in carbohydrate, moderate in protein and low in fat. Carbohydrate is easy to digest and is the main fuel for your muscles.
3. Avoid foods that are high in fibre (less than 5 grams of fibre per serving). High fibre foods are slow to digest which is a good thing for the majority of the day, however, before exercise you want food to digest quickly. Therefore, save the bran cereal for AFTER your morning run.

### Pre-exercise snack ideas (2 to 3 hrs prior)

- Yogurt and fruit
- Sandwich with low fat toppings
- Apple and cheese
- Graham crackers and peanut butter
- Crackers and cheese
- Trail mix
- Yop (drinkable yogurt)
- Banana and peanut butter
- Tuna and crackers

### Is it really worth carrying a water bottle during my runs?

Dehydration is a common problem among runners. It is easy to lose 2 to 5 pounds of fluids even during a short run on a cool day. The fluid loss of 2 to 3 pounds can equate to a 10 per cent reduction in muscle performance AND can increase your heart rate by 5 to 8 beats per minute!

If you choose not to drink adequate fluids during your runs, you will fatigue faster and therefore not get the most out of your training.

To prevent dehydration, aim to drink 500 mL to 1 litre per hour of exercise. To check if you drank enough during your run — weigh yourself before and after your run. Any weight lost is fluid and not body fat. To replenish your fluids lost during a run you need to drink 750 mL of fluid for every pound lost. That's a lot of drinking!

Be proactive, prevent dehydration by carrying a water bottle and get the most out of your training!

*Heidi Smith is a Registered Sport Dietitian. For more information on Nutrition for Runners, consult Heidi's website [www.heidismithnutrition.com](http://www.heidismithnutrition.com) You can order her new book entitled "Nutrition for the Long Run—a nutrition handbook for runners, walkers and active individuals."*

### Get Your Sport Nutrition Book Today!



*"A must read for anyone serious about getting the most out of their food for endurance sport."*

**Jasper Blake**, National Ironman Triathlete

Visit [www.heidismithnutrition.com](http://www.heidismithnutrition.com)