

ISSUE 5

A: Nutrition

B: Upper Leg (Focus Area)



As the London Marathon draws closer, it becomes increasingly important to make sure you are looking after your body correctly. You are now at the stage where you will likely be incorporating extensive runs into your training. These longer runs put additional demands on your system, and require that you eat and hydrate correctly.

Proper nutrition not only helps provide your body with the additional fuel it needs, it also helps replenish muscles, boost the immune system, reduce inflammation and reduce the risk of injury. Sadly, many runners get the balance wrong. They try every possible variation to their physical training to gain an advantage, but are sloppy in their approach to their diet.

Don't let this be you. Understand that good nutrition is essential, and give it the attention it deserves.

Unfortunately, there isn't a one-size-fits-all food plan. The field of nutrition is notoriously complex and, increasingly, causes much debate and controversy. And the needs and requirements of each individual can vary enormously. We highly recommend you take the time and effort to consult with a [nutritionist](#) who can give you specialist advice. But there are also some basic fundamentals that apply in most cases, and should encourage you to make small changes to how you eat and drink.

For **endurance running**, i.e. runs that last longer than 30 minutes, the **two most likely causes of fatigue will be dehydration and carbohydrate depletion**. Before you look to fine tune your diet in other areas, it's important to mitigate against these two challenges.

Liquids and Drink

Optimal Hydration

Water makes up to about 60% of body weight in men, and over 50% in women. Small losses in body mass (as little as 2-3%) can have a significantly detrimental effect on your running ability. Proper hydration, therefore, is crucial to maintaining a normal functioning body. And you shouldn't wait until after you have started running to take on board fluids. **It is important that you start your run properly hydrated.** In fact your hydration level is something you should be monitoring on a consistent basis throughout the day, especially now that your training load is significantly higher. The easiest way to monitor hydration is by checking your urine. Pale yellow urine usually indicates you're within one per cent of optimal levels, whereas dark yellow or orange coloured urine suggests you may be dehydrated.



It is a good idea to get in the habit of weighing yourself pre- and post-run too. Fluid intake during exercise should match the fluid losses that come from sweat. For every pound (kilo) lost during the run, you should take on board an extra 12-24 ounces (350g – 700g) of water gradually over the course of the day. As a rough guide, try to drink a liter of water for each 1,000 kcal you burn off. But don't rely solely on water. You need to look into replacing salts and [electrolytes](#) (essential minerals found in the blood, sweat and urine) too, so consider isotonic refreshment as well as pure water.

That said, you mustn't overdo your water intake either. Too much pure water will dilute sodium to dangerously low levels, which can cause [hyponatremia](#) which, in some runners, has been fatal. If it feels like liquid is squelching around in your stomach as you run, you might be overdoing it.

Learn what you can about staying properly hydrated and listen to your thirst. This indicates a need for fluid and, because it's a slightly lagging gauge, feeling thirsty suggests your body is **already dehydrated**. So don't wait 'til you're thirsty before drinking!

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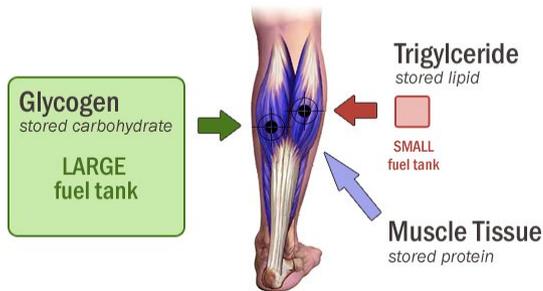


Food

Carbohydrates and glycogen

For you to successfully complete a marathon, your body needs to use energy as efficiently as possible. Ultimately, the fuel for this energy derives almost exclusively from the foods you eat. But different types of foods help your body to burn energy at different rates.

You need a mixture of kindling, logs and coal to get a fire started, and to keep it burning for a long time. Similarly, your body needs some energy that is readily available, but also needs energy that is slow burning, in order for you to endure.



For marathon runners, glucose in the blood is a readily available source of energy. And although all energy pathways are used simultaneously whilst running, the further into the run you get, the more heavily you rely on energy sources other than blood glucose.

Fat is a great source of energy in the body, and in plentiful supply. Unfortunately, burning fat in the body is a complex process. To utilize your fat stores, you must have some form of glucose present to facilitate this metabolic pathway.

A fantastic, and essential, form of energy for endurance runners is **glycogen**. This is a form of glucose (sugar) that can be stored by the muscles and liver. When carbohydrates are broken down to sugars and released into the bloodstream, they are carried around the body to our cells and stored as glycogen. But glycogen stores are fairly limited. A key reason for doing long runs in training is to help increase muscle glycogen stores. But for this to be effective, you need a diet that is high in carbohydrates.

Carbohydrates are divided into two main types, **simple** and **complex**. You need a mixture of both in your diet. Great sources of **complex carbohydrates** for endurance runners include whole grains such as **brown rice** and **quinoa**. These are also good sources of fibre. **Sweet potato** and **beetroot** are also great pre-run sources that contain very useful vitamins and minerals.

Great sources of **simple carbohydrates** include **bananas, dried fruit (raisins, dried apple or dates), and chocolate milk**. Bananas are a fast-acting pre- or post-race food packed with potassium. They are therefore great for replacing lost electrolytes. Dried fruits are often used by experienced runners as a more palatable alternative to energy gels on longer runs. And chocolate milk is something that can be taken post run to help get sugar back into depleted muscles quickly.

Your training diet should be at least 55% carbohydrate during daily training, and up to 65% before a long training run.

Protein is still important

After strenuous exercise, your body needs to repair and replenish itself from the damaged it experienced during training. There is a 30-minute window post exercise when the potential for muscle protein synthesis is at its highest. In other words, it is **advisable to take on protein fairly soon after your harder runs.**

Protein has a vital role to play for runners in other regards too; it helps to form haemoglobin, maintain water balance, and build lean muscle mass. Ideally, as an endurance runner, you will eat proteins that have high BV (biological value). This means they are more readily available once ingested, and therefore more useable. Typically, these will come from animal sources and include **meat, poultry, fish, eggs, milk, cheese and yogurt**. However, for those of you that are precluded from animal-based products, good sources of plant protein include **nuts, seeds, pulses, mycoprotein and soya products**.

RUNNERS FOOD





Some recommended foods for endurance runners

Most people consume a diet that is too limited in range. Adding new foods to your diet can help combat some of the challenges of long distance running. **Apples, avocados and blueberries** are all good for fighting inflammation. **Almonds** are high in magnesium and can help ward off cramps. **Black beans** are a great source of fibre and muscle building protein. And **Chard** contains folate (a B vitamin) that helps make red blood cells carry oxygen to the muscles.

Dig deeper and you will find a wealth of foods that can support your training and recovery. It is well worth investing time and effort to [find out more](#).

Issue 5: Focus Area – Upper Leg Injuries

Part of the reason the upper legs are susceptible to injury is our modern lifestyle. For example, the vast majority of us spend far too many hours in the day sitting down. This can cause the hamstrings to become unnaturally shortened and tight.

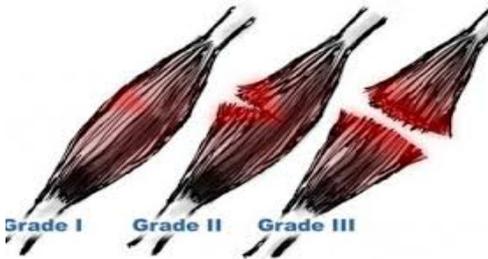
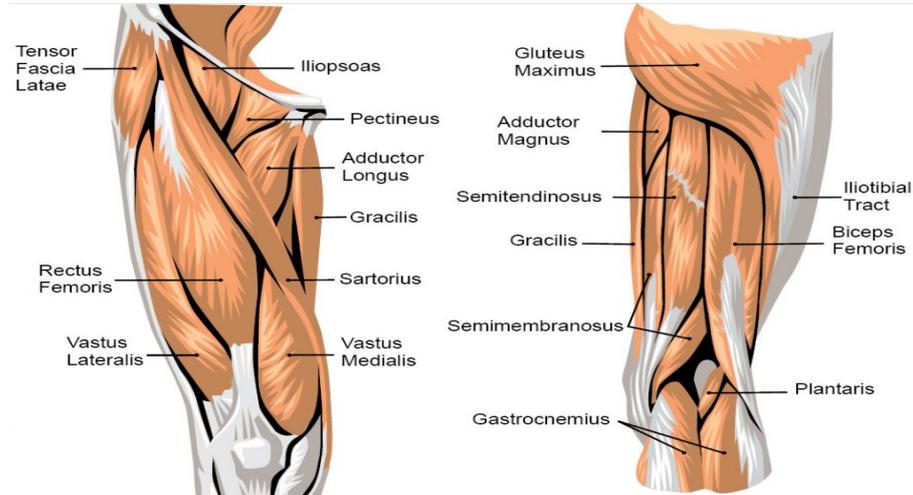
Anatomy of the upper legs

Our thigh bone (the femur) is the longest and strongest bone in the body. In between the hip and the knee, you have **3 hamstring** muscles (back of the thigh), **4 quadricep** muscles (front of the thigh) and **5 adductor** muscles in the inner thigh. In addition, there is a long fascial band that runs down the outside of the leg colloquially called the **IT Band** (Iliotibial band).

Hamstring Strain (“Pulled” Hamstring)

Symptoms: You will usually notice a sudden and sharp pain in the back of your leg. You might also hear a ‘popping’ noise, or notice a tearing sensation. It will soon feel weaker and hard to walk on and may start to swell within the first few hours.

Cause: In long distant runners, hamstring strains are usually due to repeated micro-tears that have developed scar tissue over time. This can cause the muscle to become shortened and stiff. Decelerating from a fast pace too quickly can also cause issues. Also, if the hamstring muscles are weak due to an imbalance between them and the quadriceps, they’ll be less able to deal with the demands required.



Prevention: Strength training that works the glutes can actually also help to protect the hamstrings. Controlled jump squats and lunges are both useful exercises. And of course, stretch!

Treatment: As always, rest the injury initially. Icing is important in the early stages to help bring down any swelling. After that you’ll need to do plenty of stretching. But it is better to stretch an injured hamstring in a lying position rather than reaching to touch your toes.

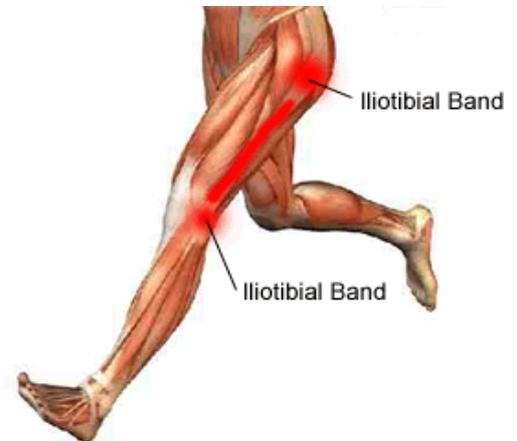
IT Band Syndrome

Symptoms: Pain and inflammation on the outside of the knee (i.e not necessarily the IT Band itself!). Pain walking downstairs. Discomfort heightened when running. Inability to straighten the knee. Pain on bending and extending the knee.



Cause: The main culprits are worn running shoes, running on uneven surfaces or poor running gait. Poor flexibility of muscle, and other mechanical imbalances in the body, especially involving the low back, pelvis, hips, knees and weak gluteal muscles.

Prevention: Use a foam roller to help ease out the IT band. Avoid running on uneven surfaces. Keep the knee covered and warm. Stretch out IT band after long runs.



Treatment: Rest and ice to bring down inflammation, followed by regular **deep tissue massage**. Move onto strengthening exercises before resuming running. Occasionally, a corticosteroid injection can help, although the injection won’t cure the injury. But it may reduce the pain and enable you to move on to the next phase.

Next Issue

In our next issue, we look at cross-training and ways in which you can give your body some active rest.

In addition, we will give some insight into potential injuries that can affect the glutes.

Simple Upper Leg Stretches

