

## HOW TO USE ENERGY GELS



**Energy gels offer a concentrated source of energy making it easier to replace lost energy stores whilst training and racing. Most Energy Gels are based on maltodextrin which directly provide glucose to your blood stream and provide an easily absorbable form of carbohydrate.**

Energy gels are effectively concentrated energy drinks. Therefore they need to be used diluted with some plain water. (The body needs water to digest carbohydrate). Otherwise, you may find yourself becoming dehydrated.

### How Many to Take?

It is always best to check the manufacturer's recommended suggestions. As a rough guide you can take on 1 gram of carbohydrate per Kg of bodyweight per hour. A 70Kg runner can absorb 70 grams of carbohydrate in an hour. An energy gel every hour of a race can be an effective way of meeting your carbohydrate needs. It depends if you are also taking on energy drinks. If you get 40grams of carbohydrate from a 500ml energy drink. One additional energy gel of 25 grams will take you up to the 70g target.

Note there is a limit to how much carbohydrate the body can absorb – if you take too many gels, you won't be able to absorb the energy but just have a stomach full of energy gel (which isn't so nice). It is sometimes good to just have 1 or 2 energy gels for an emergency energy hit towards the end of a long run. You could take an energy gel in a waist pouch or small carrier, and use when needed.

### When To Take Energy Gels

Energy gels should be taken just before or during exercise. They work by immediately raising your blood sugar level. If you are not exercising, the body will release insulin and convert into long term stores (glycogen) actually leading to lower blood sugar levels. Thus if you take energy gels 1 or 2 hours before a race, you can be left feeling tired at the start of the race. However, once you are running, the body will be using all the glucose released. I advise not taking energy gels more than 10 minutes before start of race / warm up.

### Different Types of Energy Gels

**Isotonic Energy Gels** Isotonic means that they have already been mixed to the correct water / electrolyte balance. Therefore, you don't need to take extra water. These are excellent if you are worried about getting the right electrolyte / water concentration. They will provide energy and also help provide optimal hydration. The drawback is that they are a little more bulky to carry around. But, it also saves carrying both gels and water. They are great for training runs for simultaneously topping up both water and energy levels.

**Glucose / Fructose 2:1** Studies have suggested that a combination of glucose and fructose in a 2:1 ratio can lead to a higher uptake of carbohydrate than just relying on glucose. Glucose has a very high GI index (increases blood sugar immediately) Fructose has a lower GI index and raises your blood sugar levels more gradually. Therefore, this combination can be good for long distance running who are struggling to take on enough carbohydrate during a race.

**Caffeine** Some energy gels also include caffeine – a legal stimulant. Studies suggest that ingesting caffeine can boost your performance, though it can vary between individuals. In long distance races, some runners like to take a caffeine energy gel towards the end of the race when they are becoming tired. Some studies have suggested caffeine is less effective in hot weather because it can lead to dehydration. Caffeine also acts as a diuretic making you need a toilet break in a race – another reason to save for later in the race. Whether you want to use caffeine will come down to personal preference whether you want to benefit from this everyday stimulant.

### Potential Pitfalls of Energy Gels

Sometimes runners take energy gels and concentrated energy drinks at the same time. This means they are consuming too much concentrated energy solution and it can leave you feeling sick and dehydrated – especially if hot.

**Test before a big race** Energy gels can be a little sweet and you may find that your stomach rebels from consuming large quantities. In training you should be testing your stomach's tolerance to different makes of energy gels. Then when the big race comes, you won't be trying something completely new that your stomach may not like.

### Which Brand is Best?

Different brands use essentially the same ingredients – maltodextrin, fructose, electrolytes (salts). Often there isn't that much difference between different brands and it comes down to personal favourites.