

# It All Depends on Proper Nutrition!

## Tips and Tricks From PowerBar for 70.3 and Ironman China



Nowadays, every athlete knows that proper nutrition plays a decisive role in top performance. The following guidelines from PowerBar, the pioneer in athletic nutrition, offer tips about correct nutrition for athletes who are involved in daily training and in competitions. Proper diet and timing can prevent nutritional deficits and declines in performance before they have a chance to begin.

### Basic Nutrition in the Preparatory Phase

Well-balanced nutrition should already begin during the preparatory phase prior to the competition. After all, if athletes cut corners here, how can they expect their bodies to perform optimally on the day of the competition? It's particularly important to eat foods that contain plenty of complex carbohydrates (e.g. noodles, rice, potatoes, and whole grains). Before beginning each training session, it's recommended that athletes consume carbohydrate-rich foods, e.g. the **PowerBar Performance** energy bar. High-fiber foods (e.g. whole grains, vegetables, and fruits), as well as vitamins and minerals (e.g. fresh fruits and vegetables), should also be part of every athlete's diet. High-quality proteins (i.e. a combination of proteins from animal and plant sources) is also important. Especially after training sessions, priority should be placed on protein-rich foods. The **PowerBar ProteinPlus** protein bar helps an athlete's body to regenerate quickly. In addition to maintaining a generally low-fat diet, it's also very important to drink enough fluids – at least two liters per day (e.g. mineral water, juices, herb teas).

### The Hours Before the Race

The last big meal should be eaten no later than two to three hours prior to the competition, otherwise the contestant's stomach will be too heavily burdened. For an optimal fluid status in the body, an athlete should drink half a liter of fluid one hour before the competition. Sport beverages like **PowerBar Performance Sports Drink** are particularly well suited for this purpose because in addition to vitamins and minerals, HydroPlus also contains carbohydrates to provide plenty of available energy. Light snacks (e.g. bananas, dried fruits) can be eaten up to half an hour prior to the start of the competition. The **PowerBar Performance** energy bar can be eaten along with a small beverage as late as a few minutes before the beginning of the race without overburdening the stomach. This bar provides the body with a well-balanced combination of carbohydrates, important vitamins, minerals, and proteins – precisely the fuels it needs in order to perform at peak capacity.

Tip: **PowerBar Performance** is ideal for athletes – although the bar contains plenty of energy, it has practically no fat.

### During the Race

During the competition, it's essential for an athlete to drink the proper amounts of the right beverages. Several smaller drinks (100 to 200 milliliters each) should be imbibed at brief intervals. It's important to begin drinking early – before the sensation of thirst arises. Specially conceived beverages for athletes (like **PowerBar Performance Sports Drink**) contain an optimized blend of minerals and carbohydrates which makes these drinks better for athletes than mineral water or mixtures of apple juice and mineral water. To keep one's reserve of carbohydrates supplied during the race, it's a good idea to eat small pieces of **Performance or Harvest** bars at regular intervals. These should be eaten along with a few sips of liquid (ca. 100 milliliters). **PowerBar PowerGel** is very well suited for athletic competitions: rather than having to chew it, the athlete simply sucks it directly out of its package. It contains a special blend of carbohydrates, amino acids, vitamins, and minerals. During the competition, it's recommended to consume one package of gel along with a small quantity of beverage (ca. 200 milliliters).

Tip: **PowerGel** has worked wonders with many athletes who felt themselves beginning to weaken.

### After the Race

After the race too, it's important to remember to supply one's body with its nutritional requirements. It's crucial to drink sufficient fluids, especially beverages that contain plenty of carbohydrates and minerals. Furthermore, it's a good idea to eat foods that are rich in carbohydrates and proteins during the first few hours after the end of the race.

Tip: Immediately after the race, a **PowerBar ProteinPlus** bar supplies high-quality proteins and important carbohydrates, as well as vitamins and minerals.

**Important: Try everything you want to try in competition beforehand in training – no experiments in competitions.**

For further questions before during and after the competition send an email to: [nutritionteam@powerbar-europe.com](mailto:nutritionteam@powerbar-europe.com)

# FAQ PowerBar Performance

## How should PowerBar Performance be taken during a sports activity?

The amount of carbohydrate needed and the frequency with which it is required during exertion differs from person to person and depends to a large extent on the level of impact.

Always test in training how many you can eat! For exertion lasting over 90 minutes it is essential to eat carbohydrates from time to time in order to maintain optimum efficiency.

## Which carbohydrates does the PowerBar Performance contain?

The PowerBar Performance contains a combination of carbohydrates specially designed for sportsmen and sportswomen. Fructose syrup, that is, fruit sugar syrup, constitutes the main carbohydrate besides maltodextrin, which is a particularly easily digestible carbohydrate. The use of fruit sugar is favoured in sports products, as it causes the blood sugar level to increase slowly and evenly, thereby conserving the carbohydrate stores in the body at their optimum level and avoiding the subsequent risk of the blood sugar levels falling too low. Normal household sugar or even pure glucose pass into the blood too rapidly and cause a sudden increase in blood sugar followed by a sharp distribution of insulin. This is particularly bad for sportsmen and sportswomen as a high insulin level prevents fat being burned. Moreover, there is a danger that the blood sugar levels will decrease again rapidly.

The soluble roughage from bran, which is also easily digested during exertion, aids the process of increasing the blood sugar evenly. It also makes for healthy intestinal flora and thus contributes to a healthy balanced diet. This makes the PowerBar Performance even more than just an energy supplier.

## What are the particular advantages of PowerBar Performance?

The special combination of carbohydrates in the Performance supplies long-lasting energy, thus providing maximum efficiency and rapid regeneration.

- rich in carbohydrate and low in fat  
-> supplies a large amount of calories from carbohydrates for maximum efficiency but very little fat
- high density of nutrients (lots of nutritious contents in a condensed space)  
-> can also be eaten shortly before or during exertion, without filling the stomach too much
- soluble roughage for an even increase in blood sugar levels  
-> also keep our intestines healthy
- all the vitamins, minerals and trace elements essential for sportsmen and sportswomen  
-> provide maximum efficiency and protect the body from free radicals and symptoms of deficiency
- amino acids – energy for particularly long periods of exertion  
-> also guard against muscular atrophy and strengthen the immune system
- optimal digestion, even during exertion  
-> puts no strain on the stomach or intestine because of its fine consistency and balanced combination of carbohydrates

waterproof packaging

-> protects the Performance and keeps it fresh – even in the most adverse conditions

## Does the Performance reduce the amount of fat burned in long runs?

Our body always needs carbohydrate and fat at the same time when they are exerted. The impact of the strain to which the body is subject will determine the main source. The more intensive the training, the more energy will be produced from carbohydrates alone. It is largely fat that is burned in long endurance exertion yet it does not work entirely without carbohydrates. Anyone who has had an attack of hunger after subjecting the body to strain for several hours is well aware that fats burn "in the carbohydrates' fire". This means that when the carbohydrate stores in the body are empty its power supply breaks down. A regular supply, e.g., from the PowerBar Performance ensures that there is an adequate supply of carbohydrates for optimum fat burning.

It would not be a good idea, however, to eat pure glucose directly before exertion, as this would cause the blood sugar and in turn the insulin level to rise much too high, preventing fat from being burned before you have even started!

## How long is it before the Performance carbohydrates take effect?

In addition to a combination of carbohydrates specially developed for sportsmen and sportswomen, the PowerBar Performance also contains soluble roughage, namely bran. This roughage, which is specially processed to make it particularly easy to digest, ensures that the carbohydrates pass into the blood slowly and evenly. After some 20-30 minutes they are available in the blood and provide – depending upon the intensity of the exertion – up to 3 hours of energy. For this reason nobody can afford not to eat the Performance 30 minutes before a competition. There is no better way to prepare the body – in terms of nutrition – for optimum efficiency!

# FAQ PowerBar PowerGel

## What is meant by PowerGel?

The name PowerGel conceals a highly concentrated form of carbohydrates, which can provide energy rapidly even during intensive sporting activities. The nutrients are easily absorbed by the body, they do not put a strain on the stomach and supply fresh energy. The combination of carbohydrates specially designed for sportsmen and sportswomen ensures that the blood sugar levels do not fall too low after an energy high. Another advantage of PowerGel is that it is ideal for all sportsmen and sportswomen who prefer not to chew during training / competitions

## How rapidly does PowerGel pass into the blood

The combination of carbohydrates in PowerGel is such that they can pass into the blood rapidly. After some 5-10 minutes they are already available to supply energy. Depending upon the impact of the strain to which the body is subject the amount of carbohydrate in one PowerGel supplies some 45 minutes of energy. For optimum supply it is best to take 1-2 PowerGels per hour. For longer sessions in particular start with the first gel after no more than 45 minutes, and don't forget that the PowerGel is most effective if you drink about 200 ml of fluid with it.

## Can I use the bars and the gel together?

Of course. It is especially nice in long sessions to have a bit of variety. Moreover, different conditions and levels of exertion also require different forms of energy. Prior to a training session / competition it is always best to eat a bar about half an hour beforehand. This is the best way to provide all the nutrients needed for sporting activity. Subsequent decisions should be based on impact and individual digestion:

- during high-impact activities a gel is definitely easier to digest and provides energy more rapidly
- during basic training there is no problem with eating a bar now and again and those who don't want to chew can always have a gel

Tip: The gel has worked many a "miracle" when people have been about ready to give up!

## Should I drink something with PowerGel?

Adequate fluid is especially important for maximum efficiency. The body can also absorb carbohydrates more readily with a drink. Therefore it is advisable to drink 150-250 ml of water before and after taking PowerGel, so as to be able to use the energy as quickly and effectively as possible. The gel can also be mixed with water before exertion – in this way you would always have a delicious energy drink available in the practical gel belt.

## Why should I take Powergel as opposed to other gel products available on the market?

- **More energy** - PowerGel delivers more energy than other products. PowerGel contains 110 calories from carbohydrates alone, more than that of its competitors. On top of this PowerGel contains the non-oxidising vitamins C & E, electrolytes and that special PowerBar mix of amino acids.
- **Comfortable** - The PowerGel long bottle neck provides a quick energy intake
- **Different tasty flavours** - Caffeinated Green Apple, Strawberry-Banana, Vanilla, Lemon-Lime and Tropical Fruit

## **FAQ PowerBar Harvest**

### **Can I eat PowerBar Harvest during sport as well?**

Like the Performance, the Harvest is an energy bar rich in carbohydrate. In appearance it resembles a cereal bar in that it contains whole grains and small pieces of fruit. It provides valuable carbohydrates and roughage and satisfies your appetite. For high-impact training it is good for the stomach to become empty quickly. For this reason – in our experience – the Performance or also the PowerGel are more easily digested during exertion. There are some athletes, however, who do not like to go without their “favourite Harvest” even during training. It is best to just try things out. In any case the Harvest makes a great snack at work or play that is rich in carbohydrates.

### **Can children eat PowerBar Harvest?**

Of course – children also like to eat the things that we like. Moreover, the Harvest contains many valuable ingredients and makes a great alternative to other sweets which usually have a high fat content and few important nutrients. It should only ever be regarded as a supplement to a healthy balanced diet, however. For small children (under 6 years of age) their daily intake should be restricted to one bar because of the added vitamins and minerals.

### **Can I eat PowerBar Harvest whilst I am pregnant**

Absolutely. During pregnancy extra special care should be taken to ensure a healthy balanced diet – but the old rule that you have to eat for 2 has long been dismissed. The motto, high in carbohydrate and low in fat, is equally valid during pregnancy! The Harvest offers the best supplement possible in this case and also contains many important vitamins and minerals. Some women have informed us that the Harvest has helped them through chronic sickness stages because it is so easy to digest.

### **How much should I drink with a Harvest?**

An adequate supply of fluid aids our digestion. For this reason we should always drink something with every meal. In this way our bodies are better able to absorb the concentrated foodstuffs more rapidly. You should drink at least 250ml of fluid with a PowerBar Harvest. Mineral water, herbal or fruit tea or a sports drink, such as PowerBar HydroPlus, are all ideal choices.

### **Can I eat a PowerBar Harvest for breakfast every day?**

Rich in carbohydrates and low in fat, the PowerBar Harvest corresponds exactly to the recommendations of the major companies specialising in nutrition. Furthermore it contains easily digested roughage and is rich in vitamins and minerals, making it an ideal start to the day with a drink. Definitely preferable to a slice of toast and marmalade or chocolate hazelnut spread!

# FAQ PowerBar Performance Sports Drink

## What makes the Performance Sports Drink so special?

Performance Sports Drink is not just another isotonic drink. It has been specially developed for athletes by athletes. The five power-promoting characteristics of Performance Sports Drink are:

- The TQ3 Plus carbohydrate combination specially developed for sportsmen and sportswomen provides both rapid and long-lasting energy. Performance Sports Drink is particularly easy to digest on account of the careful selection of carbohydrates.
- The isotonic mixture of carbohydrates and minerals is specifically geared to the needs of sportsmen and sportswomen, as it compensates for the loss of fluid and electrolytes.
- Vitamins C and E protect the body from free radicals, the B vitamins aid carbohydrate metabolism and guarantee maximum performance.
- The added amino acids – leucine, valine, isoleucine – guarantee long-lasting energy, not only during particularly extreme endurance performance. They also protect against muscular atrophy and promote regeneration.
- When the body is subject to very intensive exertion the immune system can suffer temporary weakening. The amino acid glutamine reduces this effect and helps the muscles to recover after exertion.

## How should I use the Performance Sports Drink

- Basically you can always drink the Performance Sports Drink – before, during and after exertion. It provides fluid and carbohydrates, compensates for electrolyte loss and promotes rapid regeneration.
- Two hours before exertion you should drink another 0.5 litres, in order to give the body the best preparation. It compensates for any possible fluid deficit from the outset.
- During training / competitions drink small quantities of HydroPlus as often as possible. This ensures the best possible balance of fluid and an even supply of energy. It has proved successful to drink 150-250ml every 15-20 minutes. It is important to drink before you feel thirsty! Thirst indicates that there is already a deficit and this is all the more difficult to balance out during training / competitions!
- After exertion the primary rule is to drink large quantities. Performance Sports Drink provides a direct supply of carbohydrate at the same time. Always remember – the carbohydrate stores in the body are best replenished in the first two hours after training. Plain water is therefore not such a good regeneration drink!

## Which carbohydrates does the Performance Sports Drink contain??

Performance Sports Drink contains the TQ3 Plus carbohydrate mixture specially developed for sportsmen and sportswomen by PowerBar. Long-chain carbohydrates such as maltodextrin provide long-lasting energy. Dextrose and fructose provide a lot of energy quickly. Half a litre of ready-to-serve drink contains 32.4 g of carbohydrate, giving Performance Sports Drink the perfect credentials for an ideal sports drink with a concentration of 6.5%. The delicious flavours are not too sweet, however, making it a refreshing drink all round.

## Which vitamins have been added to the Performance Sports Drink?

Performance Sports Drink contains exactly those vitamins that are particularly important for sportsmen and sportswomen. Vitamins C and E – the so-called antioxidants – protect the body from free radicals, many of which occur during great physical exertion and which are highly reactive. They also play a part in the ageing process and in the development of cardio-vascular disorders and cancers. The more intensively you play sport, the more important it is to provide special protection. Performance Sports Drink can make a valuable contribution in this area.

Our bodies need the B vitamins to convert carbohydrate from food into energy, making them a vital contributor to optimum use of energy and maximum performance.

## Why does the Performance Sports Drink contain minerals, such as sodium?

When we sweat during physical exertion it is not only water that our bodies lose but also important electrolytes, such as sodium, potassium, magnesium and chloride. Therefore the aim of a sports drink is not just to replace fluid but to provide the necessary electrolytes as well. Everyone knows how salty sweat tastes – so plain water cannot be an adequate replacement.

Since sodium is essential for a stable water balance and normal nervous stimulation, special care should be taken to balance it out. Anyone who gets frequent cramps during exertion may simply have too little sodium in his or her sports drink. It is a common mistake to simply mix apple juice with tap water!

The sodium in Performance Sports Drink also helps the carbohydrates and the water to be absorbed more rapidly. The advantage for sportsmen and sportswomen is obvious – faster absorption makes for faster energy!

Magnesium and potassium regulate the energy metabolism and are essential for normal nervous stimulation. Everyone has experienced cramp in the calf in the night because of magnesium deficiency. Performance Sports Drink contains enough magnesium to prevent deficiency symptoms on the one hand but at the same time as much as can be digested during exertion.

# FAQ PowerBar Protein Plus

## How much protein will I get from the ProteinPlus?

The ProteinPlus contains 16g of highly nutritious protein. A sportsman or sportswoman needs about 1g of protein per kilogram of body weight. This means that someone weighing 70kg would ideally need some 70g of protein, so the ProteinPlus covers some 25% of the daily protein requirement. Since the ProteinPlus is also extremely low in fat it represents an excellent source of protein. Sadly, foods that are naturally high in protein are often high in fat and cholesterol. One ProteinPlus a day therefore makes – not just for sportsmen and sportswomen – an important contribution to a healthy low-fat diet.

## What are the constituents of the protein in the ProteinPlus?

The ProteinPlus contains whey protein and casein – both natural constituents of milk. As with all PowerBar products only highly nutritious ingredients are used in order to promote the best possible performance and health for the sportsman or sportswoman. All the amino acids our bodies need are contained in the ProteinPlus. Experts talk about a high biological valency, i.e., the protein contained can be used by our bodies to its optimum.

## Why does the ProteinPlus also contain carbohydrates?

Not only do sportsmen and sportswomen have a higher protein requirement than other people, but it is also particularly important that they have a high-carbohydrate low-fat diet. The ProteinPlus meets these requirements perfectly. Carbohydrates are the primary source of energy for our bodies. Should they be in short supply, the body has to fall back on its protein reserves in order to provide sufficient energy. This is always associated with a drop in performance and protein loss. The carbohydrates contained in the ProteinPlus prevent this from happening. After training the combination of carbohydrates and protein is ideal for speeding up regeneration, promoting muscle development and replenishing the carbohydrate stores.

## Can I take in too much protein by eating the ProteinPlus?

One ProteinPlus bar provides 16.8g highly nutritious protein, which corresponds to some 20-25% of the maximum daily requirement. Therefore there is no danger of exceeding the recommended daily allowance by eating the ProteinPlus if you have an otherwise "normal" diet. Very high quantities of protein, e.g. concentrated protein, are not directly harmful, although they do put some strain on the kidneys since the residues are passed in the urine. Anyone who takes in far more protein than required (approx. 1 g of protein per kilogram of body weight is normal for sportsmen and sportswomen) should drink large quantities at the same time. Two litres a day would not be enough. And something else to bear in mind – intensive fattening with protein does not make the muscles grow more quickly. It is entirely sufficient to supplement a normal and healthy diet with one or two ProteinPlus bars a day. This would also be a good supply in phases of muscle development.

## How should I use the ProteinPlus?

The ProteinPlus is the best bar for accelerating regeneration! It promotes muscle development and strengthens the immune system. In hard training phases or when developing muscles it is advisable to eat an extra ProteinPlus bar every day. It promotes a low-fat diet with highly nutritious protein and the delicious new flavours offer a healthy alternative to chocolate bars!