

DONT  
HIT  
THE WALL  
SMASH IT

  
SCIENCE IN SPORT

leaders in sports nutrition

ENERGIZE

HYDRATE

RECOVER

ENHANCE

## THE RIGHT FUEL

The body provides energy by burning fats, carbohydrates and some proteins. Carbohydrate has a much lower oxygen cost than fat, so more energy can be produced with a given amount of oxygen using carbohydrate as a fuel rather than fat, i.e. you can go faster and further per breath!

The efficient use of fat is also dependent upon the availability of carbohydrate. It is often said that "fat burns in the flame of carbohydrate". The rate of energy production from aerobic use of carbohydrate is 50 to 100% greater than the rate of energy production from the aerobic use of fat alone. Fat is a very efficient store of energy, scientists have deduced that the fat stores of an average man could provide enough energy to fuel about 3.5 days running at marathon pace, so you are unlikely to run out of fat even in a marathon or long training run. The critical factors for a good and more enjoyable performance will be replenishing carbohydrate and ensuring you remain hydrated.

Recent work has shown that it is possible for trained athletes to achieve an increased carbohydrate store by tapering training and eating carbohydrate in the days preceding competition. The only major problem with this is physically eating the required quantity of carbohydrate. This is usually more than that with which the athlete feels comfortable, 600g per 24 hours e.g. 3 kg of potatoes! PSP22 has been recommended as a more palatable way of ingesting the required amount of calories without eating too much fat or protein. Depletion loading regimes where by athletes deprive themselves of carbohydrate and continue to train in order to fully deplete their carbohydrate stores, before "super-compensating" with a high carbohydrate diet are no longer recommended.

Latest research has shown that it is much more important for performance to keep blood sugar levels high during exercise with a regular supply of carbohydrate energy drinks and gels.

## TRAINING STRATEGY

- High carbohydrate meal 2 hours prior to the run and remain hydrated during the day. If it's not possible to eat 2 hours before then take on extra carbohydrate in the form of a snack or GO-BAR.
- Consume a GO-GEL 10 minutes before starting your training run.
- Carry 600ml of GO at a 6%–8% solution and sip throughout the run. This is just enough to get you through 2 Hours 30 Minutes if you are well hydrated prior to starting the run. It is not ideal, especially if it's hot, apart from arranging for a drink to be handed up on route then there isn't usually scope for doing much more during long training runs.

- Carry 4 GO-GELS and take one at 30, 60, 90 minutes, etc, etc.

- It may also be worth trying the Burner Gel, our new considered approach to optimizing L-Carnitine supplementation, each Burner Gel providing 1g of L-Carnitine.



- Alternatively use a Smart-1 Gel after 2hrs of running, do not consume a Smart-1 Gel prior to a long run. Smart-1 Gels are ideal before any runs or races of less than 1 hour duration.
- Have a serving of REGO within 20 minutes of finishing the run followed by a light meal 1 hour later.
- Use Nocte on nights prior/post to race day and to boost your recovery during intensive training.



**PART OF  
THE RITUAL**

## PRE-EVENT FEEDING

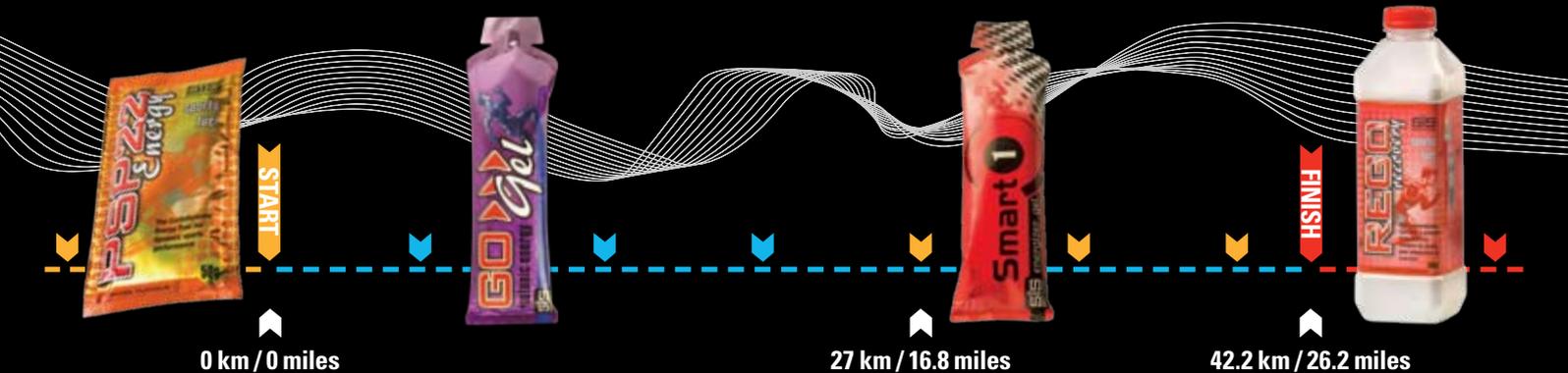
The conventional advice is that the pre event meal should be taken 3 hours before competing. It should be relatively light but high in carbohydrate and low in fat. PSP22 Energy and GO-Gels can be useful in this pre event meal to increase the carbohydrate content without increasing the bulkiness of the meal. Eating anything within an hour before an event has, in the past been considered detrimental to performance due to the possible insulin response.

There is also evidence, however, that it may be beneficial to take a small amount of strong (25 to 30%) solution 5 to 10 minutes before competition or take a GO-Gel. PSP22 Energy and GO-Gels are particularly useful for taking in high concentrations of energy since they are easily tolerated due to the unique carbohydrate structure. People vary in their response to pre-event feeding and as with any nutritional strategy it is worth experimenting with different combinations during training to work out what suits you best.

## RECOMMENDATIONS

We recommend sipping PSP22 Energy from the pre event meal right through the warm up and into the event, this is an approach that many sports people prefer. If it is very hot or humid a weaker carbo/electrolyte solution is appropriate and in this case we would recommend GO.

If an on course energy drink is provided it may be worth considering using it to help maintain electrolyte balance and hydration. It is important to make sure you can tolerate the drink provided, even if it isn't to your liking you may find it easier to tolerate by taking extra water with it. If there is an opportunity for a friend to hand up your preferred drink on route then this would be the perfect solution to ensure you re-hydrate and fuel with your favourite brand. Many marathons of up to 3 hours 30 minutes duration have been run comfortably on GO-Gels and water alone.



## BEFORE

Have a light breakfast and continue to sip PSP22 at 10% solution until 30 minutes to the start.

If it is very hot or humid a weaker carbohydrate/electrolyte solution is appropriate and in this case we would recommend using GO.

However, on race day because it is a very early start then it is unlikely that you will have the chance to have a decent pre event meal so PSP22 will give you more carbohydrate calories.

Consume a GO-GEL 5 to 10 minutes before start.

**PSP22**  
Energy

- High energy
- Light on stomach
- Low osmolality
- Multiple energy sources  
– Maltodextrin & fructose

## DURING

Sip water throughout and take a GO-GEL every 30 minutes as per what you have practiced in training. Change to Smart-1 Gels with 15 Km to go.

**GO**  
isotonic energy **Gel**

- The world's first isotonic energy gel
- Handy palm size
- Contains 25g of isotonic carbohydrate energy

**Smart 1**

- The SMART 1 Gel is a caffeine gel
- Contains citrus bioflavonoids; shown to improve caffeine absorption
- Contains a mix of blackcurrant anthocyanins and other powerful antioxidants

## AFTER

Take REGO on finishing followed by a meal and some other in-appropriate beverages!

**REGO**  
recovery

- 26g of first class protein per serving
- Multiple energy substrates
- Balanced electrolytes
- Anti-oxidant vitamins and phytonutrients
- Co-Factors – including B vitamins, magnesium, zinc & phosphorous

**PART OF  
YOUR RITUAL**

ENERGIZE

HYDRATE

RECOVER

ENHANCE

## ABOUT US

Born out of passion in 1992, we, SiS have now gained the credibility through our brand's authenticity being recognised as the world leader in sports nutrition. SiS evokes the desire of performance excellence, focussing on the needs of athletes, where a fraction of a second can stand between success and failure and one performance can change the world.

"Each of our products have a core function to ENERGIZE, HYDRATE, RECOVER and ENHANCE sports men and women."

Using athletic, nutritional and scientific knowledge to highlight the benefits of complex nutrition programmes within sport, along with Sports Scientists, Food Technologists and a Physician, we develop and manufacture the formulas for sporting success. The only way to control what went into our products was to make them ourselves, this ensures each product is of the highest quality they have to be, we don't know when an Olympic medal or World Cup may depend on it.

Our open attitude and constant dialogue with the sporting fraternity, ensures insights, which deliver the facts, to allow us our unrivalled results. Accomplishing every Athletes common goal promotes confidence through SiS, we inspire ambition by breaking records, winning Olympic golds, World Championships and Premiership titles. SiS knows no bounds, we've scaled the heights of Everest, passed from pole to pole, crossed deserts and the World's oceans. We've been there and done that but still crave more. When your body is pushed to the limit we're with you, we speak your body's language, from training to competition we're part of the kit that compliments your performance. We're the crucial part of the sporting ritual.



SiS (Science in Sport) Limited, Ashwood Laboratories,  
Brockhall Village, Blackburn, BB6 8BB  
t: 01254 246060 e: [sales@scienceinsport.com](mailto:sales@scienceinsport.com)  
w: [www.scienceinsport.com](http://www.scienceinsport.com)