

# More than just your swim times!



The benefits of energy drinks transcend pure sports performance as this summary, from work supported by Science in Sport, shows. Anecdotal reports from parents, who noted that their "swimming" children were generally more alert during the day and generally "nicer to be with" once they had started using PSP22. It was

therefore decided to see if it was possible to measure the effect of PSP22 on mental performance during the day, when PSP22 was consumed immediately prior to, and during, morning training sessions.

The study examined the effect of early morning training, and of consuming PSP22 on the mental performance and mood state of adolescent swimmers. The swimmers had their diets monitored whilst they were in a period of heavy training. During two days of the week they performed timed mental performance tests, and completed a Profile of Mood States questionnaire to obtain a Mood Factor score.

During the second and third weeks

and a simple jigsaw. The tests were timed to completion, and a record was made of the number of incorrect answers.

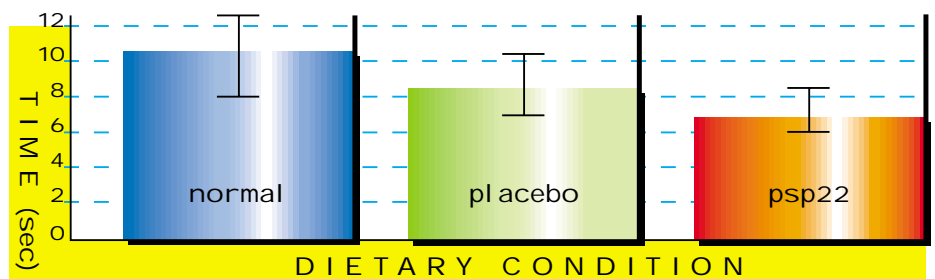
Statistical examination of the results showed significant improvements in mental performance when the swimmers were using PSP22 for all of the mental performance tests and the Mood Factor Scores. When subjects consumed PSP22, they recorded the shortest times for the mental performance tests, and also the best Mood Factor Scores. This indicates that when subjects consumed PSP22, their mental performance was improved, and they felt less fatigued and confused.

## Speeding up recovery during heavy training and competition *continued...*

neglected areas of preparation. However, although they were happy with the theory and Boardman's practical experience, they added the following....

- It needed to taste great and be light on the stomach, so it would go down easily after exercise.
- It would need fortifying with Vitamins and Minerals, and these should favour those used during exercise
- It should have a balanced carbohydrate composition as glucose based carbohydrates are best at restoring muscle energy stores, and fructose is best for restoring liver energy stores.

The result was REGO, which has been widely acclaimed by top athletes following the Science in Sport nutritional program, including top swimmers James Hickman, Susan Rolph, Jaime King and the University of Bath elite squad. It is available in Strawberry Banana and Chocolate flavours and makes a milkshake style drink just by adding water. It is best made up the night before training and left in the refrigerator and taken to the pool a drinks cooler/cool box.



of the research, the subjects were split into two groups for a double blind, cross-over study, using PSP22, carbohydrate energy drink, or a PLACEBO (a fake energy drink). The subjects drank a 15% solution of PSP22 during training and a gram per kilogram of body weight, after training, or a PLACEBO during and after training.

The mental performance tests were carried out during the school day, in classroom conditions, in the presence of a qualified teacher. They consisted of sorting cards into suits, simple addition and subtraction sums,

The graph above shows how much quicker the swimmers were at answering sums when they had been drinking PSP22.

Recent research has shown that the Carbohydrate-Protein complex found in REGO improves recovery far better than just carbohydrate (i.e. maltodextrin) alone.

If you have a lot of swims then REGO will have you in better shape the next morning, "No doubt about it" says our sport scientist, "you'll store about twice as much glycogen in the first 4 hours".

# NUTRITION TO GET WET FOR UPDATE NUTRITION FOR SWIMMING



## Why Sports Nutrition?

Whether it's for performance or plain fun, there is no doubt that correctly formulated sports drinks and bars can help you get more from your sport.

Advances in technology mean that it has never been easier to keep dehydration at bay whilst providing the carbohydrate energy your body needs if you are to get the most from a days' activity.

*Science in Sport nutritional products have helped me bridge the gap between being a good British swimmer to World Champion and record holder. I now feel like a true international.*

JAMES HICKMAN City of Leeds SC.

A 2% loss in body weight due to dehydration can reduce performance by more than 10%, lose much more than that and unconsciousness will result. Run out of carbohydrates and you will have to reduce your power by 50% - if this happens in competition then the chances are you have lost. If it happens in training, not only have you made that session much less enjoyable, but you have probably reduced the effectiveness of that work out and possibly the next, - see COUNTING THE COST OF GLYCOGEN DEPLETION.

The " Science in Sport" range of sports nutrition products have been proven at the highest level, from breaking world records in swimming to fuelling the yellow jersey holder in the "Tour de France". You too can benefit from the same technology to help you achieve your own personal best. Take time to find out which products are suited to your needs, and how best to integrate them into

your training and nutrition strategy, in order to achieve your goals.

Choose PSP22 high energy sports fuel when energy needs are high, GO when the heat is on and you need to replace fluid quickly. Check out REGO if you have lots of back to back training sessions and you are looking for fast recovery and adaptation between sessions. For that high energy snack GO~Bars are the only serious choice for nutritious fast food. Never has healthy food tasted so good yet been so packed with carbohydrate, vitamins and minerals with less than 1.5g of fat per bar.



GO PSP22 REGO PSP11 GO BAR KR10

# Think before you drink (or eat) before you dive (in)

## Competition nutrition advice and tips

After hours of hard training sessions you are well prepared and determined for your next gala. You're feeling great and are in tip top form. You've obviously been doing a lot of things right. However, the gala has a different set of challenges, you will face days or even weeks of competition, often away from home. Hours will be spent on a hot humid pool-side, and you will need to cope with the physical and mental stresses of swimming heats and hopefully finals!



It is not uncommon to see athletes ruin months of physical and mental preparation by failing to consider their nutritional needs for competition, even to the extent of relying on the catering at the event where often you will be lucky to get a decent burger.

There are 3 main factors to consider when planning your nutritional strategy for competition:

### 1. Energy Provision

All Olympic disciplines of swimming are heavily dependent upon the carbohydrate energy system. If you are to swim at your best you will need to ensure that your nutrition contains adequate amounts of carbohydrate energy to fully replace your muscle glycogen stores. Carbohydrate is stored in the body as muscle glycogen.

### 2. Hydration

It is well documented that as little as 2% loss in body weight due to dehydration will cause performance to fall by 10%. Dehydration can be a major factor in swimming because of the nature of the environment.

### 3. Maintaining a familiar nutrition programme.

It's best to check what food will be available at the race venue and your accommodation before you get there rather than find out they have nothing you like when you arrive. Better still make sure you have taken enough food yourself so you know what you will be eating. Sports nutrition bars can be especially useful to provide a nutritious high energy snack that is easily carried in your kit bag.



There is no doubt that the swimmers who look after their fluid and energy needs will be at a major advantage over those who take less care about what and how much they drink.

Pool sides tend to be very hot and humid at the best of times, by the time you've packed in all the competitors and spectators the temperatures soar, and sweat rates are likely to be far above normal. An electrolyte fluid replacement drink like GO is ideal.

**Our advice : Have a drinks bottle with you at all times. You'll be doing yourself a favour even its just water.**

*CAUTION : Be careful about drinking too much tea, coffee, cola's, or other drinks with caffeine in as this has a diuretic effect and can make matters worse.*

Keep your carbohydrate energy levels high. Maintaining optimum glycogen levels is the key to maintaining optimum performance. PSP22 is ideal to drink during warm up and immediately after a swim. PSP22 provides easily digested carbohydrate energy in a range of refreshing flavours.

Most swimmers could complete a training session without supplementing their carbohydrate energy stores with an energy drink, but how is this likely to effect performance on the long as well as the short term?

Once you are running low on carbohydrate energy the body has to rely increasingly upon its fat stores to supply the fuel for exercise. Fat is a very good store of energy, but when it comes to using it, fat has a much higher oxygen cost than



# Counting the Cost of Carbohydrate Depletion

carbohydrate. This means that the body will have to work much harder to supply more oxygen to the working muscles in order to go at the same speed, so you will not be able to swim as fast as when carbohydrate is available.

This is really important when you consider that the longest Olympic swimming event takes less than 15 minutes. It is easy to see the consequences in competition, less

obvious when you think about its effect on training. Training whilst glycogen depleted will not only be hard work and mentally taxing, but could result in training the wrong energy system for competition. Long training sessions whilst running low on carbohydrate energy will have to be at a lower intensity and will train the fat burning energy system. Whilst there are merits of having a good fat burning energy system,

especially for long distance open water swims, this energy system will have little to do with your success in the Olympic swimming distances. Since it is the carbohydrate energy systems which are most important for success in these events, then it makes sense to use and improve these energy systems during training. Your training sessions will not only be less mentally taxing but more productive as well!

## Speeding up recovery during heavy training and competition

Recent research has shown that the Carbohydrate-Protein complex found in REGO improves recovery far better than just carbohydrate (i.e. maltodextrin) alone. This can be especially important for instance if you have a heat late one evening and the following morning.

Similarly after hard training

sessions taking REGO will significantly improve recovery, allowing you to effectively get more out of the session.

The inspiration for Science in Sport to produce REGO came from Olympic cycling champion Chris Boardman. Boardman was (and still is) a regular user of PSP22

carbohydrate energy drink but was aware, through coach Peter Keen, of research which shows that a carbohydrate protein complex works better for recovery than just carbohydrate alone. Boardman had therefore experimented using a combination PSP22 and protein powder and was sufficiently impressed to suggest that we should base a product around them. Our sport scientists were also enthused about creating a product specifically for recovery between workouts as they saw this as one of the most

*continued over...*