



Bletchley & District Swim Club

Affiliated to the ASA South East Region and the Oxon & North Bucks ASA

Nutrition – Adults Supplement

This handout is intended to give you an insight into nutrition for swimmers and to underline the importance it has on the overall performance of the swimmer, which is not just solely down to the water training.

Strenuous daily training requires a high-energy, high-carbohydrate diet. Swimmers who fail to consume enough carbohydrate will fail to recover adequately between training sessions resulting in fatigue, loss of body weight and poor performance. Additional energy requirements for growth will compound the problem. It is therefore important that we as parents understand the nutritional requirements of a competitor and offer/encourage them to adopt the correct diet that will enhance their performance. This hand out is to be read in conjunction with the swimmers handout.

HERE COMES THE SCIENCE BIT

For the body to function, the energy expended must equal the energy intake. As a rough guide for every Kg of body weight, the body needs 1.3Kcal per hour as a basic requirement, and for strenuous daily exercise you need an extra 8.5Kcal per hour. This gives you, your daily calorie count.

ENERGY FUEL

Like fuel for a car the energy we need has to be blended. The blend that swimmers require to enhance competition performance is given in the swimmers hand out. It is also important to eat the correct type of foods, which start the re-fuelling process and aid recovery.

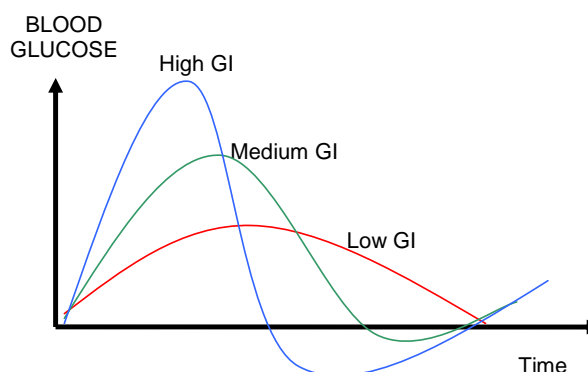
MORE SCIENCE BIT'S

The digestive system converts the carbohydrates in food into glucose, a form of sugar carried in the blood and transported to cells for energy. The glucose, in turn, is broken down into carbon dioxide and water. Any glucose not used by the cells is converted into glycogen - another form of carbohydrate that is stored in the muscles and liver (the reserves). However, the body's glycogen capacity is limited to about 350 grams; once this maximum has been reached, any excess glucose is quickly converted into fat. What is important to a swimmer is the rate that the carbohydrate is made available to start replenishing the energy (glycogen) used during training. A better way to do this is to refer to the glycaemic index of foods and ingredients.

SO WHAT IS THE GLYCEMIC INDEX

The glycaemic index is a ranking of carbohydrates based on their immediate effect on blood glucose (blood sugar) levels. It compares foods gram for gram of carbohydrate.

Carbohydrates that breakdown quickly during digestion have the highest glycaemic indexes. The blood glucose response is fast and high. Carbohydrates that breakdown slowly, releasing glucose gradually into the blood stream, have low glycaemic indexes.





Bletchley & District Swim Club

Affiliated to the ASA South East Region and the Oxon & North Bucks ASA

Studies have shown that consuming high GI carbohydrates, approximately 2g/kg of body weight, and 40g of protein within 2 hours after exercise speeds up the replenishment of glycogen stores and therefore speeds up recovery time.

EXAMPLE HIGH GLYCAEMIC INDEX (>85)

Potatoes	Raisins	Bananas	Sweetcorn
Cornflakes	Weetabix	Shredded Wheat	Muesli

High glycaemic foods provide the burst of virtually instant energy, but it is important that the majority of the carbohydrate intake comes from the low/medium glycaemic index foods as this contribute to our overall health and wellbeing.

EXAMPLE MODERATE GLYCAEMIC INDEX (>60)

Grapes	Porridge	White Pasta	Baked Potatoes
Oranges	Allbran	Wholemeal Pasta	Mashed Potatoes
Carrots	Noodles	White Bread	Rice Cakes

EXAMPLE LOW GLYCAEMIC INDEX (<60)

Apples	Yogurt	Oatmeal biscuits	Baked beans
Oatmeal biscuits	Popcorn	Milk	Spaghetti

We must also remember that the diet should contains five portions of fruit and vegetables a day, as well as rich in carbohydrate foods such as bread, cereals – particularly whole grain cereals and potatoes, and contain moderate amounts of fat and sugar.

ENERGY BARS

These provide a good source of carbohydrate that can be taken pre/post exercise, to boost energy supplies because it is medium glycaemic index.

SPORTS DRINKS

Dehydration decreases performance, impairs cardiovascular function that can impair physical performance, and pose serious health problems. Dehydration occurs when fluid (sweat) loss exceeds 1% of body weight. A 2% loss of body weight can cause a 5-10% drop in performance. *Isotonic sports drinks* - quickly replaces fluids lost by sweating and supplies a boost of carbohydrate, you should consider taking some to competitions. The popular ones are Boots Isotonic, Lucozade Sport or of course you could make your own up, recipe to follow.

AND FINALLY

A good balanced diet incorporating the above should provide you with the required nutrients you need to compete well, but does needs to be monitored. The simplest way to monitor the 'energy balance' is to keep a regular check of your weight.