

## **Good Guidelines of Nutrition for Fitness**

What I hopefully will do with this is to give some very good guidance that will help to improve performances at training and in competition.

We all know that nutrition can influence performance at every level, from getting on with everyday tasks to supporting the demands of a regular and possibly highly demanding training schedule.

Here are some excellent rules of basis nutrition for fitness that should be followed by everyone for optimal results:

### **1. Exercise and Nutrition go hand in hand**

The first step is to recognise that what you eat has a huge impact on the results you obtain from your training programme. Whatever your goals, the right food choices can make a big difference to performance and results. Your diet will significantly affect your energy levels and enthusiasm for exercise and daily life. You would be wasting time, effort and money if you try to follow our training programme accompanied by poor eating habits. Finding a healthy balance and practical ways of staying fit and healthy in your life is the most important aim.

### **2. The diet should be well-balanced**

The main dietary requirement is a well-balanced, nutritionally complete diet that will meet the additional energy, nutrients and fluid demands imposed by training. A healthy, balanced diet will allow you to exercise hard, to recover well and to maintain individual goals.

### **3. Active people need to stay well hydrated**

In general, we need about 2 to 3 litres of fluid a day to be properly hydrated – about half of which normally comes from food and half comes from drinks. However exercise increases our fluid needs.

### **4. Carbohydrates is an important nutrient for fitness**

Whatever we're doing, our bodies require energy. But when we exercise, we need to be able to draw on more of it – faster. Glucose is the preferred energy fuel for the muscles, especially as exercise intensity increases. This is formed from the breakdown of carbohydrates (starches and sugars) in your diet and is stored in the muscles and liver as glycogen. However, the body can only store a limited amount of glycogen, so to keep it topped up you will need to eat a carbohydrate rich diet.

Symptoms of fatigue caused by insufficient carbohydrate intake include poor energy levels in training, muscle heaviness, a feeling of greater effort without the expected outcome and general tiredness.

The diet should supply around 60% energy from carbohydrate, or 5 – 10g carbohydrates per kg of body weight, depending on exercise frequency and intensity.

**To calculate daily Carbohydrate Requirements**

<b>Training Level</b>	<b>Grams carbohydrate per kg body weight</b>
Regular Levels of activity (3–5 hrs/week) Moderate Duration –	4 – 5
Low intensity training (1-2hrs/day) Moderate to Heavy –	5 – 7
Endurance Training	7 – 10

Example:

Swimmer weighing 65kg who exercises for around an hour a day should aim for 5grams carbs per kg body weight.

$$65 \times 5 = 325\text{g daily carbohydrate intake}$$

**Carbohydrate content of every day foods**

Medium portion of food	Carbohydrate (grams)
Baked potato, pasta or rice	60
Bagel, flapjack or slice of fruit cake	40
Large banana or 50g raisins	35
2 slices bread, 2 crumpets or 1 bread roll	30
Muesli, cornflakes, 2 Weetabix or cereal bars	30
50g chocolate, 10 jelly beans or 3 Jaffa cakes	30
500ml sports drink or squash	30
Baked beans (135g) or sweet corn (100g)	20
200ml orange or apple juice	20
Apple, pear, orange or 2 kiwi fruits	15
2 tsp honey or jam or 150g low-fat yoghurt	15

## **5. Eat a diet with a balanced protein intake**

The standard recommended daily protein intake for a healthy diet is 0.75g per kilogram of body weight. If you exercise for more than an hour a day, then your daily requirement of protein is slightly increased – around 1 g per kg body weight per day. For endurance athletes, the recommended daily intake is 1.2-1.4g/kg body weight, for strength and speed athletes, daily intake should be around 1.2-1.7g/kg body weight. Experts agree that, providing carbohydrate needs are met, there is no advantage – either in terms of performance or muscle size – to taking more than 2g of protein per kg body weight per day. Any extra protein will be metabolised and excreted rather than converted into muscle. Vegetarians can meet their protein needs from low-fat dairy products and protein-rich plant sources.

## **6. Get plenty of vitamins and minerals (Micronutrients)**

Essential vitamins and minerals should be part of the daily diet. They are found naturally in food and are vital in the maintenance of all body functions including the release of energy from food. They help to maintain health and prevent disease. If you have a deficiency because daily requirements are continually not being met, then health and physical performance may suffer.

## **7. Use Supplements wisely**

Nutritional supplements can be useful but should be used wisely and for a good reason rather than just because you are tempted or think they are a quick fix.

## **10 Top Tips to eat Healthy**

1. Enjoy your food – healthy eating is not about good or bad foods.
2. Eat a wide variety of different foods.
3. Eat the right amount of energy for your individual needs.
4. Eat more carbohydrates – especially the cereals and starchy sources.
5. Eat at least 5 portions of fruit and vegetables a day.
6. Eat less fat and replace saturated with unsaturated fats.
7. Avoid adding extra fat and oils to foods.
8. Eat moderate amounts of protein
9. Eat two portions of fish a week – one portion should be oily fish
10. If you're old enough to drink, drink sensibly.

## **PRE-EXERCISE NUTRITION**

What you eat before you exercise can make a real difference to how you feel during exercise. Get it right and you'll get the most out of your exercise.

### **Energy**

Provided your diet is providing sufficient carbohydrate, you will not necessarily require a pre-exercise meal. Allow 2-4 hours after a large meal before exercising. A high carbohydrate snack 30-60mins before exercise can be beneficial for some individuals. You should experiment with pre-exercise eating and drinking to find out what works best for you.

### **Hydration**

You should always start every session well hydrated. Drinking 400-600ml water, sports drink or other fluid in the two hours leading up to exercise will help hydrate the body.

### **Pre-exercise fuel ideas:**

Ham/Prawn/Tuna and salad Sandwich

Small baked potato with filling

Baked beans on toast

Dried or fresh fruit

Wholegrain bread

Cereal and milk

Fruit Yoghurt

Toasted Bun

Cereal Bar

Energy Bar

Crumpet

Scone

Muesli

Pasta

## **Post-exercise Recovery**

Recovery is a crucial aspect of training. Nutritional strategies to optimise recovery are important and will help to sustain training. They are particularly important for anyone who exercises more than once per day.

### **Carbohydrates**

A key part of recovery is to replenish glycogen stores.

Timing is key, since the highest rate of muscle glycogen storage occurs in the first few hours and in particular the first two hours after exercise. Eating some carbohydrate (about a gram of carbohydrate per kg of body weight) immediately after exercise is particularly useful if you're exercising more than once a day.

For post-exercise refuelling, try sports drinks, a banana, fresh or dried fruit, a sandwich, a cereal bar, a bag of pretzels, a Mars bar, bread or toast, cereal and milk, a bagel and jam/honey/muffins, energy bars, which are all good sources of carbohydrates.

Even if you finish training late in the evening, you should begin the refuelling process and NOT GO TO BED on an empty stomach.

For most athletes and active people, a normal diet containing between 5 – 10g carbohydrates per kg body weight will maximise daily muscle-glycogen recovery.

### **Hydration**

Replacement of sweat losses is also an essential part of the recovery process. How much fluid you need depends on how much you have lost during exercise. The aim is to drink 1.2-1.5 litres of fluid for every kg of weight lost during exercise, or you can simply drink enough until you pass light coloured urine. Salts that are lost in sweat can be replaced either via drinks that contain sodium, such as sports drinks or from food.

Alcohol (swimmers old enough) should never be the first post-exercise drink – it is crucial for recovery that the body is rehydrated first of all.

### **Protein**

It is useful to include some protein in the post-exercise meal/snack to help with the repair and recovery of muscles. Sandwiches, pasta with a protein sauce (e.g. Tuna or Chicken), jacket potato with cheese, or baked beans on toast are all good options.

### Practical Tips for Hectic Active Swim/School Lives

Most of us are busy people, fitting exercise in with a hectic lifestyle. Some simple tips can get us on the right road to good nutrition, helping us avoid grabbing food without thought as we rush about our daily business. With the best will in the world, we all suffer the odd slip-up in terms of our diets or miss meals occasionally. Here are some tips to help keep up the good work while slotting exercise and healthy eating into a busy lifestyle.

- Eat Breakfast,
- Plan ahead – don't assume that the right foods will be available. Put yourself in control and carry snacks and drinks with you. – Good (carbohydrate-rich) portable snacks include sports drinks, cereal bars, marshmallow, Turkish delight, scones, fruitcake, biscuits, muffins, low fat yogurts.
- Keep store cupboards and fridges full of ingredients that can be used to make quick nutritious meals.
- Use your freezer. Some meals such as pasta and rice dishes freeze well so make extra and freeze it for use at a later date.
- Use ready prepared vegetables to save time and hassle and encourage quick food preparation at home.
- If training in the evening, it is better to eat late at night than not at all as the refuelling and recovery process is vital. This is particularly so if training is planned for the following day.
- A low-dose multivitamin and multimineral supplement with antioxidants can be useful 'insurance policy' if you're prone to missing meals or simply aren't able to eat healthy and balanced food all the time.
- Prepare lunch boxes and drinks the night before (Competitions and heavy days) and keep them in the fridge ready to grab on the way out.
- Make soups and keep them in the fridge for a quick lunch or evening snack.

## Nutrition for Events and Competition

Pre-event nutrition will have a big impact on performance and could provide the all important winning edge! Starting an event well-hydrated and with optimally stocked glycogen stores will improve performance and help achieve the best result possible.

### General advice in the pre-event days:

- Taper Training
- Consume a high carbohydrate diet
- Maintain adequate fluid intakes

Eating and drinking plans should be tailored according to the event. These general principles are almost the same as for the training diet, the only thing that it different, is when you eat and what type of food that you eat.

### **Before the event:**

- Eat plenty of carbohydrate containing foods to ensure muscle and liver glycogen stores are topped-up so that you have a 'full' fuel supply.
- Ensure adequate hydration
- To maximise muscle glycogen replenishment, only very light exercise should be undertaken (Tapering)
- Eat an evening meal even if nervous and stick to familiar/normal simple foods
- If pre-event nerves affect eating, try meal replacement drinks or smoothies
- Gas producing foods such as sprouts and beans should be avoided
- Avoid too much high fibre pre-competition

### **Top Tips:**

- Plan and practice eating and drinking strategies during training
- Avoid any unusual, new or untried foods or food combinations during competition
- Try to find out the food choices that will be available to predict any nutritional shortfalls at the event venue and take suitable familiar food where necessary

### On the Day

- Eat a carbohydrate meal or snack prior to the event to top up liver glycogen stores which will have depleted overnight
- Keep hunger at bay
- Keep well hydrated

- Stick to eating and drinking strategies practised during training

Eating prior to exercise or competition is down to personal preference. Some people can eat and compete, others need several hours between. In general competitors should try to eat a carbohydrate-rich meal 2-4 hours before the event to top up fuel stores, prevent hunger pangs and leave the stomach feeling settled and comfortable.

### **Top Tips**

- It is best not to compete on an empty stomach, particularly if the event lasts longer than an hour
- A pre-competition snack approximately one hour beforehand can provide sustained energy and delay fatigue
- Avoid trying anything new on the day of competition and experiment in training first
- Good hydration is vital

### **Nutrition during the Event:**

During exercise that lasts longer than an hour it is advisable to consume 30-60g of carbohydrate per hour because it generally improves performance. In this instance you should start consuming the food or drink after about 30mins and continue at regular interval. I have added this with regards to open meets, eating is always difficult at these times but the general rule would be small amounts at intervals where swims are not immediately next. Liquids are generally easier to consume during exercise than solids, so isotonic sports drinks can be helpful. Solid foods such as energy bars, dried fruit bars, cereal bars, bananas or raisins may be useful. For immediate energy, small amounts of jelly sweets or chocolate, is a little better, but only if races are close together and you need some super fast energy. When competing, take advantage of breaks in the programme, no matter how long or short they are.

### **Post-Event Nutrition**

Competitors will need to refuel and rehydrate to replenish glycogen stores and fluid losses after the event. If you have another event soon after, this is even more crucial and if you are travelling home from competitions pack a little snack in the car so you can start this process straight away and once at home make sure you finish your day with a proper meal.

**Brief Breakdown of what to Eat and Drink during Training and Competitions**

- Swimmers should try to obtain 60% of their energy requirements from Carbohydrates, below is a combination of foods that will give approximately 50grams of carbohydrate. During competition you need to take in 50grams of carbohydrate every 2 hours or 1 gram of carbohydrate for every kilogram of body weight.
- It is important to drink plenty of fluids that have one of the many carbo compounds added. The concentration of the mixture should be as follow:
  1. For use at Training and Competition where the atmosphere is likely to be hot and humid the mix needs to be 80grams of Carbohydrate to a litre of drink
  2. Complex carbohydrate drinks are expensive, however juice can be used diluted with 2 parts of water to 1 part of juice, 4:1 with a pinch (very small) of salt.
- It is important that swimmers drink during training and do not become dehydrated. An easy way to check whether you are dehydrated is to check the colour of your urine, if it is clear you are hydrated, if dark in colour then you are dehydrated and need to take on more fluid.
- You must drink before you become thirsty, if you wait you are thirsty then you have left it too late.

Use this as guidance and try to take approximately 50 grams of carbohydrate throughout the day. Some of you will find you need to eat more than this and some will require less. Remember that most foods are labelled with nutritional information. Start to read the packets and check the contents, this will enable you to choose foods that I have not mentioned.

**Good Carbohydrate Food Guide**

Breakfast cereals – try to include some whole grain varieties e.g. Shredded Wheat, Weetabix, Branflakes, Muesli, Porridge.

Bread – All types (include some whole-wheat), pitta bread, muffins, crumpets, bagels, naan, chappatis, raisin bread, malt loaf, fruit loaf.

Crispbreads, water biscuits, oatcakes and rice cakes.

Pasta, rice and noodles.

Potatoes and potato products.

Pizza bases – try to watch what you have on top.

Sweet corn and popcorn.

Beans (e.g. Baked, green, kidney, aduki and butter beans). Peas and chickpeas. Lentils and pearl barley.

Root vegetables

Twiglets, sesame sticks, Japanese rice crackers

Fruit – all fruit, fresh, dried, and canned

Chocolate confectionary and cereal bars

Sugar confectionary (jelly beans, haribos, jelly babies, boiled sweets)

Jam, marmalade, honey and fruit spreads

Biscuits – the ‘plain’ varieties, Pop Tarts

Buns – current, tea cakes, scones and other plain buns

Cakes – fruit cake, gingerbread, shortbread, rock cake and other cakes.

Puddings – e.g. Fruit crumble, bread pudding, rice pudding, jelly and custard, banana custard

Fruit yoghurt

Sugar added to food, Sweetened soft drinks and fruit drinks

Commercial carbohydrate drinks, e.g. Lucozade, Gaterade, Powerade, Maxim and Isostar

### **Are you on a High Carbohydrate Diet?**

Below is some guidance as to what type of foods are ‘CARBO’ and the amount you should be eating **EACH DAY!**

#### **Bread/Cereal, Potato Group**

***Bread Rolls/Muffins/Crumpets/Buns/Pitta Bread/Crackers***

***Breakfast Cereals/Rice/Pasta/Noodles/Pizza Bases/Potatoes/Sweet Potatoes***

ONE PORTION IS: 3 Tablespoons of Breakfast Cereal, 1 Slice of Bread or Toast, 1 Muffin or Crumpet, 1 Pitta Bread, 1 Slice Deep Pan Pizza, ½ Bread Roll or Bun, 3 Crackers, 3 Tablespoons of Rice, Pasta or Noodles, 1 Medium Potato

***YOU SHOULD BE EATING BETWEEN 5 – 11 PORTIONS OF THE ABOVE EVERY DAY***

#### **Vegetables & Fruits Group**

***Fresh/Dried/Tinned & Stewed Fruits/Fruit Juice/vegetables & Salad***

ONE PORTION IS: 2 Tablespoons of Vegetables, 1 Small Salad, 1 Piece of Fresh Fruit, 1 Handful of Dried Fruit, ½ Tin of Fruit, 1 Glass of Fruit Juice

***YOU SHOULD BE EATING BETWEEN 5 & 9 PORTIONS OF THE ABOVE EVERY DAY***

**Meat & Alternatives Group**

***Meat/Fish/Eggs/Toffu/Beans/Lentils/Meat Substitute(Veggies)/Cheese/Nuts/Peanut Butter***

ONE PORTION IS: 1 Small piece/2-3 Slices of Meat, 1 Small piece of Oily Fish, 1 Large Piece of White Fish, 2 Eggs, ½ Tin of Beans, 1 Matchbox size Piece of Cheese, 2 Tablespoons of Nuts/Peanut Butter

***YOU SHOULD BE EATING BETWEEN 2 & 3 PORTIONS OF THE ABOVE EVERY DAY***

**Milk & Dairy Group**

***Milk/Cheese/Yogurt/Milkshakes/Custard, Rice Pudding and other Milk Puddings***

ONE PORTION IS: 1/3 Pint of Milk, 1 Small Yogurt/Fromage Frais, 1 Small Pot of Cottage Cheese, 1 Matchbox size Piece of Cheese

***YOU SHOULD BE EATING BETWEEN 3 PORTIONS OF THE ABOVE EVERY DAY***

**Fats & Oils Group**

***Butter/Margarine/Lard/Oil/Mayonnaise/Salad Dressing***

ONE PORTION IS: 1 Tablespoon of any of the above

***YOU SHOULD BE EATING UP TO 3 MEASURES OF THE ABOVE EVERY DAY***

***YOU CAN ALSO EAT THE FOLLOWING BUT AT A SENSIBLE LEVEL***

***1 Packet of Crisps, 4 Biscuit, 1 Cream Cake, 1 Bar of Chocolate, 1 Doughnut, 1 Danish Pastry, 1 Sausage Roll, 1 Piece of Goopy Cake***

Together with this guide you should have Nutrition and Fluid Guidelines. As a competitive swimmer it is very important that you eat and drink PROPERLY. If you have any queries regards your diet then please come and see me as soon as possible.