Sports Nutrition: The Basics – A quick guide

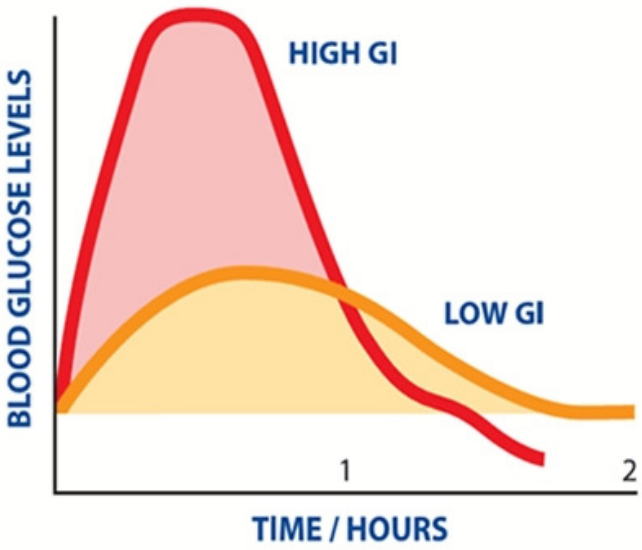
Your approach to nutrition should include everything you consume in a day – not just what you eat or supplement with around exercise or during a competition. Understanding what and when to eat on a daily basis will have a huge impact on your performance, mood, sleep, health and energy levels – it should not be underestimated!

Carbohydrate

Carbohydrates provide the fuel you need to perform during training and matches. Therefore, around half of your calorie intake should come from sources of carbohydrate. Carbohydrates are divided up by the response they have on blood sugar levels, therefore you need to select which source you get your carbs from carefully (See Table 1). **You should get most of your carbohydrate intake from vegetables and fruit, except when you are eating before, during and after exercise.**

Glycemic Index (GI) is a measure of your blood glucose response to a particular food. This means that if you eat a high GI food such as white bread, your blood sugar levels rise rapidly. As insulin is released in proportion to the GI of your meal, a high GI meal will release a large amount of insulin into the blood. Insulin works by storing blood glucose in the cells, often in the form of fat. As glucose is removed from the blood for storage, energy levels drop and you start to feel hungry again.

The basic rule is as follows: **Only eat high GI foods immediately before or after exercise to replenish energy stores quickly.**



As you can see form the graph, if you get the timing of your carb intake wrong your energy levels will fluctuate and your mood, decision making and concentration will be negatively affected.

Many sweet tasting and starchy carbohydrates are high GI. Refined carbohydrates such as white rice, pasta, flour and processed cereals have a high GI and often contain few vitamins and minerals.

Table 1. Carbohydrate Periodization

High GI foods	Low GI, energy dense foods	Low GI, low energy foods
Only eat before, during or after exercise	**These release energy slowly and should be eaten in moderation**	**Eat these regularly**
White bread	Wholemeal Pita bread	Asparagus
White Rice	Rye bread	Aubergine
White Pasta	Oats	Broccoli
Parsnips	Spaghetti	Cauliflower
Cooked carrots	Quinoa	Courgettes
Couscous	Brown rice	Cabbage
Baked potato	Basmati rice	Kale
Honey	Banana	Lettuce
Nutrigrain	Apple	Green beans
Bagel	Pear	Mushrooms
Pineapple	Sweet potato	Peppers
Rice cakes	Lentils	Spinach
Sweets	Beans (broad, kidney etc)	Onion

Protein

Protein is the building blocks for muscle growth and repair. A constant breakdown and regeneration of muscle tissue occurs every day which needs to be fuelled by the dietary intake of protein. You require between 1.2 - 2.2 g of protein per kg of body weight each day. For a 90 kg athlete requiring 2.2 g per kg, this looks like: 5 egg whites, 2 chicken breasts, and 2 tuna steaks.

Table 2. Sources of ~10g Protein

Protein (~10g)	Additional Information	
2 heaped teaspoons	7 g CHO 20 g Fat (good fats**)	
2 slices wholemeal bread	35 g CHO 3 g Fat	
220 g tin (reduced sugar, salt)	27 g CHO 1 g Fat	
100 g Humus (1/2 tub) (reduced fat)	10 g CHO 18 g Fat (good fats**)	
2 small eggs	Trace CHO 11 g Fat	
60 g nuts	3 g CHO 38 g Fat (good fats**)	
100 g	4 g CHO Trace Fat	

100 g (reduced fat)	6 g CHO 1.3 g Fat	
50 g raw chicken breast	Trace CHO 0.5 g Fat	

Table 2. Sources of ~10g protein

Protein (~10g)	Additional Information	
Half typical salmon fillet (60g raw)	Trace CHO 8 g Fat (good fats)	
50 g tuna in brine (1/4 small tin)	Trace CHO Trace Fat	
Small can (130 g)	21 g CHO 3.8 g Fat	
50 g cooked red lentils	28 g CHO 1 g Fat	
35 g (5 tablespoons) with 220 ml semi-skimmed milk	30 g CHO 7 g Fat	
300 ml skimmed milk	15 g CHO trace Fat	

**If your nutritional goal is to reduce body fat, avoid using these sources of protein on a daily basis. Limit these to 3 x week.

The body doesn't store protein in the same way that it does carbohydrate. Therefore, your protein intake should be spread out throughout the day. Try to eat some protein with every meal and snack. Eat from a wide variety of protein sources including poultry, fish, nuts, legumes and eggs. Avoid high fat sources of protein such as pork, battered or fried fish and processed meats such as salami and sausages.

Good combinations of protein include:

Smoked salmon and scrambled eggs**;** Baked beans and poached eggs**;** Cottage cheese and mackerel**;** Nuts and low fat yoghurt**;** Chicken and lentils.

Portion Size:

Table 2 provides details of foods that provide ~10 g of protein. You should aim to eat 20-40 g protein during every meal. Pay attention to the additional nutrients contained in the product. For example, chickpeas are a good source of protein but also provide plenty of low GI carbs to help control blood sugar levels and refuel your energy stores over time. Fish, cottage cheese, low fat yoghurt and protein shakes are very easy to digest and can be eaten relatively close to exercise. Red meats such as beef and lamb should be avoided if you are exercising within 12 hours.

Fat

Not all fats are bad for you. Good fats contain omega 3 and 6 fatty acids and play an important role in health and wellbeing (See Table 3). Try and eat fish at least twice a week. Virgin olive oil and flaxseed oil can be added to vegetables and salads but should not be used in cooking.

Table 3. Sources of Good Fat and Bad Fat

Good Fats	Bad Fats
Oily fish	Cakes
Avocado	Pastries
Nuts	Butter
Seeds	Animal fat
Olive oil	Biscuits
Flaxseed oil	Chocolate (milk)
Coconut oil	Processed meats
Low fat dairy (yoghurt, milk, cheese)	Trans-fats
	Ready meals

You will notice that some foods have a high fat content. Make sure you check where the source of the fat is coming from. If the product contains sources of good fat, such as those listed in Table 3, you may want to consider using them in your diet. Be careful when choosing products listed as 'low fat' as they are often supplemented with sugar to improve the flavour. Quite often you are better off choosing the full-fat version.

Warning – monitor your intake of these good fats if you are trying to lose body fat.

Hydration

Getting your hydration right is one of the easiest and cheapest nutritional strategies to optimize performance, yet so many players get it wrong. Even a small amount of dehydration can impair mental and physical performance. Staying well hydrated during training and matches is essential for optimal performance and recovery. Thirst is a poor indicator of hydration status. If you are thirsty, you are already dehydrated enough to impair performance. Drinking water little and often throughout the day is recommended. You should be aiming to drink around 2-3 L

Day-to-day

1. Drink a 400 ml of water with breakfast every morning.
2. Drink 2-3 L of fluid each day (this does not include what you drink around training).
3. Drink little and often.
4. Avoid fizzy drinks and adding sugar to caffeinated beverages.
5. Drink no more than 2-3 cups of tea and coffee each day.

Training

1. Start training well hydrated. Drink 400ml 2 hours before training if required.
2. When weather conditions are warm, weigh yourself before and after training. A kg loss of body weight represents a need for 1.5 L of fluid to be replaced.
3. Use a sports drink when training sessions are high intensity or last longer than 60 min.
4. Use your urine colour to monitor hydration status. If it is dark in colour you are still dehydrated.
5. Avoid caffeine and alcohol immediately after training.