

# General Nutrition for Athletes



## 1. Eat 5 small meals per day

Our bodies must be fed a steady supply of the right nutrients and fuel. Instead of eating the customary 3 large meals with long breaks in between, cut down the size and increase the frequency of the meals. This ensures a steady supply of nutrients, and a proper fuel base. Studies have shown that this method of eating encourages a higher metabolic rate, which can aid us in our athletic pursuits, and keep the body in general good health.

## 2. Try to avoid high glycemic carbohydrates

"Glycemic" refers to the speed at which food is converted into glucose and then absorbed into the blood. High glycemic carbohydrates are sugars, starches, fruit, and some vegetables that are converted into glucose and absorbed very quickly (e.g. candy, white bread, alcohol). Low glycemic carbohydrates are sugars, starches, fruits, and some vegetables that are converted into glucose and absorbed at a much slower rate (i.e. oatmeal, oranges, whole wheat bread, whole milk). When high glycemic foods are eaten an insulin response occurs to counteract the quick rise in blood glucose levels.

Insulin is a very important fuel regulating hormone, however excessive surges can lead to fatigue during athletic endeavours, and inconsistency during play. \*When a high glycemic food is eaten, try to combine it with a high fibre food (e.g.. soda or whole wheat bread), or a protein (i.e. chicken, egg, turkey). These foods will slow the speed of the glucose being absorbed from the high glycemic food.

## 3. Pre - exercise

Easily digestible protein (e.g. egg or non breaded white fish) and low glycemic foods are beneficial to eat 2-2 1/2 hours before exercise or training. This delay between exercise and eating allows the low glycemic food to slowly be converted to fuel close to the start time of activity. Immediately prior to exercise (match) a combination of glucose and fructose (carbohydrate) is beneficial to ingest. One gram of carbohydrate per minute of exercise is vital to keeping energy stores at their peak.

A "Top-Up" at half time may be necessary during the course of a match.

## 4. Post - exercise

Immediately after exercise is an opportune and beneficial time to eat a small amount of high glycemic carbohydrates. This helps to replace muscle glycogen, which is depleted during athletic activity. The usual quick rise in blood glucose levels does not occur, because the fast acting glucose ingested is immediately shunted to the muscles and liver to replace used glycogen. A low glycemic carbohydrate 225 grams (8 fl. oz.) should also be eaten following athletics, to keep a steady flow of nutrients available to the body. Within first 20 minutes after exercise a fast acting carbohydrate should be ingested. From 20 to 60 minutes an easily digestible protein and low GI carbohydrate should be consumed.

## 5. Hydration

Drink plenty of fluid every day. Water is the best fluid to keep the body hydrated. During long periods of exercise the "thirst" mechanism shuts down temporarily so do not wait until you feel thirsty, to drink. Make drinking water a habit. Remember if an athlete is 2% dehydrated their body is working with 22% less strength!

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## Glycemic Index of Common Foods

### Low glycemic foods

- Apricots (dried)
- Beans - baked in tomato sauce, or black beans
- Bread - dark brown, rye, pumpernickel, fruit loaf
- Breakfast cereals - all bran, mini wheats, muesli (toasted), oatbran, porridge (stove cooked), rice bran, Special K
- Cake - banana, pound, sponge - no icing
- Corn - sweet, canned
- Cherries
- Chick peas
- Dairy - milk (full fat and skim), vanilla ice cream, custard, yoghurt plain or sweetened with aspartame
- Fruits - fruit cocktail, apple, grapefruit, kiwi, green grapes, mango, oranges, peaches, pear, plums, raspberries, strawberries, blueberries
- Lentils
- Muffin - apple, oat bran
- Noodles - linguini (thick), ravioli, whole wheat pasta
- Peas - green, split
- Popcorn (plain)
- Soup - lentil, tomato



sprouts, cabbage, cauliflower, celery, cucumber, eggplant

## High glycemic foods

High glycemic foods should be eaten within one hour after strenuous exercise. If these foods are unavoidable at times outside of this window, be sure to combine either protein or fat (from a Good Source) with the high glycemic food (see list)

- Buns—hamburger
- Bread - white, pita, baguette, melba toast, bagel
- Breakfast cereals - Cheerios, Cocopops, Cornflakes, Puffed Wheat, Rice Krispies
- Crackers
- Cola - Coke, Pepsi, 7up, orange
- Fruits - banana, cantaloupe, pineapple, raisins, watermelon
- Lucozade
- Muffins - blueberry, chocolate
- Noodles - spaghetti, macaroni
- Soup - pea, carrot, black bean
- Vegetables - parsnips, potatoes, squash

## Recommended Protein Sources

- Turkey (an extremely lean meat) & Chicken
- Fish—haddock, trout, salmon, tuna, prawn, crab, sole, cod, halibut, bluefish, mussels, scallops
- Beef—lean
- Lamb
- Liver
- Pork
- Veal
- Dairy—milk (skim), egg, cottage cheese
- Soy protein
- Whey protein

## Recommended Fat Sources

- Avocado
- Butter
- Nuts—almonds, hazelnuts, pumpkin seeds, sesame seeds, sunflower seeds
- Oil—olive, sesame, canola
- Egg—2 yolks

## Poor Protein & Fat Sources

- Margarine & butter substitute spreads
- Hydrogenated palm oil—in some candy bars & store bought baked goods
- Sausages
- Fast foods—McDonalds, Burger King etc
- Deep fried foods—chips, crisps etc.

# Alcohol



Alcohol provides approximately 7 calories per gram, but to consider alcohol an energy substrate of equal importance to proteins, carbohydrates, and fats is dangerous thinking. Most importantly, regular alcohol consumption alters the normal metabolic processing of vitamins, minerals, proteins, carbohydrates, and fats to a degree that is must be considered a toxic substance. A common serving of 12 ounces of beer, a 4-ounce glass of wine, or one ounce of liquor yields approximately half an ounce of alcohol, and this is equivalent to approximately 14 grams (1gram = 0.35 ounce). At 7 calories per gram, this one drink has the potential of providing approximately 98 calories but may reduce the ability to effectively use the energy from this and other foods.

While there is recent evidence of a reduction in cardiovascular disease risk with a low to moderate (1-2 drinks per day) consumption of alcohol, there is no evidence that alcohol consumption is useful in enhancing athletic performance. On the contrary, the negative metabolic effects of alcohol consumption are long lasting and may impair reaction time, endurance, coordination, and strength. For example post training or competition alcohol decreases the action of the liver, detoxifying the body of exercise stress metabolites.

Serious athletes should try to avoid regular consumption of alcoholic beverages, particularly during seasonal periods of training and competition.



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