



COMPETITION NUTRITION GUIDELINES

The two most critical factors in pre and post match nutrition are **fuel** and **fluids**. Carbohydrates are the critical source of fuel to the working muscle and the central nervous system. A small amount of this energy is supplied through blood glucose, but the majority comes from stored carbohydrate known as **GLYCOGEN** in the liver and muscles. **Glycogen is the body's preferred source of energy**. These suppliers however, are quite limited and only supply enough energy for up to about 90 to 120 minutes of exercise. Therefore glycogen stores must be maximised prior to a match, topped up throughout and replenished post match for optimal performance.

What are good sources of carbohydrate?

- a) Breads;
- b) Breakfast cereals;
- c) Pasta, rice, noodles, grains;
- d) All fruit (whole, juiced, tinned);
- e) Starchy vegetables – potatoes, taro and corn;
- f) Legumes – baked beans, kidney beans and lentils;
- g) Cereal, muesli and breakfast bars;
- h) Low fat dairy foods e.g. low fat yoghurt, low fat ice-cream, trim custard, fruit smoothies;
- i) Pancakes, crumpets, scones, muffins;
- j) Cordial, juices and sports drinks.

You should be aiming to make these sorts of meal the basis of **all** your meals and snacks, particularly on days you are training or playing.

The pre-match meal – what? when?

The pre match meal is the last opportunity to top up muscle glycogen stores. A high carbohydrate, low fat meal four (4) hours prior is advisable.

A meal high in protein or high in fat at this stage is not advisable for three reasons.

1. It will likely be low in carbohydrate and will not assist fuelling requirements.
2. High fat diets delay gastric emptying; this could result in a full, uncomfortable feeling in stomach.
3. High fat and high protein meals are harder to digest than carbohydrates. This means a large volume of blood is rushing to the stomach to assist in digestion, taking it away from the muscles that rely on the blood to supply oxygen to do work!

A light snack can usually be taken about 1-2 hours prior to event. A snack supplying at least 50g of carbohydrate is advisable. Experiment with pre competition meals in training; don't wait until match day to try new things!

What are suitable pre-event meal ideas?

- a) Breakfast cereal, low fat milk and fruit;
- b) Muffins or crumpets and jam or honey;
- c) Pancakes and syrup;
- d) Toast and baked beans or tinned spaghetti;
- e) Creamed rice (low fat milk);
- f) Rolls or sandwiches and banana filling;
- g) Fruit salad and low fat fruit yoghurt;
- h) Pasta with tomato or low fat sauce;
- i) Baked potatoes with low fat filling;
- j) Sports bars or cereal bars plus sports drink;



- k) Fruit/sustagen smoothies (low fat milk and ice-cream). This is great for those who experience nerves or can't tolerate solid food prior to an event.

What about during the event?

Fluid and fuel are the primary concern during the event. *“Running out of legs”* is common in games of 60-80 minutes. Try consuming carbohydrate during events:

- a) Option 1 – Solid food: Fruit, sports bars, confectionary – can cause stomach discomfort in some.
- b) Option 2 – Sports drinks: Practical way to refuel. Provides: fluid, carbohydrate and electrolytes.

What about recovery after the event?

The first 30 minutes crucial, as this is the time that muscles are most receptive to replenishment. An intake of 1g of Carbohydrate per kg body weight within first 30 minutes will adequately replenish depleted glycogen stores. (SEE YOUR RECOVERY PROTOCOL SHEET)

This same plan should be followed every two (2) hours until the next proper meal. As you can see, good planning is vital. Good choices include, sports drinks, cordial, soft drink, lollies, fruit, muffins, muesli/snack bars, fruit etc.

Now that fuel sources have been covered, it is important to look at fluids. If all other factors have been taken care of, such as adequate training, preparation and fuelling for the event, fluids really can be the secret to success.

FLUIDS – THE SECRET TO SUCCESS

What are the effects of dehydration?

- Decreased plasma volume (electrolyte loss/disturbance)
- Decreased blood flow to the active tissue
- Reduced cardiac output
- Increased resting heart rate
- Impaired thermoregulation
- Impaired renal function

In the event of 2-3 minutes or more, performance, endurance, recovery, concentration, co-ordination, **skill** and **decision making** is impaired. **Fatigue, cramps** and **headaches** will result. A 2-3% weight loss during a match as a result of fluid loss affects aerobic capacity. In the training arena, this effect on muscular endurance and concentration may impair fitness and skill acquisition.

NOTE: You cannot train your body to become used to dehydration – this will not “toughen you up”. Thirst is a very poor indicator of fluid requirements.

Hydration tips

- Consume beverages that are cool (15-20°C), palatable and provide carbohydrate. The use of carbohydrate electrolyte beverages i.e. sports drinks prior to exercise can assist in meeting both fluid and carbohydrate needs. Sports drinks also contain sodium, which assists with fluid retention prior to and during the event.
- Hydration prior to matches should be carefully planned, especially in hot and humid conditions. Begin event well hydrated by consuming extra fluids in days before event. Drink enough to pass clear coloured urine before event.
- Fluid before event should include 300-600ml with pre event meal, followed by 150-300ml every 15-20 minutes up until 45 minutes out.

To effectively rehydrate during exercise, it is important to ‘prime’ the stomach for future fluid with a bolus of about 300-400ml to intake just before an event. This **MUST** be trailed in training to determine volume of fluid tolerated with stomach discomfort.

- Drink to recover. Post match, drink fluids that contain carbohydrate to replace fluid and replenish glycogen stores. E.g. Sports drinks.



For those experiencing cramping, it may be necessary to supplement your sports drinks with extra electrolytes using **GASTROLYTE**. These are useful for fluid retention (i.e. decrease urinary output) so that hydration can be maintained more effectively.

Protocol for use;

- Its highly recommended to experiment in training first.
- Always use in conjunction with increased consumption of fluids (water and powerade).
- For players that experience very large sweat losses, or prone to severe cramping two (2) sachets in the last four hours before the game, either with 150ml of water or powerade.
- Start most players off on one sachet prepared as above and increase if necessary

WHAT ABOUT ALCOHOL?

Alcohol prior to games will:

- a) Increase the risk of injury by 20% (depresses central nervous system, impairs co-ordination, alertness and judgement);
- b) Exacerbates dehydration (diuretic effect);
- c) Reduces aerobic performance;
- d) Does not assist in fuelling muscle glycogen stores;
- e) Decreases athletic performance by about 12% for 36-48 hours afterwards.

Alcohol after games will:

- a) Decrease your rate of recovery;
- b) Decreases the body's uptake of glycogen and fluid when refuelling;
- c) Negatively affects rate of soft tissue recovery (alcohol dilates blood vessels which increases swelling and bleeding).

Tips for using alcohol sensibly:

- a) Avoid binge drinking – moderation is optimal;
- b) Avoid 24 hours before a match.

Complete re-hydration to pre game weight immediately after game **AND** complete adequate carbohydrate refuelling **before** alcoholic drinks.