

*The benefit of good nutrition is undeniable, and using optimal dietary strategies helps you train hard day after day. Eating well reduces the risk of fatigue and illness, and speeds up recovery. The main requirements are increased energy from carbohydrate, adequate protein for growth, repair and recovery, extra fluid to maintain hydration, and a balanced intake of vitamins and minerals to keep you healthy and the engine running smoothly.*

### CARBOHYDRATE REQUIREMENTS

The primary fuel source for endurance training is glycogen stored in the muscles and liver. Glycogen consists of chains of glucose derived from carbohydrates, which is why a high carbohydrate intake is so important.

Interestingly, the muscles' capacity to store glycogen is limited and a 90-minute training session uses all the body's glycogen. Failure to replenish this on a daily basis through a high carbohydrate intake will result in low energy and an inability to maintain intensive training, and it can even lead to over-training. Carbohydrate requirements are between **7 and 10 g/kg body weight/day**, depending on the training phase.

The best sources of carbohydrate are grain products, such as breads, breakfast cereals, rice, noodles, pasta, and couscous; fruits; some vegetables; milk and yoghurt; and snacks, such as low-fat muesli bars, dried fruit, scones, and other low-fat baked goods. The checklist shows the carbohydrate content of some common foods. As well as eating enough total carbohydrate, it is

### Good Nutrition — Ien Hellemans

Consume 3 main meals every day, designed as follows:

- Base each meal around staple carbohydrate (bread, breakfast cereals, rice, noodles, pasta, couscous, potatoes, or kumara).
- Add fruits or vegetables — fresh is best, but can be supplemented with frozen or canned.
- Add a protein source, such as lean red meat, fish, chicken, eggs, pulses, soy foods, and milk products.
- Have a drink of water, fruit juice, or milk.

#### Pre-training

- Consume 50 to 100 g carbohydrate and 500 ml in the 2 hours before training.
- On a hot day, drink another 250 ml fluid between 10 to 30 minutes pretraining.

#### During long training sessions

- Consume 400 to 800 ml fluid per hour.
- Consume 30 to 60 g carbohydrate per hour.

#### Post-training

- Consume 1.5 times the amount of fluid lost in sweat as indicated by body weight change— if weight loss is 1 kg, drink 1.5 litres of fluid.
- Consume 1 g carbohydrate/kg body weight within 30 minutes of finishing training and continue to consume carbohydrates at regular intervals to meet total daily needs.
- Consume 20 to 40 g protein as part of your recovery meal. Fruit smoothies and milk shakes are an easy way to consume the necessary carbohydrate and protein to help speed recovery.

#### Snacking

- Some athletes will need to snack at more regular intervals. Use your appetite as a guide and choose mostly carbohydrate-containing foods.

important to consume carbohydrate before and after training, and also during longer training sessions.

**PROTEIN REQUIREMENTS**

Protein is needed for muscle growth and repair, immune function, and recovery from training. Normally, protein contributes only a small amount of the energy needed for exercise, but when carbohydrate intake is inadequate, protein is used for energy rather than for muscle growth and repair — an

undesirable situation. Daily protein requirements are between **1.2 and 1.6 g/kg/day**, depending on the training phase.

Generally, this amount is easily obtained from a varied diet. Good sources of protein include lean red meat; poultry; fish and seafood; eggs; low-fat dairy produce; tofu; nuts and seeds; and pulses, such as baked beans, chick peas, kidney beans, and lentils. The checklist shows the protein content of some common foods.

**FAT REQUIREMENTS**

Fat is an essential nutrient and needs to be included in the daily diet. While too much fat will displace carbohydrates and may contribute to an increase in body fat levels, too little fat can have a negative impact on health and performance. A moderate intake of fat is therefore recommended.

The important issues are to consume the minimum required amount of fat for health; to obtain fat soluble vitamins; to consume primarily plant fats, such

**Carbohydrate Checklist**

Each of the following portions provides approximately 20 g carbohydrate. Also check food and supplement labels for carbohydrate content.

**Bread and Cereal Foods**

- 1 to 2 slices bread, depending on thickness of slice (check nutrition panel )
- 1 dinner roll
- 1/2 long roll
- 1/2 bagel
- 1 crumpet or English muffin
- 2 rice wafers
- 1/2 fruit or iced bun
- 1 scone or muffin
- 1/2 to 1 muesli or fruit bar, depending on brand
- 1 cup cooked porridge (4 Tbs raw oats)
- 2 weet-bix, bran-bix or vita-brits
- 1/2 to 1 1/2 cups breakfast cereal, depending on type
- 1/2 cup cooked rice, pasta or noodles
- 2 cups plain popcorn
- 100 g (half a small can) creamed rice

**Pulses**

- 1 cup soy beans
- 2/3 cup kidney, haricot, chilli, lima, or baked beans, or chick peas
- 1/2 cup lentils

**Milk Products**

- 350 ml plain or 200 ml flavoured milk
- 300 ml plain or 200 ml fruit-flavoured yoghurt
- 150 ml yoghurt smoothie
- 2 scoops ice-cream

**Vegetables and Fruits**

- 1/2 cup corn or yams
- 2 1/2 cups broad beans, beetroot, peas, or mixed vegetables
- 1 medium potato, kumara, taro, or parsnip
- 1 medium banana
- 1 large apple, pear, orange, or peach
- 2 large apricots, kiwifruit, or grapefruit
- 20 cherries or grapes
- 12 strawberries
- 1 thick slice pineapple
- 1 cup canned or stewed fruit
- 6 dates or prunes
- 8 dried apricot halves
- 2 Tbs raisins or sultanas
- 3 dried figs

**Miscellaneous**

- 200 ml unsweetened fruit juice
- 200 ml cordial or soft drink (non-diet type)
- 300 ml sports drink, depending on brand
- 100 ml high-carbohydrate supplement
- 1 Tbs honey, jam, golden syrup, or sugar
- 2 Tbs Milo
- 20 g jelly beans or other lollies

as plant oils, margarines, nuts, seeds, avocados, and fish oils; and to make sure that fat does not displace carbohydrate.

## FLUID REQUIREMENTS

Dehydration and overheating are common and potentially dangerous problems.

Sweat acts as the body's coolant, and sweating is an essential mechanism for regulating body temperature.

The loss of water that accompanies perspiration reduces the effectiveness of this cooling system and limits the capacity of the blood to carry oxygen and

nutrients to working muscles and to remove the by-products of metabolism. These effects of dehydration translate into a steady decline in endurance and performance.

It is important to aim at replacing most of the fluid lost during exercise. Check-

ing your weight before and after training, and keeping an eye on the colour of your urine, which should be very pale, are easy ways to monitor hydration. Although research has shown that most athletes do not adequately replace

fluid, there is also a danger of drinking too

much fluid — this can lead to hyponatraemia, which is a potentially dangerous condition. It is most likely to occur in Ironman events and in those who drink a lot of plain water rather than sports drinks.

The possibility of both under- and over-hydration highlights the need for careful assessment of fluid needs. Athletes can often increase their tolerance for fluid consumption during exercise by practising it consistently.

## VITAMIN AND MINERAL REQUIREMENTS

The increased requirements for vitamins and minerals, particularly the B vitamins, vitamins C and E, and the minerals iron and zinc, are generally easily met through increased consumption of high-quality carbohydrate and protein foods.

**Dehydration and overheating are common and potentially dangerous problems. Whatever your goals, optimum nutrition is a key factor.**

### Protein Checklist

Each of the following portions provides approximately 15 g protein. Also check food and supplement labels for protein content.

#### Animal Protein

- 50 g lean, cooked meat
- 75 g lean, cooked mince
- 1 hamburger patty
- 2/3 cup meat casserole or stew
- 1 large or 2 small sausages
- 1 thick slice ham
- 2 slices luncheon or bacon
- 1 small, baked fillet of fish
- 75 g canned salmon or sardines
- 50 g canned tuna
- 60 g cooked skinned chicken, turkey, or duck
- 2 large eggs
- 400 ml milk
- 300 ml yoghurt
- 400 ml yoghurt smoothie
- 60 g hard cheese (2 slices)
- 100 g cottage cheese (1/2 cup)
- 1 milkshake
- 4 Tbs (60g) Sustagen Sport

#### Plant Protein

- 1 cup soy, kidney, or baked beans
- 1 1/2 cup lentils or haricot beans
- 3 cups cooked rice or pasta
- 6 slices bread
- 1/2 cup peanuts
- 1/2 cup almonds or cashew nuts
- 1 cup brazil nuts
- 1 1/4 cups walnuts or hazel nuts
- 3 Tbs pumpkin seeds
- 8 Tbs sunflower seeds
- 10 Tbs sesame seeds



*Nutrition before, during, after sport*

## THE PRODUCTS

The **ENERVIT SPORT DRINK** range effectively fulfills all your re-hydration and energy and mineral salts supplement needs. It is intended for everyone who participates in sports at any level.

**ENERVIT G SPORT DRINK INSTANT** is a mineral salts and vitamin supplement that comes in powder form. It also contains aspartates to prevent cramps.

Available in 15 g packets or the 450 g can that contains enough to prepare 15, 0.5 liter flasks for a total of 7.5 liters of the orange-flavoured energy/mineral drink.



**POWER SPORT** energy bar is always practical: before, during, and after intense physical exercise. Available in chocolate, coffee, apple and banana it comes in convenient, individual packages.

**POWER SPORT** contains 19% protein and less than 5% fat. **POWER SPORT** also contains potassium and magnesium aspartates. This is the ideal combination for overcoming fatigue and combatting cramps.



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**ENERGY BAR:** a milk-chocolate-covered apple, banana or apricot-flavoured fruit bar with cereal and vitamins and NOW with two new flavours: fruit & cereal and muesli-ciok.

This natural fruit and cereal concentrate modulates absorption of sugar and fat. Right for any age at any time of day: during free time or physical activity, at school or work. 1-2 bars are recommended per day for an effective energy supply.

**ENERVIT GT** energy tablets, made from a fructose base, provide a mix of vitamins (B1, B6, PP, and C) along with a blend of carbohydrates that improves the body's efficiency during physical exertion. **ENERVIT GT** also contains magnesium and potassium aspartates that are effective in combatting cramps.



You can take **ENERVITENE**, an energy supplement with carbohydrates and vitamins, with you anywhere in the convenient cheer pack with a resealable top, bottle, or powder form to be dissolved in water.

**ENERVITENE** has a two-fold effect: it provides instant energy and ensures long-lasting endurance.

**ENERVITENE** contains maltodextrins and fructose along with B-group vitamins, PP and calcium pantothenate help transform carbohydrates while vitamin C acts as an antioxidant.



**ENERVITENE GEL.** The new **Enervitene Gel** guarantee immediate energy without causing a reactive hypoglycemia. Contains fructose, maltodextrine, glucose and vitamins. The added B.C.A.A. improve the muscular tone and reduce the sense of fatigue. Easy to use during an exertion in the practical monodose.



**R2 SPORT** is an energy supplement for rapid recovery so that you can regain physical fitness between one sports event and another. It comes in powder form and dissolves quickly in water, making it easy to consume. **R2 SPORT** contains rapidly-absorbed carbohydrates that reconstitute your glycogen and branched-chain amino-acid reserves to help restore muscle tone and mass.

**R2 SPORT** provides a substantial amount of glutamine to counteract fatigue and increase the immune system's defense mechanisms as well as vitamin C and E to counteract free radicals and to prevent post-exertion muscular pain.



Enervit® is the Italian leading brand in food supplements for sports and active life. It is well known as being synonymous with quality, and advanced research in nutrition and diet for sportsmen—both professionals and amateurs.

Enervit's mission is to satisfy, in the nutrition field, the needs of active people, help them reach their goals in sports performances, diet, or simply to help them stay young with high-quality products that have been studied and experimented with high-level athletes.