



Fitness and Nutrition – Theme 9: Staying alert

Factsheet 9b

Liquid facts

- Our bodies contain more water than any other constituent (more than 50%). Although water is not a nutrient, regular water/fluid intake is absolutely essential for our bodies to work properly.

Water:

- lubricates our joints and eyes
 - helps us swallow our food
 - facilitates most chemical reactions in the body
 - acts as a cushion for the nervous system
 - helps the body get rid of waste
 - assists with the regulation of our body temperature.
- The amount of water/fluid we need depends on age and body mass and varies with the time of year, climatic conditions, our diet and our level of physical activity. Water requirements in the body are particularly increased after exercise.
 - We obtain our fluid requirements from water and other drinks we consume as well as from the food we eat.
 - When the body lacks water/fluids, this is called dehydration. It can impair physical performance and in extreme cases can lead to death. Dehydration of as little as a 2% loss of body weight can result in impaired performance and responses. 15-20 % of body weight lost as water is fatal.

Symptoms of mild dehydration include:

- dry mouth/feeling of thirst
- tiredness
- weakness
- dizziness
- headache
- irritability
- flushed skin
- dark urine
- cramps
- profuse sweating.

Symptoms of severe dehydration include:

- impaired mental performance
- dizziness and loss of balance
- sunken eyes
- shrivelled skin
- muscular spasms
- nausea
- heat stroke.

The right formula

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- The feeling of thirst is not triggered in our bodies until there is a water shortage – in other words, by the time we feel thirsty, we are already dehydrated.
- Health professionals recommend at least 1.5 to 2 litres (6-8 cups) of liquids a day (intemperate climates and for normal activity levels). Athletes and sports people need the above plus 1.5 times the fluids they have lost during exercise. (You can find that by weighing before and after the exercise – 1 kilo of weight lost needs to be replaced by 1.5 litres of liquids. Remember to add to the weight difference any fluids you had during the exercise.)
- Fluid overload can be as dangerous as dehydration. Large intake of water/fluids dilutes the blood and stimulates excessive urine output which in return dehydrates the body. Excess water also results in low sodium levels in the blood – this can lead to hyponatremia, a potentially fatal condition. The symptoms are very similar to severe dehydration – the distinguishing characteristic is swelling of hands and feet.
- We can get our fluid requirements from a number of sources – not just water. Other drinks like squash, fruit juices, tea and coffee contribute to our daily requirements too. About a third of an adult's daily fluid intake is supplied by food, mainly from fruit and vegetables.
- Alcoholic drinks produce a dehydrating effect which is usually greater than their contribution in liquid, so they do not count. Drinking water alongside alcoholic drinks minimises any dehydrating effects. It is important also to follow the guidelines for safe drinking. In sport, alcohol is classified as a drug (see **Factsheet 9c: Effects of alcohol**).
- For athletes and sportsmen and women, particularly those exercising in hot climates and/or at a high altitude, water and water replacement are essential – before, during and after exercise. Even a mild dehydration can impair performance – both physically and mentally – resulting in:
 - reduced muscular strength - fatigue
 - increased perception of effort - reduced concentration
 - reduced skills and accuracy - reduced decision-making ability.
- Water is suitable for replacing lost fluids following mild or moderate exercise. For fluid replacement during or after vigorous/prolonged exercise, isotonic drinks are more suitable as they replenish water and carbohydrate stores in the body (e.g. glycogen in muscle).