

FACTORS THAT INFLUENCE WATER NEEDS

Total fluid intake depends on physical activity levels, the climate one lives in, one's health status, clothing and various other physiological factors such as pregnancy and breastfeeding.

EXERCISE OR PHYSICAL ACTIVITY

During long bouts of intense exercise, it is best to use a sports drink that contains sodium, as this will help replace sodium lost in sweat, provide glucose to prevent fatigue and reduce the risk of developing hyponatraemia, which can be life-threatening, when it occurs. Fluid also should be replaced after exercise. Different sports have specific fluid intake recommendations. It is very important to adhere to a recommended schedule of fluid intake in order to ensure an adequate intake before, during and after a strenuous bout of exercise.

ENVIRONMENT

Hot or humid weather increases sweat losses and necessitates additional intake of fluids. Heated indoor air can also increase sweat and skin losses during the winter. Altitudes greater than 2500m may trigger increased urination and more rapid breathing, which may also lead to increased fluid losses.

ILLNESS

Fever can increase water losses by as much as 200ml/day for an increase of each degree Celsius in body temperature. Vomiting and diarrhoea can also cause high losses of fluids, which may need planned and/or aggressive fluid replacement. In these cases replacement drinks and oral rehydration solutions become very important in preventing dehydration. Other conditions such as bladder infections, urinary tract stones, gout and constipation may also require increased water or fluid intake. Importantly though, not all illnesses increase fluid requirements and conditions such as heart failure, and some disorders of the kidney, liver and the adrenals may require restrictions in fluid intake.

PREGNANCY OR BREASTFEEDING

Although water requirements during pregnancy are usually not markedly increased, an additional 1 litre of fluid may, on average, be necessary during lactation. The Institute of Medicine recommends that pregnant women should drink 2,4 litres (about 10 glasses of 250ml) of fluids daily and women who breastfeed consume 3,0 litres or at least 2,71 litres and additional fluids according to thirst (about 12 glasses of 250ml) of fluids a day.

OVER-HYDRATION OR WATER TOXICITY

Although uncommon, it is possible to drink too much water. When the kidneys are unable to excrete the excess water, the electrolyte (mineral) content of the blood is diluted, resulting in a condition called hyponatremia (low sodium levels in the blood). Endurance athletes such as marathon runners who drink large amounts of water which does not contain adequate sodium are at higher risk of hyponatremia (very low incidence of one out of 1 000 ultra-endurance athletes).

SIGNS AND SYMPTOMS OF DEHYDRATION

General signs and symptoms of dehydration include: mild to excessive thirst, fatigue, headache, dry mouth, little or no urination, muscle weakness, dizziness or light headedness. Mild dehydration (treated correctly) rarely results in complications, but more severe cases can be life-threatening, especially in the very young and the elderly.

If any two of the following signs are present, severe dehydration should be diagnosed and treatment should be started immediately: lethargy or unconsciousness sunken eyes skin pinch goes back very slowly (two seconds or more) unable to drink or one drinks poorly.