

Dehydration

What is dehydration?

Dehydration is the loss of water and salts from the body. If the body loses a substantial amount of water and salts and they are not quickly replaced (by drinking) the body starts to “dry up” or get dehydrated. Dehydration results in a lack of adequate body fluids for the body to carry out normal functions at an optimum level. Few people go through life without being dehydrated at some time.

Why does the body need water?

The human body needs water to replenish the blood and other fluids in order to function properly. Along with water, the body also needs electrolytes, which are salts normally found in blood, other fluids, and cells.

Water regulates the body's temperature through perspiration, removes wastes via the urine and carries nutrients and other substances throughout the body. A large amount of water is transported to and from organs and tissues through the body. Blood itself contains a large quantity of water. The kidneys filter around 120 mls of fluid from the blood every minute or 180 litres a day. So a healthy person's urine output (1 or 2 litres a day) is a very small fraction of the total quantity of fluid filtered by the kidneys. Most is reabsorbed back into the bloodstream and used elsewhere in the body.

How can the body lose water?

The body may lose fluids in a variety of ways:

- urination
- vomiting or diarrhoea
- sweating
- from the lungs when breathing

A common cause of dehydration is overexertion in hot conditions. The body loses large amounts of fluid in perspiration without adequate fluid intake to replace the amount lost. Other causes of dehydration are diarrhoea and vomiting, not eating or drinking while ill, and not drinking enough before, during or after strenuous exercise or hard work. Medications to control excess body fluid(diuretics) are a common long-term cause.

Who can become dehydrated?

Although anyone can become dehydrated. Those who become dehydrated most easily are babies under 1 year old, the elderly, people with a fever, and people living and working in hot climates. People with certain kidney diseases such as those caused by analgesic powders and anti-inflammatory drugs can become dehydrated. Abnormalities in the blood including a high blood sugar level in poorly controlled diabetes and a high blood calcium level, seen in a number of conditions including malignancies, can cause dehydration by blocking the kidney's ability to retain water. Some drugs such as lithium can also cause dehydration.

What are the symptoms of dehydration?

For healthy people under normal circumstances, thirst is a reliable mechanism to indicate the body's need for more fluid. The degree of dehydration is graded according to signs and symptoms that reflect the amount of fluid lost.

In the early stages of dehydration, there are no signs or symptoms. Early features are difficult to detect but may include dryness of mouth and thirst. As dehydration becomes worse, the signs and symptoms that may develop include increasing thirst, restless or irritable behaviour, dry mouth and nose, and sunken eyes.

Symptoms of moderate dehydration include flushed face; extreme thirst; dry, warm skin; inability to pass urine; dizziness (made worse when standing); weakness; cramping in the arms and legs; headaches and a dry mouth.

Symptoms of severe dehydration include: low blood pressure; fainting; convulsions; severe cramping; bloated stomach; heart failure; lack of elasticity of the skin; rapid, deep breathing and a fast, weak pulse. Severe dehydration can be a serious problem leading to collapse and even death.

How can you prevent dehydration?

Careful attention to adequate intake of fluids and electrolytes is important in preventing dehydration. Thirst is a good guide to when fluids need to be replaced, and water is generally the best choice. Caffeinated and alcoholic beverages can actually make dehydration worse, as they increase urine output.

In general, the amount of fluid that should be consumed every day is:

- Adults and teenagers: 8 glasses per day (equivalent to 2 litres)
- 9–12 years old: 6 glasses per day (equivalent to 1.5 litres)
- 5–8 years old: 4 glasses per day (equivalent to 1 litre)

If you have kidney stones, drinking eight or more glasses of water a day, or 2 litres, can halve your chances of getting another stone. You should also drink extra amounts of water when experiencing any dehydrating conditions (such as hot, humid weather, high altitudes or physical exertion).

Dehydration can strike anyone at any time, but there are some basic precautions you can take to avoid the harmful effects of dehydration.

- Always drink plenty of fluids during the day, especially when working or exercising in the sun.
- Where possible, try to schedule all physical outdoor activities for cooler parts of the day.

- Make sure you are sufficiently hydrated before, during and after exercise. During exercise, it is recommended to replenish fluids at least every 20 minutes.