

Importance of hydration

Introduction

Hydration is the replacement of body fluids lost through sweating, breathing and waste disposal. As these processes are more or less continuous, water is constantly needed in order to account for such losses, but does it matter if we don't drink as much as the recommended quantities?

Why do we need water?

If asked why we need water most people think that it cools down the body during exercise or when it's hot. Although this is true it is only a small part of a bigger picture. Water makes up somewhere between 45 and 60% of an adult's body weight; our muscles are over 70% water, our lungs about 90% and our brains about 95%. Water plays a vital role in all bodily processes, such as protecting vital organs, delivering nutrients (e.g. oxygen), lubricating joints, converting food into energy, aiding muscle production and metabolising fat. These are only a few uses for water, but already we can see how important hydration is.

So what happens when we get dehydrated?

One of water's most important roles is in the blood. Our blood is continuously carrying oxygen and other nutrients around the body and into the muscles. If the body isn't provided with a regular supply of water the volume of blood will decrease, putting more strain on the body as it has to fight to feed the muscles the oxygen they need. The longer the body is deprived of water the more inefficient the body's whole working system becomes. For a sedentary individual the likely effects of mild dehydration could be tiredness, mild distress or dizziness. During exercise, dehydration will cause poor performance.

The reduction in blood volume is eventually recognised by the body and triggers the thirst mechanism – the body's way of telling us we need to drink more water. Unfortunately this is quite a slow reaction so by the time you feel thirsty it is actually a sign you are already in the early stages of dehydration. This is contrary to popular belief that you will feel thirsty before dehydration starts.

How much water does the body lose?

This depends on a number of factors related to the individual and their environment, but a sedentary adult loses approximately two and a half litres per day (mainly as a result of urination, sweating and breathing). Although a relatively small amount of water can be gained from food, we must still drink more than two litres a day to replace the water we lose. This is before doing any exercise which will require more water.

Performing exercise increases the muscles' demand for oxygen, and the rate of perspiration in order to cool the body down is also heavily increased (water loss of up to four litres per hour is possible during heavy workouts) so water replenishment in these circumstances is even more important. As dehydration can occur much more quickly during exercise, water should be consumed before, during and immediately after exercise to ensure we avoid dehydration.

How do we prevent dehydration?

For optimal hydration we should drink small amounts as frequently as possible. Remember, thirst is an indication that dehydration has already started to take effect on our body so keep drinking water even if you do not feel thirsty.

Finally, avoiding excessive caffeine and alcohol ensure hydration is regulated. These substances are diuretics – that is they increase urine production and therefore encourage more water to be lost than is taken in (a hangover after a night of drinking can mainly be blamed on severe dehydration, thus explaining feelings of nausea, disorientation, and headaches!).

Summary

Water is an essential constituent of the human body, and is responsible for chemical reactions (such as metabolisation of fat), bodily processes (such as supplying muscles with oxygen) and feeding the brain, yet is the most commonly neglected ingredient in our lives. Dehydration puts stress on nearly all bodily systems and is therefore not only a detriment to your health but can cause unnecessary feelings of anxiety too. Water is constantly being lost through various means, so needs to be replenished as frequently as possible (especially when exercising) to ensure optimal health.