

We are regularly advised to drink more water: it clears skin, reduces tiredness and aids concentration. According to research one must drink about 2.5 liter of water a day. But drinking too much water can eventually cause your brain to swell, stopping it regulating vital functions such as breathing, and causing death, as in case of Jennifer Strange, who had taken part in a water drinking contest. Afterwards she reportedly said her head was hurting and went home, where she was later found dead. Initial tests have shown her death is consistent with water intoxication.

So what happens if we drink too much?

Water enters the body when we drink and is removed primarily in the urine and sweat. The amount of water in the body is regulated to control the levels of certain compounds, such as salt, in the blood.

If you drink too much water, eventually the kidneys will not be able to work fast enough to remove sufficient amounts from the body, so the blood becomes more dilute with low salt concentrations.

The water then moves from the dilute blood to the cells and organs where there is less water.

If you put salty water on onion skin the cells will shrink. If you put too much water on it the cells will swell.

This swelling is a problem in the brain.

"When the brain swells, it is inside a bony box so has nowhere to go. The pressure increases in the skull and you may get a headache. As the brain is squeezed it compresses vital regions regulating functions such as breathing.

Eventually these functions will be impaired and you are likely to stop breathing and die. Warning signs included confusion and headaches.

Symptoms would normally occur very soon after drinking the water, but if the gut is absorbing the water more slowly then it can take longer.

Drinking several liters over a relatively short period of time could be enough to cause water intoxication. Those most at risk include people taking ecstasy, as the drug increases thirst and facilitates the release of anti-diuretic hormones so more water is taken in but cannot be excreted.