

KEY TIPS ON HYDRATION

OVERHYDRATION

FOR HEALTHCARE PROFESSIONAL
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Body water is tightly regulated to ensure we have just enough, and **varies by no more than 1% daily** in normal, healthy people (around 250-500ml).

When body water decreases (e.g. due to sweating) or blood sodium levels rise, thirst is stimulated and the kidneys conserve fluid. Most people respond by drinking slightly more but, in a small number of cases, excessive fluid consumption can cause overhydration.

WHEN DOES OVERHYDRATION OCCUR?

Overhydration can be acute, when lots of fluid is consumed in a short space of time, or chronic, where overconsumption of fluid occurs over the long term. Those most at risk generally fall into one of the categories below:

ACUTE

Social situations which promote excess fluid consumption e.g. beer drinking

Slower and less experienced participants in endurance events, e.g. marathons, cycle races

Excessive water consumption as a result of drug taking, e.g. ecstasy

Those participating in drinking challenges or in fraternity or military hazing

CHRONIC

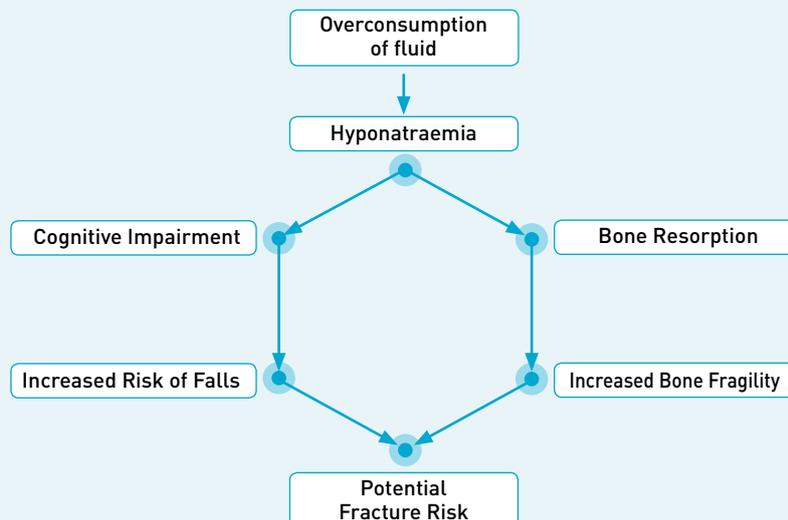
Mental illnesses, e.g. schizophrenia

Stressful work situations where caffeinated beverages may be consumed to excess

Habit polydipsia (compulsive drinking of large amounts of fluid, even at night), especially if accompanied by extremely low sodium diet

HEALTH CONSEQUENCES

Chronic mild overhydration is normally harmless as the body will achieve homeostasis by increasing urine output. However, if overhydration results in hyponatraemia (low plasma sodium), adverse effects can occur particularly in elderly people^{1,2}.



Acute severe overhydration is much more serious as it can cause disturbances of water and electrolyte balance if left untreated. Each year, a small number of fatalities occur as a consequence of overhydration, e.g. at sporting events³ but these might be preventable if the total volume consumed were within sensible limits and fluids containing moderate amounts of sodium were consumed, as such beverages replace body salts.

Fatalities may occur due to the following set of events²:

Fluid overload dilutes extracellular fluid (e.g. water present in blood)

Solute levels in extracellular fluid fall

Water moves from the now diluted extracellular spaces into the more concentrated intracellular spaces

Cells begin to swell due to the excess water

In the brain, swelling increases intra-cranial pressure causing headache, nausea and drowsiness

Further increases in intracranial pressure can restrict blood flow leading to seizures and even death



PREVENTING OVERHYDRATION

Thankfully, overhydration is very rare in healthy adults, and far more people are at risk of mild dehydration due to inadequate fluid consumption.

A normal fluid balance can be achieved by:

- Drinking regularly and when thirsty
- Keeping fluid intake within reasonable limits e.g. 8 -10 cups or mugs daily except in very hot weather or when a large amount of physical activity is taken
- Avoiding large fluid intakes in a short space of time
- Choosing a drink that contains some sodium when taking part in sport or other situations where sweat losses are high⁴
- Checking urine output and colour – healthy urine is normally pale straw yellow.