

Risks of Drinking Too Much Water (Water Intoxication / Water Poisoning)

Drinking an excessive amount of water beyond the body's needs causes a decrease in the amount of sodium in the blood—a condition called hyponatremia. Low sodium in the body causes swelling of the brain. The signs and symptoms of water intoxication are:

- Headache, lethargy, dizziness, confusion, and double vision
- Nausea and vomiting
- Increased blood pressure
- Muscle weakness and cramps
- Excessive urination

Who is at risk for water intoxication? Individuals who are enthusiastic water drinkers such as marathon runners and performance athletes. Drinking 10-20 liters of water in 5-6 hours is dangerous and causes water intoxication. Drinking 3-4 liters of water over 2-3 hours of intense physical activity (1 liter/ hour for 5-6 hours) is not a problem. The problem occurs when one consumes more than 1 liter of water/ hour for several hours. Typically, an extreme exercise activity longer than 5-6 hours is unsustainable, so drinking 10-20 liters of water in a few hours is never necessary.

After the 2002 Boston Marathon, 13% of participants developed water intoxication. Public education on how much water to drink, and what kind of water to drink during such sporting events has minimized the problem of water intoxication (see water and electrolyte replacement for extreme exercise and athletic activity below).