HEALTH BASICS

Drinking water

Drinking water replaces fluid your body loses and may come from public, private, or bottled supplies.

WHAT IT IS
Water consumed from drinks, foods, and prepared meals

WHERE IT COMES UP
Daily hydration, water-quality reports, and bottled-water labels

WHY IT MATTERS
Supports circulation, temperature control, digestion, and waste removal

WHAT IT IS NOT
Not a disease or diagnosis

WHO TO ASK
Primary care clinician or local drinking-water service

HOW IT IS CHECKED
Hydration assessment or contaminant-specific water testing

Overview

Drinking water is water you consume on its own or in other drinks and foods. Your body needs water to function, but drinking water is not a disease, diagnosis, or treatment.

Tap water may come from a public water system or a private well. Bottled water comes from different sources and is processed and regulated as a packaged food. Water can also be filtered or treated at home.

There is no single amount of water that is right for everyone. Your needs are affected by body size, activity, climate, pregnancy, breastfeeding, illness, food choices, and medicines. Water-rich foods, milk, tea, coffee, and other drinks all contribute to total water intake.

Most healthy people can use thirst and their usual urine pattern as practical guides. Some people need more structured advice because thirst may be less reliable or because a medical condition affects fluid balance.

How it works

Water makes up a large share of the body. It carries substances in the blood, helps control temperature through sweating, supports digestion, cushions tissues, and allows the kidneys to remove waste in urine.

You continually lose water through urine, bowel movements, breathing, and sweat. Losses increase during exercise, hot weather, fever, vomiting, or diarrhea. Drinking and water in food replace these losses.

The brain and kidneys work together to control fluid balance. When the body needs water, thirst usually increases. The kidneys can also conserve water by producing less urine. After you drink, excess water is usually removed in urine.

This system has limits. Drinking far more water than the kidneys can remove may dilute sodium in the blood. Sodium helps nerves and muscles work. A dangerously low sodium level is called hyponatremia.

Drinking-water quality is a separate issue from hydration. Water can look clear and still contain germs, lead, nitrate, or other contaminants. Some contaminants have no taste or smell, so laboratory testing or an official water-quality report may be needed.

Why it matters for your health

Getting enough fluid helps your body replace normal water losses. Needs may rise when you sweat heavily, spend time in heat, exercise for a long period, or lose fluid through vomiting or diarrhea.

Plain water can be a useful replacement for sugary drinks because it contains no added sugar. It may also contain fluoride, a mineral that helps protect teeth from decay. Fluoride levels differ by water source and local practice.

Water safety matters as well. Public water systems are monitored for regulated contaminants and provide information about local water quality. Private wells are usually the owner's responsibility and need appropriate testing.

Bottled water is not automatically safer than tap water. Its source, mineral content, and treatment may differ. It may also cost more and create more packaging waste. The safest practical choice is a water source that meets applicable safety standards and any local health instructions.

Certain health conditions can change how your body handles fluid. Heart failure, kidney disease, and advanced liver disease may cause fluid retention. Some medicines also affect fluid or sodium balance. If you have been given a fluid limit, general hydration advice does not replace that individual plan.

What can go wrong

Dehydration means the body has lost more water than it has taken in. It can occur with heavy sweating, fever, vomiting, diarrhea, or difficulty drinking. Thirst, a dry mouth, darker urine, and urinating less often can occur, but these signs are not perfect measures.

Overhydration and hyponatremia can occur when someone drinks water much faster than the body can remove it. This is more likely during prolonged exercise, forced water-drinking challenges, or with conditions and medicines that reduce water excretion.

Microbial contamination means water contains disease-causing germs. It may follow flooding, treatment failure, or problems with a private well. Local authorities may issue a boil-water advisory. Boiling can kill many germs, but it does not remove lead, nitrate, salt, or most chemicals. It can concentrate some contaminants as water evaporates.

Chemical or metal contamination includes lead, nitrate, arsenic, and other substances. Risks differ by location, plumbing, water source, and nearby land use. Lead often enters water through pipes, fixtures, or solder. You cannot reliably detect it by appearance, taste, or smell.

Call emergency services if possible dehydration or a sodium disturbance is accompanied by a seizure, severe confusion, fainting, or difficulty waking.

Seek urgent medical advice for very little or no urine, inability to keep fluids down, persistent vomiting or diarrhea, or signs of dehydration in a baby, frail older adult, or someone with a serious medical condition. Follow urgent public-health instructions if authorities say not to drink or use local water.

Routine follow-up is appropriate if you are often unusually thirsty, have an ongoing change in urination, or are unsure how much to drink because of a health condition or medicine.

What you can do

For most healthy people using a safe water supply, no special hydration test, schedule, or daily water record is needed. Drink when thirsty and with meals, and pay attention when heat, exercise, or illness increases fluid loss.

A few practical steps can help:

Urine that is pale yellow often suggests adequate fluid intake, but colour is only a rough guide. Foods, vitamins, medicines, and medical conditions can change it.

If you use a public water system, read its annual consumer confidence report. This describes the water source, regulated test results, and reported violations. Contact the water provider or

local health department if you do not understand the report.

If you use a private well, ask your local health department or environmental service which tests are appropriate. Testing needs are shaped by location, well construction, nearby farming or industry, flooding, and local geology.

Do not rely on boiling when the concern is lead, nitrate, salt, fuel, or another chemical. Follow the exact local notice, which may recommend bottled water or another approved source.

Ask a clinician about fluid intake if you have heart, kidney, or liver disease; take a medicine that affects fluid balance; are pregnant or breastfeeding; or are planning prolonged endurance exercise.

- Keep water available during exercise, outdoor work, and hot weather
- Notice major changes in thirst, urine amount, or urine frequency
- Follow any personal fluid limit given for a medical condition
- Check official notices after floods, pipe breaks, or treatment problems
- Use a filter certified for the specific contaminant you want removed
- Replace filter cartridges according to the manufacturer's instructions

Common questions

Do I need eight glasses every day?

Not necessarily. A fixed number does not account for water in food and other drinks or for differences in activity, climate, body size, and health. The National Academies of Sciences, Engineering, and Medicine describes adequate intake for total water from all foods and drinks, not a universal plain-water target.

Do coffee and tea count?

Yes. They contribute water. Caffeine can increase urine production in some circumstances, but ordinary amounts of caffeinated drinks still contribute to total fluid intake.

Is clear urine the goal?

Not always. Completely clear urine can occur after drinking a large amount. Pale yellow is a more useful rough guide, but urine colour alone cannot diagnose dehydration or overhydration.

Is filtered water safer?

A filter only helps with contaminants it is designed and certified to reduce. Some improve taste without removing lead, germs, nitrate, or other hazards. Check the product's certification and

maintain it properly.

Should I use hot tap water for drinking or cooking?

Cold tap water is generally preferred because hot water may dissolve more lead or other metals from plumbing. Heat cold water separately when needed.

Does bottled water expire?

The water itself is stable when properly sealed, but storage conditions and the container matter. Keep bottled water away from heat, direct sunlight, fuels, pesticides, and other chemicals. Follow the label and replace emergency supplies as advised.

Sources

- National Academies of Sciences, Engineering, and Medicine. Dietary Reference Intakes for Water, Potassium, Sodium, Chloride, and Sulfate . National Academies Press; 2005.
- World Health Organization (WHO). Guidelines for Drinking-water Quality: Fourth Edition Incorporating the First and Second Addenda . WHO; 2022.
- Centers for Disease Control and Prevention (CDC). About Water and Healthier Drinks . CDC.
- United States Environmental Protection Agency (EPA). Consumer Confidence Reports: Annual Drinking Water Quality Reports . EPA.
- United States Environmental Protection Agency (EPA). Basic Information About Lead in Drinking Water . EPA.
- United States Food and Drug Administration (FDA). Bottled Water Everywhere: Keeping It Safe . FDA.