

Drinking Water and Public Health

Why drink water?

Drinking plenty of water is very important for good health. Being properly hydrated helps your body function at its best. Most people in NSW receive good quality drinking water that is safe to drink. Although some variation in the quality of drinking water will occur because of the different sources of water used and different forms of treatment, drinking water that meets the *Australian Drinking Water Guidelines* (the Guidelines) is considered safe to drink.

The *Public Health Act 2010* requires all drinking water suppliers to implement a quality assurance program for the safe supply of drinking water. Public drinking water supplies in NSW are routinely monitored. In regional areas, local water utilities (generally the local council) supply the drinking water and monitor in proportion to the size of the population and the area supplied, as outlined in the Guidelines. NSW Health has a comprehensive Drinking Water Monitoring Program for water utilities in regional areas.

Bottled water is not necessarily any safer than your local drinking water supply.

Can I find out about my drinking water quality?

Yes. Your water utility can provide water testing results. NSW Health encourages all public water suppliers to regularly report water quality information to their consumers. Water quality results from across NSW are available in the NSW Office of Water Benchmarking report (Table 5) located at: <http://www.water.nsw.gov.au/Urban-water/Country-towns-program/Best-practice-management/Performance-monitoring/default.aspx>

Sydney Water and Hunter Water publish drinking water monitoring results on their websites.

What are the Australian Drinking Water Guidelines?

The *Australian Drinking Water Guidelines*, published by the National Health and Medical Research Council (NHMRC) and the Natural Resource Management Ministerial Council are an authoritative Australian reference on good quality drinking water. The Guidelines are regularly reviewed in consultation with the general community, health bodies, water suppliers, and regulators. The Guidelines are available at <http://www.nhmrc.gov.au/guidelines/publications/eh52>

What substances are found in water?

There is no such thing as naturally pure water, all water contains some impurities. As water flows in rivers, is captured in dams and filters through layers of soil and rock in the ground, it dissolves or absorbs a range of substances. Most of these substances are harmless. However at certain levels, some substances are considered contaminants that can make water unpalatable or even unsafe.

What chemicals are added to the water and why?

Water utilities disinfect drinking water with chlorine to kill microorganisms that may cause disease. Chlorine is a very effective disinfectant that has been used for many years. Many water utilities also fluoridate the water to protect against tooth decay. Both of these chemicals are added in carefully controlled amounts and their levels are monitored to ensure they meet health guidelines.

The chemicals used as part of the filtration treatment process, such as alum and ferric chloride, are reduced to very low levels before leaving the treatment plant. To remove the chlorine taste from drinking water, allow a jug of water to stand for a few hours before drinking.

Illness associated with drinking water

There is no evidence of illness associated with public water supplies in NSW. Common ways for enteric disease to spread include direct faecal-oral contact with infected persons (including in childcare centres,

by not washing hands after going to the toilets and after changing nappies), consumption of contaminated foods, bathing in contaminated swimming pools, handling young livestock and contact with animals that have diarrhoea.

Incidents and boil water notices

Occasionally incidents affect drinking water quality. These may include changing source water conditions such as flooding, operational problems, detection of *Escherichia coli* bacteria and/or blooms of cyanobacteria (blue green algae). In some cases there may be a need to issue a notice advising a community to boil their drinking water. If your water supplier has issued a boil water notice, it is likely to be due to microbiological contamination. When a notice is issued drinking water should be brought to a rolling boil, such as with an automatic kettle, allowed to cool and stored in a clean container with a lid and refrigerated.

Householders in affected areas should use boiled water for drinking, cooking, washing raw foods (such as seafood or salads), making ice, pet's drinking water, and cleaning teeth or gargling. Children should take boiled or bottled water to school. Dishes should be washed in hot soapy water or in a dishwasher.

People should be careful when boiling water and be aware of the dangers of scalding. For more information see <http://www.health.nsw.gov.au/environment/water/Pages/drinking-water.aspx>

Using water in the home

Use water from the cold water tap for drinking and cooking. Hot water systems may contain more dissolved minerals and metals, due to the heating process.

Copper pipes are used extensively in plumbing systems in Australia (and internationally). Drinking water can contain elevated metals such as copper and sometimes lead when left standing in pipes for extended periods. In this case, it is a good idea to flush cold taps for 2-3 minutes before using the water for drinking or cooking. This will lower the levels of copper and other metals that may be present in the water. This 'first-flush' of water can be used for washing up, watering plants, or other non-drinking uses.

What about filtering tap water?

There is generally no need to filter tap water that has already been treated – it should be safe to drink. However, if filters are used to improve taste, it is important to maintain and replace them regularly otherwise they will become ineffective. It is important to follow the manufacturer's instructions.

Not all filters remove or inactivate harmful microorganisms. If a filter is used it should be certified against an appropriate standard (such as AS/NZS 4348:1995 and/or NSF/ANSI 42 and 53). An absolute 1 micron (or smaller) filter is necessary to remove *Cryptosporidium* and *Giardia*. Units that incorporate boiling, distillation or reverse osmosis processes are also satisfactory. An additional disinfection unit may be necessary to inactivate bacteria and viruses.

Who can I contact for additional information?

- Your local council and Public Health Unit can provide information on water quality and health. See contact details at: <http://www.health.nsw.gov.au/Infectious/Pages/plus.aspx> or call 1300 066 055.
- **NSW Health** website (<http://www.health.nsw.gov.au/environment/water/Pages/default.aspx>) has information on a range of water quality and health issues including drinking water, rainwater tanks, recreational water and effluent management and reuse.
- **Sydney Water Corporation:** Tel. 13 20 92 or www.sydneywater.com.au
- **Hunter Water Corporation:** Tel. 1300 657 657 or www.hunterwater.com.au