

## Bottled water and water filters

The use of non-fluoridated bottled water and tank water for drinking and cooking will dilute the benefits of water fluoridation. In recent years decay in children's baby teeth has increased markedly. The use of bottled and non-fluoridated water has grown dramatically during this period, and may be linked with increased dental decay.

If you use bottled or filtered water, check the bottle label for fluoride content. Carbon filter systems do not remove fluoride, osmosis filters do remove fluoride.

## Recommendations for non-fluoridated areas

People living in non-fluoridated areas can make their own fluoridated drinking water. Check with your dentist:

- what is the fluoride concentration of the water supply in your area
- how to make up fluoridated water for home-use.

A constant supply of low levels of fluoride in the mouth is best for your teeth. Scientific studies have shown that fluoride tablets and drops increase the risk of dental fluorosis. This is because taking the whole day's quota of fluoride in one dose (as is the case with edible tablets or drops) causes the fluoride level in the blood to 'spike', similar to the spike in sugar level straight after a sweet meal. The fluoride 'spike' can affect the enamel as it is forming.

**The current Australian guidelines for fluoride state that any use of fluoride supplements in the form of drops or tablets to be chewed or swallowed should be avoided.**

## Relative benefits of fluoride sources

Water fluoridation has a number of advantages as a source of fluoride:

- it is cost effective;
- it provides community-wide coverage giving all people access to the benefits of fluoride regardless of age, income or education level;
- it has a wide safety margin.

### Australian recommendations for water fluoridation. \*

- Water fluoridation should be continued as it remains an effective, efficient, socially just and safe population approach to the prevention of decay.
- Water fluoridation should be extended to as many people as possible living in non-fluoridated areas of Australia.
- The level of fluoride in the water supply should be within the range 0.6 – 1.1 mg/L, depending on the average maximum daily temperature.
- All bottled water and water filters should be labelled to show the fluoride content in water.
- Fluoride water supplements for addition to non-fluoridated water sources should be available so that people can make up fluoridated water for home-use with a concentration of approximately 1ppm.
- Infant formula nowadays is safe for consumption by infants when made up using fluoridated or non-fluoridated water.

\* ARCPOH; Spencer AJ 2006. The use of fluorides in Australia; guidelines. Australian Dental Journal 51 (2); 195-9.

### Further information

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# Water Fluoridation: still the answer

*Summary pamphlet for use  
as a guide for discussion  
with patients*

# Fluoride



Colgate Dental Education Programs

# Fluoride

**Water fluoridation is the most effective and fair way to give all people access to the benefits of fluoride regardless of age, income or education level.**

## Fluoride in nature

Fluoride occurs naturally in rocks, soil and the sea. In seawater the concentration ranges from 0.8 to 1.4 ppm (parts per million). It is also present in rivers, lakes and almost all fresh ground water at varying concentrations.

Fluoride is normally present in the body, mostly in dental enamel and the bones. Small amounts are present in plants and most foods.

## What is fluoridation?

Water fluoridation is the addition of fluoride to water supplies that are low in fluoride in order to prevent dental decay. The level shown scientifically to be best for each area depends on the climate.

## How is water fluoridated?

In nature fluoride gets into water when fluoride salts dissolve in water as it passes through rocks and soil. Water fluoridation is an adaptation of this natural process. Fluoride is added to the water supply by feeder and pump systems that are specially designed to add carefully controlled amounts. Local water authorities check the total amount of fluoride in the water regularly both as it leaves the dam and at household taps.

**....the use of fluoride is beneficial to children and adults alike**

## How fluoride works

Tooth decay is caused by the effects of plaque acids on your tooth enamel. The acids dissolve minerals out of the tooth enamel, leaving tiny holes that weaken the tooth and get bigger as time goes by.

Fluoride protects your teeth from acid damage in two ways – ‘built-in’ fluoride and ‘repair-kit’ fluoride.

‘Built-in’ fluoride: during the early years of life while the teeth are still developing under the gum, [fluoride can be built into the tooth enamel](#). Enamel crystals that contain fluoride are larger, and can resist acid attack.

After the teeth have emerged [fluoride acts directly in the mouth](#) at the tooth surface to protect your teeth for the rest of your life.

‘Repair-kit’ fluoride:

- can be built into partially dissolved tooth enamel before the damage becomes permanent. Fluoride is absorbed by the tooth and interacts with calcium to build new tooth mineral. The new tooth mineral is actually harder than the original enamel before the acid attack.
- makes the tooth surface more resistant to acid attack – tougher teeth.
- slows down the growth of the plaque bacteria in your mouth.

## Who benefits from fluoride?

Fluoride helps protect everyone’s teeth from decay. The belief that only children benefit from fluoride is outdated. Fluoride built into developing teeth helps to prevent decay and fluoride after they erupt has been shown to be of equal importance.

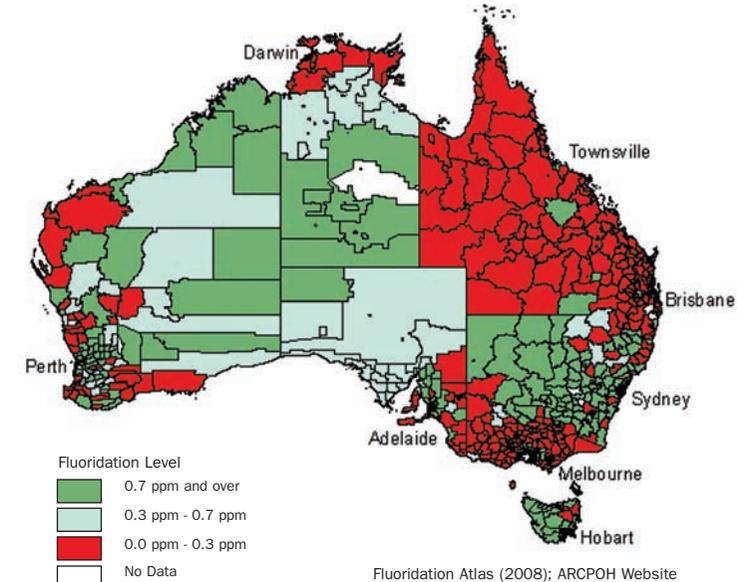
Fluoride benefits people of all ages. As people get older and become ‘long in the tooth’, root surfaces are exposed. These surfaces do not have a layer of enamel protecting them, and are more likely to decay. Fluoride also protects root surfaces.

## Community water fluoridation

World-wide, many millions of people have fluoride added to their water supplies. This includes about 13.5 million Australians – approximately 2 in every 3 people. Every capital city except Brisbane had a fluoridated water supply in 2007. Over 100 studies in more than 20 countries have shown that fluoridation reduces dental decay.

In February 2008 the Queensland parliament passed a bill to implement water fluoridation across the State.

## Fluoride in water in Australia



## Is water fluoridation safe?

Fluoridation of water supplies is:

- safe and effective in the prevention of dental decay
- one of the top ten [most important](#) public health successes of the twentieth century. (The Centres for Disease Control in the USA).

**There is no evidence that water fluoridation causes any health problems.**

**Fluoride Fluoride Fluoride**