

Naturally occurring fluoride in Julia Creek's drinking water

Fluoride is a natural element often found in water, plants, rocks, soil, air and some foods. Research shows that fluoride helps protect teeth against tooth decay. Regularly drinking water containing fluoride levels recommended by the Australian Drinking Water Guidelines can help reduce tooth decay for people of all ages.

What is the drinking water standard for fluoride?

The Australian Drinking Water Guidelines recommend an upper limit of 1.5 milligrams per litre (or parts per million) of fluoride in drinking water. This is equivalent to one twentieth of a teaspoon of fluoride in a bathtub of water.

Many Western Queensland towns source their drinking water from groundwater (i.e. bores). These water sources can contain natural fluoride levels that are above this limit if rock formations are fluoride-rich.

McKinlay Shire Council advises that Julia Creek's drinking water supply contain about 3 milligrams per litre of naturally occurring fluoride. This is considerably higher than the recommended limit in the Guidelines.

Conventional water treatment processes and most domestic water filters do not reduce the level of fluoride present in your drinking water.

What are the risks of elevated levels of fluoride in drinking water?

There are two side effects that have been associated with elevated levels of fluoride in drinking water. The first is dental fluorosis and the second is skeletal fluorosis, which only occurs with very high levels of fluoride in drinking water.

What is dental fluorosis?

The main side effect associated with elevated levels of fluoride in drinking water is a condition known as dental fluorosis.

Dental fluorosis is largely an aesthetic concern and most often occurs as a mild change to the appearance of tooth enamel. It can appear as small, almost invisible, white lines in the enamel. More rarely, and in more severe cases, it can appear as pitting or staining of the enamel

Dental fluorosis can also occur if too much fluoride is ingested when teeth are developing at around one to four years of age.

The risk of developing dental fluorosis, or experiencing more severe forms of the condition, increases with greater levels of fluoride in drinking water. However occasionally dental fluorosis occurs in developing teeth at relatively low fluoride levels.

Showering or bathing in water containing high levels of fluoride does not increase the risk of developing dental fluorosis.

What is skeletal fluorosis?

Skeletal fluorosis only occurs with very high levels of fluoride in drinking water. The degree or severity of the condition depends on the level of fluoride present.

Skeletal fluorosis takes many years to develop and can affect ligaments and bones. Mild forms of the condition may not present any symptoms; however more severe cases may cause joint pain and stiffness.

The most severe form of skeletal fluorosis (i.e. crippling fluorosis) is usually only associated with the consumption of water containing more than 10 milligrams of fluoride per litre (two to three times the level in Julia Creek's drinking water supply) but regular consumption of water with fluoride concentrations above about 4 mg/L involves progressively increasing risks of skeletal fluorosis.

What can I do to minimise the risk of dental and skeletal fluorosis?

Most domestic water filters do not reduce the level of fluoride present in your drinking water. Parents can reduce the risk of children developing dental fluorosis by ensuring children do not take fluoride supplements (e.g. fluoride tablets and/or drops) and cleaning children's teeth with low fluoride or fluoride free toothpaste until the age of 18 months, unless otherwise recommended by a dentist. If fluoridated toothpaste is used, ensuring only a pea-sized amount of toothpaste is used and that children spit out after brushing and rinse their mouths with water. Monitoring and restricting other sources of fluoride in their children's diet (such as non-herbal tea and most seafood). Providing bottled drinking water where possible, but do not substitute bottled drinking water with soft drinks or other drinks high in sugar.

- Breast-feeding infants where possible and using bottled water to add to infant formula; and
- As people with kidney impairment have a lower margin of safety for fluoride intake, it would be encouraged that bottled water be had as an alternative.

How can I reduce the level of fluoride in my water?

Residents who are concerned with the high levels of fluoride occurring naturally in the Julia Creek supply network can reduce fluoride within their drinking water by using a point of use cartridge filter in their homes. Certain filters can provide fluoride reduction if specifically designed for this. Please contact the McKinlay Shire Council for further information on appropriate fluoride reducing filters available.

Help and assistance

For general enquiries contact your local Public Health Unit:

- Townsville Phone: 4433 6900

For more information:

- Contact your dental professional
- Visit www.health.qld.gov.au/oralhealth
- Call 13 HEALTH (13 43 25 84) for confidential health advice 24 hours a day, seven days a week
- Email oral_health@health.qld.gov.au
- Contact McKinlay Shire Council
- Visit <http://www.mckinlay.qld.gov.au>
- Call (07) 4746 7166
- Email reception@mckinlay.qld.gov.au

The information in this fact sheet applies only to Julia Creek. It does not apply to locations with standard levels of water fluoridation.

Disclaimer: *Please note that any material printed is regarded as an uncontrolled copy. It is the responsibility of the person printing the document to refer frequently to the latest electronic copies for updates.*