Policy 1.05 Water Fluoridation

The safety and efficacy as a valuable public health initiative

AOHPI supports the continuing promotion and implementation of water fluoridation in Australia. In the current digital information environment, the community increasingly access health information through online platforms and informal sources that may not be subject to rigorous review.

As a result, guidance that is outdated, misleading or not aligned with contemporary, credible evidence can be widely disseminated and readily accepted. This has created community uncertainty around the safety of community water fluoridation. However, credible scientific evidence continues to support the safety and effectiveness of water fluoridation as an important public health measure to improve oral health for all Australians.

This AOHPI policy aims to clarify the contemporary evidence-based position on the safety and efficacy of water fluoridation in Australia as a valuable public health initiative.

Background

- Dental caries (tooth decay) is one of the most prevalent diseases affecting Australians. By the age of 5-6 years, one third of Australian children have experienced dental caries[i], and it is the leading cause of preventable hospitalisations. Dental caries has a significant social and economic burden, which is concentrated in the more disadvantaged communities across Australia.
- Water fluoridation is a safe, effective and evidence-based population level intervention to prevent dental caries. It is a cost-effective method to reduce oral health inequalities.
- Following the discovery that fluoride in water was linked to lower rates of dental caries, and subsequent successful trials of community water fluoridation in the USA, it was introduced in Australia in 1956 at Beaconsfield, Tasmania. From there, water fluoridation was implemented in Hobart (1964), Canberra (1964), Sydney (1968), Perth (1968), Adelaide (1971), Darwin (1972) and Melbourne (1977). Brisbane remained unfluoridated until 2008.
- It is estimated that around 90% of the Australian population now has access to water fluoridation.[ii]

Facts about the Benefits and Risks of Water Fluoridation

The evidence continues to support community water fluoridation as a safe method of preventing dental caries at a population level. The most recent systematic review[iii] noted that the benefits of community water fluoridation are lower now than when fluoridation first commenced, but recent studies of Australian children continue to show lower levels of dental caries in children with a lifetime exposure to fluoridated drinking water compared with those who had no exposure, and an increase in dental caries in communities were water fluoridation had ceased. Further, a recent study[iv] from Queensland in July 2025 found that water fluoridation reduces socioeconomic inequalities in children's oral health. The results showed that while water fluoridation continues to prevent decay across the population, it is most beneficial for vulnerable groups at high risk of oral disease. These groups included children from single-parent households, families with lower household income, whose parents were unemployed and/or living in socioeconomically disadvantaged areas.

Numerous evidence-based reviews have investigated the potential adverse health effects of water fluoridation, and none have found a significant or consistent association between water fluoridation and health effects including neurologic conditions, cancer or osteoporosis. The most recent Australian evidence[v] supporting the safety of water fluoridation, funded by the Australian National Health and Medical Research Council has refuted claims that early childhood exposure to Fluoride lowers IQ scores. In the study, factors such as socioeconomic status, that may affect the relationship between fluoride and IQ were taken into account. The findings showed that people aged 16-26 years who had been consistently drinking fluoridated water since childhood, had an average IQ 1.07 higher than those without fluoride exposure.

People who drink fluoridated water are at greater risk of dental fluorosis, a localised discolouration of the tooth enamel. This is the only known adverse health effect of water fluoridation. Importantly, most people who live in areas with community water fluoridation do not develop dental fluorosis, and the small minority of cases that do develop are very mild, not visible to the naked eye and do not adversely affect the function of the teeth, increase their susceptibility to tooth decay or impact on oral health related quality of life.

The National Health and Medical Research Council review of the evidence of water fluoridation in 2017 found that community water fluoridation is a safe, effective and ethical way to reduce dental caries across the population and recommended that Australian communities fluoridate their drinking water supplies within the range of 0.6 – 1.1 parts per million.[vi]

Conclusion

AOHPI supports the continuing promotion and implementation of water fluoridation in Australian communities with populations of over 1000 people. The weight of available credible scientific evidence provides confidence that water fluoridation continues to be an important public health measure for the Australian Community. It is important that funding for ongoing research into the effectiveness and safety of water fluoridation continues to be supported by the Australian Government, to ensure that people living in Australia can feel confident of the benefits that it provides throughout their life.

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[i] https://www.aihw.gov.au/reports/dental-oral-health/oral-health-and-dental-care-in-australia/contents/hospitalisations/potentially-preventable-hospitalisations
[ii] https://www.sciencedirect.com/science/article/pii/S001393512301719X
[iii] https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD010856.pub3/full
[iv] https://doi.org/10.1093/ije/dyaf080
[v] https://journals.sagepub.com/doi/10.1177/00220345241299352
[vi] https://www.nhmrc.gov.au/about-us/publications/2017-public-statement-water-fluoridation-and-human-health