Water Fluoridation Facts

Prepared by the National Fluoridation Information Service (NFIS) www.nfis.org.nz

Key Facts

- Community water fluoridation is the adjustment of natural fluoride levels in drinking water to a level that will give extra protection against tooth decay. The recommended level of fluoride in New Zealand community water supplies is 0.7 to 1mg per litre.

- Almost all water sources used in New Zealand to supply drinking water contain low levels of naturally occurring fluoride from the rock and sediment they flow over.

- Some countries have excessively high naturally occurring levels of fluoride and they use treatment processes to adjust this down to a safe level.

- Fluoride is added to the water supply by feeder and pump systems and is monitored on at least a weekly basis by water suppliers who need to meet standards set out in the New Zealand Drinking Water Standards 2008.

- Currently about 56% of New Zealanders receive fluoridated drinking water supplies.

- Australia also has naturally low levels of fluoride in drinking water sources. Currently more than 80% of Australians have access to drinking water supplies with community water fluoridation programmes.

- Countries with widespread community water fluoridation schemes include the U.S.A., Canada, the U.K., Ireland, Spain, Israel, Brazil, Chile, Argentina, Colombia, Hong Kong, South Korea, Singapore and Malaysia.

- Many European countries and some Central and Southern American countries with naturally low levels of fluoride in water sources, use fluoridated salt widely. Milk fluoridation schemes also exist in several countries. In some countries community water fluoridation is not practical due to the complex and very old water systems without a single point to add fluoride.

- The Centre for Disease Control and Prevention rate community water fluoridation as one of the top ten public health achievements in the 20th century. The World Health Organisation (WHO) restated its support for community water fluoridation in 2007, in its Global Policy for improvement of oral health.

Benefits

- The optimal level of fluoride in New Zealand community water supplies is 0.7 – 1mg per litre. This is the lowest amount at which the benefits to dental health can be achieved, while minimising any risk of dental fluorosis.

- Because of its role in dental health, fluoride is considered a nutrient by the National Health and Medical Research Council and the New Zealand Ministry of Health.

- The 2009 New Zealand Oral Health Survey showed that overall children and adults living in fluoridated areas had significantly lower lifetime experience of dental decay than those in non-fluoridated areas.

- The risk of dental decay is highest for lower socio-economic groups, who can least afford dental care. It is also these groups that benefit most from decay prevention due to community water fluoridation.

- Most New Zealand studies since 1980 have continued to show benefits of water fluoridation. A 1994 review found 2 studies showed no benefit. The remaining 13 studies showed benefits ranging from 14% to 36% reductions in tooth decay for older children and from 12% to 56% reductions in affected tooth surfaces for younger children.

- The National Health and Medical Research Council of Australia commissioned a review in 2007 to evaluate scientific data on fluoridation. The review affirmed that community water fluoridation remains the most effective and socially equitable means of achieving the dental decay preventative affects of fluoride.
Safety

• Many substances we use every day are beneficial in small amounts, but may be harmful in large amounts – for example salt and water.

• Adding fluoride to the water to prevent dental decay can be compared to other nutritional measures such as adding Vitamin D to margarine to maintain healthy bones, folic acid to breakfast cereals to reduce the risk of babies being born with neural tube defects, and iodine to salt for thyroid health. Other preventative public health measures include smoking restrictions, compulsory seat belts, and immunisation.

• Almost all water sources and additives to treat drinking water contain small levels of chemicals which is why they are monitored routinely to meet the New Zealand Drinking Water Standards 2008.

• From birth to the age of about seven years when teeth are forming excessive fluoride intake may result in altered formation of the tooth enamel, called dental fluorosis. This looks like white specks in the tooth enamel while more serious forms look like brown stains or pitting. In New Zealand there is a low prevalence of mild and moderate fluorosis and no reported evidence of the more severe forms of fluorosis.

• There is no established link between water fluoridation and the risk of bone cancer (osteosarcoma). Published reviews have also stated that there is no consistent evidence of an association between community water fluoridation and ill-health or death due to cancer in general.

• There is no current credible evidence of a link between community water fluoridation and thyroid disease.

• There is no evidence linking reduced Intelligence Quotient (IQ) scores with community water fluoridation. There have been studies linking low IQ with naturally high fluoride in water supplies although they are problematic due to a number of influences on the study samples.

• No evidence exists that community water fluoridation poses any health risk for people with chronic kidney disease, although only limited relevant studies are available.

Extracts from February and July 2012 issues of the NFIS Newsletter. These can be found on the NFIS website.

2009 New Zealand Oral Health Survey


• The survey showed large improvements in oral health have occurred for children, with the proportion of 12-13 year olds surveyed who were decay-free almost doubling since the last oral health survey in 1988.

• Adolescents aged 12-17 years had worse oral health than the younger age groups surveyed.

• Children and adults living in areas with community water fluoridation had significantly lower lifetime experience of dental decay than those living in nonfluoridated areas.

• The majority of adults (18 and over) surveyed had some natural teeth, with 88.6% having 21 or more natural teeth.

• Two in three (65%) adults surveyed brushed their teeth with fluoride toothpaste at least twice a day.

• Only 43% of 2-17 year olds brushed their teeth twice daily with fluoride toothpaste.

• The survey found no significant difference in the prevalence of fluorosis between people living in fluoridated and nonfluoridated areas.

What’s happening elsewhere?

• In 2011 approximately 56% of New Zealanders were receiving fluoridated drinking water.

• Whakatane District Council, and Hastings District council are holding referendums about whether to continue with their community water fluoridation programmes during their 2013 local body elections.

• Lower Hutt City Council and Dunedin City Council have decided to continue with community water fluoridation.

• Waikato District Council is considering expanding their community water fluoridation programme.

• Clutha District Council commenced community water fluoridation in Tapanui and Milton in late 2010, and in Kaitangata in February 2011.

• The Ranfurly Community Board in the Central Otago District Council agreed to commence water fluoridation and are expected to have fluoride added to their water supplies in late 2012 after the instalment of the necessary equipment and monitoring systems.