

ALACHUA COUNTY DENTAL ASSOCIATION**COMMUNITY WATER FLUORIDATION
BULLET POINTS****Water fluoridation defined**

- Fluoridation of community water supplies is the single most effective public health measure to prevent tooth decay.
- Since its introduction over 60 years ago, fluoridation has dramatically improved the oral health of tens of millions of Americans.
- The Centers for Disease Control and Prevention proclaimed community water fluoridation (along with vaccinations and infectious disease control) as one of 10 great public health achievements of the 20th century.
- Community water fluoridation benefits everyone, especially those without access to regular dental care. It is the most efficient way to prevent one of the most common childhood diseases – tooth decay (5 times as common as asthma and 7 times as common as hay fever in 5-to-17-year-olds). Without fluoridation, there would be many more than the estimated 51 million school hours lost per year in this country because of dental-related illness.
- Simply by drinking water, people can benefit from fluoridation's cavity protection whether they are at home, work or school.
- Fluoride is nature's cavity fighter, with small amounts present in all water sources.
- Community water fluoridation is simply the adjustment of fluoride that occurs naturally in water to optimal levels to help prevent tooth decay.
- Water fluoridation is the process of adjusting the natural level of fluoride to a sufficient concentration for protection against tooth decay, a range of from 0.7 parts per million to 1.2 parts per million, depending on the annual average of the maximum daily air temperature in the geographic area. This range has been established by the U.S. Public Health Service.
- Adding fluoride to drinking water is like the addition of vitamin D to milk, iodine to table salt, and folic acid to bread and cereals.

Status of community water fluoridation in the United States

- More than 184 million U.S. residents – approximately 70% of the U.S. population - are served by water supplies in which the fluoride concentration has been adjusted to an optimal level or the natural fluoride content is sufficient to prevent tooth decay, according to 2006 data from the Centers for Disease Control and Prevention (CDC).
- Forty-two of the 50 largest cities in the United States have adopted water fluoridation. Three additional cities are naturally optimally fluoridated.
- In the past eight years (2000 through 2008), more than 302 U.S. communities in 41 states have voted to adopt fluoridation.

- The United States national health objective for the year 2010 is to increase to at least 75 percent the portion of the population served by community water systems providing optimal levels of fluoride. According to 2006 data, twenty-five states meet this objective.

Effectiveness

- Studies done over the past 60 years have repeatedly confirmed the effectiveness of water fluoridation in preventing tooth decay.
- Early studies showed that water fluoridation reduced the amount of cavities children get in their baby teeth by as much as 60 percent and reduced tooth decay in permanent adult teeth nearly 35 percent. Today, studies prove water fluoridation continues to be effective in reducing tooth decay by 20-40%, even in an era with widespread availability of fluoride from other sources, such as fluoride toothpaste.
- The maximum reduction in tooth decay occurs when fluoride is available before the teeth erupt (systemically) and after teeth erupt (topically).
- For optimal protection against decay, children and adults need both systemic and topical fluoride sources. Systemic fluoride is obtained by drinking fluoridated water or by the use of dietary fluoride supplements such as drops or tablets for children. Topical fluoride is applied to the surfaces of teeth via toothpastes, mouth rinses, gels and fluoride varnish. Drinking fluoridated water also provides a topical benefit to the teeth.
- Fluoride reduces tooth decay in many ways. When ingested, it is incorporated into the enamel of developing teeth before they erupt, making them more resistant to decay. After teeth erupt, topical fluoride continues to strengthen the tooth structure to further prevent decay by reversing the early stages of decay and promoting the remineralization of enamel. Fluoride also can markedly reduce decay occurring along the gum line and on root surfaces, which often occurs in older patients.

Safety

- Throughout more than 60 years of research and practical experience, the scientific evidence has consistently indicated that fluoridation of community water supplies is safe.
- Like many other common substances essential to life and good health – salt, iron, Vitamins A and D, chlorine, oxygen and even water itself – fluoride can be toxic in excessive quantities. Remember toxicity is in the dose. Fluoride in the much lower concentrations (0.7 to 1.2ppm) used in water fluoridation is not harmful or toxic to people or the environment.
- According to the National Cancer Institute, "...optimal fluoridation of drinking water does not pose a detectable cancer risk to humans ..." The American Cancer Society states "Scientific studies show no connection between cancer rates in humans and adding fluoride to drinking water."
- Consumption of optimally fluoridated water does not increase the risk of hip fracture, according to two separate studies published in 2000. Unlike previous studies, which simply compared results from fluoridated communities with those from nonfluoridated communities, these studies conducted in England and the United States were controlled for other risk factors associated with hip fractures.

- Consumption of optimally fluoridated water with proper use of topical fluoride products does not pose significant health risks. There is a risk of children getting too much fluoride when fluoride products are misused, as in swallowing fluoride toothpaste or mouth rinses, inappropriate use of dietary fluoride supplements, or drinking water with excessive, naturally occurring amounts of fluoride.
- Enamel fluorosis may occur when children ingest more fluoride than recommended for their age. Fluorosis develops as the enamel of permanent teeth is forming, before teeth erupt. Teeth that have already erupted will not develop fluorosis in response to either systemic or topical fluorides.
- Enamel fluorosis is not a disease but rather affects the way teeth look. The vast majority of all enamel fluorosis in the U.S. is the mild or very mild type and is often unnoticeable. In fact, in most cases the effect is so subtle that only dental experts can spot enamel fluorosis during a dental examination. Mild enamel fluorosis does not compromise health or tooth function.
- The risk of teeth forming with the very mildest form of fluorosis must be weighed against the benefit that the individual's teeth will also have a lower level of tooth decay thus saving dental treatment costs, patient discomfort and possible tooth loss.
- The risk for enamel fluorosis can be greatly reduced by taking simple steps. Children should take dietary fluoride supplements only when the primary water supply is known to be deficient in fluoride. Children under age six should be supervised when using fluoride toothpaste. Parents should put only a pea-sized amount of fluoride toothpaste on a young child's toothbrush. In addition, young children should be taught not to swallow the toothpaste.

Cost and Cost Savings

- The average cost for a community to fluoridate its water is estimated to range from approximately \$0.50 a year per person in large communities to approximately \$3.00 a year per person in small communities.
- An individual can have a lifetime of fluoridated water for less than the cost of one dental filling.
- For most cities, every \$1 invested in community water fluoridation results in \$38 saved in dental treatment costs.
- Water fluoridation contributes much more to overall health than simply reducing tooth decay. It prevents needless infection, pain, suffering and loss of teeth; improves the quality of life and saves vast sums of money in dental treatment costs.

Bottled Water, Home Water Treatment Systems and Fluoride

- A growing number of people use bottled water as their primary source for drinking and even cooking. Studies indicate that the vast majority of bottled waters contain less than 0.3 parts per million fluoride, which is significantly below the optimal water fluoridation level of 0.7-1.2 parts per million. People who use bottled water as their primary water source could be missing the decay preventive effects of optimally fluoridated water available from their community water supply. To determine the fluoride concentration of bottled water, consumers should check the label. If the fluoride concentration is not shown, contact the company for this information. Ultimately, your dentist is the best source of advice about your specific fluoride needs.

- There are many kinds of home water treatment systems, including carafe filters, faucet filters, reverse osmosis systems, distillation units and water softeners. Research has consistently demonstrated that reverse osmosis systems and distillation units remove significant amounts of fluoride from the water. Water softening causes no significant change in fluoride concentration. Carafe and faucet filters generally do not remove significant amounts of fluoride. However, certain filters can affect the fluoride concentration. If you have questions about how your home water treatment system might affect fluoride levels, contact the manufacturer. Your dentist can inform you about your risk of tooth decay and advise you about your fluoride needs.

Recognition of the benefits of fluoridation

- The ADA, the U.S. Public Health Service, the American Medical Association and the World Health Organization support fluoridation of community water supplies. A compendium of more than 100 national and international organizations that recognize the public health benefits of community water fluoridation for preventing dental decay is available from the ADA Council on Access, Prevention and Interprofessional Relations or on the Web at <http://www.ada.org/public/topics/fluoride/facts/compendium.asp>.
- The ADA's policies regarding community water fluoridation are based on the overwhelming weight of credible, peer reviewed, scientific evidence.
- Watch out for misinformation on the Internet and other junk science related to water fluoridation.
- For credible information about fluoridation, please visit the American Dental Association's Web site at www.ada.org/goto/fluoride.

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