



## Frequently asked questions about

# Public Water Fluoridation and Dental Health

From the Branch-Hillsdale-St. Joseph Community Health Agency

### What is Fluoridation?

Fluoride compounds are salts that form when the element, fluorine, combines with minerals in soil or rocks. Many communities add fluoride to their drinking water to promote dental health.

### Why is Fluoridation Important?

The premise established by the American Dental Association in the 1950's was that fluoride would prevent or reduce tooth decay.<sup>1</sup> Tooth decay is one of the most prevalent chronic diseases of childhood and also affects adults and the elderly. It has been estimated that tooth decay affects half of all children, two-thirds of adolescents and over 90 percent of adults.<sup>2</sup> Many of the community water supplies in Branch, Hillsdale and St. Joseph counties are fluoridated. Private wells are estimated to have fluoride levels of less than 1 ppm.

### Why is Public Water Fluoridation Important?

Research supporting fluoride use for the reduction of tooth decay is well established. Fluoridation of the water supply is stated to be the most effective method of providing fluoride to the majority of the public. In 2010, the American Academy of Pediatrics (AAP) recommended that fluoride supplements be prescribed for children at high risk for dental caries.<sup>3</sup> The United States Preventive Services Task Force recommends fluoride supplementation for children older than 6 months whose primary water source is deficient in fluoride.

Water fluoridation is recognized as one of the 10 greatest public health advancements of the 20th century. Community water fluoridation, along with school based dental sealant programs, are the two main public health measures that the CDC recognizes for reducing dental decay in populations. Data from the CDC shows that for every dollar spent on water fluoridation, \$38 are saved in reduced costs for dental care.

### How Much Fluoridation is Recommended?

The American Dental Association (ADA) has recommended water fluoride levels of 0.7 to 1.2 ppm for optimum protection. The EPA has set 4 ppm of fluoride as the maximum, safe level.

A secondary maximum level of 2 ppm was set to prevent dental fluorosis. Too much fluoride incorporated in the tooth enamel can cause white spots to appear on the teeth.

There is evidence that drinking fluoridated water over time actually strengthens bone and may be responsible for reduced risk of bone fractures in the elderly. However, excessive amounts of Fluoride can possibly make bones more brittle. According to the AAP, the prevalence of dental fluorosis is increasing due the increased consumption of processed foods made with fluoridated water and possible overuse of fluoridated toothpastes. The AAP estimates that about 40 percent of children and adolescents have dental fluorosis. Although this manifestation is largely cosmetic, excessive amounts of fluoride consumption during tooth development years may lead to a more moderate or severe form of fluorosis. Thus, at low levels, fluoride is protective to help prevent tooth decay.

### **Do Other Fluoridation Methods Exist?**

The recommendations (in part) from the American Academy of Pediatric Dentistry include dietary supplementation for infants and children whose water supplies contain less than 0.6 ppm fluoride.<sup>4</sup> Treatment with an application of topical fluorides such as fluoride varnish or gels may be an additional effective means of prevention. Use of a very minimal amount of fluoride tooth paste two times daily (under supervision) for children is also effective. A fluoridated community water supply is a cost effective method to reduce tooth decay and improve oral health of the public.

### REFERENCES

1. <http://www.agwt.org/content/fluoride-drinking-water>
2. <http://www.in.gov/isdh/24524.htm>
3. [http://www2.aap.org/oralhealth/pact/ch6\\_sect3b.cfm](http://www2.aap.org/oralhealth/pact/ch6_sect3b.cfm)
4. [http://www.aapd.org/media/Policies\\_Guidelines/G\\_fluoridetherapy.pdf](http://www.aapd.org/media/Policies_Guidelines/G_fluoridetherapy.pdf)

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[www.bhsj.org](http://www.bhsj.org)

**Or call your local Health Department office at:**

**Coldwater**  
279-9561 x 0105#

**Hillsdale**  
437-7395 x 0110#

**Three Rivers**  
273-2161 x 0241#