



## **CDC Releases Guidelines on Fluoride Use to Prevent Tooth Decay**

In 2001, the Centers for Disease Control and Prevention (CDC) issued new recommendations for fluoride use that take into consideration the widespread use of bottled waters and availability of numerous fluoride-containing products.

*Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States* is intended to provide guidance to dental and health care providers, public health officials and the general public on the best practices in using fluoride to prevent tooth decay. The document is based on the recommendations of a group of fluoride experts convened to evaluate the scientific evidence on the safety and effectiveness of fluoride products used in the United States.

Fluoridation of community drinking water, which began in the late 1940s, and use of other fluoride products, is credited for the dramatic reductions in tooth decay experienced by U.S. residents. In 1999, CDC included water fluoridation in its list of 10 great public health achievements of the 20th century. Studies show that fluoride prevents the formation of, slows the progression of, or even reverses newly forming cavities.

### **Key recommendations released by CDC include**

- Continue and expand fluoridation of community drinking water. Water fluoridation in the proper amounts (0.7-1.2 parts per million [ppm]) has been accepted as a safe, effective, and inexpensive method of preventing tooth decay. Adding fluoride to municipal drinking water also is an efficient strategy to reduce the inequalities in dental disease among Americans of all social strata. All persons should know whether or not their primary source of drinking water has an optimal level of fluoride. Approximately 100 million Americans currently do not receive the benefit of fluoridation.
- Use small amounts of fluoride frequently. Daily and frequent exposure to small amounts of fluoride will best reduce the risk of tooth decay for all age groups. The recommendations strongly support drinking water with optimal levels of fluoride, and following self-care practices such as brushing at least twice a day with fluoridated toothpaste.
- Use supplements and high-concentration fluoride products judiciously. Fluoride supplements for children may best be prescribed for those who are at high risk for decay and who live in communities that have a low fluoride concentration in their drinking water. High-concentration fluoride products, such as professionally applied gels, foams, and varnishes, also may best benefit children who are at high risk for decay.

- Monitor the fluoride intake of children younger than six years old. The first six years of life is an important period for tooth development. Overuse of fluoride during this period can result in enamel fluorosis, a developmental condition of tooth enamel that may appear as white lines or spots. Parental monitoring of fluoride sources can reduce the occurrence of white spots while preventing early tooth decay. Children under age six should use only a pea-sized amount of fluoride toothpaste; parents should consult their child's doctor or dentist concerning use of fluoride toothpaste if the child is under age two.
- Label bottled water with the fluoride concentration. Increased labeling of bottled waters on a voluntary basis will allow consumers to make informed decisions on their fluoride intake.
- Educate health professionals and the public. Collaborative efforts by professional organizations, public agencies, and suppliers of oral care products are needed to encourage behavior change to facilitate improved, coordinated use of fluoride products and regimens currently available.
- Conduct research. Additional studies are needed to learn more about fluoride use and evaluate the current cost-effectiveness of fluoride delivery (i.e., toothpastes, mouth rinses, supplements, gels, and varnishes).

The complete report is available at the CDC Web site: <http://www2.cdc.gov/mmwr/> or visit the DOH Web site at <http://www.cdc.gov/OralHealth/index.htm>.

## **Fluoride Facts**

- Fluorine, from which fluoride is derived, is the 13th most abundant element and is released into the environment naturally in both water and air.
- Fluoride is naturally present in all water. Community water fluoridation is the addition of fluoride to adjust the natural fluoride concentration of a community's water supply to the level recommended for optimal dental health, approximately 1.0 ppm (parts per million). One ppm is the equivalent of 1 mg/L, or 1 inch in 16 miles.
- Community water fluoridation is an effective, safe, and inexpensive way to prevent tooth decay. Fluoridation benefits Americans of all ages and socioeconomic status.
- Children and adults who are at low risk of dental decay can stay cavity-free through frequent exposure to small amounts of fluoride. This is best gained by drinking fluoridated water and using a fluoride toothpaste twice daily.
- Children and adults at high risk of dental decay may benefit from using additional fluoride products, including dietary supplements (for children who do not have adequate levels of fluoride in their drinking water), mouthrinses, and professionally applied gels and varnishes.
- Good scientific evidence supports the use of community water fluoridation and the use of fluoride dental products for preventing tooth decay for both children and adults.

- Fluoride was first added to drinking water to prevent tooth decay in Grand Rapids, Michigan. Fluoridation of drinking water has been used successfully in the United States for more than 50 years.
- Fluoridation of community water has been credited with reducing tooth decay by 50 - 60 in the United States since World War II. More recent estimates of this effect show decay reduction at 18% - 40%, which reflects that even in communities that are not optimally fluoridated, people are receiving some benefits from other sources (e.g., bottled beverages, toothpaste).
- Fluoride's main effect occurs after the tooth has erupted above the gum. This topical effect happens when small amounts of fluoride are maintained in the mouth in saliva and dental plaque.
- Fluoride works by stopping or even reversing the tooth decay process. It keeps the tooth enamel strong and solid by preventing the loss of (and enhancing the reattachment of) important minerals from the tooth enamel.
- Of the 50 largest cities in the United States, 43 have community water fluoridation. Fluoridation reaches 62% of the population through public water supplies, more than 144 million people.
- Water fluoridation costs, on average, 72 cents per person per year in U.S. communities (1999 dollars).
- Consumption of fluids--water, soft drinks, and juice--accounts for approximately 75 percent of fluoride intake in the United States.
- Children under age six years may develop enamel fluorosis if they ingest more fluoride than needed. Enamel fluorosis is a chalk-like discoloration (white spots) of tooth enamel. A common source of extra fluoride is unsupervised use of toothpaste in very young children.
- Fluoride also benefits adults, decreasing the risk of cavities at the root surface as well as the enamel crown. Use of fluoridated water and fluoride dental products will help people maintain oral health and keep more permanent teeth.