Fluoride Supplements

Facts About Fluoride

Cavities used to be a fact of life. But over the past few decades, tooth decay has been reduced dramatically. The key reason: fluoride. Research has shown that fluoride reduces cavities in both children and adults. It also helps repair the early stages of tooth decay even before the decay becomes visible. Unfortunately, many people continue to be misinformed about fluoride and fluoridation. Fluoride is like any other nutrient; it is safe and effective when used appropriately. This article will help you learn more about the important oral health benefits of fluoride.

Fluoride: Nature's Cavity Fighter

Fluoride is a mineral that occurs naturally in all water sources, even the oceans. The fluoride ion comes from the element fluorine. Fluorine, the 17th most abundant element in the earth's crust, is never encountered in its free state in nature. It exists only in combination with other elements as a fluoride compound.

Fluoride is effective in preventing and reversing the early signs of dental caries (tooth decay). Researchers have shown that there are several ways through which fluoride achieves its decay-preventive effects. It makes the tooth structure stronger, so teeth are more resistant to acid attacks. Acid is formed when the bacteria in plaque break down sugars and carbohydrates from the diet. Repeated acid attacks break down the tooth, which causes cavities. Fluoride also acts to repair, or remineralize, areas in which acid attacks have already begun. The remineralization effect of fluoride is important because it reverses the early decay process as well as creating a tooth surface that is more resistant to decay.

Fluoride is obtained in two forms: topical and systemic. Topical fluorides strengthen teeth already present in the mouth making them more decay-resistant. Topical fluorides include toothpastes, mouthrinses and professionally applied fluoride therapies.

Systemic fluorides are those that are ingested into the body and become incorporated into forming tooth structures. Systemic fluorides can also give topical protection because fluoride is present in saliva, which continually bathes the teeth. Systemic fluorides include water fluoridation or dietary fluoride supplements in the form of tablets, drops or lozenges.

Sources of fluoride

Community water fluoridation is an extremely effective and inexpensive means of obtaining the fluoride necessary to prevent tooth decay. Studies prove that water fluoridation continues to be effective in reducing tooth decay by 20 to 40 percent.

Leading health organizations, including the American Dental Association, the U.S. Centers for Disease Control and Prevention and the American Academy of Pediatric Dentistry support community water fluoridation based on the overwhelming weight of scientific evidence, which continues to establish that it is safe and effective. Water fluoridation reduces tooth decay in both children and adults.

How much fluoride is in your water?

If your water comes from a public or community water supply, contact the local water supplier to determine the fluoride level. You can also check your local, county or state health department.

There are two Internet sites that also supply information. One is the U.S. Environmental Protection Agency's web (EPA) site for water quality reports (called Consumer Confidence Reports). Another is the U.S. Centers for Disease Control and Prevention's (CDC) fluoridation Web site, "My Water's Fluoride." For those states that have provided information to the CDC, the agency's Web site lists fluoridation status by water system.

If your water source is a private well, it will need to be tested and the results obtained from a certified laboratory. Contact your local or state health department for information about where you can have a water sample tested.

Water Quality Reports

In 1999, the U.S. Environmental Protection Agency (EPA) began requiring water suppliers to put annual drinking water quality reports into the hands of their customers. Water Quality Reports, (or Consumer Confidence Reports—CCRs) typically may be mailed to your home, placed in the local newspaper or made available through the Internet around July 1 each year. To obtain a copy of the report, contact your local water supplier. The name of the water system (often not the name of the city) can be found on your water bill. If the name of the system is unknown, contact the local health department.

Although the EPA does not have the authority to regulate private drinking water wells, the agency recommends that private well water be tested every year. And although the EPA does not specifically recommend testing private wells for fluoride levels, health professionals will need this information before consideration of prescription of dietary fluoride supplements or to counsel patients about alternative water sources to reduce the risk of fluorosis if the fluoride levels are above 2ppm.

The ADA offers a comprehensive, well-researched publication, Fluoridation Facts that contains answers to frequently asked questions regarding community water fluoridation.

Answers to the questions in Fluoridation Facts are based on generally accepted, peer-reviewed, scientific evidence. They are offered to assist policy makers and the general public in making informed decisions. The answers are supported by thousands of credible scientific articles, which include more than 350 references.

As a result of the widespread availability of these various sources of fluoride, the decay rates in both the U.S. and other countries have greatly diminished.

The proper mix is key

It is important to note that the effective prevention of dental decay requires that the proper mix of both forms of fluoride (topical and systemic) be made available to individuals. Your dentist can help you assess whether you are receiving adequate levels of fluoride for all family members from the two forms (topical and systemic).

Topical Fluorides

Self-Applied

One method of self-applied topical fluoride that is responsible for a significant drop in the level of cavities since 1960 is use of a fluoride-containing toothpaste. The American Dental Association recommends that children (over two years of age) and adults use a fluoride toothpaste displaying the ADA Seal of Acceptance or consult with a child's dentist if considering the use of toothpaste before age 2. Other sources of self-applied fluoride are mouthrinses designed to be rinsed and spit out, either prescribed by your dentist or an over-the-counter variety. The ADA recommends the use of fluoride mouthrinses, but not for children under six years of age because they may swallow the rinse.

Professionally-Applied

Professionally-applied fluorides are in the form of a gel, foam or rinse, and are applied by a dentist or dental hygienist during dental visits. These fluorides are more concentrated than the self-applied fluorides, and therefore are not needed as frequently. The ADA recommends that dental professionals use any of the professional strength, tray-applied gels or foam products carrying the ADA Seal of Acceptance.

Systemic Fluorides

Systemic fluorides such as community water fluoridation and dietary fluoride supplements are effective in reducing tooth decay. These fluorides provide topical as well as systemic protection because fluoride is present in the saliva.

Community Water Fluoridation

Fluoride is present naturally in all water sources. Community water fluoridation, which has been around for over 50 years, is simply the process of adjusting the fluoride content of fluoride-deficient water to the recommended level for optimal dental health. That recommended level is 0.7 parts fluoride per million parts water. Water fluoridation has been proven to reduce decay in both children and adults. While water fluoridation is an extremely effective and inexpensive means of obtaining the fluoride necessary for optimal tooth decay prevention, not everyone lives in a community with a centralized, public or private water source that can be fluoridated. For those individuals, fluoride is available in other forms.

Dietary Fluoride Supplements

Dietary fluoride supplements (tablets, drops or lozenges) are available only by prescription and are intended for use by children ages six months to 16 years living in nonfluoridated areas and at high risk of developing tooth decay. Your dentist or physician can prescribe the correct dosage. It is based on the natural fluoride concentration of the child's drinking water and the age of the child (see chart). For optimum benefits, use of dietary fluoride supplements should begin when a child is six months old and be continued daily until the child is 16 years old. The need for taking dietary fluoride supplements over an extended period of time makes dietary fluoride supplements less cost-effective than water fluoridation; therefore, dietary fluoride supplements are considerably less practical as a wide-spread alternative to

water fluoridation as a public health measure. Fluoride supplements are recommended only for children living in non-fluoridated areas and at high risk of developing tooth decay.

It is important to note that fluoridated water may be consumed from sources other than the home water supply, such as the workplace, school and/or day care, bottled water, filtered water and from processed beverages and foods prepared with fluoridated water. For this reason, dietary fluoride supplements should be prescribed by carefully following the recommended dosage schedule (see chart). Dietary fluoride supplements are not recommended for children residing in a fluoridated community.

Conclusion

No matter how you get the fluoride you need—whether it be through your drinking water, supplements, toothpaste, mouthrinse or professionally applied fluoride—you can be confident that fluoride is silently at work fighting decay. Safe, convenient, effective...however you describe it, fluoride fits naturally into any dental care program. For more information about the oral health benefits of fluoride, just ask your dentist.