Fluoride

Nature's tooth decay fighter

Caries (cavities) used to be a fact of life. However, during the past few decades, tooth decay has been reduced dramatically. The key reason: fluoride. Fluoride is a mineral that may occur naturally in all drinking water sources—oceans, lakes, rivers and underground water. Extensive research has shown that optimal levels of fluoride not only reduce caries in children and adults, but also help repair the early stages of tooth decay.

FLUORIDE EXPOSURE

You may receive fluoride in topical or systemic forms. Topical fluoride (applied to the surface of the teeth) is delivered through many toothpastes, mouthrinses and gels, as well as through foams and varnishes applied in the dental office. Topical fluorides help strengthen the surface of tooth enamel.

Systemic fluoride is intended to be ingested. This form includes fluoridated water and dietary fluoride supplements, such as tablets, drops or lozenges. Systemic fluoride is integrated into children's teeth as their tooth structures form.

A reduction in tooth decay is achieved through exposure to topical fluorides, systemic fluorides or both. Water fluoridation provides both types of exposure.

SOURCES OF FLUORIDE

Community water fluoridation is an effective and inexpensive means of achieving the fluoride exposure necessary to help prevent tooth decay. Studies show that water fluoridation continues to be effective in reducing tooth decay by about 20 to 40 percent.[1,2]

Leading health organizations, including the American Dental Association, the U.S. Centers for Disease Control and Prevention (CDC) and the American Academy of Pediatric Dentistry, support community water fluoridation on the basis of the overwhelming weight of scientific evidence, which continues to support its safety and effectiveness. Water fluoridation helps prevent tooth decay in both children and adults.

The optimal fluoride level in drinking water is 0.7 to 1.2 parts per million. Naturally occurring fluoride that may be below or above these levels is present in some water supplies.

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

Two Internet sites also supply information for many communities. One is the U.S. Environmental Protection Agency's (EPA) Web site, "Consumer Confidence Reports," which highlights annual water quality reports ("www.epa.gov/safewater/ccr/"). Another source is the CDC's fluoridation Web site, "My Water's Fluoride" ("apps.nccd.cdc.gov/MWF/Index.asp").

If your drinking water comes from a private well, a certified laboratory can test samples and provide data. Contact your local or state health department for information about laboratories that provide this service.

WATER QUALITY REPORTS

In 1999, the EPA began requiring water suppliers to provide annual drinking water quality reports to their customers. Water quality reports typically may be mailed to the customer, placed in the local newspaper or made available through the Internet at about 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. The EPA does not regulate private drinking water wells, but the agency recommends that private well water be tested every year.

Talk with your dentist about ways you can achieve optimal fluoride exposure for good oral health. ■

1. Newbrun E. Effectiveness of water fluoridation. J Public Health Dent 1989;49(5 spec no.):279-289.
2. Brunelle JA, Carlos JP. Recent trends in dental caries in U.S. children and the effect of water fluoridation. J Dent Res 1990;69(spec no.): 723-727.

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