

Mother Nature's Gift

by Scott F. Kenward, DMD

Only a generation ago, it was routine for dentists to diagnose as many as a half dozen cavities or more in a single check-up visit for children and young adults. Nowadays, perfect checkups are a common occurrence. What happened?

Certainly dentistry is doing a better job of educating patients on how to better take care of their teeth and gums. Protective treatments such as sealants have greatly contributed to the prevention of tooth decay. But of all the marvelous advancements in the field of dentistry in the last 50 years, none have matched the impact of a gift from Mother Nature – fluoride.

What is Fluoride and How Does It Reduce Tooth Decay?

Fluoride is a naturally occurring element that prevents tooth decay from within (*systemically*) when ingested during tooth development and on the surface (*topically*) when applied to erupted teeth.

Systemic fluorides taken regularly during the time when teeth are developing (6 months to 16+ years of age) are deposited throughout the entire tooth surface and provide longer-lasting protection than those applied topically. Sources of systemic fluorides include water, dietary fluoride supplements in the forms of tablets, drops or lozenges, and fluoride present in food and beverages.

Topical fluorides strengthen teeth already present in the mouth. In this method of delivery, fluoride is absorbed into the surface of the teeth, making them more decay-resistant. Topical fluorides include toothpastes, mouth rinses and professionally applied fluoride gels, foams and rinses.

Researchers have observed fluoride's decay preventive effects in three specific ways:

- 1) Fluoride makes tooth enamel harder and more resistant to the acid that causes tooth decay.
- 2) It reduces the ability of dental plaque organisms to produce acid.
- 3) Fluoride promotes the remineralization (repair) of tooth enamel in the early stages of tooth decay.

Is Water Fluoridation Safe?

Since the 1930s, hundreds of carefully conducted scientific studies have shown that water fluoridation, at the concentrations recommended for decay prevention, has no harmful effects. Fluoridation of community water supplies is a valuable public health measure supported by the American Dental Association, the World Health Organization, the U.S. Public Health Service, the American Medical Association and the American Cancer Society.

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Did You Know?

- Research shows that fluoride reduces cavities by up to 50 percent in children.
- As a direct result of water fluoridation and over-the-counter fluoride products, half of the children entering the first grade today have never had a single cavity, compared with 36 percent in 1980 and 28 percent in the early 1970s.
- People who drink optimally fluoridated water from birth have up to 40 percent fewer cavities over their lifetimes.

Do Adults Benefit From Fluoridation?

Fluoride benefits people of all ages in two ways. Studies have clearly shown that topical fluoride can not only stop early decay, but can also make the enamel tooth surface more resistant to future acid attacks. Additionally, systemic fluoride in saliva provides a supply of fluoride ions that can be absorbed into the tooth surface to prevent decay.

Does Bottled Water or Well Water Provide Fluoride Protection Against Decay?

The vast majority of bottled waters on the market do not contain optimal levels (0.7-1.2 ppm) of fluoride. Additionally, reverse osmosis home treatment systems remove significant amounts of fluoride from the water supply. Consumers on well water, or who use home water treatment systems should have their water tested to establish the fluoride level of the treated water. Testing is available through local and state public health departments. Private laboratories may also offer testing for fluoride levels in water.

What Types of Fluoride Products Are Available?

Dietary fluoride supplements are available only by prescription. They are available in three forms: drops for infants aged six months and up, fruit-flavored lozenges or chewable tablets for children and adolescents.

There are a variety of topical fluoride rinses, gels and foams that are available either as office treatments, or by prescription. Many over-the-counter products are useful, as well. Your dentist or hygienist will be happy to discuss which of these products may be of benefit to you.

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