

Dental Fluoride

Fluoride is a mineral that occurs naturally in many foods and water. Every day, minerals are added to and lost from a tooth's enamel layer through two processes, demineralization and remineralization. Minerals are lost (demineralization) from a tooth's enamel layer when acids (formed from plaque bacteria and sugars in the mouth) attack the enamel. Minerals such as fluoride, calcium, and phosphate are redeposited (remineralization) to the enamel layer from the foods and waters consumed. Too much demineralization without enough remineralization to repair the enamel layer leads to tooth decay.

Fluoride helps prevent tooth decay by making the tooth more resistant to acid attacks from plaque bacteria and sugars in the mouth. It also reverses early decay. In children under 6 years of age, fluoride becomes incorporated into the development of permanent teeth, making it difficult for acids to demineralize the teeth. Fluoride also helps speed remineralization as well as disrupts acid production in already erupted teeth of both children and adults.

As mentioned, fluoride is found in foods and in water. It can also be directly applied to the teeth through fluoridated toothpastes and mouth rinses. Mouth rinses containing fluoride in lower strengths are available over-the-counter; stronger concentrations require a doctor's prescription. A dentist in his or her office can also apply fluoride to the teeth as a gel, foam, or varnish. These treatments contain a much higher level of fluoride than the amount found in toothpastes and mouth rinses.

Varnishes are painted on the teeth; foams are put into a mouth guard, which is applied to the teeth for one to four minutes; gels can be painted on or applied via a mouth guard.

Fluoride supplements are also available as liquids and tablets and must be prescribed by your dentist, pediatrician, or family doctor.

