

About Fluoride

WHAT TO KNOW

- Fluoride helps both children and adults prevent cavities.
- Preventing cavities means fewer and smaller cavities, and less pain.
- If you don't get cavities, you lower your chances of needing fillings or having teeth removed.



How does fluoride work?

Fluoride repairs and prevents damage to teeth caused by bacteria in the mouth. Bacteria in the mouth produce acid when a person eats or drink. The acid dissolves minerals in a tooth's surface, making the tooth weaker and open to cavities. [\[1\]](#)

Fluoride replaces the minerals lost from a tooth due to acid breakdown. Some fluoride can replace minerals in the tooth surface, making the outer enamel layer harder to dissolve. Fluoride also may reduce the amount of acid that cavity-causing bacteria produce, as well as making it harder for these bacteria to stick to the teeth. [\[1\]](#)

Protecting teeth requires consistent, low levels of fluoride in the mouth (in the saliva and on tooth surfaces). Fluoride can also be incorporated into developing dental enamel before a tooth erupts into the mouth, enhancing the tooth's resistance to acid breakdown and preventing cavities later in life.

Community Water Fluoridation

[Click here](#) to learn more about how community water fluoridation prevents cavities.



Types of fluoride products

Fluoride dental products are effective in preventing cavities in people of all ages. They are regulated as drugs by the U.S. Food and Drug Administration and are safe and effective when used as directed.

Talk to your dentist or your child's pediatrician about fluoride products that are right for you. These professionals will help determine whether you or your child may be at high risk for cavities and whether you will benefit from additional fluoride.

Fluoride toothpaste

Fluoride toothpaste is the most commonly used fluoride product in the U.S. When you brush with fluoride toothpaste, the fluoride sticks to the tooth's surface. Fluoride toothpaste also increases the amount of fluoride in saliva, which helps rebuild the outer enamel layer. [\[2\]](#)

You should brush at least twice a day with fluoride toothpaste. For ages 3 to 6, no more toothpaste than the size of a pea should be smeared on a child's toothbrush. [3] Before age 3, parents should smear no more toothpaste than the size of a grain of rice on a child's toothbrush. [3] For children younger than 2, consult first with your doctor or dentist about the use of fluoride toothpaste or other fluoride products. Parents should watch their children and teach them to spit out, not swallow, toothpaste when finished brushing.

Fluoride mouth rinse

Fluoride mouth rinse is a concentrated fluoride solution that may be used daily or weekly. The fluoride from the mouth rinse sticks to the tooth's surface and your saliva to help prevent cavities. [2]

Mouth rinses are prescribed by a dentist or doctor for patients at high risk of cavities or available over the counter. For children younger than 6, ask your dentist or doctor about whether your child should use fluoride mouth rinse. If children repeatedly swallow mouth rinses, they may develop [dental fluorosis](#).

Fluoride varnish

High-concentration fluoride varnish is applied by dental or other health care professionals directly onto the teeth. This may happen in a dentist's office, a pediatrician's office, or in a nontraditional setting, such as a school.

Fluoride varnish keeps a small amount of fluoride in close contact with the teeth for many hours, but does not permanently stick to the tooth. It must be reapplied at regular intervals to be fully effective. [4]

Fluoride gel and foam

If a dentist believes you are at high risk for cavities, they may want to provide a higher-strength dose of fluoride to help rebuild your enamel. You may not need this type of fluoride if you drink fluoridated water and brush daily with fluoride toothpaste.

Fluoride gel or foam is normally applied in a dental office for 1 to 4 minutes. You also may be prescribed fluoride gel for use at home. It's important that you follow the instructions provided on the prescription. [2]

Fluoride supplements

Fluoride supplements can be prescribed by a dentist or, for children at high risk of cavities, a pediatrician. These supplements are normally in the form of a tablet that is chewed or a lozenge that is sucked for 1 to 2 minutes before being swallowed. This helps maximize the topical effect of fluoride. [2]

SOURCES

CONTENT SOURCE:

[National Center for Chronic Disease Prevention and Health Promotion; CDC Division of Oral Health](#)

REFERENCES

1. Featherstone JD. Prevention and reversal of dental caries: role of low level fluoride. *Community Dent Oral Epidemiol*. 1999;27(1):31–40.
2. Kohn, GW, Maas, WR, Malvitz, DM, Presson, SM, Shaddix, KK. Recommendations for using fluoride to prevent and control dental caries in the United States. Centers for Disease Control and Prevention. *MMWR Recomm Rep*. 2001;50(RR-14):1–42.
3. American Academy of Pediatrics. Healthychildren.org. Dental health & hygiene for young children. American Academy of Pediatrics. Updated October 14, 2015. Accessed March 25, 2024. <https://healthychildren.org/English/healthy-living/oral-health/Pages/Teething-and-Dental-Hygiene.aspx>
4. U.S. Preventive Services Task Force; Davidson KW, Barry MJ, et al. Screening and interventions to prevent dental caries in children younger than 5 years: U.S. Preventive Services Task Force Recommendation Statement. *JAMA*. 2021;326(21):2172–2178. doi: 10.1001/jama.2021.20007

SOURCES

- [Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States](#). MMWR, August 17, 2001;50 (RR-14):1–42.