



## Other Fluoride Products

In the United States, water fluoridation is not the only form of fluoride delivery that is effective in preventing tooth decay in people of all ages. Use the information listed below to compare the other fluoride products that may lower the risk for tooth decay, especially for people who are at higher risk for decay:

- **Fluoride toothpaste** [\(#5\)](#)
- **Fluoride mouth rinse** [\(#1\)](#)
- **Fluoride supplements** [\(#2\)](#)
- **Fluoride gel and foam—professionally applied** [\(#4\)](#)
- **Fluoride varnish** [\(#3\)](#)

Although all of these products reduce tooth decay, combined use with fluoridated water offers protection greater than any of these products used alone.

Additional information on these products and other topics can be found in **Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States** (<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5014a1.htm>). *MMWR*, August 17, 2001;50(RR-14):1–42.

### Resources

### Fluoride Products

<b>Fluoride Toothpaste</b>	
<b>Form</b>	Concentrations of fluoride in toothpaste sold in the United States range from 1,000–1,500 ppm.
<b>Use</b>	Most people report brushing their teeth at least once per day, but more frequent use can offer additional protection. Fluoride in toothpaste is taken up directly by the dental plaque and demineralized enamel and also increases the concentration of fluoride in saliva.
<b>Availability</b>	Fluoride toothpaste is available over-the-counter and makes up more than 95% of toothpaste sales in the United States.
<b>Recommendations</b>	<p>For most people (children, adolescents, and adults) brushing at least twice a day with a fluoride toothpaste—when you get up in the morning and before going to bed—is recommended.</p> <p><b>Advice for Parents</b> For children aged 6 years and younger, some simple recommendations are advised to reduce the risk of <b>dental fluorosis</b> (<a href="#">safety/dental_fluorosis.htm</a>).</p>


- Supervise brushing to discourage swallowing toothpaste.
- Place only a small pea-size amount of fluoride toothpaste on your child's toothbrush.
- Seek advice from a dentist or other health care professional before introducing fluoride toothpaste to children under 2 years of age.

**Learn more about oral health care for children** (<http://www.cdc.gov/oralhealth/publications/factsheets/brushup.htm>).

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<b>Fluoride Mouth Rinse</b>	
<b>Form</b>	Fluoride mouth rinse is a concentrated solution intended for daily or weekly use. The most common fluoride compound used in mouth rinse is sodium fluoride. Over-the-counter solutions of 0.05% sodium fluoride (230 ppm fluoride) for daily rinsing are available for use by persons older than 6 years of age. Solutions of 0.20% sodium fluoride (920 ppm fluoride) are used in supervised, school-based weekly rinsing programs. Other concentrations also are available.
<b>Use</b>	Rinses are used daily or weekly for a prescribed amount of time. The fluoride from mouth rinse is retained in dental plaque and saliva to help prevent tooth decay.
<b>Availability</b>	Mouth rinses intended for home use can be purchased over-the-counter. Higher strength mouth rinses for those at high risk of tooth decay must be prescribed by a dentist or physician.
<b>Recommendations</b>	Children younger than 6 years of age should not use fluoride mouth rinse without consultation with a dentist or other health care provider because dental fluorosis could occur if such mouth rinses are repeatedly swallowed. Because fluoride mouth rinse has resulted in only limited reductions in tooth decay among schoolchildren, especially as their exposure to other sources of fluoride has increased, its use should be targeted to individuals or groups at high risk for decay.

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<b>Fluoride Supplements</b>	
<b>Form</b>	Tablets, lozenges, or liquids (including fluoride-vitamin preparations) are available. Most supplements contain sodium fluoride as the active ingredient. Tablets and lozenges are manufactured with 1.0, 0.5, or 0.25 mg fluoride.
<b>Use</b>	Fluoride supplements can be prescribed for children at high risk for tooth decay and whose primary drinking water has a low fluoride concentration. To maximize the topical effect of fluoride, tablets and lozenges are intended to be chewed or sucked for 1–2 minutes before being swallowed.
<b>Availability</b>	All fluoride supplements must be prescribed by a dentist or physician. The prescription should be consistent with the 2010 dosage <b>schedule</b> ( <a href="http://ebd.ada.org/contentdocs/6327_Fluoride_Chairside_Tool.pdf">http://ebd.ada.org/contentdocs/6327_Fluoride_Chairside_Tool.pdf</a> ) *  (PDF–756K) developed by American Dental Association (ADA).

<b>Recommendations</b>	For children aged less than 6 years, the dentist, physician, or other health care provider should weigh the risk for tooth decay without fluoride supplements, the decay prevention offered by supplements, and the potential for <b>dental fluorosis</b> ( <a href="#">safety/dental_fluorosis.htm</a> ). Consideration of the child's other sources of fluoride, especially drinking water, is essential in determining this balance. Parents and caregivers should be informed of both the benefit of protection against tooth decay and the possibility of dental fluorosis.
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<b>Fluoride Gel and Foam</b>	
<b>Form</b>	Fluoride gel is often formulated to be highly acidic (pH of approximately 3.0). Products available in the United States include gel of acidulated phosphate fluoride (1.23% [12,300 ppm] fluoride), gel or foam of sodium fluoride (0.9% [9,040 ppm] fluoride), and self-applied (i.e., home use) gel of sodium fluoride (0.5% [5,000 ppm] fluoride) or stannous fluoride (0.15% [1,000 ppm] fluoride).
<b>Use</b>	In a dental office, fluoride gel is applied for 1–4 minutes. Home use follows instructions provided on the prescription.
<b>Availability</b>	Most fluoride gel and foam applications are delivered in a dental office by a dental professional. These higher strength products, if used in the home, must be prescribed by a dentist or physician.
<b>Recommendations</b>	Because these applications are relatively infrequent, generally at 3 to 12-month intervals, fluoride gel poses little risk for dental fluorosis, even among patients younger than 6 years of age. Routine use of professionally applied fluoride gel or foam likely provides little benefit to persons not at high risk for tooth decay, especially those who drink fluoridated water and brush daily with fluoride toothpaste.

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<b>Fluoride Varnish</b>	
<b>Form</b>	Varnishes are available as sodium fluoride (2.26% [22,600 ppm] fluoride) or difluorsilane (0.1% [1,000 ppm] fluoride) preparations.
<b>Use</b>	High-concentration fluoride varnish is painted by dental or other health care professionals directly onto the teeth. Fluoride varnish is not intended to adhere permanently; this method holds a high concentration of fluoride in a small amount of material in close contact with the teeth for many hours. Varnishes must be reapplied at regular intervals with at least 2 applications per year required for effectiveness.
<b>Availability</b>	All fluoride varnish must be applied by a dentist or other health care provider.
<b>Recommendations</b>	No published evidence indicates that professionally applied fluoride varnish is a risk factor for dental fluorosis, even among children younger than 6 years of age. Proper application technique reduces the possibility that a patient will swallow varnish during its application and limits the total amount of fluoride swallowed as the varnish wears off the teeth over several hours.

Although it is not currently cleared for marketing by the Food and Drug Administration (FDA) as an anti-caries agent, fluoride varnish has been widely used for this purpose in Canada and Europe since the 1970s. Studies conducted in Canada and Europe have reported that fluoride varnish is as effective in preventing tooth decay as professionally applied fluoride gel.

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 One or more documents on this Web page is available in Portable Document Format (PDF). You will need **Acrobat Reader** (<http://www.cdc.gov/nccdphp/shared/pdfinfo.htm>) to view and print these documents.

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**Page Located on the Web at <http://www.cdc.gov/fluoridation/other.htm>**

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