

Report to the Boards of Health

Jennifer Morse, MD, MPH, FAAFP, Medical Director

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National Children's Dental Health Month



Cavities, or dental caries, are one of the most common chronic diseases in children. Children with cavities and dental disease miss more school and get lower grades compared to kids who don't. Dental disease can cause problems with speech, behavior, and concentration, and can prevent kids from eating or sleeping well.

Cavities form when acid made by bacteria in the mouth eats away at the minerals on the surface of teeth, weakening it over time. These acid-producing bacteria thrive when foods and drinks high in sugars and starches are eaten. Grazing on sugary foods throughout the day or putting a baby to bed with a bottle allows sugars to stay on teeth longer, which is a bigger risk for cavities.

Cavities start as opaque white spots on the surface of teeth. These white spots can progress to cavities. If cavities are not treated, they can lead to serious infections like cellulitis or abscesses, which may require urgent, expensive hospital treatment, antibiotics, and sometimes surgery or admission to the hospital. In 2007, the death of two children were attributed to severe infections caused by dental abscesses. In addition, children die every year from complications of sedation and anesthesia used while getting dental care.



Healthy Teeth



White Spot & Early Cavities



Advanced Cavities

There are many things that can put a child at higher risk for cavities. These include:

- Their mom, caregiver, or siblings have cavities
- They live in poverty, or their caregiver has low health literacy
- They have sugary snacks or drinks between meals
- They use a bottle of sippy cup with sugary drinks, including juice, throughout the day and/or at bedtime
- They have special health care needs such as developmental, physical, medical, or mental disabilities that keep them from performing good oral health care by themselves or with the help of a caregiver
- They are a recent immigrant
- They don't get enough exposure to fluoride, through drinking water, supplements, professional applications, or toothpaste
- They don't have a dental home
- For older kids:
 - They have an eating disorder
 - They suffer from drug or alcohol abuse

Cavities are preventable. Fluoride is the main tool to help prevent cavities at all ages. Fluoride helps to rebuild and strengthen teeth and reduce tooth decay. There are different ways of getting fluoride to kid's teeth. It is recommended that all children with teeth have their teeth brushed twice daily for two minutes. For children younger than 3 years old, only a very thin layer or smear of toothpaste with fluoride be used, about the size of a

grain of rice. After turning 3, the amount of toothpaste can increase to the size of a pea. Children should be taught to not swallow toothpaste, which can be helped by not giving them water to rinse with after brushing. Not rinsing also keeps the fluoride toothpaste on the teeth longer so it is more benefit.

It is also recommended that prescription strength fluoride be used in children at risk for cavities. Fluoride varnish is one type of prescription strength fluoride that is painted on children's teeth by a trained dental or medical professional. It should be applied to the teeth of infants and children every three to six months in children under 6 years of age starting as soon as the first tooth appears. For children older than 6, fluoride foam or gel treatment or varnish can be applied every three to six months or an at home treatment can be used more often.



Applying Fluoride Varnish

Applying fluoride varnish is easy and will take only a few minutes.

Your child will be laid back onto the doctor's lap.

The teeth will be dried with gauze.

The varnish will be painted on.

Modified from <https://www.smilesforlife4oralhealth.org/>

Another very effective way to get fluoride on teeth is adding fluoride to water that doesn't already have it naturally. This provides frequent and consistent contact with low levels of fluoride to the teeth. Community Water Fluoridation (CWF) is a safe and effective public health intervention that prevents 25% of tooth decay for all ages and is considered one of the ten greatest public health achievements of the 20th century. There are over 75 years of research showing water fluoridation is safe and effective.

Community Water Fluoridation started in Michigan in 1945 with the city of Grand Rapids. Nearly 90% of Michigan residents have access to fluoridated drinking water, but only 31% have access to drinking water that has *enough* fluoride. The United States Public Health Service recommends an optimal community drinking water concentration of 0.7 mg/L to prevent cavities. The [Centers for Disease Control and Prevention](https://www.cdc.gov/disease-prevention/) provide information about community water fluoridation. Water filters that use reverse osmosis systems and distillation units can greatly reduce the amount of fluoride in water. Most "pour through" water filter devices using activated carbon filters do not reduce fluoride and water softener systems do not change the amount of fluoride in water. If a child's water supply doesn't provide enough fluoride, oral fluoride supplementation is recommended starting at age 6 months if they are at high risk for cavities. Supplements must be prescribed by a healthcare provider and are available in liquid, tablet, or lozenge form.

Despite the amount of strong evidence of fluoride's safety and effectiveness, there are small groups of people that have opposed fluoride use – particularly water fluoridation – for decades. There have been growing issues with concerns about in-office topical fluoride applications. It is true that swallowing large amount of fluoride over a long period of time while the permanent teeth are developing, typically in children under 8 years, can cause faint white marks in teeth called [fluorosis](https://www.cdc.gov/fluorosis/). This is why parents of young children are instructed to watch and help with tooth-brushing and use the right amount of toothpaste. Other than this, children and adults that drink fluoridated water and use fluoridated dental treatments and products as directed will have no issues.

For Children

- Brush their teeth twice a day with fluoride toothpaste.
- Help your child brush their teeth until they have good brushing skills.
- If your child is younger than 6, watch them brush.
- Make sure they use a pea-sized amount of toothpaste and always spit it out rather than swallow.
- Ask your child's dentist to apply dental sealants when appropriate.
- Drink tap water that has fluoride if possible. See if your city adds fluoride to their water [here](#). If you have well water, talk to your health department about getting a test to check your water.
 - If you have little or no fluoride in your water, ask your child's doctor if they need a supplement.

Resources

- From Drool To School: Caring for your child's oral health from the drool years to the school years <https://22278093.fs1.hubspotusercontent-na1.net/hubfs/22278093/Updated%20Drool%20to%20School%20Book.pdf>
- American Dental Association, Fluoridation Facts <https://ebooks.ada.org/fluoridationfacts/>
- American Fluoridation Society <https://americanfluoridationsociety.org/>
- CDC My Water's Fluoride https://nccdc.cdc.gov/DOH_MWF/Default/Default.aspx
- American Academy of Pediatrics Fluoride Myths & Facts <https://iilikemyteeth.org/debate-fluoridation/fluoride-myths-facts/> and Learn More <https://iilikemyteeth.org/learn-share/>
- National Maternal and Child Oral Health Resource Center Educational materials <https://www.mchoralhealth.org/materials/brochures-consumer.php>
- National Maternal and Child Oral Health Resource Center Publications for Professionals <https://www.mchoralhealth.org/publications/list.php>
- Tiny Smiles® Program <https://www.adafoundation.org/en/give-kids-a-smile/tiny-smiles>
- directory of oral health services for the state of Michigan https://www.michigan.gov/mdhhs/-/media/Project/Websites/mdhhs/Adult-and-Childrens-Services/Children-and-Families/Oral-Health/Up-Dated_oral_health_directory-Jan_2015.pdf?rev=68fbd39509f94bc88758c51af1ab94ce
- 2025 Michigan Oral Health Plan https://www.michigan.gov/mdhhs/-/media/Project/Websites/mdhhs/Adult-and-Childrens-Services/Children-and-Families/Healthy-Children-and-Healthy-Families/Oral-Health/Resources-Reports-Links/Michigan_State_Oral_Health_Plan_2025.pdf?rev=f0807a5eeb6b42f4ac3ccd1c64447907

Recommendations:

1. Support state funding for further development of the Michigan's Kindergarten Oral Health Assessment Program.
2. Support cavity prevention efforts, such as decreasing sugar intake, use of fluoride, and access to dental health.

Sources

- Nowak, A. Oral and systemic health. In UpToDate, Griffen, A. (Ed), Wolters Kluwer. (Accessed on February 10, 2024.)
- Gross, E. Preventive dental care and counseling for infants and young children. In UpToDate, Griffen, A. (Ed), Wolters Kluwer. (Accessed on February 10, 2024.)
- Association of State and Territorial Dental Directors Fluorides Committee. 2014. Fluoride Varnish: an Evidence-Based Approach. Association of State and Territorial Dental Directors
- Clark, Melinda B., et al. "Fluoride use in caries prevention in the primary care setting." *Pediatrics* 134.3 (2014): 626-633.