



Overview: Infant Formula and Fluorosis

The proper amount of fluoride from infancy through old age helps prevent and control tooth decay.

Community water fluoridation ([./index.htm](#)) is a widely accepted practice for preventing and controlling tooth decay by adjusting the concentration of fluoride in the public water supply.

Fluoride intake from water and other fluoride sources, such as toothpaste and mouthrinses, during the ages when teeth are forming (from birth through age 8) also can result in changes in the appearance of the tooth's surface called dental fluorosis. In the United States, the majority of **dental fluorosis** ([dental_fluorosis.htm](#)) is mild and appears as white spots that are barely noticeable and difficult for anyone except a dental health care professional to see.

Recent evidence suggests that mixing powdered or liquid infant formula concentrate with fluoridated water on a regular basis may increase the chance of a child developing the faint, white markings of very mild or mild enamel fluorosis.

You can use fluoridated water for preparing infant formula. However, if your child is exclusively consuming infant formula reconstituted with fluoridated water, there may be an increased chance for mild dental fluorosis. To lessen this chance, parents can use low-fluoride bottled water some of the time to mix infant formula; these bottled waters are labeled as de-ionized, purified, demineralized, or distilled.

What is the best source of nutrition for infants?

Breastfeeding is ideal for infants. CDC is committed to increasing breastfeeding throughout the United States and promoting optimal breastfeeding practices. Both babies and mothers gain many benefits from breastfeeding. Breast milk is easy to digest and contains antibodies that can protect infants from bacterial and viral infections. More can be learned about this subject at <http://www.cdc.gov/breastfeeding/> (<http://www.cdc.gov/breastfeeding/>).

If breastfeeding is not possible, several types of formula are available for infant feeding. Parents and caregivers are encouraged to speak with their pediatrician about what type of infant formula is best suited for their child.

Why is there a focus on infant formula as a source of fluoride?

Infant formula manufacturers take steps to assure that infant formula contains low fluoride levels—the products themselves are not the issue. Although formula itself has low amounts of fluoride, if your child is exclusively consuming infant formula reconstituted with fluoridated water, there may be an increased chance for mild dental fluorosis.

Infants consume little other than breast milk or formula during the first 4 to 6 months of life, and continue to have a high intake of liquids during the entire first year. Therefore, proportional to body weight, fluoride intake may be higher for younger or smaller children than for older children, adolescents, or adults.

What types of infant formula may increase the chance of dental fluorosis?

There are three types of formula available in the United States for infant feeding. These are powdered formula, which comes in bulk or single-serve packets, concentrated liquid, and ready-to-feed formula. Ready-to-feed formula contains little fluoride and does not contribute to development of dental fluorosis. Those types of formula that require mixing with water—powdered or liquid concentrates—can be a child's main source of fluoride intake (depending upon the fluoride content of the water source used) and may increase the chance of dental fluorosis.

Can I use optimally fluoridated tap water to mix infant formula?

Yes, you can use fluoridated water for preparing infant formula. However, if your child is exclusively consuming infant formula reconstituted with fluoridated water, there may be an increased chance for mild dental fluorosis. To lessen this chance, parents can use low-fluoride bottled water some of the time to mix infant formula; these bottled waters are labeled as de-ionized, purified, demineralized, or distilled.

How can I find out the level (concentration) of fluoride in my tap water?

The best source of information on fluoride levels in your water system is your local water utility. Other knowledgeable sources may be a local public health authority, dentist, dental hygienist, or physician. CDC's Web site **My Water's Fluoride** (<http://apps.nccd.cdc.gov/MWF/Index.asp>) allows consumers in some states to learn the fluoridation status of their water system. Nearly all tap water contains some natural fluoride, but, depending on the water system, the concentration can range from very low (0.2 mg/L fluoride or less) to very high (2.0 mg/L fluoride or higher). Approximately 72% of all public water systems serving about 195 million people adjust the fluoride in their water to the level recommended to prevent tooth decay.

Will using only low fluoride water to mix formula eliminate my child's risk for dental fluorosis?

Using only water with low fluoride levels to mix formula will reduce, but will not eliminate, the risk for dental fluorosis. Children can take in fluoride from other sources during the time that teeth are developing (birth through age 8). These sources include drinking water, foods and beverages processed with fluoridated water, and dental products, such as fluoride toothpaste, that can be swallowed by young children whose swallowing reflex is not fully developed.

Additional Resource

Dental Fluorosis ([dental_fluorosis.htm](#)) – Learn more about simple steps to reduce your child's risk for dental fluorosis.

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Page Located on the Web at http://www.cdc.gov/fluoridation/safety/infant_formula.htm

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