



# Good nutrition is reason to smile

**D**id you know that your dentist probably knows quite a bit about your overall health and nutrition habits just by looking at your teeth? It's true. Poor nutrition can affect the entire immune system, and people with lowered immune systems may have a higher risk of periodontal disease and tooth decay. Paula Jones, D.D.S, President-Elect of the Academy of General Dentistry (AGD) emphasizes, "Deficiencies in vitamins can cause poor tissue connectivity which can allow for tissue breakdown and subsequent invasion by bacteria."

A healthful, balanced diet naturally supplies all the nutrients needed to grow and thrive. A balanced diet is one that includes the following major food groups every day: fruits and vegetables; breads and cereals; milk and dairy products; and meat, fish and eggs. Much of the food we consume, such as sugar-filled sodas and sticky snacks, have little nutritional value and, over time, can take a toll on your teeth. When sugar and bacteria in the mouth (plaque) combine, acid is produced. This acid can attack the teeth for more than 20 minutes after consumption. During this time, the thin outer layer of the tooth (enamel) softens, leading to erosion of the tooth structure.

*According to the AGD, the following foods should be consumed in moderation:*

**Carbohydrates:** Foods such as bread, chips, crackers and pasta leave leftover food particles in the mouth. These particles become a feeding ground for bacteria that produces acid and can lead to tooth decay.

**Sticky foods:** Foods like jelly beans, raisins, syrup and honey coat the teeth, making it difficult for saliva to wash away the sugar.

**Sugary foods:** Foods such as cookies, candy bars and cakes have a high sugar content, which produces acid. Sugar is also found in many processed foods, even some that do not taste sweet. For example, a peanut butter and jelly sandwich not only has sugar in the jelly, but may have sugar added to the peanut butter. Sugar is also added to condiments like ketchup and salad dressings.

**Soda:** Soda not only has a high sugar content but also contains phosphorous acid and carbonation, which can lead to tooth decay over time.

*After eating any of the above foods, it is recommended that you chew sugar-free gum to help stimulate the natural production of saliva, or rinse with water to help wash away the leftover food particles and sticky sugars.*

Maintaining a healthful diet, based on the commonly known Food Pyramid, will ensure you get nutrients, vitamins and minerals that may contribute to staving off oral diseases and infection. According to the AGD, the following vitamins and minerals can positively affect your oral health.

**Calcium:** Foods such as milk, yogurt, beans and cheese contain calcium. Without enough calcium in your diet, there is a risk of developing gum disease and tooth decay.

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A study that appeared in the *Journal of Periodontology* found that men and women who have calcium intakes of fewer than 500 milligrams, or about half the recommended dietary allowance, were almost twice as likely to have periodontal diseases as measured by the loss of attachment of the gums from the teeth. This association was particularly evident for young adults in their 20s and 30s.

“The relationship between calcium intake and periodontal diseases may be due to calcium’s role in building density in the alveolar bone that supports the teeth,” said Michael P. Rethman, D.D.S., M.S., past President of the American Academy of Periodontology. “Calcium is necessary for healthy bones, teeth, muscle contractions and other functions.”

**Iron:** A deficiency in iron can cause inflammation of the tongue and sores inside the mouth. Iron can be found in foods such as red meat, liver and bran cereals.

**Vitamin B3:** A B3 deficiency can cause bad breath and sores. B3 can be found in chicken and fish.

**Vitamins B12 and B2:** Sores can also develop from B12 and B2 deficiencies. Foods such as beef, chicken, pork, fish, milk and cheese all have vitamin B12. Foods like pasta, bread and spinach have vitamin B2.

**Vitamin C:** A vitamin C deficiency can cause gums to become inflamed, swell and bleed easily. Foods like sweet potatoes and oranges are loaded with this powerful vitamin.

Research has also shown that patients who consumed less than the recommended amount per day (about one orange) were at nearly 1.5 times the risk of developing severe gingivitis as those who consumed three times the RDA. Gingivitis is the mildest form of periodontal diseases, and it causes the gums to become red, swell and bleed easily.

“The relationship between vitamin C and periodontal disease may be due to vitamin C’s role in maintaining and repairing healthy connective tissue along with its antioxidant properties,” said Rethman.

**Vitamin D:** This vitamin helps your body to absorb calcium. A vitamin D deficiency can cause burning mouth syndrome, which can leave you with a burning sensation, bitter taste or dry mouth. Consume foods such as milk, egg yolks and fish for vitamin D.

**Fluoride:** This is especially important for children as a balanced diet does not guarantee the proper amount of fluoride for the development and maintenance of your child’s teeth. If you do not live in a fluoridated community or have an ideal amount of naturally occurring fluoride in your well water, your child needs a fluoride supplement during the years of tooth development. Your pediatric dentist can help assess how much supplemental fluoride your child needs, based upon the amount of fluoride in your drinking water, and your child’s age and weight.

On top of maintaining a healthful diet, you should also drink lots of water. Keeping your mouth moist is important for warding off tooth decay and periodontal diseases. Water washes away food and neutralizes plaque. Finally, brush twice a day with fluoride toothpaste, floss frequently, particularly after eating sticky foods such as raisins, fruit rolls or candy, and schedule regular dental checkups for cleanings with your dentist.

## Resources

American Dental Association (ADA). Oral Health Topics: Diet and Oral Health. Available at: [www.ada.org/public/topics/diet.asp](http://www.ada.org/public/topics/diet.asp).

Academy of General Dentistry (AGD). What Does Your Mouth Say about Your Overall Health?, Aug. 20, 2007. Available at: [www.agd.org/support/articles/?ArtID=3153](http://www.agd.org/support/articles/?ArtID=3153).

Academy of General Dentistry (AGD). Why are Minerals and Nutrients Important to Overall Health?, Sept. 4, 2008. Available at: [www.agd.org/support/articles/?ArtID3805](http://www.agd.org/support/articles/?ArtID3805).

American Academy of Pediatric Dentistry. Diet and Snacking. Available at: [www.aapd.org/publications/brochures/snacking.asp](http://www.aapd.org/publications/brochures/snacking.asp).

American Academy of Periodontology. Nourish Your Smile with a Well-Balanced Diet. Available at: [www.perio.org/consumer/nutrition-benefits.htm](http://www.perio.org/consumer/nutrition-benefits.htm).

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