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From the Colgate World of Care

Mouth-Healthy Eating



If you want to prevent cavities, how often you eat can be just as important as what you eat. That's because food affects your teeth and mouth long after you swallow. Eating cookies with dinner will do less harm to your teeth than eating them in the middle of the afternoon as a separate snack. Of course, overall poor nutrition can contribute to periodontal (gum) disease and can have other long-term effects on your mouth. Learning how food affects your oral health — long-term and short-term — is the first step toward mouth-healthy eating.

Immediate Effects of Food

Changes begin in your mouth the minute you start to eat certain foods. Bacteria in your mouth make dental plaque become more acidic, and the acid starts the process that can lead to cavities.

How does this happen?

All carbohydrate foods eventually break down into simple sugars: glucose, fructose, maltose and lactose. Some foods, called fermentable carbohydrates, break down in the mouth, whereas others don't break down until they move further down the digestive tract.

It's the fermentable carbohydrates that work with bacteria to begin the decay process and eventually destroy teeth. They include the obvious sugary foods, such as cookies, cakes, soft drinks and candy, but they also include less obvious food, such as bread, crackers, bananas and breakfast cereals.

Certain bacteria on your teeth use the sugars from these foods and produce acids. These acids dissolve minerals inside the tooth enamel in a process called demineralization. Teeth also regain minerals in a natural process called remineralization. Saliva helps this process, as does fluoride and some foods.

Dental decay begins inside the tooth enamel when minerals are being lost faster than they are being regained.

The longer food stays near the bacteria on the tooth, the more acids will be produced. So sticky carbohydrates, such as raisins, can do more acid damage. But other foods that pack into crevices can also cause decay. Potato chips are a terrific example. Eat a handful of chips and see how long you have to work to get all the stuck bits out from between your teeth. Teeth with a lot of nooks and crannies, such as molars, are more likely to trap food and are more susceptible to decay.

To make matters worse, tooth-unhealthy foods don't create acids on your teeth only while they are being eaten. The acids stick around for the next half-hour.

People who sip soft drinks or sweetened coffee throughout the day or who eat many small sweet or carbohydrate snacks provide a sugar source for the bacteria to produce acid almost constantly. And because acid damage is cumulative, decay is more likely. Studies have shown that those who eat sweets as snacks between meals have higher incidences of decay than those who eat the same amount of sweets with their meals.

On the brighter side, some foods actually help to protect teeth from decay because they increase saliva flow and neutralize the acids produced by bacteria, making the enamel less likely to be demineralized. For example, aged cheese eaten immediately after other food helps buffer the acid. That's another reason why eating sweets between meals causes more cavities. Between-meal snackers not only have an overall longer period when their teeth are exposed to acid, they don't eat other foods with the snack to moderate the effects of the sugar.

Chewing sugarless gums also can help protect your teeth against cavities. Xylitol, an ingredient in some sugarless gums, has been shown to reduce the amount of bacteria in the mouth and help buffer the teeth against the effect of acid. Most sugarless gums and sugarless candies increase the flow of saliva, which has natural antibacterial properties.

Long-Term Effects

Like the rest of your body, your mouth depends on overall good nutrition to stay healthy. In fact, your mouth is highly sensitive to poor nutrition, which can lead to premature tooth loss, serious periodontal (gum) disease and bad breath. Many nutritional problems will affect the mouth before the rest of the body. This is because the cells in the lining of the mouth — called the oral mucosa — are constantly being created and destroyed. In some areas of the mouth, cells completely turn over, with a whole new group of cells taking the place of old cells, in three to seven days.

What To Eat

The current and best recommendation for overall good nutrition is to follow the Dietary Guidelines for Americans, developed by the U.S. Department of Agriculture and the Department of Health and Human Services. The guidelines are simple in concept:

- Eat whole grains daily, such as brown rice, oatmeal and whole wheat bread instead of refined grains, such as white bread and white rice.
- Eat healthier vegetables, including dark green and orange vegetables.
- Eat a variety of fruits.
- Choose a diet with plenty of grain products, fruits and vegetables.
- Choose fish, beans, nuts and seeds for some of your protein needs.
- Choose beverages and foods to moderate your intake of sugars.
- Choose and prepare foods with less salt.
- If you drink alcoholic beverages, do so in moderation.
- Aim for a healthy weight and be physically active each day.

To help people understand these guidelines, the USDA has replaced the old Food Guide Pyramid with a new, interactive tool called MyPyramid. The new tool is actually many different pyramids customized for a person depending on age, gender and physical activity. The tool can be found at www.mypyramid.gov.

Your diet, like the pyramid, should have a strong base of grains; at least 2½ cups of vegetables a day; at least 2 cups of fruits a day; at least 3 cups of calcium-containing milk, yogurt and cheese; and proteins such as meats, beans, eggs and nuts. Eat fats and sweets sparingly.

To prevent tooth decay, you should follow a few additional guidelines to keep the amount of acid created by the bacteria on your teeth to a minimum. Here are some tips:

1. Limit between-meal snacking to reduce the amount of time your teeth are exposed to acid. If you snack, choose foods that are not fermentable carbohydrates.
 - Best choices — Cheese, chicken or other meats, nuts or milk. These foods may actually help protect tooth enamel by counteracting acidity or by providing the calcium and phosphorus needed to remineralize teeth.
 - Moderate choices — Firm fruits like apples and pears and vegetables. Although firm fruits contain natural sugars, they have a high water content that dilutes the effects of the sugars and they stimulate the flow of saliva, which has antibacterial factors and helps protect against decay. Vegetables do not contain enough carbohydrates to be dangerous.
 - Worst choices — Candy, cookies, cakes, crackers, breads, muffins, potato chips, french fries, pretzels, bananas, raisins and other dried fruits. These foods provide a source of sugar for certain bacteria on the teeth to produce acid. The problem can be worse if the foods stick to or get caught between teeth.
2. Limit the amount of soft drinks or any other sugar-containing drinks, including coffee or tea with added sugar, cocoa and lemonade. Fruit juices contain natural sugars that can also cause decay. Limit the amount of time you take to drink any of these drinks and avoid sipping them throughout the day. A can of soda finished with a meal is better than a can of soda finished over two hours because your teeth are exposed to high acid levels for a shorter amount of time.
 - Better choices — Unsweetened tea, milk and water, especially fluoridated water. Tea also has fluoride, which can strengthen tooth enamel and milk can also help deter decay. Water helps flush away food debris and can dilute the sugar acids.
3. Avoid sucking on hard candies or mints, even the tiny ones. They have enough sugar to increase the acid produced by bacteria to decay levels. If you need a mint, use the sugarless varieties.
4. Very acidic foods (such as citrus fruits) can make the mouth more acidic and may contribute to tooth demineralization and erosion. The effects of acid exposure are cumulative, so every little bit counts.
5. Brush your teeth after eating to remove the plaque bacteria that create the destructive acids. If you cannot brush after every meal, brush at least twice a day to thoroughly remove all plaque bacteria.
6. Chewing sugarless gum that contains xylitol can help reduce the risk of cavities. It not only helps dislodge some of the food stuck to your teeth, it also increases saliva flow to help buffer the acids.

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Reviewed by the faculty of Columbia University College of Dental Medicine

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Dr. Petrosky & Staff

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