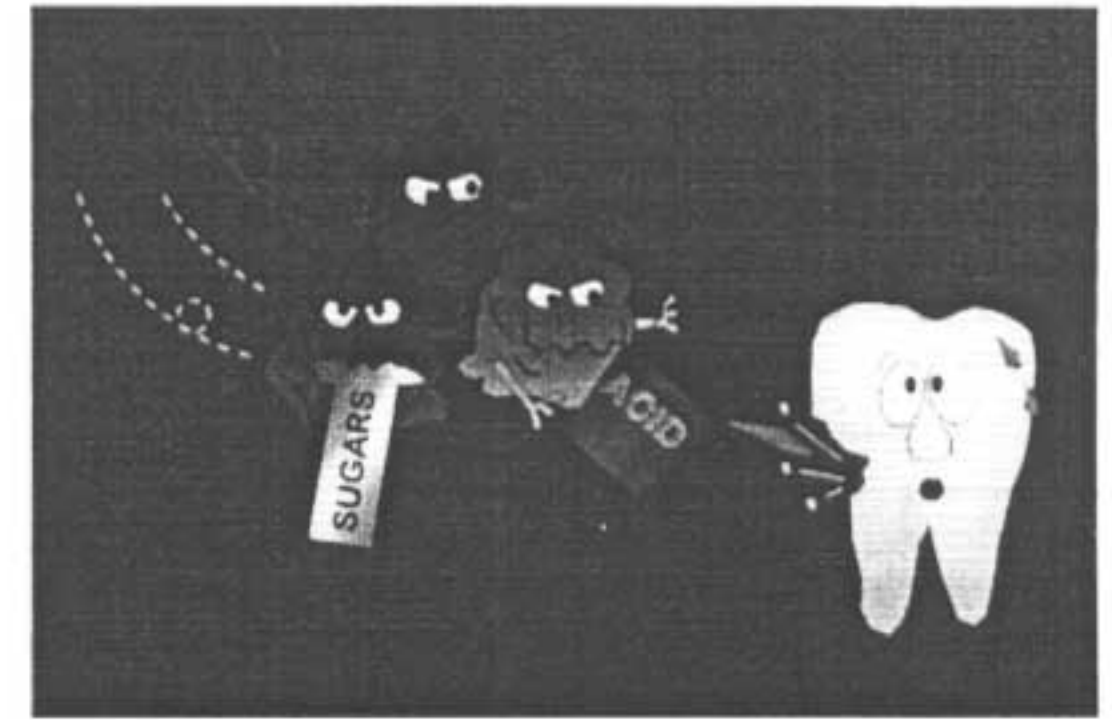


## PATIENT INFORMATION ON TOOTH DECAY

### How Tooth Decay Happens

Tooth decay is caused by certain types of bacteria (mutans streptococci and lactobacilli) that live in your mouth. When they attach themselves to the teeth and multiply in dental plaque, they can do damage. The bacteria feed on what you eat, especially sugars (including fruit sugars) and cooked starch (bread, potatoes, rice, pasta, etc.). Within about five minutes after you eat or drink, the bacteria begin producing acids as a byproduct of their digesting your food. Those acids can penetrate into the hard substance of the tooth and dissolve some of the minerals (calcium and phosphate). If the acid attacks are infrequent and of short duration, your saliva can help to repair the damage by neutralizing the acids and supplying minerals and fluoride that can replace those lost from the tooth. However if your mouth is dry, you have many of these bacteria, or you snack frequently; then the tooth mineral lost by attacks of acids is too great and cannot be repaired. This is the start of tooth decay and leads to cavities.



### Methods of Controlling Tooth Decay

**Diet:** Reducing the number of sugary and starchy foods, snacks, drinks, or candies can help reduce the development of tooth decay. That does not mean you can never eat these types of foods, but you should limit their consumption particularly when eaten between main meals. A good rule is three meals per day and no more than three snacks per day.

**Fluorides:** Fluorides help make teeth more resistant to being dissolved by bacterial acids. Fluorides are available from a variety of sources such as drinking water, toothpaste, over-the-counter rinses, and products prescribed by your dentist such as brush-on gels used at home or gels and foams applied in the dental office. Daily use is very important to help protect against the acid attacks.

**Plaque removal:** Removing the plaque from your teeth on a daily basis is helpful in controlling tooth decay. Plaque can be difficult to remove from some parts of your mouth, especially between the teeth and in grooves on the biting surfaces of back teeth. If you have an appliance such as an orthodontic retainer or partial denture, remove it before brushing your teeth. Brush all surfaces of the appliance also.

**Saliva:** Saliva is critical for controlling tooth decay. It neutralizes acids and provides minerals and proteins that protect the teeth. If you cannot brush after a meal or snack, you can chew some sugar-free gum. This will stimulate the flow of saliva to help neutralize acids and bring lost minerals back to the teeth. Sugar-free candy or mints could also be used, but some of these contain acids themselves. These acids will not cause tooth decay, but they can slowly dissolve the enamel surface over time (a process called erosion). Some sugar-free gums are designed to help fight tooth decay and are particularly useful if you have a dry mouth (many medications can cause a dry mouth). Some gums contain baking soda, which neutralizes the acids produced by the bacteria in plaque. Gum that contains xylitol as its first listed ingredient is the gum of choice. If you have a dry mouth, you could also fill a drinking bottle with water and add a couple teaspoons of baking soda for each 8 ounces of water and swish with it frequently throughout the day. Toothpastes containing baking soda are also available from several companies.

**Antibacterial mouthrinses:** Rinses that your dentist can prescribe are able to reduce the number of bacteria that cause tooth decay and can be useful in patients at high risk for tooth decay.

**Sealants:** Sealants are plastic coatings bonded to the biting surfaces of back teeth to protect the deep grooves from decay. In some people, the grooves on the surfaces of the teeth are too narrow and deep to clean with a toothbrush, so they may decay in spite of your best efforts. Sealants are an excellent preventive measure for children and young adults at risk for this type of decay.