

## Dental sealants

### Preventing and halting decay

**O**ur teeth are coated with a sticky film of bacteria called “plaque.” When we consume milk, bread, cookies, candy, soft drinks, cereal, burgers, juice, fruit and many other foods and beverages, some of what we eat sticks to teeth and gingivae (gums). The plaque bacteria use bits of food and liquids to create acids that attack and destroy tooth enamel. Repeated acid attacks eventually may cause tooth decay. Once decay develops, only a dentist can restore the tooth. Without treatment, further decay can cause pain, infection and tooth loss.

Anyone can develop tooth decay at any age. One of the most common spots for decay to develop is on the chewing surfaces of the back teeth (the premolars and molars). If you run your tongue along the chewing surfaces, you will feel rough grooves. The grooves, which are called pits and fissures, help to grind food.

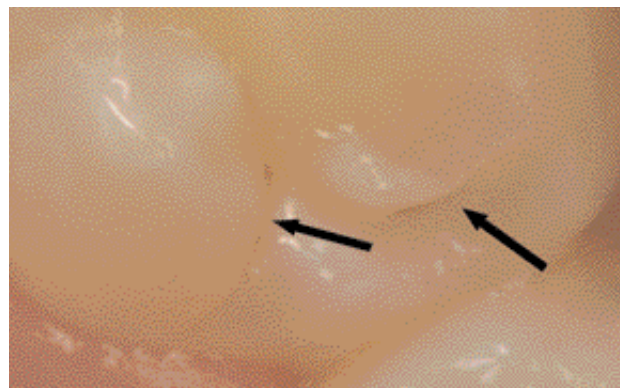
Daily brushing and flossing help remove food particles and bacteria from the smooth surfaces along the sides of and between the teeth. However, pits and fissures are more difficult to keep clean. Toothbrush bristles cannot reach into the microscopic grooves to remove tiny particles of food or plaque.

Because pits and fissures are difficult to keep clean, your dentist may recommend protecting them with dental sealants, a special plastic coating that covers and seals the chewing surfaces. Sealants act as a barrier, protecting tooth enamel from plaque bacteria and acid.

Dentists have used sealants to protect teeth for several decades. They are safe and effective in preventing tooth decay. The likelihood of developing tooth decay on the chewing surfaces begins early in life, so children and teenagers are obvious candidates for sealants. Adults also can benefit from sealants, because one never outgrows tooth decay.

#### HALTING TOOTH DECAY

New research shows that dental sealants not only protect healthy teeth from decay, but they also



Discolored spots on the chewing surface (arrows) indicate the earliest stages of tooth decay (photograph courtesy of Dr. Amid I. Ismail, the Detroit Dental Health Project, National Institute of Dental and Craniofacial Research grant U-54 DE 14261-01).

can stop decay in its earliest stages, sealing in the bacteria and preventing a cavity that otherwise would require a restoration (filling).

#### SEALING TEETH

The procedure is simple and quick with little, if any, discomfort. First, the dentist thoroughly cleans and prepares the teeth to be sealed. The dentist then applies the sealant to the tooth's chewing surface, where it bonds with the enamel. He or she may use a special curing light to help the sealant harden. The procedure requires one short visit.

As long as the sealant remains intact, the tooth's chewing surface will be protected from decay. Sealants, which hold up well under the incredible force of everyday chewing, may last for years before a reapplication is needed. However, no two mouths are the same, and chewing or grinding can cause sealants to wear at different rates. Regular dental visits are important so that your dentist can check the sealant and reapply it as needed.

Talk with your dentist to determine if dental sealants can help protect your teeth. ■

Prepared by the ADA in cooperation with The Journal of the American Dental Association and the ADA Division of Science. Unlike other portions of JADA, this page may be clipped and copied as a handout for patients, without first obtaining reprint permission from the ADA Publishing Division. Any other use, copying or distribution, whether in printed or electronic form, is strictly prohibited without prior written consent of the ADA Publishing Division.

“For the Dental Patient” provides general information on dental treatments to dental patients. It is designed to prompt discussion between dentist and patient about treatment options and does not substitute for the dentist's professional assessment based on the individual patient's needs and desires.