

## Centers for Disease Control and Prevention (CDC)

### School-Based Dental Sealant Programs

[http://www.cdc.gov/oralhealth/topics/dental\\_sealant\\_programs.htm](http://www.cdc.gov/oralhealth/topics/dental_sealant_programs.htm) ( accessed 09/21/2010)

#### Introduction

Sealants prevent tooth decay and also stop cavities from growing. The Surgeon General's [report on oral health](#) indicates that sealants can reduce decay in school children by more than 70 percent.

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#### What Are Dental Sealants?

Sealants are thin plastic coatings applied to the tiny grooves on the chewing surfaces of the back teeth. This is where most tooth decay in children and teens occurs. Sealants protect the chewing surfaces from decay by keeping germs and pieces of food out.

Learn more about sealants, including how they help prevent tooth decay and how they are applied, from this [Dental Sealants Fact Sheet](#).

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#### What Are School-Based Sealant Programs?

School-based dental sealant delivery programs provide sealants to children unlikely to receive them otherwise. Such programs—

- Define a target population within a school district
- Verify unmet need for sealants
- Get financial, material, and policy support
- Apply rules for selecting schools and students
- Apply sealants at school or offsite in clinics

School-based sealant programs are especially important for reaching children from low-income families who are less likely to receive private dental care. Programs generally target schools by using the percentage of children eligible for federal free or reduced-cost lunch programs. Tooth decay may result in pain and other problems that affect

learning in school-age children. Learn more by reading [Oral Health and Learning](#)\*  (PDF–81K). This report addresses the following:

- Lost school time
- Oral health and learning
- Nutrition and learning
- Programs for improving oral health

## **The Scientific Evidence Shows that School-Based Sealant Programs Work**

Findings from scientific studies clearly show that school dental sealant programs work to stop tooth decay.

The Task Force on Community Preventive Services recommends school sealant programs and issued a [strong endorsement](#)\* in 2001. In 2003, the Association of State and Territorial Dental Directors published a [Best Practice Approach Report](#).\* This report reviews the scientific evidence that school sealant programs work and presents specific examples of practices in state programs. <http://www.astdd.org/school-based-dental-sealant-programs-introduction/>

## **CDC-Sponsored Expert Work Group Publishes Updated Recommendations for School-Based Sealant Programs**

*[“Preventing Dental Caries Through School-Based Sealant Programs: Updated Recommendations and Review of Evidence,”](#)\* *Journal of the American Dental Association* <http://jada.ada.org/cgi/reprint/140/11/1356>*

The recommendations were developed by a [work group of experts](#) in the fields of caries prevention and treatment, oral epidemiology, and evidence-based reviews. The work group also included representatives from professional dental organizations.

The expert work group examined new evidence on:

- The effectiveness of sealants in preventing new decay and progression of early decay
- Methods to assess decay
- Sealant placement techniques
- Scientific reviews of program practices

Based on this evidence, the following recommendations are provided for practitioners in school-based programs:

- Seal pit-and-fissure tooth surfaces that are sound or have early decay, prioritizing first and second permanent molars.
- Use visual assessment to differentiate surfaces with the earliest signs of tooth decay from more advanced lesions.

- X-rays are not needed solely for sealant placement.
- A toothbrush can be used to help clean the tooth surface before acid etching.
- When resources allow, have an assistant help the dental professional place sealants.
- Provide sealants to children even if follow-up examinations for every child cannot be guaranteed.

These recommendations are designed to guide practices of state and community public health programs for planning, implementing, and evaluating school-based sealant programs, as well as to complement the American Dental Association Council on Scientific Affairs' [evidence-based clinical recommendations for sealant use](#)\* published in 2008.

Several other publications provide more detail about the studies that were conducted by work group members. The published studies are provided below.

- "[The Effectiveness of Sealants in Managing Caries Lesions](#),"\* *Journal of Dental Research*. February 2008. This study shows that if sealants are placed over early tooth decay, they will stop early decay from becoming a cavity. This information should lessen concerns about accidentally sealing over decay. <http://jdr.sagepub.com/content/87/2/169.full>
- "[The Effect of Dental Sealants on Bacteria Levels in Caries Lesions: A Review of the Evidence](#),"\* *Journal of the American Dental Association*. March 2008. This study shows that sealing over tooth decay lowers the number of bacteria in the cavity by at least 100-fold. <http://jada.ada.org/cgi/reprint/139/3/271>
- "[Exploring Four-Handed Delivery and Retention of Resin-Based Sealants](#),"\* *Journal of the American Dental Association*. March 2008. For sealants to work, they must stay in place or be retained on the tooth. This study concludes that having a dental assistant help the dental professional place the sealant (four-handed technique) may improve sealant retention. <http://jada.ada.org/cgi/reprint/139/3/271>
- "[A Comparison of the Effects of Toothbrushing and Handpiece Prophylaxis on Retention of Sealants](#),"\* *Journal of the American Dental Association*. January 2009. This study shows that cleaning the tooth's surface with a toothbrush before applying dental sealants resulted in sealant retention at least as high as when a hand piece was used. <http://jada.ada.org/cgi/content/full/140/1/38>

- "[Caries Risk in Formerly Sealed Teeth](#),"\* *Journal of the American Dental Association*. April 2009. This study shows that teeth with fully or partially lost sealants did not have a higher risk of developing a cavity than teeth that were never sealed. <http://jada.ada.org/cgi/content/full/140/4/415>

## Additional Resources

- [Oral Health in America: A Report of the Surgeon General](#). This U.S. Surgeon General's report was the first to focus on oral health provides an overview on effectiveness of sealants and public health strategies to provide sealants to children in community settings. <http://www.surgeongeneral.gov/library/oralhealth/>
- [Sealant Efficiency Assessment for Locals and States \(SEALS\)](#) is a tool that states and communities can use to determine the effectiveness and efficiency of their school-based or school-linked sealant programs. [http://www.cdc.gov/oralhealth/state\\_programs/infrastructure/seals.htm](http://www.cdc.gov/oralhealth/state_programs/infrastructure/seals.htm)
- [Seal America: The Prevention Invention\\*](#) is an online manual designed to assist health professionals initiate and implement a school-based dental sealant program. <http://www.mchoralhealth.org/Seal/index.html>
- School-Based Dental Sealant Programs in Ohio. A five-part, distance-learning course provided to further understanding of the history, operations, and underlying principles of Ohio's school-based dental sealant programs. Available at: <http://ohiodentalclinics.com/curricula/sealant/index.html>
- [CDC Expert Workgroup on School-Based Dental Sealant Programs](#). Members of the CDC-sponsored expert workgroup. [http://www.cdc.gov/oralhealth/topics/expert\\_panel.htm](http://www.cdc.gov/oralhealth/topics/expert_panel.htm)

## Fluoride

[Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States](#). *MMWR* 2001;50(RR-14):1–42. Also available as a  [PDF file](#) (373K).

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