

# Evidence-based clinical recommendations for the use of pit-and-fissure sealants

*A report of the  
American Dental Association Council  
on Scientific Affairs*

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**W**hile dental sealants have been recognized as an effective approach to preventing pit-and-fissure caries in children,<sup>1-5</sup> clinical questions remain about the indications for placing pit-and-fissure sealants, the criteria for their placement over early caries (that is, noncavitated caries) and techniques to optimize retention and effectiveness. This report on the clinical recommendations for use of pit-and-fissure sealants presents a critical evaluation and summary of relevant scientific evidence to assist clinicians with their clinical decision-making process.

#### **USE OF SEALANTS: AN EVIDENCE-BASED APPROACH**

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## ABSTRACT

**Background.** This article presents evidence-based clinical recommendations for use of pit-and-fissure sealants developed by an expert panel convened by the American Dental Association Council on Scientific Affairs. The panel addressed the following clinical questions: Under what circumstances should sealants be placed to prevent caries? Does placing sealants over early (noncavitated) lesions prevent progression of the lesion? Are there conditions that favor the placement of resin-based versus glass ionomer cement sealants in terms of retention or caries prevention? Are there any techniques that could improve sealants' retention and effectiveness in caries prevention?

**Types of Studies Reviewed.** Staff of the ADA Division of Science conducted a MEDLINE search to identify systematic reviews and clinical studies published after the identified systematic reviews. At the panel's request, the ADA Division of Science staff conducted additional searches for clinical studies related to specific topics. The Centers for Disease Control and Prevention also provided unpublished systematic reviews that since have been accepted for publication.

**Results.** The expert panel developed clinical recommendations for each clinical question. The panel concluded that sealants are effective in caries prevention and that sealants can prevent the progression of early noncavitated carious lesions.

**Clinical Implications.** These recommendations are presented as a resource to be considered in the clinical decision-making process. As part of the evidence-based approach to care, these clinical recommendations should be integrated with the practitioner's professional judgment and the patient's needs and preferences. The evidence indicates that sealants can be used effectively to prevent the initiation and progression of dental caries.

**Key Words.** Sealant; pit-and-fissure sealant; caries; caries prevention; primary prevention; secondary prevention; evidence-based dentistry; clinical recommendations. *JADA 2008;139(3):257-267.*

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