

Evidence-Based Clinical Recommendations for Pit and Fissure Sealants



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Overview

- **Background and rationale**
- **Clinical questions**
- **Methods**
- **Timeline**
- **Dissemination**
- **Commonality with CDC process**

Background

- *Healthy People 2010*-- increasing the proportion of children who have received dental sealants on their molar teeth to 50%
- Sealants are currently underutilized, particularly among those at high caries risk

Background

- **2003 survey of dentists**

- Clinical questions of importance to the practice of dentistry

- **2004 EBD symposium**

- Academia, Industry, Government Agencies, Professional Organizations

- ***The effectiveness of dental sealants in managing or arresting carious lesions in permanent teeth.***

Background

- **Pit and fissure sealants for primary caries prevention**
 - Large body of evidence for children, adolescents and young adults
- **Pit and fissure sealants for secondary caries prevention**
 - Concern about sealing over caries that is not clinically apparent
 - Effective secondary preventive measure

Clinical Questions

1. Under what circumstances should sealants be placed to prevent caries?

Clinical Questions

2. Does placing sealants over early (non-cavitated) lesions prevent progression of the lesion?

Clinical Questions

3. Are there conditions that favor the placement of resin-based vs. glass ionomer sealants in retention or caries prevention?

Clinical Questions

4. Are there any placement techniques that could improve retention and caries prevention of sealant?

- 2 vs 4 handed
- Mechanical enamel preparation
- Adhesives

Methods

■ MEDLINE Search

- Systematic Reviews
- Clinical studies published since the systematic reviews were conducted

■ Panel of Experts

■ Evidence Statement

■ Level of Evidence

Level of Evidence

<i>Grade</i>	<i>Category of evidence</i>
Ia	Evidence from systematic reviews of randomized controlled trials
Ib	Evidence from at least one randomized controlled trial
IIa	Evidence from at least one controlled study with out randomization
IIb	Evidence from at least one other type of quasi-experimental study
III	Evidence from non-experimental descriptive studies, such as comparative studies, correlation studies, cohort studies and case control studies
IV	Evidence from expert committee reports or opinions or clinical experience of respected authorities

Methods

- **Clinical recommendations based on the evidence statements**
 - Stratified by caries risk
 - Stratified by age group
- **Determination of caries risk status is necessary before implementation of primary and secondary caries prevention strategies**
- **Accept clinical sealant retention as a reasonable proxy for caries prevention**
- **Strength of the Recommendation**

Strength of the Recommendations

<i>Classification</i>	<i>Strength of Recommendations</i>
A	Directly based on category I evidence
B	Directly based on category II evidence or extrapolated recommendation from category I evidence
C	Directly based on category III evidence or extrapolated recommendation from category I or II evidence
D	Directly based on category IV evidence or extrapolated recommendation from category I, II, or III evidence

Timeline

- **Spring/summer 2007- External review by scientific experts and stakeholders**
- **Summer 2007- Comments considered by expert panel. Document revised accordingly.**
- **Summer/Fall 2007- Presented to ADA Council on Scientific Affairs**

Intended Use

- Tool to assist practitioners in clinical decision-making
- Dentist's expertise
- Patient preferences

Dissemination

- **ADA.org**
- **Submitted to the Journal of the American Dental Association**
- **Submitted to the Journal of Dental Education**
- **Submitted to the National Guideline Clearinghouse**

Commonality with CDC Process

■ 2004 EBD Symposium

- The effectiveness of dental sealants in managing or arresting carious lesions in permanent teeth.

■ CDC Systematic Review

■ CDC representation on ADA expert panel

■ ADA representation on CDC panel

■ Develop parallel guidance for private practice settings and public health programs

Expert Panel on Pit and Fissure Sealants

Jean Beauchamp, DDS
CAPIR

Barbara Gooch, DMD, MPH
CDC

Page Caufield, DDS, PhD
NYU College of Dentistry

Amid Ismail, BDS, MPH, MBA, DrPH
University of Michigan

James Crall, DDS, MS
UCLA School of Dentistry

William Kohn, DDS
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Kevin Donly, DDS, MS
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Mark Siegal, DDS, MPH
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