The ADA’s Sealant Recommendations

http://ebd.ada.org
Then....
Now....
Information
Information Overload
Clinical Recommendations
Clinical Recommendations

- **Tool** to assist dentists
- **Practical applications** of scientific information
- **Guidance**, not a standard of care
- Integrated *with* the practitioner’s professional **judgment** and the individual patient’s **needs and preferences**
Pre-workshop:
- Select topic
- Clinical Questions
- Literature Search

Expert Panel Workshop:
- Evidence Statements [Levels of Evidence]
- Recommendations [Strength of Recommendations]

Post-workshop:
- Report
- External Review
- ADA Council on Scientific Affairs
- Dissemination (JADA; ADA.org; e-communications; conferences)
• Effective primary preventive measure
• Underutilized
• Survey of dentists
• Stakeholder request
• Evidence
Clinical Questions

- Under what *circumstances* should sealants be placed to prevent caries?
- Does placing sealants over *early (non-cavitated) lesions* prevent progression of the lesion?
- Are there conditions that favor the placement of *resin-based vs. glass ionomer cement* sealants in retention or caries prevention?
- Are there any *techniques* that could improve retention and caries prevention of sealants?
(IA) Systematic Review

(IB) 1+ RCT

(IIA) 1+ controlled study without randomization

(IIB) 1+ quasi-experimental study

(III) Non-experimental descriptive studies
    (i.e. comparative, correlation, cohort and case-control studies)

(IV) expert committee reports or opinions or clinical experience of respected authorities
Placement of resin-based sealants on the permanent molars of children and adolescents is effective for caries reduction (Ia).

*Expert Panel chose to accept clinical sealant retention as a reasonable proxy for caries prevention.
Evidence regarding placing sealants over early (noncavitated) lesions

- Placement of pit-and-fissure sealants significantly reduces the percentage of non-cavitated carious lesions that progress in children, adolescents and young adults for as long as five years after sealant placement, compared with unsealed teeth (Ia)
A = Category I Evidence

B = Category II Evidence or extrapolated from category I evidence

C = Category III Evidence or extrapolated from category I or II evidence

D = Category IV Evidence or extrapolated from category I, II, or III evidence
Sealants

- should be placed in pits and fissures of children’s primary teeth (D) when it is determined that the tooth, or the patient, is at risk of developing caries.

- should be placed on pits and fissures of children’s, adolescents’ (B) and adults (D) permanent teeth when it is determined that the tooth, or the patient, is at risk of developing caries.
Pit and fissure sealants should be placed on early (non-cavitated) caries lesions in children, adolescents, young adults (B), and adults (D) to reduce the percentage of lesions that progress.
Resin-based sealants
- first choice of material for dental sealants (A)

Glass ionomer cement
- may be used as an interim preventive agent when there are indications for placement of a resin-based sealant but concerns about moisture control may compromise such placement (D)
Monitor and reapply sealants

- as needed to maximize effectiveness (D)

Four-handed technique

- Use when possible for placement of resin-based sealants (C)
- Use when possible for placement of glass ionomer cement sealants (D)
Appropriate preventive dental treatment can be planned after identification of caries risk status.

Caries risk status should be evaluated periodically.

There is no single widely accepted risk assessment system.

Dentists can use simple clinical indicators.
Evidence-based clinical recommendations for the use of pit-and-fissure sealants
A report of the American Dental Association Council on Scientific Affairs

Jean Beauchamp, DDS; Page W. Caufield, DDS, PhD; James J. Crall, DDS, ScD; Kevin Donly, DDS, MS; Robert Feigal, DDS, PhD; Barbara Gooch, DMD, MPH; Amid Ismail, BDS, MPH, MBA, DrPH; William Kohn, DDS; Mark Siegal, DDS, MPH; Richard Simonsen, DDS, MS
USER FRIENDLY?
Clinical Recommendations

Chairside tool

Summary of clinical recommendations

Reflect decision-making process
Use of Pit and Fissure Sealants: Evidence-Based Clinical Recommendations

Levels of evidence and strength of recommendations:
Each recommendation is based on the best available evidence. The level of evidence available to support each recommendation may differ. Lower levels of evidence do not mean the recommendation should not be applied for patient treatment.

Correlate these colors with the text below.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Recommendation based on higher levels of evidence</td>
<td>Recommendation based on lower levels of evidence</td>
<td></td>
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</table>

Should I consider sealants for my patients?

<table>
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<tr>
<th></th>
<th>Consider sealants for prevention when there is no lesion but tooth or individual is at risk¹</th>
<th>Consider sealants to limit progression in early non-cavitated lesions</th>
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<tbody>
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<tr>
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<td>Adults</td>
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Monitor periodically and reapply as needed (D) (Change in caries susceptibility can occur)

If you decide to apply sealants

☐ Routine clinical situations use Resin-based sealants (A)
☐ Moisture control concerns use Compatible one bottle bonding agent after acid etching (B) OR GI Cement (D)
☐ Routine mechanical preparation of enamel before acid etching is NOT recommended (B)
☐ When possible use a four-handed technique for placement of resin-based sealants (C) OR glass-ionomer cements (D).
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B: 
C: 
D: Recommendation based on lower levels of evidence
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These images are examples of non-cavitated lesions that may be considered for sealants. Non-cavitated lesion refers to pits and fissures in fully erupted teeth that may display discoloration not due to extrinsic staining, developmental opacities or fluorosis. The discoloration may be confined to the size of a pit or fissure or may extend to the cusp inclines surrounding a pit or fissure. The tooth surface should have no evidence of a shadow indicating dentinal caries, and, if radiographs are available, they should be evaluated to determine that neither the occlusal nor the proximal surfaces have signs of dentinal caries.

Tooth surface with an early (noncavitated) carious lesion that exhibits a white demineralization line around the margin of the pit and fissure and/or a light brown discoloration within the confines of the pit-and-fissure area.

A small, distinct, dark brown early (noncavitated) carious lesion within the confines of the fissure.

A deep fissure area (arrow 1) and another area exhibiting a small light brown pit and fissure (arrow 2). Note that the lesion does not extend beyond the confines of the pit and fissure.

A more distinct early (noncavitated) carious lesion (arrow) that is larger than the normal anatomical size of the fissure area.

A more distinct early (noncavitated) carious lesion (arrow) that is larger than the normal anatomical size of the fissure.

1 ADA Council on Scientific Affairs. Use of Pit and Fissure Sealants: Evidence-based clinical recommendations. JADA 2008;139(3):257-68. Copyright © 2008 American Dental Association. All rights reserved. Adapted with permission. To see the full text of this article, please go to http://jada.ada.org/cgi/content/abstract/139/3/257.

2 Images provided courtesy of Dr. Amid I. Ismail, the Detroit Dental Health Project (National Institute of Dental and Craniofacial Research grant U-54 DE 14261-01). This page may be used, copied, and distributed for non-commercial purposes without obtaining prior approval from the ADA. Any other use, copying, or distribution, whether in printed or electronic format, is strictly prohibited without the prior written consent of the ADA.
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- Infectious Endocarditis
- Sealants

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Highlights
- First Critical Summary published in JADA, March 2009
- JADA Editorial: Evidence-Based Dentistry finds a new forum
- EBD Conferences
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ADA Clinical Recommendations

Developed under the sponsorship of the ADA Council on Scientific Affairs and the ADA Center for Evidence-Based Dentistry, clinical recommendations are useful tools that can be used by practitioners in conjunction with their clinical judgement and their patients' needs and preferences to make evidence-based treatment decisions.

ADA Clinical Recommendations do not constitute standards of care but instead are a useful tool that can be applied in making evidence-based treatment decisions.

Fluoride

Professionally applied topical fluoride: Evidence-based clinical recommendations
Executive Summary: Professionally applied topical fluoride: Evidence-based clinical recommendations

Infective Endocarditis

Prevention of infective endocarditis: Guidelines from the American Heart Association

Sealants

Evidence-Based Clinical Recommendations for the Use of Pit-and-Fissure Sealants
Executive Summary: Evidence-Based Clinical Recommendations for the Use of Pit-and-Fissure Sealants
Supported by a grant from the NLM and the NIDCR
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Thank you!!!
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