Updating Recommendations for School-based Sealant Programs

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Presentation Overview

- Review CDC’s decision to convene an expert panel
- Describe objectives and methods
- Present major questions addressed
- Focus on evidence-based approach
Reasons for Updating Recommendations

- Request from ASTDD
- Current guidelines last revised in 1994
- New information available
  - Effectiveness of sealants in clinical and school programs (Systematic reviews)
  - Caries assessment techniques
  - Prevalence of caries and sealants in the U.S.
Reasons for Updating Recommendations

- Request from ASTDD
  - To assure that current guidelines reflect the state of the science
  - To address concerns expressed by some dentists about school programs, including
    - Lack of radiographs
    - Sealing “incipient” carious lesions
    - Use of toothbrush to clean pit-and-fissure surfaces
School Sealant Programs

Slide courtesy of Dr. Mark Siegal - ODH
Reasons for Updating Recommendations

- Caries prevalence is still high in children.
- Percent of children with sealants has increased, but disparities remain.
- Susceptibility of molars is much greater than for other teeth.
Expert Panel Convened

- To review 1994 guidelines for school-based sealant programs
- To ensure that these guidelines
  - Reflect current science
  - Support practices that are appropriate and evidence-based in school settings
“The following guidelines are provided to assist practitioners in determining the appropriate use of sealants.”
Clinical technique was not the purpose. In 1996, an article by Wm. Wagonner was published in JADA.
To assist in selecting communities; strategies; individuals; teeth; and tooth surfaces.
Define the Community

Assess Community Needs

Weigh Supports & Constraints

Define Specific Population

Identify Individuals

Obtain Consent

Individual/Patient

Determinants of sealant delivery in **community sealant programs**, where programs select individuals

Determinants of sealant delivery in **individual care programs**

Patient Self-Selects Providers

Slide courtesy of Dr. Mark Siegal - ODH
Define the Community
Assess Community Needs
Weigh Supports & Constraints
Define Specific Population
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Obtain Consent

Determinants of sealant delivery in community sealant programs, where programs select individuals. Patient Self-Selects
Providers

Slide courtesy of Dr. Mark Siegal - ODH
Evaluate Pit & Fissure Surfaces

- Caries-free
  - Seal
- Questionable
  - Seal
- Enamel Caries
  - Seal
- Dentin Caries
  - Restore

**SEAL**
If at risk for caries based on an evaluation of:
- pit & fissure morphology
- eruption status
- caries pattern
- patient’s perception/desire for sealant

**DO NOT SEAL**
Monitor if the individual and teeth are not at risk

Evaluate sealed teeth for sealant integrity and retention, and caries progression.
Objectives

Consistent with 1994 guidelines CDC’s Expert Panel reviewed:

- Methods of assessing tooth surface status
- Indications for sealant application based on findings of the assessment
- Evaluation of sealed teeth
Objectives

- In contrast to the 1994 guidelines CDC’s Panel:
  - Reviewed selected sealant placement techniques
  - Limited focus to school-based programs
## Panel Members

### Chair –
- Gary Rozier, DDS, MPH  
  University of North Carolina at Chapel Hill

### Panelists –
- Diane Brunson, RDH, MPH  
  Colorado Dept. of Public Health/Environ
- David K. Curtis, DMD  
  American Academy of Pediatric Dentistry
- Margherita Fontana, DDS, PhD  
  Indiana University School of Dentistry
- Harold Haering, DMD  
  American Dental Association
- Larry Hill, DDS, MPH  
  Cincinnati Health Department
- Jayanth Kumar, DDS, MPH  
  New York State Department of Health

### Panelists (continued) –
- Mark Mallatt, DDS, MSD  
  Indiana State Department of Health
- Daniel M. Meyer, DDS  
  American Dental Association
- Wanda R. Miller, RN, MA, NCSN, FNASN  
  National Association of School Nurses
- Susan M. Sanzi-Schaedel, RDH, MPH  
  Multnomah County Health Department
- Mark Siegal, DDS, MPH  
  Ohio Department of Health
- Richard Simonsen, DDS, MS  
  Arizona College of Dentistry and Oral Health
- Benedict I. Truman, MD, MPH  
  Centers for Disease Control and Prevention
- Domenick T. Zero, DDS, MS  
  Indiana University School of Dentistry
Methods

- Expert Panel convened twice
  - Focused review of state of science and practice
  - Engaged in discussions
  - Drafted recommendations based on science and expert opinion
Methods

- Documenting the strength of evidence
  - Relied on published findings of systematic reviews
  - “Mined” additional information from studies included in major systematic reviews (multivariate analyses)
  - Completed CDC systematic review of sealant effectiveness in managing caries
Major Questions:

1. What is the effectiveness of sealants in:
   a. preventing caries initiation?
   b. managing caries progression? (Dr. Griffin)

2. Which surfaces (sound; carious – early; carious – frank) are indicated for sealant placement? (Dr. Griffin)
Major Questions:

1. What is the effectiveness of sealants in:
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Findings of Systematic Reviews

Strong evidence for sealant effectiveness for prevention of caries initiation on “sound” surfaces

- Effect of large magnitude
- Positive effect across included studies
Major Questions:

1. What is the effectiveness of sealants in:
   a. Preventing caries initiation?
   b. Managing caries progression? (Dr. Griffin)

2. Which surfaces (sound; carious – early; carious – frank) are indicated for sealant placement?
Major Questions:

3. What caries assessment methods are necessary to determine which surfaces should be sealed? (Dr. Fontana)

4. What factors are associated with retention? (Dr. Griffin)

5. Are teeth that lose sealants at higher risk of caries than teeth that were never sealed? (Dr. Griffin)
Evidence-based Approach

Strengths:

- Objectively documents level of evidence supporting each recommendation
- Increases evidence available for guideline development by external groups
- Promotes PH perspective if CDC panel members or staff participate in activities of external groups
Evidence-based Approach

Weaknesses:

- Delayed release of CDC recommendations for school-based programs
- Resource and time intense
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