Power searching for
the busy clinician

How to make searching compatible with clinical practice

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ADA American Dental Association®
Objectives for the session

• Become familiar with Evidence-Based Dentistry resources
• Understand and describe the elements of PICO
• Create and Search on a PICO question from a clinical scenario
PICO

P - Population

I (E) - Intervention (or Exposure)

C - Comparison (optional)

O - Outcome
Clinical questions and their components

<table>
<thead>
<tr>
<th>Nature of the Question</th>
<th>Example</th>
<th>Population</th>
<th>Intervention (Exposure or Diagnostic Test)</th>
<th>Comparison (or Reference Standard)</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Therapy or Prevention</td>
<td>What is the effectiveness of antibiotics in preventing complications such as postoperative infections after third-molar extractions?</td>
<td>Patients undergoing third-molar extractions</td>
<td>Antibiotic prophylaxis</td>
<td>No prophylaxis</td>
<td>Alveolar osteitis, surgical wound infection</td>
</tr>
<tr>
<td>Harm or Etiology</td>
<td>Does giving toddlers milk instead of water to drink at night cause caries?</td>
<td>Toddlers</td>
<td>Drinking milk at night</td>
<td>Drinking water at night</td>
<td>Caries</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>How useful is a periapical radiograph in detecting interproximal caries?</td>
<td>Patients suspected of having interproximal caries</td>
<td>Periapical radiograph</td>
<td>Bitewing radiograph</td>
<td>Diagnostic accuracy (as assessed by means of true-positive, true-negative, false-positive and false-negative findings)</td>
</tr>
<tr>
<td>Prognosis</td>
<td>Are patients with diabetes at higher risk of experiencing complications after third-molar extractions than are patients without diabetes?</td>
<td>Patients undergoing third-molar extractions</td>
<td>Presence of diabetes</td>
<td>Absence of diabetes</td>
<td>Pain, swelling, trismus, postoperative infections</td>
</tr>
</tbody>
</table>
The framework for searching: The Busy Clinician
Evidence-Based Dentistry Searching Strategies

• ADA’s Center for Evidence Based Dentistry
• TRIP
• National Guideline Clearing House
• EBD Journal
• The Dental Elf
• The Journal of the American Dental Association (JADA)
• Oral Health Group (Cochrane Collaboration)
• Pub Med
• Embase
# Types of evidence-based dentistry resources: where to find evidence to inform clinical decisions.

<table>
<thead>
<tr>
<th>Type of Resource</th>
<th>Resource</th>
<th>Content</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Levels (Comprehensive Resources)</strong></td>
<td>American Dental Association (ADA) Center for Evidence-Based Dentistry</td>
<td>Guidelines, critical summaries, systematic reviews</td>
<td>Free access to ADA members</td>
</tr>
<tr>
<td></td>
<td>Trip</td>
<td>Clinical practice guidelines, synopses, systematic reviews, primary studies and others</td>
<td>Free access for searching citations</td>
</tr>
<tr>
<td></td>
<td>SUMSearch</td>
<td>Clinical practice guidelines, systematic reviews and primary studies</td>
<td>Free access for searching citations</td>
</tr>
<tr>
<td></td>
<td>Epistemonikos</td>
<td>Systematic reviews, summaries, primary studies</td>
<td>Free access for searching citations and to abstracts</td>
</tr>
<tr>
<td><strong>Summaries and Guidelines</strong></td>
<td>UpToDate</td>
<td>Summaries</td>
<td>Subscribers only</td>
</tr>
<tr>
<td></td>
<td>DynaMed</td>
<td>Summaries</td>
<td>Subscribers only</td>
</tr>
<tr>
<td></td>
<td>National Guideline Clearinghouse</td>
<td>Clinical practice guidelines</td>
<td>Free access</td>
</tr>
<tr>
<td><strong>Preappraised Resources</strong></td>
<td>Evidence-Based Dentistry Journal</td>
<td>Synopses</td>
<td>Free access for searching citations and free access to abstracts</td>
</tr>
<tr>
<td></td>
<td>Journal of Evidence-Based Dental Practice</td>
<td>Synopses</td>
<td>Free access for searching citations and free access to abstracts</td>
</tr>
<tr>
<td></td>
<td>The Dental Elf</td>
<td>Synopses</td>
<td>Free access</td>
</tr>
<tr>
<td></td>
<td>The Journal of the American Dental Association</td>
<td>Synopses and systematic reviews</td>
<td>Free access for searching citations and free access to abstracts</td>
</tr>
<tr>
<td></td>
<td>Oral Health Group, Cochrane Collaboration</td>
<td>Systematic reviews</td>
<td>Free access for searching citations and free access to abstracts</td>
</tr>
<tr>
<td><strong>Nonpreappraised Resources</strong></td>
<td>PubMed</td>
<td>Systematic reviews and primary studies</td>
<td>Free access for searching citations, free access to abstracts, and free access to some articles</td>
</tr>
<tr>
<td></td>
<td>Embase</td>
<td>Systematic reviews and primary studies</td>
<td>Subscribers only</td>
</tr>
<tr>
<td></td>
<td>Cochrane Central Register of Controlled Trials</td>
<td>Primary studies</td>
<td>Free access for searching citations</td>
</tr>
</tbody>
</table>

* Most of the resources that allow free searching for citations also provide links to sources where the full text of these citations can be found, depending on personal or institutional access.
Guidelines - ADA clinical practice guidelines
Systematic reviews - Cochrane Oral Health Group
Evidence Synopses

- ADA Center for EBD critical summaries
- Evidence-Based Dentistry Journal
- Evidence-Based Dental Practice Journal
- JADA Dental Scan
- UTHSC-San Antonio’s School of Dentistry Oral Health Searchable Critically Appraised Topics (CATs) Library
Hands on exercise

• 3 scenarios
• 45 minutes in total
• Identify the article that you think solves the clinical scenario
• You will have ten minutes per scenario
The framework for searching: for busy Clinicians

Guidelines
- ADA guidelines
- National guidelines clearinghouse

Preappraised
- Synopsis documents:
  - ADA EBD critical summaries
  - Journal of EBD
  - Journal of evidence based dental P

Non-preappraised
- Synthesis documents:
  - Cochrane systematic reviews
  - Non-Cochrane reviews
- Primary studies:
  - PubMed clinical queries
Hands on exercise 1  (10 mins)

• The skeptical patient about sealants

The imminent eruption of the permanent molars is the main reason for a mother and her child to visit your practice. After clinical examination and considering that the patient has previous history of caries, you propose the use of sealants to protect the new teeth. The mother seems skeptical about this indication and mentioned that sealants may be not be as effective and actually somehow harmful with all those “chemicals”. To make sure you bring reliable evidence to the next session with the patient, you decide to do a quick search to find out the benefits and harms of sealants.

1. PICO question?
2. Which type of evidence you found?
3. How would you communicate this information to the mother?
Evidence-based clinical practice guideline for the use of pit-and-fissure sealants

A report of the American Dental Association and the American Academy of Pediatric Dentistry

John T. Wright, DDS, MS; James J. Crall, DDS, MS, ScD; Margherita Fontana, DDS, PhD; E. Jane Gillette, DDS; Brian B. Novy, DDS; Vineet Dhar, BDS, MDS, PhD; Kevin Donley, DDS, MS; Edmond R. Hewlett, DDS; Rocio R. Quiñonez, DMD, MS, MPH; Jeffrey Chaffin, DDS, MPH, MBA, MHA; Matt Crespin, MPH, RDH; Timothy Iarolla, DMD, MPH; Mark D. Siegal, DDS, MPH; Malavika P. Tampl, MPH; Laurel Graham, MLS; Cameron Estrich, MPH; Alonso Carroso-Labra, DDS, MS, PhD(c)

Pit-and-fissure sealants have been used for nearly 5 decades to prevent and control carious lesions on primary and permanent teeth. Sealants are still underused despite their documented efficacy and the availability of clinical practice guidelines.

ABSTRACT

Background. This article presents evidence-based clinical recommendations for the use of pit-and-fissure sealants on the occlusal surfaces of primary and permanent molars in children and adolescents. A guideline panel convened by the American Dental Association (ADA) Council on Scientific Affairs and the American Academy of Pediatric Dentistry conducted a systematic review and formulated recommendations to address clinical questions in relation to the efficacy, retention, and potential side effects of sealants to prevent dental caries; their efficacy compared with fluoride varnishes; and a head-to-head comparison of the different types of sealant material used to prevent caries on pits and fissures of occlusal surfaces.

Types of Studies Reviewed. This is an update of the ADA 2008 recommendations on the use of pit-and-fissure sealants on the occlusal surfaces of primary and permanent molars. The authors conducted a systematic search in MEDLINE, Embase, Cochrane Central Register of Controlled Trials, and other sources to identify randomized controlled trials reporting on the effect of sealants (available on the US market) when applied to the occlusal surfaces of primary and permanent molars. The authors used the Grading of Recommendations Assessment, Development, and Evaluation approach to assess the quality of the evidence and to move from the evidence to the decisions.

Results. The guideline panel formulated 3 main recommendations. They concluded that sealants are effective in preventing and arresting pit-and-fissure occlusal carious lesions of primary and permanent molars in children and adolescents compared with the nonuse of sealants or use of fluoride varnishes. They also concluded that sealants could minimize the progression of noncavitated occlusal carious lesions (also referred to as initial lesions) that receive a sealant. Finally, based on the available limited evidence, the panel was unable to provide specific recommendations on the relative merits of 1 type of sealant material over the others.

Conclusions and Practical Implications. These recommendations are designed to inform practitioners during the clinical decision-making process in relation to the prevention of occlusal carious lesions in children and adolescents. Clinicians are encouraged to discuss the information in this guideline with patients or the parents of patients. The authors recommend that clinicians reorient their efforts toward increasing the use of sealants on the occlusal surfaces of primary and permanent molars in children.
Hands on exercise 2  (10 mins)

• Diabetic patient blaming on the periodontal diseases

A patient visits your practice because after a long discussion with his endocrinologist about his very HbA1c (his value 8.5%, below 7% is clinically acceptable), he is convinced that the periodontal disease is the reason for the uncontrolled diabetes and he wants to get treated. After you explain that periodontal disease should get treated irrespective of whether it influences the diabetes, you decided to explore further and make sure how much improvement the patient can really expect from the treatment.

1. PICO question?
2. Which type of evidence you found for this scenario?
3. What is the average benefit in HbA1c reduction to expect?
Cochrane Database of Systematic Reviews

Treatment of periodontal disease for glycaemic control in people with diabetes mellitus

Terry C Simpson, Jo C Weldon EP, Helen V Worthington, Ian Needleman, Sarah H Wild, David R Moles, Brian Stevenson, Susan Furness, Zipporah Iheozor-Ejiofor

First published: 6 November 2015
Editorial Group: Cochrane Oral Health Group
DOI: 10.1002/14651858.CD004714.pub3
Cited by: 2 articles

Abstract

Background

Glycaemic control is a key issue in the care of people with diabetes mellitus (DM). Periodontal disease is the inflammation and destruction of the underlying supporting tissues of the teeth. Some studies have suggested a bidirectional relationship between glycaemic control and periodontal disease. This review updates the previous version published in 2010.

Objectives

The objective is to investigate the effect of periodontal therapy on glycaemic control in people with diabetes mellitus.

Search methods

We searched the following electronic databases: the Cochrane Oral Health Group Trials Register (to 31 December 2014), the Cochrane Central Register of Controlled Trials (CENTRAL) (Cochrane Library 2014, Issue 11), MEDLINE via OVID (1946 to 31 December 2014), EMBASE via OVID (1980 to 31 December 2014), LILACS via BIREME (1982 to 31 December 2014), and CINAHL via EBSCO (1987 to 31 December 2014). ZETOC (1993 to 31 December 2014) and Web of Knowledge (1990 to 31 December 2014) were searched for conference proceedings. Additionally, two periodontology journals were hand searched for completeness, Annals of Periodontology (1996 to 2003) and Periodontology 2000 (1993 to 2003). We searched the US National Institutes of Health Trials
Hands on exercise 3  (5 mins)

• The quick search…

You work in an emergency department. A physician calls you to see a patient that has recently arrived. This patient is a healthy 3 year-old child who cannot open his mouth as it is apparent that he used plenty of superglue (cyanoacrylate) adhesive. Both the mother and the physician tried to solve the problem using warm water, unsuccessfully. Since the unit has internet access, you ask the patient to wait for you 5 minutes so you can figure out a solution.

1. Using any available resource, try to find an article to answer this question
2. You have 5 minutes to find an answer
3. If you find it please let us know but do not share your results with other participants
How to remove Superglue from the mouth: case report.
Narendranath R.1

Abstract
A 2-year-old boy presented to the emergency department of the Bradford Royal Infirmary with Superglue in his mouth as a result of biting on a tube of glue that lay on the floor. His lips and upper teeth were stuck together and we removed the glue by applying margarine.

PMID: 15620783 DOI: 10.1016/j.bjoms.2004.08.004
[PubMed - Indexed for MEDLINE]