

# Evidence-based Dentistry: Part 1. An Overview

Now that evidence-based practice is becoming increasingly common in dentistry, it might be time for a refresher. This month, we'll take a look at the basics of evidence-based dentistry and provide some online resources to get you started.

## What is evidence-based dentistry (EBD)?

The American Dental Association's definition is by far the most comprehensive, as it captures the core elements of EBD. They define it as "an approach to oral health care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence, relating to the patient's oral and medical condition and history, with the dentist's clinical expertise and the patient's treatment needs and preferences."<sup>1</sup>

## History of the evidence-based movement

The evidence-based movement first took hold in the medical field. Formally introduced in the 1990s by David Sackett and Gordon Guyatt of McMaster University, evidence-based medicine outlines a methodical way to incorporate the best available evidence into the decision-making process for clinical practice and patient treatments. These principles ensure that decisions regarding patient care are not only based on experience and expertise, but on current medical research.

EBD's incorporation into dentistry is progressing quickly. Dental schools are integrating the principles into their curriculum and resources are becoming more widely available. Various countries have established centres for evidence-based dentistry (most notably the Centre for Evidence-Based Dentistry in the United Kingdom and DSM-Forsyth Center for Evidence-Based Dentistry in the United States) and the Cochrane Collaboration has an Oral Health Group. In addition,

there are journals focusing on EBD practice which offer reviews of the current literature on dental-related topics.

## How does evidence-based practice benefit a profession?

Today, evidence-based principles are widely being incorporated in most health care fields, as well as some non-health professions. Academic institutions, human resources, even library studies are using evidence-based principles to guide their day-to-day decisions. Evidence-based principles help strengthen professions by identifying knowledge gaps and encourage us to formulate clear questions regarding the evidence that we need. A cycle starts to emerge: the more gaps that are identified means more questions are asked, the more questions that are asked means more research is performed, the more research that is available means better decisions are made, thereby strengthening the profession.

## How to practise EBD:<sup>2</sup>

1. Recognize a need for information and formulate an answerable question.
2. Find best evidence with which to answer that question. Look for systematic reviews, meta-analyses and double-blind randomized controlled studies.
3. Evaluate the evidence for its validity, reliability, relevance and usefulness.
4. Integrate the evidence with your clinical expertise and your patient's needs.
5. Evaluate the overall results and your process. Make any necessary changes.

## Where do you find this evidence?

Some of the best sources of evidence that are fast and easy to use are online. Initially, some sites might seem daunting, but there are tricks of the trade that will help the novice researcher. In addition, the CDA Resource Centre offers professional literature searches and a document delivery service for CDA members. The

CDA's Resource Centre offers a full range of services to meet members' clinical, practice management and oral health research needs. This article is part of an occasional series to help better inform readers on topics of interest by providing answers to actual questions posed to the Resource Centre. If you have a topic you would like the CDA Resource Centre to address, email your question to [library@cda-adc.ca](mailto:library@cda-adc.ca).

information specialist is available to answer your questions on how to search for information. Below are some essential online resources for evidence-based research.

### PubMed

- PubMed is a free medical database provided by the U.S. National Library of Medicine and the National Institutes of Health (NLM). Highly authoritative and up-to-date, PubMed gives you access to MEDLINE, NLM's database of citations and abstracts in the fields of medicine, nursing, dentistry, veterinary medicine, health care systems and preclinical sciences. Updated daily, PubMed gives you access to over 14 million citations dating back to the 1950s. Records are indexed using the NLM's Medical Subject Headings (MeSH).
- You can narrow down your results to include systematic reviews by selecting Clinical Queries on the left-hand sidebar, or in the Limits screen under "Subsets."
- For more information visit: [www.pubmed.gov](http://www.pubmed.gov)

### The Cochrane Library

- The Cochrane Library is an international collection of 7 evidence-based health care databases updated quarterly. With the latest research on the effectiveness of health care treatments and interventions, current technology assessments, economic evaluations, and individual clinical trials, the Cochrane Library is the best single source of the world's highest quality research studies and current evidence on clinical treatments.
- The Library includes the Cochrane Database of Systematic Reviews (Cochrane Reviews), which is recognized as the gold standard in

evidence-based health care. The international Cochrane Oral Health Group produces systematic reviews of evidence-based research on oral health care topics. For more information visit: [www.ohg.cochrane.org/](http://www.ohg.cochrane.org/)

- The Cochrane Collaboration is an international non-profit and independent organization dedicated to providing information and evidence via the Cochrane Library to support clinicians, researchers, patients and policy makers.
- Access to the Cochrane Library is part of your CDA Membership. The Cochrane Library offers podcasts of audio summaries of selected reviews.
- Questions about how to search the Cochrane Library? See the "You Ask, We Answer" on the Cochrane Library<sup>3</sup> or contact the Resource Centre at [library@cda-adc.ca](mailto:library@cda-adc.ca).

The next installment of "You Ask, We Answer" will provide tips on how to frame dental research questions, search strategies and more online resources to locate scientific evidence. ♦

### References

1. American Dental Association. Evidence-based dentistry: glossary of terms. Available: [www.ada.org/prof/resources/ebd/glossary.asp#ebd](http://www.ada.org/prof/resources/ebd/glossary.asp#ebd) (accessed 2009 Jan 12).
2. Centre for Evidence-Based Medicine University Health Network. How do we actually practice EBM? Available: [www.cebm.utoronto.ca/intro/howpract.htm](http://www.cebm.utoronto.ca/intro/howpract.htm) (accessed 2009 Jan 12).
3. De Gannes-Marshall R. The Cochrane Library and the world of systematic reviews. *J Can Dent Assoc* 2007; 73(7):577-8. Available: [www.cda-adc.ca/\\_files/members/resource/research/jcda\\_2007\\_73\\_7\\_577.pdf](http://www.cda-adc.ca/_files/members/resource/research/jcda_2007_73_7_577.pdf).

### THE AUTHOR



*Danielle Rabb-Waytowich is acting information specialist at the Canadian Dental Association.*