

EVIDENCE-BASED DENTISTRY

1 Introduction

1.1 Evidence-based dentistry (EBD) applies to the science of dentistry. EBD relies on systematic reviewing of scientific literature and publishing the evidence relevant to specific clinical questions. The goal of EBD is to help practitioners provide the best care for their patients.

1.2 **Definitions**

1.2.1 DENTISTRY is the science and art of preventing, diagnosing and treating diseases, injuries, developmental and acquired defects of the teeth, joints, oral cavity and associated structures.

1.2.2 EBD is an approach to oral health care which 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.

2 Principles

2.1 **Patient-centred treatment**

Treatment recommendations should be determined for each patient by his or her dentist, and that patient's preferences should be considered in all decisions. Dentist experience and other circumstances, such as patients' characteristics, should also be considered in treatment planning. EBD does not provide a "cookbook" that dentists must follow, nor does it establish a standard of care. The highest standards of dentistry are based on the skill, care and judgement of a suitably qualified practitioner.

2.2 **Elements of the EBD process**

There are four steps in the EBD process:

- define a clinically relevant and focussed question where the evidence may promote the oral health of patients;
- systematically conduct searches of all studies, grade the strength of the evidence using pre-defined criteria, and identify gaps in the evidence;
- translate the findings for use by practitioners; and
- assess the health care outcomes following the EBD process.

3 Policy

3.1 All practitioners should support the concept of evidence-based dental care using credible scientific data, in conjunction with the requirement to have patient-centred treatment.

3.2 The determination of the need for dental care must remain within the purview of the treating dentist and there is no index that can replace the traditional dentist/patient decision-making process in determination of treatment.

- 3.3 All parties with an interest in patient care must take responsibility for identifying relevant questions to be addressed by EBD. The practising profession, researchers, and the community must play key roles in identifying issues.
- 3.4 Trained dental researchers must be responsible for answering the questions and undertaking the research to fill gaps in the knowledge base and to validate modes of treatment.
- 3.5 Governments, industry, research foundations, universities and the profession must help ensure that sufficient funds and research workforce are available to support EBD.
- 3.6 The EBD process must not be used to interfere in the dentist/patient relationship, nor is it to be used as a cost-containment tool by funding agencies.

Policy Statement 5.8

Adopted by ADA Federal Council, November 21/22, 2002.
Amended by ADA Federal Council, April 10/11, 2008.

APPENDIX TO POLICY STATEMENT 5.8

GLOSSARY OF TERMS RELATING TO EVIDENCE-BASED DENTISTRY¹

This glossary is designed to assist dental professionals and public policymakers in developing a common language for discussion of issues pertaining to evidence-based dental care.

Best evidence is a term that refers to information obtained from randomised controlled clinical trials, non-randomised controlled clinical trials, cohort studies, case-control studies, cross-over studies, cross-sectional studies, case studies or, in the absence of scientific evidence, the consensus opinion of experts in the appropriate fields of research or clinical practice. The strength of the evidence follows the order of the studies or opinions listed above.

Case-control study involves identifying subjects with a clinical condition (cases) and subjects free from the condition (controls) and investigating whether the two groups have similar or different exposures to risk indicator(s) of factor(s) associated with the disease.

Case-series is a report on a series of patients with an outcome of interest. No control group is involved.

Clinical practice guideline (parameter of care) is a systemically developed statement designed to assist both practitioner and patient with decisions about appropriate health care for specific clinical circumstances.

Clinical protocol is a step-by-step decision-making tool that describes how a health condition is diagnosed and managed.

Cohort study involves identifying two groups (cohorts) of subjects, one that did receive the exposure of interest and another that did not, and following these cohorts forward for the outcome of interest.

Controlled clinical trial is a study that uses the same design features of a randomised controlled clinical trial (see definition below), but, for reasons beyond the control of the investigators, the subjects are assigned using a non-random process into control or experimental groups.

Cross-over study design is the administration of two or more experimental therapies, one after the other in a specified or random order, to the same group of patients.

Cross-sectional study is the observation of a defined population at a single point in time or in a specified time interval. Exposure and outcome are determined simultaneously.

Evidence-based dentistry is 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 dentists' clinical expertise and the patient's treatment needs and preferences.

Evidence-based health care extends the application of the principles of evidence-based medicine (see below) to all professions associated with health care, including purchasing and management.

Evidence-based medicine is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research.

¹ Some of the definitions are based on information provided in the glossary of the NHS Research & Development Centre for Evidence-based Medicine (<http://ceb.m.jr2.ox.ac.uk/docs/glossary.html>).

Meta-analysis is a review that uses quantitative methods to combine the statistical measures from two or more studies and generates a weighted average of the effect of an intervention, degree of association between a risk factor and a disease, or accuracy of a diagnostic test.

Probability of success is a ratio of the number of patients who benefit from an intervention to all those who receive an intervention. A probability figure, such as 0.5 or 50%, means that, out of 100 patients, 50 would benefit from an intervention and 50 would not benefit. Neither the dentist nor the patient can determine beforehand to which of the two groups a patient will belong.

Randomised controlled clinical trial is a study that randomises a group of subjects into an experimental group and a control group. The experimental group receives the new intervention and the control group receives a placebo or standard intervention. These groups are followed up for the outcomes of interest.

Systematic review is a process of systematically locating, appraising and synthesising evidence from scientific studies in order to obtain a reliable overview. The aim is to ensure a review process that is comprehensive and unbiased. Findings from systematic reviews may be used for decision-making about research and the provision of health care.