Evidence-Based Dentistry

“A Timeline of Change”

Gail Redman, D.D.S.
Numerous dentists were experimenting with a variety of technical procedures.

Work was elementary and done by trial and error.

This formed the foundation of the traditional approach to dentistry.
Past:
1960’s to 1980’s

- G.V. Black’s principles for cavity preparation with some modification for inlay preparation are strongly advocated.

- “Extension for prevention” was the motto.
Past: Sealants

First adaptation of the etching technique that included pits and fissures was reported in 1967.

It was theorized that sealants were a preventive measure but no conclusive research demonstrated long-term effectiveness.

One of the first approaches to minimally invasive dentistry.
Clinical Example

- Patient presents with small occlusal carious lesion.
Before Evidence-Based Dentistry

- Example of preparation based on “extension for prevention”.
Using Evidence-Based Principles

- Outline form achieved without extension for prevention.
- Notice conservation of tooth structure.

Finished Restoration
Present: EBD Techniques Taught Today

We now know that instead of destructive removal of tooth structure, preventive and minimally invasive restorations have very positive outcomes.

Sealants placed over carious and non-carious lesions are effective at preventing further decay.¹

Only 10% of sealed incipient lesions progress to full carious lesions, compared with over 50% when not sealed.²


Present:
Extension for Prevention?

- G.V. Black’s principles no longer apply.
- EBD replaces traditional treatment modalities.
- Minimal preparation for adhesive and amalgam restorations is supported by research. ²,³,⁴

Preparation treats only carious fissures and preserves maximum amount of tooth structure.

Present: Expansion of EBD

- EBD is present in dental school curriculums today.
- EBD has started to influence clinical choices for practicing dentists.
Future

- The American Dental Association will continue to educate dentists on evidence-based dentistry and promote research and systematic reviews.

- Expansion of evidence-based clinical recommendations.

- Dentists will practice dentistry based on principles backed by current research.
EBD in dental schools

• 90% teach their students the basic principles of EBDM.
• 90% are providing EBDM didactics
• 55% of schools have integrated EBDM education into their preclinical and clinical curriculum
EBD in dental schools

- 100% teach students to do clinical queries
- 70% used focused clinical questions
- 80% apply EBDM to their clinical education program and patients
New accreditation Standards - CODA

• 2-21 Graduates MUST be competent to access, critically appraise, apply, and communicate scientific and lay literature as it relates to providing evidence-based patient care.

• Intent: The education program should introduce students to the basic principles of clinical and translational research, including how such research is conducted, evaluated, applied, and explained to patients.
New accreditation standards - CODA

• 5-2 Patient care must be evidence-based, integrating the best research evidence and patient values.

• Intent: The dental school should use evidence to evaluate new technology and products and to guide diagnosis and treatment decisions.