



An Introduction to Evidence Based Medicine: Helping Learners Acquire EBM Skills

**by
Olivia Sheehan, Ph.D.
Coordinator, Faculty Development
&
Dennis Baker, Ph.D.
Director, Faculty Development**

**OUCOM/CORE
Office of Faculty Development**

This presentation provides an introduction to Evidence-Based Medicine (EBM) and provides suggestions as to how clinical teachers can help learners begin thinking in the EBM mode.

This presentation was originally an interactive presentation for a workshop and has been modified for presentation on this web site.

Topics

- ✦ **EBM: Definitions**
- ✦ **EBM: Steps**
- ✦ **EBM: Web Sites**
- ✦ **EBM: Application**
 - **Morning Report**
 - **Journal Club**
 - **Noon Lecture**
 - **Teaching Rounds**
- ✦ **Additional help, EBM workshops, On-line training**

The presentation topics range from definitions of EBM, steps in EBM, how EBM is currently applied, access to some EBM web sites, and how EBM could be applied to educational programs that will enhance learning.

Evidence-Based Medicine: Definition

- ✦ **Conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.**

(Sackett, DL et al Evidence-based medicine: what it is and what it isn't, BMJ 1996)

This definition is provided by David Sackett, a recognized EBM expert. He and his group at Oxford, England maintain a web site at <http://cebm.jr2.ox.ac.uk/> for the Centre for Evidence Based Medicine.

Evidence-Based Medicine: Additional Definition

- ☀ Is an approach to practice and teaching that integrates pathophysiological rationale, caregiver experience, and patient preferences with valid and current clinical research evidence.**

(Ellrodt, G. Evidence-based disease management, JAMA 1997, 278(20))

This definition focuses on the application of EBM to teaching and practice. The important terms to remember are --" valid and current" clinical research evidence. Research is valid if it is accurate and precise and if the measurement used is appropriate for the question being addressed.

Evidence-Based Medicine: Additional Definition

- ✦ **Stresses to the trainee the importance of the evaluation of evidence from clinical research and cautions against the use of intuition, unsystematic clinical experience, and untested pathophysiologic reasoning as sufficient for medical decision making.**
(Chessare, JB. Pediatrics 1998, 101(4 pt 2))

The important terms here are -- evaluation of evidence from clinical research. Evaluation of evidence from clinical research is key.

Evidence-Based Medicine: Steps

- ✦ **Formulate a clear clinical question from a patient's problem.**
- ✦ **Search the literature for relevant clinical articles.**
- ✦ **Evaluate the evidence for validity and usefulness.**
- ✦ **Implement the useful findings in clinical practice.**

These are the steps to recommend to learners relative to practicing EBM. Formulating a clear and focused clinical question is often difficult for learners. You may need to help them with this important and critical first step.

Evidence-Based Medicine: Status

- ✦ **What are things you do that incorporate Evidence-Based Medicine:**
 - ✦ **In your practice?**
 - ✦ **In your teaching?**

With regard to EBM, it is important to ask how one can incorporate EBM principles in practice and in teaching. Demonstrating to learners how you are incorporating EBM in patient care is certainly part of the process of teaching EBM. When asked how they are teaching or encouraging the EBM Approach, some physicians say they routinely ask learners to support their diagnosis and subsequent action with evidence from the current literature. Monthly journal clubs are an ideal setting for discussion of EBM and the learning of skills that makes the practice of EBM possible.

Evidence-Based Medicine: Recommended Web Site

★ <http://www.shef.ac.uk/uni/academic/R-Z/scharr/ir/netting.html>

Check this web site <http://www.shef.ac.uk/uni/academic/R-Z/scharr/ir/netting.html> which contains valuable EBM information. This site is nice because it contains an alphabetical listing of many of the sites related to EBM.

Evidence-Based Medicine: Other Web Sites

- ★ Family Practice Journal Club OnLine (POEMs)
<http://jfp.msu.edu/>
- ★ The Cochrane Collaboration
<http://hiru.mcmaster.ca/cochrane/default.htm>
- ★ The Center for Evidence-Based Medicine
<http://cebm.jr2.ox.ac.uk>
- ★ McMaster's EBM <http://hiru.mcmaster.ca/ebm>
- ★ Agency for Health Care Research and Quality
<http://www.ahrq.gov/>

Check these excellent web sites for more information on EBM. Click on a site to visit it.

Evidence-Based Medicine: Applications

- ☀ Morning Report
- ☀ Journal Club
- ☀ Teaching Rounds
- ☀ Noon Lecture
- ☀ Others

These are examples of educational programs wherein EBM can be incorporated. For an example of EBM applied in morning report read the article written by Brendan Reilly, MD and Maurice Lemon, MD, MPH, "Evidence-based Morning Report: A Popular New Format in a Large Teaching Hospital" which appeared in The American Journal of Medicine, Nov. 103(5):419-26,1997. See this reference and additional references below.

For information on how to select and evaluate articles, refer to the publication, "Evidence-Based Practice, Patient Oriented Evidence That Matters," Volume 1, Number 7 from the publishers of The Journal of Family Practice.

1 : [Nekhlyudov L, Thomas PG, D'Amico S, Clayton SA.](#)

Evidence-based medicine: Resident preferences for morning report.
Arch Intern Med. 2000 Feb 28;160(4):552-3. No abstract available.
PMID: 10695698; UI: 20158245

2 : [Reilly B, Lemon M.](#)

Evidence-based morning report: a popular new format in a large teaching hospital.
Am J Med. 1997 Nov;103(5):419-26.
PMID: 9375711; UI: 98041559

3 : [Schneeweiss R.](#)

Morning rounds and the search for evidence-based answers to clinical questions.
J Am Board Fam Pract. 1997 Jul-Aug;10(4):298-300. No abstract available.
PMID: 9228626; UI: 97372386

Need Help and Ideas?

- ☀ **Call our Office of Faculty Development at 740-593-0157.**
- ☀ **Sites providing information on national EBM workshops.**
- ☀ **On-line training, teaching materials, slide shows on EBM, etc.**

Please feel welcome to call the **OU-COM/CORE Office of Faculty Development at 740-593-0157** To ask questions or to share ideas about teaching EBM.

See **National workshops** on EBM at:

1. Teaching Information Mastery: An EBM Approach to Medical Education
<http://www.hsc.virginia.edu/medicine/clinical/familymed/docs/tim.html>
2. How to Teach Evidence-based Clinical Practice, 2000
<http://hiru.hirunet.mcmaster.ca/ebm/>
3. 5-day workshop on how to teach EBM:
<http://cebm.jr2.ox.ac.uk/docs/workshopsteaching.html>

See **on-line course** at <http://www.poems.msu.edu/InfoMastery/>

See **teaching materials** at Centre for Evidence-based Medicine at
<http://cebm.jr2.ox.ad.uk/>

See **slide shows** on EBM:

1. "Practicing EBM" at:
<http://med-libwww.bu.edu/library/intconf/sld001.htm> by R. Saitz, MD, MPH
2. "The Need for EBM" at:
<http://www.med.usf.edu/CLASS/Gene/Presentation/sld001.htm>