

## **EBM Curriculum Outline**

Chautauqua through Journal Club to publication

### **I. Learning Standards**

#### **1. RRC Requirements**

- a. Residents must gain practical experience in data searching and grading, statistical methods, and application to practice
- b. The training environment must be in compliance with evidence based medicine practice

### **II. Objectives of the EBM curriculum**

1. By the end of the residency, all residents will be able to perform the five basic components of Evidence Based Medicine and critical appraisal. These components include;
  - Ask answerable questions
  - Assessing validity and relevance of the article
  - Synthesizing data, mainly into user friendly meanings
  - Grading the evidence
  - Applying the evidence to their practice
2. By the end of residency, all residents will know how to use these EBM skills in making clinical decisions.
3. All residents will be able to conduct a critical appraisal of original research.
4. Gain information mastery skills
5. Put the EBM skill of making a clinical decision in motion with an evidence based scholarly project.
6. Provide a healthy, group learning environment
  - Continue to refine information mastery skills

### **III. Intern EBM workshops**

#### **1. Intern 1**

- Define components of EBM
- Introduction to asking clinical questions (PICO)
- Define different types of studies
- Grading the evidence
  - Level of Evidence (LoE)
- Intro to pre-synthesized POC tools (dynamed, Essential Evidence Plus)

#### **2. Intern 2**

- Strength of Recommendations (SORT)
- USPSTF Grading system
- Information mastery skills
  - "Look up Conference";
  - POC tools
    - Dynamed
    - Essential Evidence Plus calculators and tools
    - Utilizing Clinical Decision Tools – FRAX, ATPIII, etc

### 3. Intern 3

- Literature Searching sessions
  - PubMed searching strategies
  - Essential Evidence Plus searching strategies
  - National Guideline Clearinghouse searching strategies
- Evidence Synthesis sessions
  - Understanding diagnostic studies and data
  - Understanding therapy studies and data

### IV Components of Journal Club (all attend throughout the year; monthly)

1. Journal Club (JC) is a longitudinal experience. Repeat exposure to EBM concepts over the 3 year residency to achieve the goals of the Journal Club curriculum. JC conducted monthly.
2. Utilize pre-synthesized resources to assist in finding good JC topics
  - Use pre-synthesized resources
  - Daily Poems with Essential Evidence Plus  
[www.essentialevidenceplus.com](http://www.essentialevidenceplus.com)
  - ACP Journal Club - [www.acpjc.org](http://www.acpjc.org)
  - PURLs from JFP (FPIN)
  - Dynamed Weekly Updates – free to sign up  
[www.ebscohost.com/dynamed/weeklyUpdate.php](http://www.ebscohost.com/dynamed/weeklyUpdate.php)
  - Journal Watch - [www.jwatch.org](http://www.jwatch.org)
  - Evidence-Based Practice - [www.ebponline.net](http://www.ebponline.net)

### IV. Format of Journal Club – critical appraisal worksheet used as a guide

1. Resident learners read the **background** information from the research article.
  - From the background, define the clinical question using PICO
    - P – patient or population
    - I – intervention being investigated
    - C – Comparison
    - O – Outcomes being measured
2. Discuss the **relevance** of the article – use the appropriate worksheet as a tool.
  - Did the authors study an outcome patients care about?
  - Is the problem studied common to your practice?
  - Is the intervention feasible? Can you implement it in your medical setting
  - Could this information change your practice?
3. Review the **methods** section. Discuss the **validity** of the study – using the worksheet as a tool
  - Review the study design.
    - Example if a Randomized Control Trial
      - Assignment of patients to treatments were randomized
      - All patients accounted for at end of trial; was follow up complete

- Were study personnel blind
- Were the groups treated equally, aside from the intervention
- Example if a Cohort trial
  - Were the populations similar, except for the intervention
  - Identified and discussed confounders
- Example if a Diagnostic trial
  - Was there a reference standard to compare too
  - Were the methods for performing the test described in sufficient detail
  - Did the patient sample include an appropriate spectrum of patients
- Use the EBM glossary as a guide
- 4. Review the **result** section
  - Utilize the appropriate worksheet as a tool to synthesize the results
    - Look for statistical significance with the results, utilizing the data provided and Confidence Intervals, 2x2 tables
      - How large was the treatment effect
      - How precise was the treatment effect
      - convert data to user friendly data if possible (Number Needed to Treat)
  - Are the results clinically significant?
  - Are there other factors that could affect the outcome?
- 5. Discuss how to apply the evidence
  - Are the results clinically significance?
  - Can the results be applied to your patients?
  - Will the results change your practice?
- 6. Using the CEBM table, assign a Level of Evidence to the article

#### IV. Scholarly activities – putting EBM into motion.

1. Help Desk Answer writing project (or similar project selected from the menu of options; must meet goals below)

- Develop literature search strategy skills
- Gain understanding of levels of evidence
- Become familiar with the CEBM Levels of Evidence (LoE) and Strength of Recommendations (SOR).
- Gain skills in evidence synthesis and utilizing user-friendly statistics
- Practice applying evidence to clinical situations
- Develop a product at the end of the project that can be shared with peers
  - Publication or presentation (to residency, locally, or nationally)
- Hone EBM skills to use during rest of residency as a senior resident.