Teaching Evidence-Based Thinking
Outline and Tips

1. Faculty have two important tasks related to facilitating EBM with their learners:
    a. Helping learners write a good question
    b. Helping learners identify the right tools to answer their questions
2. What constitutes a good question?
    a. Utilization of the PICO format
        i. P – Population, patient or problem
        ii. I – Intervention
        iii. C – Comparison
        iv. O – Outcome
    b. Specific – relates to the patient, potential intervention and outcome of interest
    c. Relates to issues that are most:
        i. Urgent
        ii. Interesting
        iii. Feasible to answer
        iv. Likely to recur
3. Choosing the right tool
    a. The question type dictates the study design

| Question type | Study design |
|---|---|
| Therapy | Meta-analysis |
| Diagnosis | Randomized, Controlled Study (Risk/NNT) |
| Etiology/Natural History | Cohort (Risk/NNT) |
| Prognosis | Case-Control (odds) |
| Clinical prediction guides | Case series (simple descriptive stats) |

    b. What about Up-To-Date? It's ok to allow students to use as a first line resource, however, encourage them to check the references.
4. What is the teachers role in facilitating the 5 "A's" of EBM
    a. Asking
        i. Ask if the learner's question accurately reflects the patient/problem they're trying to address
        ii. Role model:
            1. the process of identifying knowledge gaps and strategies to address
            2. how to build questions
            3. Ways to think about the clinical problem your trying to address
    b. Acquiring
        i. Model:

1. the resources you use to answer questions (in some cases you may use guidelines or clinical summaries and other times you may go to primary literature via medline)
2. what search terms could you use

ii. Ask the learner to search on questions where you know good evidence exists

c. Appraising
   i. Basic questions to ensure the student has valid resources:
      1. Diagnosis
         a. Has the diagnostic test been evaluated in a patient sample that included an appropriate spectrum of mild and severe, treated and untreated disease, plus individuals with different but commonly confused disorders?
         b. Was there an independent, blind comparison with a "gold standard" of diagnosis?
      2. Treatment
         a. Was the assignment of patients to treatments randomized?
         b. Were all patients who entered the study accounted for at its conclusion?
      3. Review Articles
         a. Were explicit methods used to determine which articles to include in the review?

d. Applying
   i. Encourage the learner to determine if their intervention is aligned with the patient's goals for care
   ii. Identify and remove other barriers that may limit the application of a learner's recommendation

e. Assessing
   i. Provide feedback related to the learner's choices.
   ii. Determine if the learner needs more foundational knowledge before moving through the process again