Family Medicine Clerkship EBM Review
In-Class Exercise

Your Name: _____   **Email:** _____

1. What are the four major categories of Clinical questions? (**Select all that apply**)
   - ☐ Economics/Cost analysis
   - ☐ **Diagnosis**
   - ☐ Prediction
   - ☐ **Etiology/Harm**
   - ☐ **Prognosis**
   - ☐ **Therapy**

2. What are the three major components of Evidence-Based Medicine? (Select one)
   - ☐ Expert opinion, clinical experience, and research evidence
   - ☐ **Research evidence, clinical experience, and patient's preference, values and rights.**
   - ☐ Patient testimony, media advertisement, and expert opinion
   - ☐ Research evidence, good interpersonal skill, and personal observation

3. What is **primary** vs. **secondary** evidence?   Please mark the following publication types as **P** for primary or **S** for secondary.
   _S__ Book Chapters   _ S_Systematic Reviews/Meta Analyses   _P__ RCTs
   _ S__ Practice Guidelines (NGC)   _ S__ EBM Synopses (UpToDate, Essential Evidence Plus)
   _ S__ Review Articles   _P_ Case Control Studies   _P__ Cohort Study

4. **PubMed** vs. **PubMed Clinical Queries:** Which one offers specialized search filters to optimize PubMed search strategies for retrieving sound clinical studies in etiology, prognosis, diagnosis, and therapy? The Search may be either broad and sensitive, or narrow and specific. (**Circle one**)
   A. PubMed   **B. PubMed Clinical Queries**

5. What kind of literature would you expect to find in the **Cochrane Collaboration**? (**Circle one**)
   - **A.** Practice Guidelines   **B.** Book Chapters   **C.** Expert Opinions
   - **D.** Editorials   **E. Systematic Reviews/Meta Analysis**

6. What kind of literature would you expect to find in **National Guideline Clearinghouse**? (**Circle one**)
   - **A. Practice Guidelines**   **B.** Book Chapters   **C.** Expert Opinions
   - **D.** Narrative reviews   **E.** Systematic Reviews/Meta Analysis

7. What kind of literature would you expect to find in **UpToDate**? (**Circle one**)
   - **A.** Practice Guidelines   **B.** Book Chapters   **C.** Expert Opinions
   - **D.** Syntheses of peer-reviewed articles written by experts in the field

8. In evaluating a study on **therapy**, what kind of **study design** would you look for in making a therapeutic recommendation? (**Circle one**)
   - **A.** Case Series   B. Randomized Controlled Trials
   - **C.** Narrative Reviews   **D**. Case Controls   **E.** Cohort Studies

9. Which feature in **PubMed** allows you to **view**, **combine**, **expand,** or **copy** and **paste** your previous search strategies? (**Circle one**)
   - **A.** Search History   **B.** Clipboard   **C.** Send To
   - **D.** Search Builder   **E.** Display Setting

10. The first step of EBM is to ask a well-built focused clinical question with the **PICO** components. What does **PICO** stand for? (Select one)
   - ☐ **P** = People; **I** = Information; **C** = Computer; **O** = Overall
   - ☐ **P** = Population/Problems; **I** Information; **C** = Combine; **O** = Overcome
   - ☐ **P** = Population/Problems; **I** Intervention/Exposure; **C** = Comparison; **O** = Outcome

11. Why bother framing your clinical questions in PICO format? [Check all that apply]
   A PICO question:
   - ✔ forces you to ask a specific and focused question that has a specific goal (outcome).
   - ✔ helps focus on evidence directly relevant to your patient's needs and your specific knowledge needs
   - ✔ help making a search of the medical literature easier by identifying specific search concepts and keywords
   - ✔ is answerable, reinforcing the satisfaction of finding evidence that makes you a better, more effective clinician.

12. **P** = Population/Problems; **I** Intervention/Exposure; **C** = Configuration; **O** = Overview Which Boolean operators may be used in a PubMed search to connect multiple search concepts? For example: **"In children with a sore throat, does the rapid strep test provide an accurate diagnosis for possible strep throat?"** (Select one)

   ☐ **AND, OR, NOT**   ☐ and, or, but   ☐ +, -, =   ☐ AND, BUT, NOT

13. There are two types of clinical question, **Background** vs. **Foreground**. Please identify the followings:
   - "*How do you treat frozen shoulder?*"   ☐ Background   ☐ Foreground

   - "*In adult patient diagnosed with frozen shoulder, what is the efficacy of NSAIDs and Physical Therapy vs. steroid injections in alleviating pain, reducing inflammation, increasing range of motion restrictions?*"   ☐ Background   ☐ Foreground

14. Please convert the question into a PICO, "*In adult patient diagnosed with frozen shoulder, what is the efficacy of NSAIDs and Physical Therapy vs. steroid injections in alleviating pain, reducing inflammation, increasing range of motion restrictions?*"
   P: **adult patient diagnosed with frozen shoulder** **I:** *NSAIDs and Physical Therapy*
   C: *steroid injections* **O**: *alleviating pain, reducing inflammation, increasing range of motion restrictions*

   In adult patient diagnosed with frozen shoulder, what is the efficacy of NSAIDs and Physical Therapy vs. steroid injections in alleviating pain, reducing inflammation, increasing range of motion restrictions?
   - o Based on the PICO above, are there any Cochrane Reviews published in this topic and what search strategy will you use?
   Show Results in:
   Cochrane Reviews [0] | Other Reviews [0] | Clinical Trials [0] | Methods Studies [0] | Technology Assessments [0] | Economic Evaluations [0] | Cochrane Groups [0]
   There are **0** results out of **6191 records** for: "**frozen shoulder OR bursitis OR adhesive capsulitis** in **Title, Abstract or Keywords** and **(physical therapy AND non steroid anti inflammatory agents)** in **Title, Abstract or Keywords** in **Cochrane Database of Systematic Reviews**"

- o **Based on the PICO above, how many Practice Guidelines have been published in this topic and what search terms you will use?**

  Keyword: *frozen shoulder OR bursitis OR adhesive capsulitis*

  Your search found 19 related guidelines, which are listed below by relevance. Use the "Limit Search" button to sort by publication date.

- o **Based on the PICO above, what is your PubMed Clinical Queries search strategy and what are your search terms? How many RCTs did you find?**

  - o **Search *((frozen shoulder OR bursitis OR adhesive capsulitis) AND (physical therapy AND non steroid anti inflammatory agents) AND steroids AND injections) AND (Therapy/Narrow[filter])* Limits: Humans, English, All Adult: 19+ years 14:48:34 6 Search result: 6 RCT**

15. **Clinical Question: "***What is the appropriate dietary control in overweight patients with Type II diabetes?***"**
    - o **Is this a well-built clinical question? If not, can this be converted to an answerable clinical question in a PICO format?** *In obese patient diagnosed with **type II diabetes**, what is the efficacy of low fat **Mediterranean die**t compared with **low carbohydrate diet** result in better weight loss and glycemic control, as well as reducing the risk of developing heart diseases?*

    - o **Based on the PICO above, what is your PubMed search strategy?**

      Search **((type 2 diabetes AND (obesity OR Obese OR overweight OR weight loss) AND Mediterranean diet AND low carbohydrate diet)) AND (Therapy/Narrow[filter])** Limits: **English, All Adult: 19+ years**

16. Clinical Question: "***What is the efficacy of insulin therapy for hyperglycemia in VLBW infants?***"
    - o **Please convert to an answerable question (**PICO**).**

      P = **VLBW Infants**   I = **Insulin**   C = **Placebo**   O = **Hyperglcemic control**

    - o **What is the PubMed search strategy and how many studies did you find?**

      - ▪ Search **(Insulin AND very low birth weight AND hyperglycemia) AND (Therapy/Narrow[filter]) Limits: English, All Infant: birth-23 months 17:51:30   13**