Effective Use of the “E” in EBM
The Well-Built Clinical Question: “PICO” Model

- **Patient / Population / Problem** (*among _____*)
- **Intervention / Exposure** (*does _____*)
- **Comparison** (*versus _____*)
- **Outcome** (*affect _____*)
I = Intervention or Exposure

- What interventions are you interested in knowing more about (therapeutic, diagnostic, preventive or other)?
- What strategies are you interested in comparing?
- Example: For medical students starting internship is checking hepatitis B titers required ........

  - The influence of psychological stress on the immune response to vaccines.
    - Stress-induced modulation of the immune response to recombinant hepatitis B vaccine.

  - Vaccine-induced antibody responses as parameters of the influence of endogenous and environmental factors.
    - Van Loveren H, Van Amsterdam JG, Vandebriel RJ, Kimman TG, Rümke HC, Steerenberg PS, Vos JG.
    - Author information
C = Comparison of Interest

• Is there a comparison to be evaluated against the intervention?

• Example: For medical students starting internship is checking hepatitis B titers required in addition to immunization records....
O = Outcome of Interest

• What is the desired outcome to be evaluated?
• How will the intervention and/or outcome affect the stakeholder...

Example: For medical students starting internship is checking hepatitis B titers required in addition to immunization records to ensure immunity.
<table>
<thead>
<tr>
<th><strong>P</strong></th>
<th><strong>Patient, Population, or Problem</strong></th>
<th><strong>How would I describe a group of patients similar to mine?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I</strong></td>
<td><strong>Intervention, Prognostic Factor, or Exposure</strong></td>
<td><strong>Which main intervention, prognostic factor, or exposure am I considering?</strong></td>
</tr>
<tr>
<td><strong>C</strong></td>
<td><strong>Comparison to Intervention (if appropriate)</strong></td>
<td><strong>What is the main alternative to compare with the intervention?</strong></td>
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<tr>
<td><strong>O</strong></td>
<td><strong>Outcome you would like to measure or achieve</strong></td>
<td><strong>What can I hope to accomplish, measure, improve or affect?</strong></td>
</tr>
<tr>
<td><strong>T</strong></td>
<td><strong>What type of question are you asking?</strong></td>
<td><strong>Therapy/Treatment, Diagnosis, Prognosis, Harm/Etiology (may be referred to as “domains” in PubMed)</strong></td>
</tr>
<tr>
<td><strong>T</strong></td>
<td><strong>Type of study you want to find</strong></td>
<td><strong>What would be the best study design/methodology?</strong></td>
</tr>
</tbody>
</table>