

# *ASKING*

**Constructing a Good Clinical Question  
Using the PICO Format**

## Objectives:

- To demonstrate understanding of a “good clinical question.”
- To distinguish between a background question, usually answerable by information and a foreground or evidence seeking clinical question.
- To demonstrate the ability to compose structured, searchable clinical questions using the four part PICO (Patient, Intervention, Comparison, Outcome) format.

In preparation for exploring compiled “systems” evidence, synthesized and summarized evidence, and databases and websites of compiled evidence, determine what topic, content or health issue upon which to focus. This brief exercise will help organize key aspects of course content or clinical topics to help focus and structure an effective and efficient search for information and evidence.

## Resources:

1. "Asking answerable clinical questions" in D.L. Sackett, S.E. Straus, W.S. Richardson, W. Rosenberg, and R.B. Haynes. Evidence-based Medicine: How to Practice and Teach EBM. New York: Churchill Livingstone, 2000. p.13-27.
2. Weinfeld JM and K Kinkelstein. How to answer your clinical questions more efficiently. Fam Prac Mgmt. 2005;Jul-Aug;37-4. <http://www.aafp.org/fpm/20050700/37howt.html>
3. Virgilio RF, Chiapa AL, Palmarozzi EA. Evidence-Based Medicine, Part 1. An Introduction to Creating an Answerable Question and Searching the Evidence. JAOA 2007; 107:8.295-297. <http://www.jaoa.org/cgi/content/full/107/8/295>.
4. Schardt , Adams MB, Owens T, Keitz S, Fontel P. BMC Med Inform Decis Mak. 2007 Jun; 7: 16. <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1904193>
5. Huang X, J Lin, D Demner-Fushman PICO as a Knowledge Representation for Clinical Questions archive.nlm.nih.gov pubs.

# Directions:

1. **Consider what aspect of your course (content, material, delivery, applied, knowledge, skills practice, etc.) would benefit most by incorporating EBP skills, knowledge or behaviors. This activity will help you define a topic or scenario around which you can design content, assignments or other evidence based skill enhancement.**
2. **Download the PICO Form.doc.**
  - a) Save the file on your hard drive or desktop.
  - b) Re-open the file and type in the information. Save your work with the new file name.
3. **Fill out the PICO Form**
  - i) Fill in key words and phrases under each of the table headings that will help compose a good clinical question or a search strategy: Patient, Intervention, Comparison and Outcome. List several synonyms or terms under each PICO heading.
  - b) Compose background PICO format questions using the broader PICO and foreground PICO questions using specific, narrow key words or terms.
  - c) Organizational tip to make searching more efficient: place brackets around each component of the PICO format question to make sure all components are covered and to easily switch keywords during searches.
4. **Get ready to start your search: Systems, synopses, summaries and studies.**
  - a) Narrow the clinical question, determine additional clinical aspects and provide additional search terms for your clinical question using the compiled evidence database web sites.
    - i) Explore each of the compiled evidence databases (on the PICO Search Strategy & Results Worksheet) and search for specific information that can be used as additional PICO terms or synonyms.

There are several excellent compiled evidence websites for health care. In the first "Access" activity, you will use some of the best systems and synopses on high quality compiled evidence websites:

      - a. **DCConsult (FCER)** <http://www.dcconsult.com/nationallogin.asp>
      - b. **Natural Standard** [www.naturalstandard.com](http://www.naturalstandard.com)
      - c. **Natural Medicines Comprehensive Database** [http://www.naturalmedicines.com/member\\_home.asp](http://www.naturalmedicines.com/member_home.asp)
      - d. **US Agency for Healthcare Research and Quality (AHRQ)** [www.ahrq.gov](http://www.ahrq.gov)
      - e. **The US National Library of Medicine's MedlinePlus** [www.nlm.nih.gov/medlineplus/](http://www.nlm.nih.gov/medlineplus/)

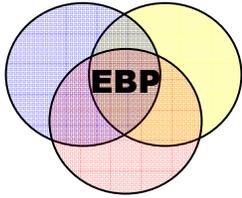
# Example Patient Scenario and PICO table

**Topic:** CAM therapies for chronic low back pain and associated mild to moderate depression

**Patient Scenario:**

James, a 32 year old, white male longtime patient, sees you for back and neck pain and headaches he associates with his “road-warrior” sales job that includes extensive travel with overnight stays and time-zone changes. He is frustrated that his pain never goes away despite regular visits. He notes that his mood is better, the pain is diminished and he has less trouble sleeping when he travels to southern areas where it is warmer and sunnier. After investigating the possibility of depression, you and he decide to look into additional alternative therapies that may help alleviate these symptoms of mild to moderate depression as well as chronic pain.

	<b>Patient, population, problem</b>	<b>Intervention</b>	<b>Comparison</b>	<b>Outcome</b>
<b>Consider</b>	Describe relevant patient characteristics or problem similar to your patient’s. Be brief, clear, precise, narrow. Define alternatives.	Determine possible therapies, diagnostic keywords, prognostic factors, causes.  Background: broad (“ <i>what is most effective?</i> ”) or Foreground: narrow, specific therapy	Alternative therapy.  Consider a limiting factor.  Focus on patient concerns, considerations, issues and values.	Clinical outcome or goal, also known as the measured outcome or deliverable. What do you want to accomplish? What effect do you hope to have? Cure, diagnosis; cost, quality of life. Be specific. Think “key words.”
<b>Question components</b>	(adults with) mild to moderate (seasonal) depression chronic (low back / lumbar / neck) pain	<ol style="list-style-type: none"> <li>1. light therapy</li> <li>2. nutritional supplements</li> <li>3. diet</li> <li>4. exercise and lifestyle</li> <li>5. non-surgical</li> </ol>	(Prescription) anti-depressants), non-steroidal anti-inflammatory drugs, surgery	<ol style="list-style-type: none"> <li>1. decrease mood swings</li> <li>2. decrease fatigue</li> <li>3. alleviate (joint, muscle, back, etc) pain</li> <li>4. alleviate symptoms</li> </ol>
<b>PICO</b>	<p><u>Background questions:</u></p> <p>What are effective lifestyle or diet based interventions for the alleviation of mild seasonal depression?</p> <p>What are effective lifestyle or exercise based interventions for the alleviation of chronic low back or neck pain?</p> <p><u>Foreground:</u></p> <ol style="list-style-type: none"> <li>1. For [<b>P</b>=adults with chronic low back pain] are [<b>I</b>=CAM OR non-operative therapies] as effective as [<b>C</b>=surgery] to [<b>O</b>=alleviate pain OR regain physical function]?</li> <li>2. For [<b>P</b>=adults with mild to moderate depression] is [<b>I</b>=light therapy] as effective as [<b>C</b>=prescription drugs] to [<b>O</b>= alleviate of mood swings OR fatigue OR pain]?</li> <li>3. For [<b>P</b>=adults with mild to moderate depression] are [<b>I</b>=specific botanical supplements: St. John’s Wort, Ginko biloba, etc.] effective to [<b>O</b>=alleviate mood swings and other emotional symptoms]?</li> <li>4. Are [<b>I</b>=lifestyle changes (broad) such as exercise (specific)] effective to [<b>O</b>=alleviate fatigue and physical symptoms OR pain (specific)] associated with [<b>P</b>=mild to moderate depression OR chronic (low back / lumbar / neck) pain]?</li> </ol>			



# Constructing a good clinical question using the PICO format Worksheet

**Topic:** \_\_\_\_\_

**Patient Scenario:**

	Patient, population, problem	Intervention	Comparison	Outcome
<b>Consider</b>	Describe relevant patient characteristics or problem similar to your patient's. Be brief, clear, precise, narrow. Define alternatives.	Determine possible therapies, diagnostic keywords, prognostic factors, causes.  Background: broad ("what is most effective?") or Foreground: narrow, specific therapy	Alternative therapy.  Consider a limiting factor.  Focus on patient concerns, considerations, issues and values.	Clinical outcome or goal: what do you want to accomplish? What effect do you hope to have? Cure, function, diagnosis; cost, quality of life? Be specific. Think "key words."
<b>Question components</b>				
<b>PICO</b>				