Research and Publication Tools for Medical Students
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Sponsored by Shiffman Medical Library & Office of Medical Education

Agenda

- Introductions and overview
- EndNote: Manage article citations and manuscripts
- Patient Intervention Comparison Outcome (PICO):Construct a clinical research question using PICO
- PubMed: Locate the evidence using PubMed's Clinical Queries filter

Case

Betty is an active 83-year-old female. She used to swim three times a week for 45 minutes, garden, and walk to church. But for the last several months, she has had trouble walking and bending her knees. It has made gardening difficult and restricted her daily activities.

Situation: Her family physician made the diagnosis of osteoarthritis and prescribed Voltaren (diclofenac), a nonsteroidal anti-inflammatory drug. She is still in pain and wants to know if acupuncture would help. She says she would like to stay away from more medication. You are not sure about the effectiveness of acupuncture for this patient and need to do a little research before you can address her question.

Patient Intervention Comparison Outcome (PICO)
Constructing the Clinical Research Question

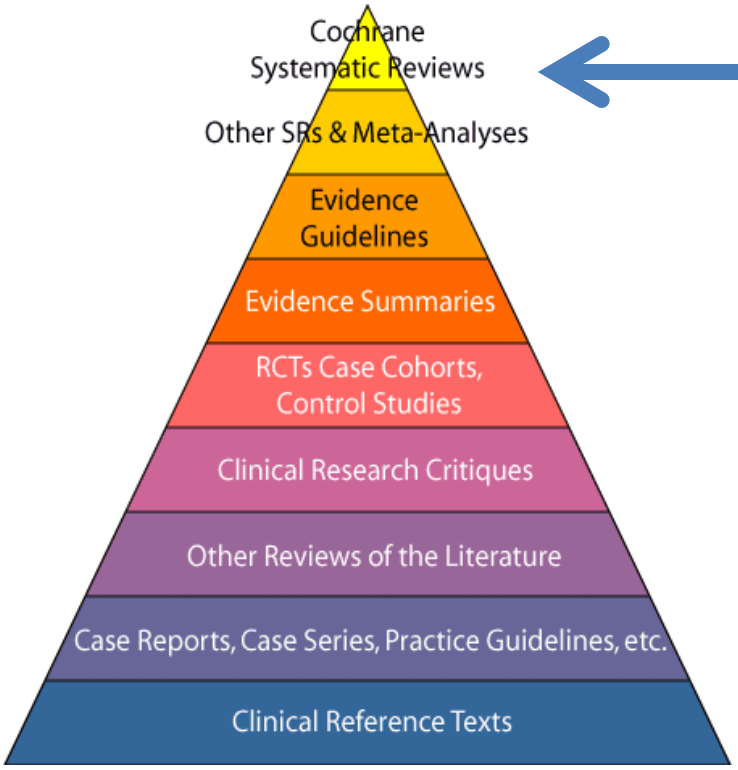
Patient, Population, or Problem Prognostic Factor, or Exposure	How would I describe a group of patients similar to mine?
Intervention	Which main intervention, prognostic factor, or exposure am I considering?
Comparison or Intervention (if appropriate)	What is the main alternative to compare with the intervention?
Outcome you would like to measure or achieve	What can I hope to accomplish, measure, improve or affect?
What type of question are you asking?	Diagnosis, Etiology, Therapy, Prognosis, Prevention, Harm
What type of study you want to find	What would be the best study design/methodology?

Source: www.uic.edu/depts/lib/lhsp/resources/ebm.shtml by Jo Dorsch, UIC Library of the Health Sciences-Peoria. Please send comments to Jo Dorsch, jod@uic.edu.

Where Can I Find the Evidence?
Hierarchies of Evidence

Type of Study

Where to Locate EBM Studies Using Library Resources



Systematic Reviews
Cochrane Library

Meta-analyses
MEDLINE (PubMed@Wayne)

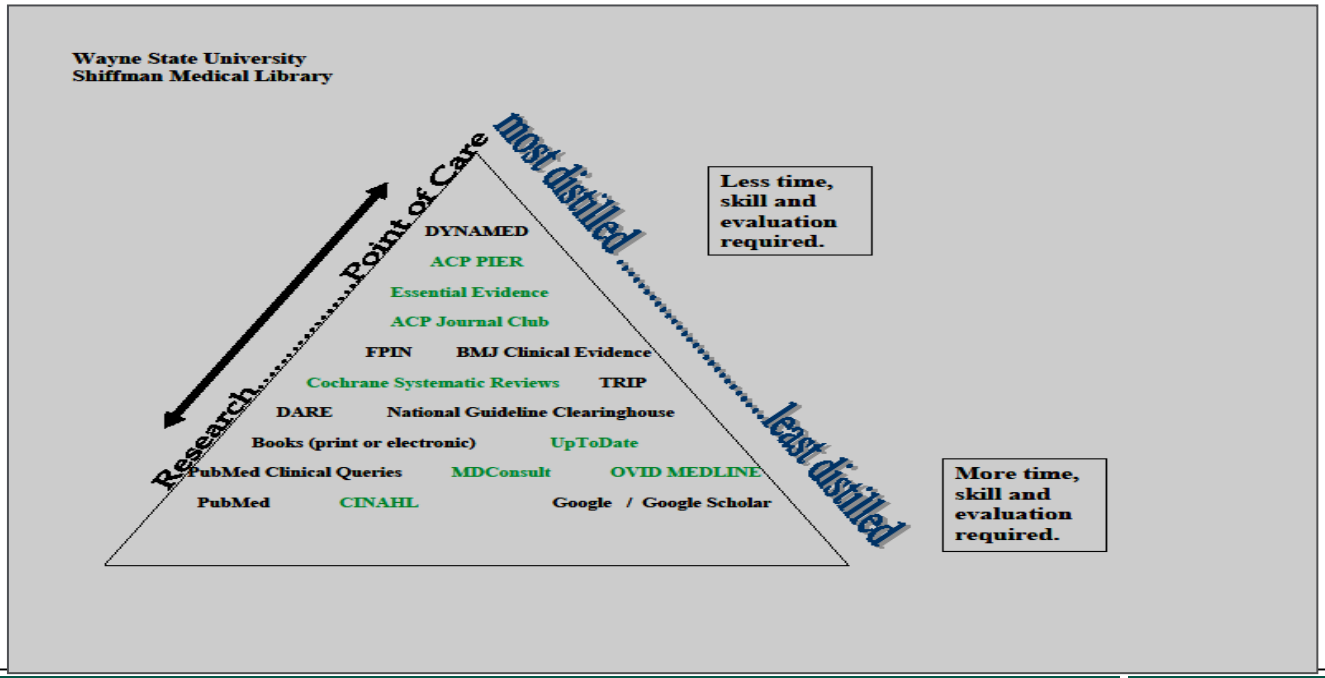
Expert/Evidence Summaries
ACP PIER (StatRef)
ClinicalKey
UpToDate

Randomized Controlled Trials
MEDLINE (PubMed@Wayne) Clinical Queries
Cochrane Central Register of Controlled Trials

Clinical Research Critiques
ACP Journal Club (StatRef)

Clinical Reference Texts
AccessMedicine
StatRef
ClinicalKey

Source: University of Washington



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***Evidence-Based Medicine**:* An approach of practicing medicine with the goal to improve and evaluate patient care. It requires the judicious integration of best research evidence with the patient's values to make decisions about medical care. This method is to help physicians make proper diagnosis, devise best testing plan, choose best treatment and methods of disease prevention, as well as develop guidelines for large groups of patients with the same disease.

***Systematic Review**:* (synonym: systematic overview): A review of a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyse data from the studies that are included in the review. Statistical methods (meta-analysis) may or may not be used to analyse and summarise the results of the included studies.

Meta-Analysis: The use of statistical techniques in a systematic review to integrate the results of included studies. Sometimes misused as a synonym for systematic reviews, where the review includes a meta-analys

***Case Control Studies**:* Studies which start with the identification of persons with a disease of interest and a control (comparison, referent) group without the disease. The relationship of an attribute to the disease is examined by comparing diseased and non-diseased persons with regard to the frequency or levels of the attribute in each group.

Clinical Guideline: A systematically developed statement for practitioners and participants about appropriate health care for specific clinical circumstances

Clinical Trials: An experiment to compare the effects of two or more healthcare interventions. Clinical trial is an umbrella term for a variety of designs of healthcare trials, including uncontrolled trials, controlled trials, and randomised controlled trials. Also called: Intervention study

Cohort Studies: Studies in which subsets of a defined population are identified. These groups may or may not be exposed to factors hypothesized to influence the probability of the occurrence of a particular disease or other outcome. Cohorts are defined populations which, as a whole, are followed in an attempt to determine distinguishing subgroup characteristics.

Critical Appraisal: The process of assessing and interpreting evidence by systematically considering its validity, results, and relevance.

***Randomised Controlled Trials**:* An experiment in which two or more interventions, possibly including a control intervention or no intervention, are compared by being randomly allocated to participants. In most trials one intervention is assigned to each individual but sometimes assignment is to defined groups of individuals (for example, in a household) or interventions are assigned within individuals (for example, in different orders or to different parts of the body.)

Sources:
http://www.cochrane.org/glossary/
http://www.nlm.nih.gov/mesh/