PubMed® for Librarians - Evidence Based Searching in PubMed Practice Exercises and Links

1. Evidence based medicine is the **C_____, E_____** and **J_____** use of the current best evidence in making decisions about the care of individual patients.

   Sakett DL, "Evidence Based medicine: what it is and what it isn't" 1996, PMID 8555924 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2349778/
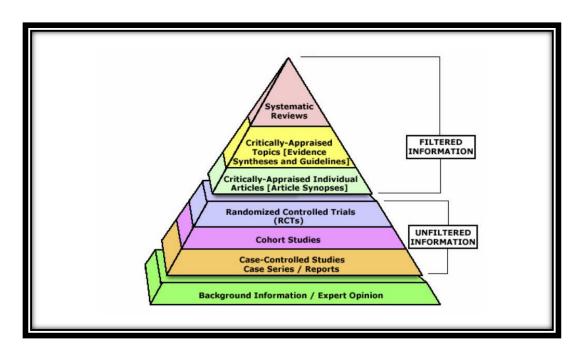

Figure 1: the EBM pyramid from https://hsls.pitt.edu/resources/ebm

2. Two main branches in MeSH that describe study design:

   a. _____ **Techniques**

   b. **Study _____**

3. Randomized Controlled trial is the **G_____ S_____** of medical research because it is the best design to reduce the chances of bias and control for the effect of the treatment.

NLM Indexers use the MESH term "Randomized Controlled Trial" in conjunction with a specific clinical trial phase to describe a research trials in PubMed.
RCT is also a **PubMed Filter - Publication Type**

5 things to know about MeSH & EBM

1. Publication Type & Investigative Techniques
2. Clinical Trial vs. Observational Study
3. Publication Type vs. "as Topic"
4. Double-blind method (1977) & Random allocation (1978)
5. Randomized Controlled Trial

4. **Exercise 1: Sleep Apnea**

Construct a PubMed search to compare treatments for sleep apnea.

TIP: Use the MeSH Database and explore the Study Characteristics branch

PubMed: https://www.ncbi.nlm.nih.gov/pubmed/
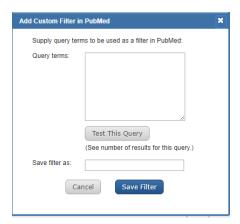
5. PubMed Clinical Queries categories

    a) Clinical Study Category – automatically uses the **V_____** so you don't have to know it yourself

    b) Systematic Reviews – a Systematic Review is not a **P_____T_____**; it is a whole search string/subset.

    c) Medical Genetics (explore on your own)

6. Comparative Effectiveness Research includes **O_____ studies**.

   Clinical Queries do NOT include **O_____ studies**.

7. PubMed Health is **P_____ O_____** systematic reviews and Effectiveness information

8. Exercise 2: How to Add a Comparative Effectiveness Research as Topic Filter to myNCBI

1. Log into your myNCBI account
2. Click on Manage Filters
3. Look for the button labeled "Create custom filter" on the Manage Filters page

          [Create custom filter]

   It is a big blue button
4. Enter your search strategy, test it, and name your custom filter
Query Terms (for "Comparative Effectiveness Research as Topic")

Add Custom Filter in PubMed ✖

Supply query terms to be used as a filter in PubMed:

Query terms:

[   ]

[Test This Query]

(See number of results for this query.)

Save filter as: [   ]

[Cancel] [Save Filter]

pragmatic trial[tw] OR
pragmatic trials[tw] OR
practical clinical trial[tw] OR
"comparative effectiveness" OR
(promising[tw] AND unproven[tw]) OR
resource allocation [majr] OR
therapies, investigational [majr] OR
united states agency for healthcare research and quality [mh]
OR centers for medicare and medicaid services [mh]

5. Test Query (around 28688 results)
6. Name and save filter – *Ex: CER as TOPIC*
7. Check to activate filter
8. Return to PubMed & Run a simple search – *example: gastric bypass*
9. Apply filter (8 results)

5 Takeaways – EBM Tools

1. Clinical Queries

2. Comparative Effectiveness Research

3. PubMed Health

4. myNCBI – Manage Filters

5. Systematic Review [sb]

LEARN MORE:

Introduction to Evidence-Based Practice (Duke) tutorial: http://guides.mclibrary.duke.edu/ebmtutorial

Systematic Review Workshop: The Nuts and Bolts for Librarians (Univ. Pittsburg):
http://www.hsls.pitt.edu/systematicreview/

Dr. John P. Ioannidis profile in The Atlantic (or search PubMed for Ioannidis JP)
http://www.theatlantic.com/magazine/archive/2010/11/lies-damned-lies-and-medical-science/8269/

Ben Goldacre – Battling Bad Science Ted Talk
http://www.ted.com/talks/ben_goldacre_battling_bad_science

BONUS LINKS:

David Sackett obituary (The Lancet, 2016):

http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)61094-7/fulltext

PubMed Publication Characteristics (Publication Types) - with Scope Notes
https://www.nlm.nih.gov/mesh/pubtypes.html

NICHSR ONESearch - Search all the NICHSR databases and web portals (HSRProj, HSRR, HSRIC and PHPartners) with one simple search: https://www.nlm.nih.gov/nichsr/onesearch.html