INTRO TO EBM & LIT SEARCHING

EMILY SHOHFI, MLIS, AHIP
Clinical Librarian
Darnall Medical Library, WRNMMC
Building 1, 3rd floor, Room 3458
301-295-2603
Emily.e.shohfi.civ@mail.mil
REVIEW – WHAT IS EBM?

CORE EVIDENCE-BASED MEDICINE FEATURES

- Individual Clinician’s Expertise
- Best External Evidence
- Patient Values & Expectations

EBM
1. Optimal clinical decision making requires awareness of the best available evidence
   Ideally from best evidence summaries

2. Not all evidence is equal
   A hierarchy of evidence guides clinical decision making

3. Evidence alone is never enough
   Decision makers balance risks and benefits of alternative management strategies in the context of patient values and preferences

WHAT IS YOUR ROLE IN EBM?
WHY IS EBM IMPORTANT?

- Research findings are often delayed in being implemented into clinical practice
- Helps filter immense amount of information that emerges in the literature
- Effective method of keeping up with the most current research and changing therapies
- Provides information on how similar cases treated
THE EBM/EBP PROCESS

A process that begins and ends with the patient
<table>
<thead>
<tr>
<th>EBM PROCESS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ASSESS the patient</td>
<td>Start with the patient—a clinical problem or question arises from the care of the patient</td>
</tr>
<tr>
<td>2. ASK the question</td>
<td>Construct a well-built clinical question derived from the case</td>
</tr>
<tr>
<td>3. ACQUIRE the evidence</td>
<td>Select appropriate resource(s) and conduct a search</td>
</tr>
<tr>
<td>4. APPRAISE the evidence</td>
<td>Appraise the evidence for its validity (closeness to the truth) and applicability (usefulness in clinical practice)</td>
</tr>
<tr>
<td>5. APPLY: talk with patient</td>
<td>Return to patient—integrate that evidence with clinical expertise + patient preferences, and apply it</td>
</tr>
<tr>
<td>6. ACT</td>
<td>Evaluate your performance w/ this patient</td>
</tr>
</tbody>
</table>
In the clinic, you meet 2LT Roark, a 29 year old active duty male. 2LT Roark is a little overweight and has been working hard to get into shape for the Army physical fitness test. He runs and bikes regularly.

He remembers hearing years ago during high school cross country that chocolate milk might be better than sports drinks, such as Gatorade, after a long workout for muscle recovery. 2LT Roark wants to know if this is actually true.

What can you research to recommend?
START WITH A CLEAR QUESTION

The first step is to form a clear and focused question that is relevant and will help you carry out a quick and effective search later.
During your encounter with a patient many questions may arise

- General, basic questions
- Patient, population, or problem-specific questions

Categorizing these questions as general or specific will help you to select the best resources and save time.
BACKGROUND QUESTIONS

• What are they?
  ▪ General knowledge about a disease, illness, condition, or process
  ▪ Information to fill in your basic level of knowledge
  ▪ Focus on topics…not patients

• How to formulate: think Stem + Clinical Topic Model
  ▪ Stem= What is, Why do, How does…
  ▪ Clinical topic = the disease, condition, or process of interest

• Examples
  • What is the treatment for COPD?
  • What are the adverse effects of Bactrim?
  • What triggers a pain crisis in sickle cell patients?
  • What are the diagnostic criteria for Deep Vein Thrombosis?
In the clinic, you meet 2LT Roark, a 29 year old active duty male. 2LT Roark is a little overweight and has been working hard to get into shape for the Army physical fitness test. He runs and bikes regularly.

He remembers hearing years ago during high school cross country that chocolate milk might be better than sports drinks, such as Gatorade, after a long workout for muscle recovery. 2LT Roark wants to know if this is actually true.

What can you research to recommend?
What are they?

During patient care, foreground questions answer pointed questions regarding a specific patient or population.

Often investigate comparisons (e.g. two drugs or treatments, the prognosis of two groups, two diagnostic tests, or the harms/benefits of two approaches.

Is your question answerable?

“What is the overall best approach to post-workout recovery?” is so broad that a meaningful answer is difficult to find due to the large number of articles you may retrieve addressing many possible treatments, diagnostic tests, and clinical outcomes.

“Is there an association between chocolate milk and muscle recovery?”

“Does the difference in sugar in chocolate milk versus plain milk post-workout contribute diabetes?”

Both are a bit more focused and can lead to a more doable search strategy… though there may not always be enough literature out there!

The key is to FOCUS the question
### HOW TO FOCUS: USE PICO(TT)

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P</strong></td>
<td><strong>Patient or Population</strong>&lt;br&gt;How would I describe a group of patients similar to mine?</td>
</tr>
<tr>
<td><strong>I</strong></td>
<td><strong>Intervention; Test; Prognostic Factor; Exposure</strong>&lt;br&gt;What is the main intervention, test, exposure, prognostic factor?</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td><strong>Comparison (if appropriate)</strong>&lt;br&gt;Describe the main alternative being considered.</td>
</tr>
<tr>
<td><strong>O</strong></td>
<td><strong>Outcome</strong>&lt;br&gt;What are you trying to accomplish, measure, improve, or affect?</td>
</tr>
<tr>
<td><strong>T</strong></td>
<td><strong>Type of Question you are asking</strong>&lt;br&gt;How would you categorize this question?</td>
</tr>
<tr>
<td><strong>T</strong></td>
<td><strong>Type of Study you would want to find</strong>&lt;br&gt;What would be the best study design to answer this question?</td>
</tr>
</tbody>
</table>
Clinical foreground questions can be further categorized into subtypes of questions

- **Treatment/therapy**
  Typical compares two interventions for a condition.

- Questions of treatment in order to achieve some outcome. May include drugs, surgical intervention, change in diet, counseling, etc.
  - Similar question type: prevention questions

- **Diagnosis**
  Questions of identification of a disorder in a patient presenting with specific symptoms.

- Rule in or out a disease. Typically compares a new diagnostic test to the gold standard test. Related: DDx questions

- **Prognosis**
  Given a condition, does a certain factor indicate a worse prognosis. Looks at the progression of a disease or likelihood of a disease occurring.

- **Etiology/harm**
  Looks for an association / causation between an exposure and an outcome.

- Questions of negative impact from an intervention or other exposure.

There are others…these are just some of the most common
LET’S GO BACK TO 2LT ROARK…

WHAT IS OUR PICOTT?
PICOTT

- **P**: (Post-)exercise [adult with family history of diabetes]
- **I**: Chocolate milk
- **C**: Sports drink OR water (also consider plain milk and brand names of drinks)
- **O**: Faster muscle recovery
- **T**: Therapy
- **T**: What about study design?
Evidence-based practice involves tracking down the available evidence, assessing its validity and then using the “best” evidence to inform decisions regarding care.
EBM Levels of Evidence Pyramid

- **RCTs + Controlled Clinical Trials** help to answer treatment or diagnosis questions. If there are no RCTs or CCTs, move down the pyramid to the next best option.

- **Cohort Studies + Case Controlled Studies** help to answer prognosis questions or etiology/harm questions.

- When you cannot find a cohort study or case-controlled study to answer your question, look for a case series or case report.
STUDY DESIGN — EXPERIMENTAL
RANDOMIZED CONTROL TRIAL (RCT)

- The gold standard by which all clinical research is judged.
  - There are two groups, one treatment group and one control group.
  - The treatment group receives the treatment under investigation, and the control group receives either no treatment (placebo) or standard treatment.

- Patients are randomly assigned to all groups.
- Greatest potential to minimize bias.
Parachute use to prevent death and major trauma related to gravitational challenge: systematic review of randomised controlled trials.

Abstract:

OBJECTIVES: To determine whether parachutes are effective in preventing major trauma related to gravitational challenge.

DESIGN: Systematic review of randomised controlled trials.

DATA SOURCES: Medline, Web of Science, Embase, and the Cochrane Library databases; appropriate internet sites and citation lists.

STUDY SELECTION: Studies showing the effects of using a parachute during free fall.

MAIN OUTCOME MEASURE: Death or major trauma, defined as an injury severity score > 15.

RESULTS: We were unable to identify any randomised controlled trials of parachute intervention.

CONCLUSIONS: As with many interventions intended to prevent ill health, the effectiveness of parachutes has not been subjected to rigorous evaluation by using randomised controlled trials. Advocates of evidence based medicine have criticised the adoption of interventions evaluated by using only observational data. We think that everyone might benefit if the most radical protagonists of evidence based medicine organised and participated in a double blind, randomised, placebo controlled, crossover trial of the parachute.

STUDY DESIGN – OBSERVATIONAL COHORT STUDY

• START WITH EXPOSURE, LOOK TO OUTCOME

• Known at the outset whether people have been exposed to a treatment or not (e.g. a drug, vaccine, environmental toxin) and are then divided into groups or “cohorts” (treated or exposed vs. nontreated or nonexposed) on this basis.

  • They are then followed forward in time (prospectively) for years/decades to see how many in each group develops a disease or other outcome.

• Less expensive, easier to administer, and sometimes more ethical than RCT

• *Inception Cohort* is a variation that only follows one group (longitudinal study) who have all been diagnosed with an early stage of a disease, and are then followed and evaluated on a repeated basis to assess the development of the disease (e.g. MS and a genetic marker) or the time frame for a particular outcome measure.
STUDY DESIGN — OBSERVATIONAL CASE-CONTROL STUDY

- Start with outcome, look to exposure
- People with a particular condition ("cases") matched with group of people who do not have the disorder ("controls") and researchers look back to determine the proportion of people in each group who were exposed to suspected causal factor.
- Relies on memory ("recall bias") or medical records, which can be inaccurate or incomplete
STUDY DESIGN – OBSERVATIONAL CROSS-SECTIONAL STUDY

• Establishes association between possible causal factor and a condition by determining an exposure to the factor and “caseness” at the time
  • Eg if women gave birth to a baby with a cleft palate AND they had taken a particular drug during pregnancy
• Easy and inexpensive to carry out and ethically acceptable BUT can only establish association, not causation.
STUDY DESIGN – OBSERVATIONAL CASE REPORTS & CASE SERIES

- Used to describe a condition (often rare/novel), new treatment/innovation, or adverse effect of an intervention.
- Extra information not conveyed in a trial
- Lowest rungs of evidence ladder b/c isolated observations are collected in uncontrolled, unsystematic manner and information gained cannot be generalized to larger population of patients
<table>
<thead>
<tr>
<th>Type of Question</th>
<th>Description</th>
<th>Study Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis</td>
<td>An evaluation of a test, screening or other assessment such as history or physical exam</td>
<td>Prospective, blind comparison to a gold standard. RCT &gt; controlled clinical trial (CCT) &gt; cohort &gt; case control &gt; case series</td>
</tr>
<tr>
<td>Therapy</td>
<td>An evaluation of a therapeutic or preventive intervention</td>
<td>RCT &gt; CCT &gt; cohort &gt; case control &gt; case series</td>
</tr>
<tr>
<td>Prognosis</td>
<td>An evaluation of clinical outcomes over time</td>
<td>cohort &gt; case control &gt; case series</td>
</tr>
<tr>
<td>Etiology/Harm</td>
<td>An evaluation of a therapeutic, preventive, screening or diagnostic intervention, or a non-therapeutic exposure or behavior</td>
<td>cohort &gt; case control &gt; case series</td>
</tr>
<tr>
<td>Prevention</td>
<td>An evaluation of the effectiveness of an intervention or exposure in preventing morbidity and mortality</td>
<td>RCT &gt; CCT &gt; cohort &gt; case control &gt; case series</td>
</tr>
<tr>
<td>Cost</td>
<td>An evaluation of cost versus benefit of a treatment or procedures</td>
<td>Economic analysis, cost-benefit analysis</td>
</tr>
</tbody>
</table>
ID THAT ARTICLE!
CHOCOLATE MILK VS. GATORADE

• “Is chocolate milk a better post-recovery drink than sports drinks for muscle recovery post-workout (after exercise)?

• How else can you phrase this?

CHOCOLATE MILK / GATORADE VS. WATER

• “Are recovery drinks better than water in aiding muscle recovery after exercise?

• How else can you phrase this?

META-ANALYSIS/SR → RCT → COHORT → CASE SERIES
You've Assessed the patient, formed a solid question, and determined ideal study types to look for.
Now it’s time to acquire evidence and apply to our patient.

Where do you look?
BACKGROUND QUESTIONS

• A lot of these resources include secondary or filtered literature. The information is already synthesized for you—summarizing results of previous studies and scientific evidence.

• Books, eBooks, online textbook collections
• Point-of-Care tools
• Narrative review articles
• Drug resources

FOREGROUND QUESTIONS

• Due to their complexity, foreground questions are typically answered by primary or unfiltered literature—meaning, the critical appraisal or synthesis of the articles has not been done for you—as well as by systematic reviews/meta-analyses and guidelines.

• Journal article databases
• Cochrane Database of Systematic Reviews
• Point of Care Tools
• Guidelines
SHORT ON TIME BUT UPTODATE ISN’T CUTTING IT:

PUBMED CLINICAL QUERIES

• Specialized PubMed search filters intended for clinicians to limit retrieval to articles based on clinical question type.

• Filters include the following Clinical Study Categories:

  • Therapy: Retrieves clinical studies that discuss the treatment of disease. This is the search default.
  • Diagnosis: Retrieves clinical studies addressing disease diagnosis.
  • Etiology: Retrieves clinical studies addressing causation/harm in disease and diagnostics.
  • Prognosis: Retrieves clinical studies addressing disease prognosis.
  • Clinical Prediction Guides: Retrieves clinical studies which discuss methods for predicting the likelihood of disease presence or absence.
Other filters include:

**Systematic Reviews**
This feature is provided to help locate systematic reviews and similar articles.

**Medical Genetics**
Filters citations to topics in medical genetics.

---

**Clinical Study Categories**

| Category: | Therapy |
| Scope:    | Broad   |

Results: 5 of 18

- Prognosis of dental implants in patients with low bone density: A systematic review and meta-analysis.
- Dental implants in patients with osteoporosis: a systematic review with meta-analysis.
- Role of supportive maintenance therapy on implant survival: a university-based 17 years retrospective analysis.
- Immediate Loading Fixed Full-Arch Dentures: Evaluation of Implant Survival Rates in a Case Cohort of up to 7 Years.
- An open, prospective, non-randomized, controlled, multicentre study to evaluate the clinical outcome of implant treatment in women over 60 years of age with osteoporosis/osteopenia: 1-year results.

**Systematic Reviews**

Results: 4 of 4

- Prognosis of dental implants in patients with low bone density: A systematic review and meta-analysis.
- Dental implants in patients with osteoporosis: a systematic review with meta-analysis.
- Role of supportive maintenance therapy on implant survival: a university-based 17 years retrospective analysis.
- Immediate Loading Fixed Full-Arch Dentures: Evaluation of Implant Survival Rates in a Case Cohort of up to 7 Years.

**Medical Genetics**

Topic: All

Results: 1 of 1

- Medical contraindications to implant therapy: Part II: Relative contraindications. 

- What impact do systemically administered bisphosphonates have on oral implant therapy? A systematic review.

- Systemic diseases affecting osseointegration therapy.

This column displays citations for systematic reviews, meta-analyses, reviews of clinical trials, evidence-based medicine, consensus development conferences, and guidelines. See more filter information and related sources.
Using clinical queries and our PICO, let’s search for the evidence in Clinical Queries to answer our question.

P – Post-exercise/after workout
I – Chocolate milk
C – (Sports drink OR water OR Gatorade)
O – Muscle recovery
T – Therapy

*you pick what pieces are most important to you. We recommend using the P & I when doing a basic, quick search

AFTER YOU FIND AN ARTICLE, YOU EVALUATE

CONSIDER – BIAS, APPLICATION TO PATIENT, RELEVANCE; WHAT WOULD YOU CHANGE FOR YOUR SEARCH IF YOU WEREN’T SATISFIED?
PUBMED OVERVIEW

Searching beyond scratching the surface
WHAT’S PUBMED?

Hopefully a rhetorical question
• NLM’s web-based interface to MEDLINE, which is the premier biomedical health sciences database of literature.

• Over 27 million citations and abstracts, covering the fields of biomedicine and health, as well as the life sciences, dentistry, behavioral sciences, chemical sciences, and bioengineering.

• Freely available online to search but should be accessed by you at: www.wrnmmc.libguides.com/home

• (to increase chances of being linked to the full-text article)
Go to the library’s homepage

www.wrnmmc.libguides.com/home

Click on PubMed, located on the left hand side of the page.

SEARCHING PUBMED

Because searching shouldn’t be overwhelming!
BEFORE YOU SEARCH:

HAVE YOUR QUESTION & DETERMINE SOME KEY CONCEPTS

- P (Population) = Post-exercise/after workout
- I (Intervention) = Chocolate milk
- C (Comparison) = (Sports drink OR water OR Gatorade)
- O (Outcome) = Muscle recovery

Concept 1 = exercise
Concept 2 = chocolate milk / sports drink
Concept 3 = recovery
First some background, then we’ll split up into groups and you’ll practice what you’ve learned
In a comprehensive literature review, a combination of keyword and controlled vocabulary searching is the best choice.

Method 1: Keywords
your own terms, synonyms, and “natural language”

A Combo of the two methods

Method 2: Controlled Vocabulary
Medical Subject Headings “MeSH”
– an authoritative list of terms used to tag articles
METHOD 1: KEYWORD SEARCHING

For whatever term you enter, the computer will try to find that exact term in any field of the record.

Pro: you capture the most recent articles.

Con: chance of retrieving “false positives” – see image
• Get used to looking at the Search Details Box!

• Found on the right hand side of your screen, this box will tell you what behind-the-scenes magic PubMed is doing, and what MeSH terms your keywords are automatically mapping to (or not).

• If something funny is happening with your search, this will also tell you why!
Controlled vocabulary are also known as “indexed terms” or subject headings. They are a predefined list of terms (e.g. words, phrases) that is used to tag articles in a consistent way.
As you can see in the image to the right, this article has been tagged with the MeSH “Cacao” and “milk” and “beverages.”

If we click on any of these (like Cacao), we will be able to see all of the other articles that are also about that same topic.
We can build a search where we use several Medical Subject Headings to locate articles tagged with the headings of your choice. This ensures maximum precision as the article will definitely be about both of those concepts.
KAHOOT! WARM UP AND WAKE UP

BAND NAME OR MESH TERM?

Do your best to guess if the terms in the quiz are a band name or a PubMed MeSH term.

1. Pull out a personal device and navigate to kahoot.it
2. Log in using the code
3. Create a name (feel free to be creative)
IN A NUTSHELL, MESH…

- **Groups different ways of describing a concept under a single word or phrase**
  - can think of it like one umbrella term for all the synonyms, singular/plural pairs, spelling variants and the like.

- **Makes searching more efficient and precise; reduces the chances you’ll retrieve ‘false positives.’**

- **But—the caveats:**
  - There’s a lag time - it usually takes 5+ months for an article to be assigned subject headings.
  - Sometimes a MeSH term won’t exist for your concept
  - Finally, there are times when a subject heading is very new; in those cases, terms will not be retroactively assigned to articles.
STARTING YOUR SEARCH

From basic to advanced
Typically, we would start a search in the following fashion (with keywords and ATM) just to get a sense of what’s out there.

Chocolate milk exercise recovery

(or however you’d like to break this up – try different things!)

Don’t forget your can switch your viewing format to Abstract so you don’t have to click open every article to read what it’s about!
As you examine your search results, pay attention to the MeSH terms that were used to tag the articles.

Add appropriate MeSH to your list of terms to use (Harvesting) – you can try to incorporate them in future searches.
The process that expert searchers use to locate appropriate controlled vocabulary (e.g. MeSH terms) and user-supplied keywords is referred to as “harvesting.”

- We are collecting and gathering all potential terms—including synonyms—that we need to consider when putting together a comprehensive search of the literature.

- Excellent way to keep track of useful search terms and search strategies.

- Essential for systematic reviews and meta-analysis, wherein the Methods section encompasses your search strategy and inclusion/exclusion criteria.
HOW IT WORKS

Divide your research questions into distinct topics or concepts. Establishing your question using the PICO format will help, as you have in essence already divided your question into distinct concepts.

Come up with synonyms or keywords to describe each concept:

- Identify the best Medical Subject Headings (MeSH) for each of your concepts. Do the same with controlled vocabulary from other databases.

Tips: use a target article(s) to help get you started.
### Example of Harvesting Terms

You don't have to use all concepts in every search.

Join each concept with **AND**

Join each synonym with **OR**

<table>
<thead>
<tr>
<th>Concept 1: Chocolate Milk</th>
<th>Concept 2: Exercise</th>
<th>Concept 3: Muscle Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chocolate milk OR chocolate milks OR (chocolate AND milk*) OR chocolate beverage OR (chocolate AND soy milk) OR etc…</td>
<td>(exercise OR post exercise OR post-exercise OR after exercise OR after workout OR post workout OR activity OR biking OR cycling OR running OR run OR run* OR cycles)</td>
<td>Muscle recovery OR recovery OR muscle OR recover OR recovers OR sore* OR stiffness OR muscle soreness OR muscle stiffness OR …</td>
</tr>
</tbody>
</table>

**Keywords**
- Use your expertise!
- Think of variant spellings + synonyms

**MeSH (PubMed)**
AND, OR, & NOT

Chocolate Milk

Sports Drink
## ADDING MESH TO YOUR LIST

**Join each concept with AND**

**You don’t have to use all concepts in every search**

<table>
<thead>
<tr>
<th>Keywords — use your expertise!</th>
<th>Concept 1: Chocolate Milk</th>
<th>Concept 2: Exercise</th>
<th>Concept 3: Muscle Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chocolate milk OR chocolate milks OR (chocolate AND milk*) OR chocolate beverage OR (chocolate AND soy milk) OR etc…</td>
<td>Chocolate milk OR chocolate milks OR (chocolate AND milk*) OR chocolate beverage OR (chocolate AND soy milk) OR etc…</td>
<td>Exercise OR post exercise OR post-exercise OR after exercise OR after workout OR post workout OR activity OR biking OR cycling OR running OR run OR run* OR cycles</td>
<td>Muscle recovery[tiab] OR recovery OR muscle OR recovery OR muscle OR recover[tiab] OR recovers[tiab] OR sore* OR stiffness[tiab] OR muscle soreness[tiab] OR muscle stiffness[tiab] OR recovery aid* OR …</td>
</tr>
</tbody>
</table>
• Check your search details box to make sure nothing funky is happening. If something weird is happening, go back and check to find out why!
• Don’t forget you can edit the search details box if needed! It’s better to fix your term itself, but you can force the box to cooperate too.
• Consider how to make phrases work in different ways, or use synonyms.
CREATING A MORE ADVANCED KEYWORD SEARCH

- Once you have all of your individual concepts searched, click on the Advanced link below the PubMed search box.
- Use the boxes to build your search. Use the “Add” feature so you don’t have to re-type anything. Think about one concept per box; use ORs to join your synonyms (e.g. exercise OR running)
- Purpose: to cast a wide enough net so as to capture more articles.
YOUR TURN!

I’ve passed out some clinical scenarios to try out using the techniques to get you started. Try them out in small groups, and we’ll regroup as a whole after you’ve tried them out and go over a few more tips on what else to try.

OR

I can go over common troubleshooting first, and then you can give it a try. Your choice!
TROUBLESHOOTING COMMON PROBLEMS:
MORE ADVANCED HELP IN PUBMED
SEARCHING WORDS WITH DIFFERENT ENDINGS?

- Truncation of a word and adding an asterisk (*) to the end will allow you to search simultaneously for the different endings of a word.

You can also do a space then a * for different words that might follow each other. Alternately, you can spell out different endings and combine with an OR between words.

Eg. Exam* vs (exam OR examine OR exams OR examining OR examines OR ___)
chocolate milk* ← chocolate milk, chocolate milks, chocolate milkshake
Run* ← run, runner, running, runners (will stop after 600 variations!)
Recovery aid* ← recovery aid, recovery aids
HOW ABOUT PHRASES?

““ will search exactly as written

\[ \text{tiab} \] will force a phrase, and will search for the phrase in the title and abstract

Title abstract searching allows for hyphenation and different spellings of words

You can combine the \*[\text{tiab}] to look for different endings of a word that might appear in a title and abstract

Eg. Chocolate milk*[\text{tiab}] vs. chocolate milk[\text{tiab}] vs. “chocolate milk” vs. chocolate milk[\text{ti}]

\[ \text{ti} \] after the word will look for just the title; no [\text{ab}] for just the abstract right now, unfortunately.
WHAT IF I STILL HAVE TOO MANY RESULTS?

- Troubleshoot!
- Then, see if you can adjust your search terms by adding/subtracting pieces (play around with the concepts – you don’t have to put every synonym in there; you can also add more from your PICO to create more specificity).
- Then, Filters and [TIAB]
- Contact Emily for help!
Almost all journal article databases (PubMed, CINAHL, PsycINFO, etc.) allow to apply filters or limits. Be sure to apply these limits LAST, after you have run your search (otherwise, you risk the change of applying too many limits and may retrieve zero results). Apply your limits incrementally.

Depending on your search or information needs, good limits include:

- Language
- Publication Date range
- Ages / Age Groups
<table>
<thead>
<tr>
<th>Filter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customizes</td>
<td>Customize filters, make your search more specific.</td>
</tr>
<tr>
<td>Bold to activate</td>
<td>Use bold for emphasis, select terms to activate.</td>
</tr>
</tbody>
</table>

Check your terms: Add more of your PICO
EMILY, THIS IS TOO MUCH! WHAT IF I JUST WANT A SIMILAR ARTICLE TO SOMETHING I ALREADY FOUND?
QUESTIONS??
MEET WITH ME!

I’m always happy to meet with you in order to provide literature search assistance or talk through EBM throughout the year. I’m also happy to help with Journal Club!

Emily Shohfi, MLIS, AHIP
Clinical Librarian, Darnall Medical Library
Assistant Professor of Medicine, F. Edward Hébert School of Medicine
Bldg 1, Floor 3, Room 3458
emily.e.shohfi.civ@mail.mil
301.295.2603 (Office)