

MODULE 2 – LESSON NOTES

YEAR 2 – ONLINE – APRIL 25 MAY 05 2011

Use Medline effectively - how to use the PubMed search engine using it's different functions

TITLE: PubMed matters : training videos

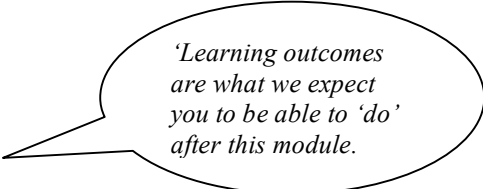
This is an introductory module to PubMed.

Learning Outcomes

1. Understand PubMed's scope and content.
 2. Understand how the MeSH vocabulary is used to describe and retrieve citations.
 3. Build a search using MeSH and PubMed search tools (Details, Limits, History, Search Builder, etc.)
 4. Manage your results using display, sort, the Clipboard, save, print, e-mail and order features and My NCBI filters.
 5. Save your search strategies.
 6. Link to full-text articles and other resources.
- Use special queries and other PubMed/NCBI tools.

Resources for learning

GIMBE web link: What is evidence based medicine (Definitions)
Medline video tutorials (online)
Online quiz



'Learning outcomes are what we expect you to be able to 'do' after this module.'

Activities in Lesson 2

- *Watch* a 4 short tutorial videos to learn to use PubMed search tools
- *Apply* the PICO technique from lesson 1 and Boolean operators to structure a Medline search.
- Search for evidence recording your strategies on “My PubMed” and print key abstracts

Task 2.1 – MEDLINE functions: video tutorials

Watch the 7 mini videos which explain how to use the main functions of MEDLINE. After, do the ‘Test your Medline knowledge’ quiz.

To watch the videos you need to go online to the PubMed homepage.

<http://www.ncbi.nlm.nih.gov/sites/entrez?db=pubmed>

From the PubMed home page find the following Video links or copy and paste the URL addresses into you browser.

DO the following tutorials

1. Search by Author

<http://www.nlm.nih.gov/bsd/viewlet/search/author/author.html>

2. Search by subject

<http://www.nlm.nih.gov/bsd/viewlet/search/subject/subject.html>

3. Search with the MeSH data base

<http://www.nlm.nih.gov/bsd/viewlet/mesh/searching/mesh1.html>

Combining MeSH terms

<http://www.nlm.nih.gov/bsd/viewlet/mesh/combining/mesh2.html>

Applying sub headings

<http://www.nlm.nih.gov/bsd/viewlet/mesh/subheadings/mesh3.html>

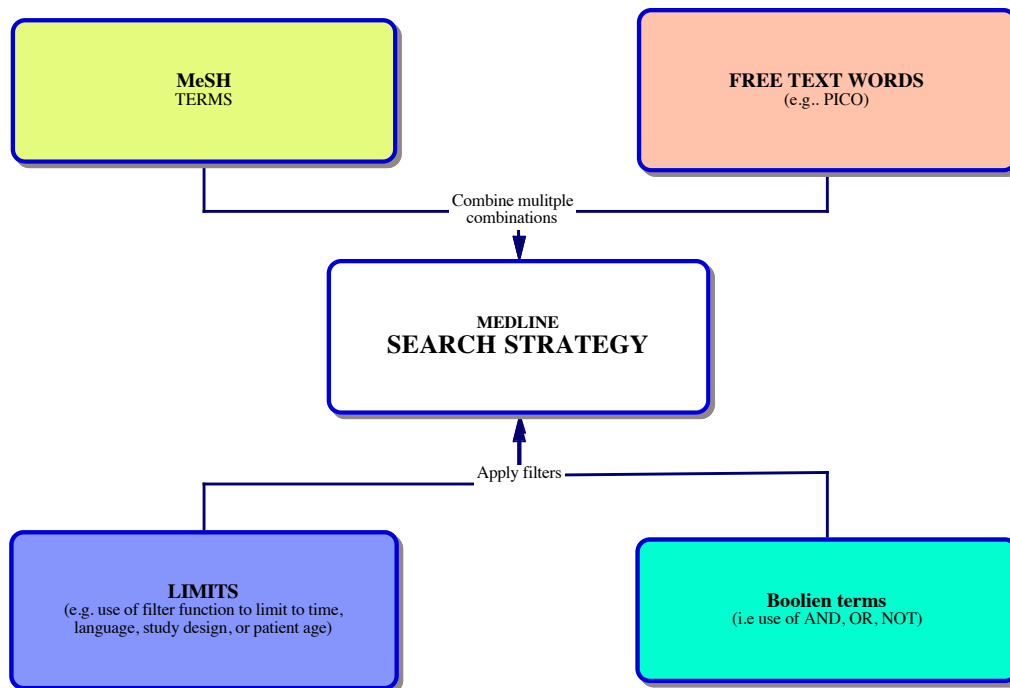
Saving search strategies

http://www.nlm.nih.gov/bsd/viewlet/myncbi/saving_searches.html

Filters

<http://www.nlm.nih.gov/bsd/viewlet/myncbi/filters.html>

Summary of Search Strategies for Medline



Practice exercises

Practice Problem 1

Here are some simple exercises to practice your skills. Save all your searches on PubMed's "My NCBI"

You want to answer a very specific clinical question

Specific Question.

A mother of a young African girl with cerebral malaria has told you she knows of a drug which can save her daughter's life or at least reduce risks significantly.

Background knowledge

Do you know the symptoms and risks of cerebral malaria? If you don't, consult:

- your microbiology textbooks
- the MeSH database dictionary (e.g. type in 'malaria' and read the short description)
- Choose 'cerebral' from the concept tree.

You want to know if there is any evidence of a new drug that reduces risks of complications and/or death.

- Divide the problem into concepts. What are the key words in the above problem? Think of:

‘Patient’ (What kind of patient? What is the condition?)

Intervention’ (What do we want to do to help the patient?)

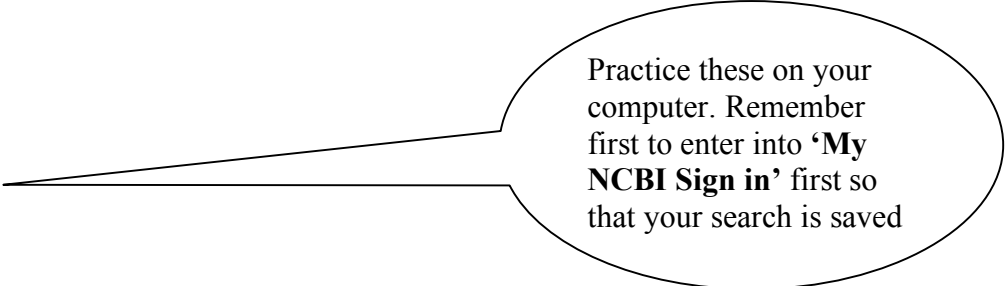
Comparison (What alternatives of treatment exist?)

Outcome’ (What do we want to happen after the intervention?)

Check terminology and definitions. Use the table to get a complete picture of the terms you need.

Patient / pathology	
Intervention	
Comparison	
Outcome	

Now, go to MEDLINE!



Practice these on your computer. Remember first to enter into ‘My NCBI Sign in’ first so that your search is saved

b. Do a search with your concepts. Use the filters and analyse the results. Look at the titles of the articles. If they are relevant click on the article and read the abstract.

c. Did you find any answers?

Forum comments: *(you can share your ideas with other students on the forum), if that helps)*

Feedback

Solutions. (PICO)

Here are your initial concepts. You could use these in a manual search.

a) PATIENT = child

b) INTERVENTION = therapy; (one drug is better than another: RCT evidence?)

c) CONDITION = malaria

d) OUTCOME = survival/prognosis/recovery /reduce seizures OR symptoms

Practice Problem 2 –

A mother and father come to your office with their 6-year-old son, John, who is suffering from hay fever symptoms. The symptoms started 2 weeks ago. They have tried antihistamines, but John fell asleep at school. John’s father asks: Are there medications that John can take that won’t make him sleepy? John’s mother takes an anti histamine called Claritin (Loratadine) for her hay fever. Is that safe for children?

You decide to do a MEDLINE search for more information.

Try yourself

What key words would you use to start this search? Enter some key terms at the PubMed basic search screen. What results do you get?

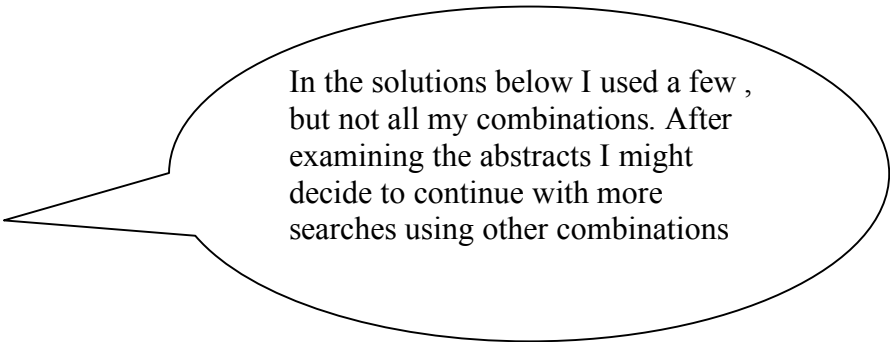
Check terminology and definitions. Use the table

Patient / pathology	
Intervention	
Comparison (if you have one)	
Outcome	

Here are examples of two possible solution:

<i>Patient / pathology</i>	Allergy, allergic rhinitis, hay fever, hypersensitivity
<i>Intervention</i>	Claritin OR Loratadine
<i>Comparison</i>	Alternative antihistamines
<i>Outcome</i>	Reduce symptoms, safety, efficacy,

My Results:



In the solutions below I used a few , but not all my combinations. After examining the abstracts I might decide to continue with more searches using other combinations

Search 1: (hay fever OR allergic rhinitis) AND (Claritin OR Loratadine) AND (alternative antihistamines) AND (safety OR reduction of symptoms)

Limits: Randomized Controlled Trial, Journal Article, English, All Child: 0-18 years, published in the last 5 years

Search 2: (hay fever) AND (Claritin OR Loratadine) AND (safety OR reduction of symptoms)

Limits: Randomized Controlled Trial, Journal Article, English, All Child: 0-18 years, published in the last 5 years

Study Tips

Notice that I used the *Limits* function to indicate ‘child’ and included MeSH and free text works.’ Because I was interested in studies which asked ‘What treatment is best?’ I included a generic alternative in the comparison field (“alternative antihistamines’). However, this is not always necessary.

When I wrote “allergy” in the MeSH window I saw that “allergy” was not a MeSH term. The MeSH browser indicated a synonym “hypersensitivity”. With this word I scrolled down the MeSH page, or hierarchy of terms. Under the term ‘*hypersensitivity*’ I found *Hay fever/Rhinitis, Allergy, Perennial*. You can add these terms to your main search window.

Portfolio Project

Now that you have developed your skills, you can conduct a more detailed search for evidence. You can choose

- a) To go back to the Jennifer’s story of her gastric bypass on YouTube (Lesson 1.1). What is the medical evidence for the effectiveness? Were there any effective alternatives?
- b) To choose another clinical topic which is related to your study (or personal interests). Or which interest you particularly. Whatever subject you choose, this is an individual task.

You can do this in Word and keep it in your file (portfolio), or alternatively post it online in the quiz

Do some systematic searches on Medline:

- Save your searches on PubMed
- Identify, read and print key abstracts
- Write a short synthesis (*Italian or English*) of the evidence, making reference to the findings in at least **4 key abstracts** of recent evidence. Max 200 words, English or Italian)
- Cite the abstracts accurately.

STUDY TIP – Medical Referencing: no room for mistakes!

Referencing the source of what you write in medicine is a basic but very important skill. One small mistake, and your study will be sent back to you by medical editors. Accuracy is fundamental.

To see how evidence is cited in Medicine, refer to the international medical editors guide at: http://www.nlm.nih.gov/bsd/uniform_requirements.html

Summary Module 2

SEARCH TIPS

For your searches

- Formulate the questions you want answered carefully
- Establish the terminology to conduct your search
- Check the terminology in the MeSH browser

Before starting your search, log in to My NCBI SIGN IN

- For answers to more complex do multiple searches and compare your results.
- Read abstracts and Related articles
- Print abstracts of articles you want to find in the medical library
- Print your search history.

Other helpers

- Inverted commas “ ___ ” allow you to search for adjacent terms e.g. If I write “General Practice” I will find all the articles which contain these two words one after the other.
- An asterisk * lets you look for all the terms which begin in a particular way, for example, if I write INFLAM* I will find all the articles which contain the words INFLAMMATION,INFLAMATORY,INFLAMED etc
- Brackets (____) allow you to make more complex searches combining different concepts with AND/OR/NOT
- e.g. (HELICOBACTER PYLORI OR PEPTIC ULCER) AND (GASTROINTESTINAL TRACT AND TUMOR)
- This will find all the articles concerning “helicobacter pylori” or peptic ulcer which concern tumours of the gastrointestinal tract.