Looking in All the Wrong Places: PubMed for Public Librarians

[Name]
Consumer Health Coordinator
NN/LM, [Region]

E-mail: [address]
Perform basic literature searches in MEDLINE via the PubMed interface using:

- Limits
- Field Searching
- Journals Database
- Single Citation Matcher
- Obtain full-text of the articles
Pretest

- What do the acronyms NLM and MeSH stand for?

- What is the name of the largest biomedical database in the world?

- What is the difference between MEDLINE and PubMed?
National Library of Medicine

- The world’s largest biomedical library

- NLM is the producer of:
  - MEDLINE
  - PubMed
  - MedlinePlus.gov

- Visit the National Library’s Home Page at:
What is PubMed?

- Produced by the National Center for Biotechnology Information & the National Library of Medicine
- Accessible worldwide at no charge
- PubMed includes:
  - MEDLINE (1966 to present)
  - In-process & Publisher Supplied citations
  - OLDMEDLINE (1950s to 1965)
What is MEDLINE?

- The world’s largest biomedical database

- MEDLINE covers:
  - Medicine
  - Dentistry
  - Veterinary Science
  - Nursing
  - Other Biological Sciences
What is MEDLINE?

- 4,800 journals are indexed
- Covers all aspects of biosciences and healthcare
- Database of 14+ million journal citations
What is MEDLINE, continued?

- Covers 1966 to the present
- Coverage worldwide, 85% are in English
- 76% have abstracts
What is MeSH?

- MeSH – Medical Subject Headings
  - Controlled vocabulary terms
    - Brain Edema, Otitis Media, Myocardial Infarction

Breast Neoplasms

Breast Neoplasms, Male
Mammary Neoplasms
Mammary Neoplasms, Experimental
Phyllodes Tumor
How do I access PubMed?

- Directly at: http://pubmed.gov
PubMed Screen Layout

- **Query Box aka Search Box**
- **Feature Tabs**
- **Blue Sidebar**
PubMed.gov

- Translates lay terms into medical subject headings
  - *Heart Attack* into *Myocardial Infarction*

- Links to selected free articles through publishers’ web sites

- Most articles are written for health professionals
Subject Searching

- Terms (keywords)
  - *heart*
  - *heart attack*
  - *heart attack surgery*
Searching PubMed

- Let’s use this search:

“I was exposed to asbestos for years at the paper mill. Can that cause gastrointestinal cancer?”
Enter terms: **asbestos gastrointestinal cancer**
How Does PubMed Interpret What You Type in the Box?

- PubMed uses **Automatic Term Mapping** and maps to:
  - Medical Subject Headings – medical terms
  - Phrases
  - Author Name – lastname initial(s), e.g., smith j, smith ja
  - Journal Titles – full journal title, MEDLINE abbreviation, ISSN

*How do you think PubMed searched your terms?*
The Details tab shows you how PubMed translated your search terms.
When to Limit?

There are many reasons for refining a search strategy. You may want to:

- Exclude foreign language titles
- Look for articles published within a certain timeframe
- Retrieve articles that focus on women or perhaps just children
A quick glance at the results...

[Square brackets quickly identify foreign language articles.]
The Limits tab

Use the **Limits** tab to limit by **Age Group**, **Publication Type**, **Specific date** or date range, **Language**, **Gender** and more...

- Use All Fields pull-down menu to specify a field.
- Boolean operators AND, OR, NOT must be in upper case.
- If search fields tags are used enclose in square brackets, e.g., rubella [ti]
- Search *limits* may exclude in process and publisher supplied citations.
Working with Results

- Citations display in batches of 20 with most recent additions on top.
- Use the check boxes to select multiple citations to view.
- Click on icons for more information, such as the abstract.
Working with Results

- The **Display** button is used with the following pull-down menus:
  
  - **Summary** lets you select other formats, such as Abstract, Brief or Citation format
  
  - The **Show** and **Sort** offer additional display options
  
  - Use **Send to** to print, save, e-mail, order documents or the **Clipboard** (a temporary holding bin)
Are the actual articles online?

- If and only if:
  - Someone has invested the time and money to publish online
  - You or your library have purchased access to full text
Document Delivery

- NLM’s Loansome Doc Ordering System
  - A service that lets users obtain the full-text copies from a medical library
  - For more information go to: http://www.nlm.nih.gov/loansomedoc/loansome_home.html

- Full-Text services via LinkOut
  - A fee will be charge
  - Supplier and price vary per service
A Closer Look at Starting a Search

Enter search terms here and then click on Go.

Add Limits like date, language, publication type, and more.
Related Articles

Related Articles – a pre-formulated search strategy to match other PubMed citations that are closely related to the selected citation.
Links to LinkOut

**LinkOut** – connects you to other related resources, e.g., publishers, NLM resources and other organizations
The Clipboard tab

- Lets you keep track of the good ones while you are still searching

How to:
- #1: Check the citations to keep
- #2: Use the **Send** pull-down menu to select Clipboard
- #3: Click on **Send**.

- Will keep up to 500 records for 8 hours!
Are there other ways to limit your search?

- Add additional terms to query box
  - copd air pollution

- Use Boolean Connectors
  - AND, OR, NOT
Combination Searching

Let’s use the search:

“I am looking for an article from a few years ago (maybe 4-5 years ago) by Dr. Keys about cervical cancer treatment. It was published in the New England Journal of Medicine.”
Combination Searching

- PubMed uses Automatic Term Mapping and maps the search terms as:

  - keys ➔ keys[All Fields]
  - cervical cancer ➔ "cervix neoplasms" [MeSH Terms]
Advanced Searching

- Let’s use this search:

  "My child has celiac disease. I understand that Dr. Chin has done research on the neurological aspects of this and it was published in the journal Neurology."

- We need to search in specific fields for this type of search – adding terms to the query box won’t do.
Preview/Index tab

- Preview the number of search results before displaying the citations

- Refine searches by adding one or more terms one at a time

- Add terms to a strategy from specific search fields
Preview/Index tab

- Enter terms and click Preview to see only the number of search results.
- To combine searches use # before search number, e.g., (#2 OR #3) AND asthma.
- Click on query # to add to strategy.

Search

Most Recent Queries

- #2 Search keys cervical cancer new england journal of medicine
- #1 Search asbestos gastrointestinal cancer

Add Term(s) to Query or View Index:

- Enter a term in the text box, use the pull-down menu to specify a search field.
- Click Preview to add terms to the query box and see the number of search results, or click Index to view terms within a field.

Click [AND] [OR] [NOT] to add a term to the query box.
Boolean Searching

- AND narrows
- OR broadens
Boolean Searching, continued:

- Let’s use the search:

  “A woman heard that there was a study published recently in either JAMA or in the New England Journal of Medicine on the effectiveness of a “virtual” colonoscopy.”
Boolean Searching

Use AND, OR, NOT and parentheses:

\[(\text{jama OR new england journal of medicine}) \text{ AND virtual colonoscopy}\]
The History tab

- Shows the searches that you have done
- Searches are available for 8 hours if inactivity
- You can combine searches using the search number e.g. #2 AND #6.
The History tab

- Lists of searches that you have done
- Searches will be lost after 8 hrs of inactivity
- You can combine search using the search number, e.g., #2 and #6
Sometimes when performing a search, it is difficult to determine the full Journal name. You may see something like:

- Arch Dis Child
- Methods Find Exp Clin Pharmacol
- BJOG
- J Bone Miner Res
- J Womens Health Gend Based Med
Journals Database Search

1: Archives of disease in childhood
   pISSN: 0003-9888
   eISSN: 1468-2044
   MEDLINE Abbr: Arch Dis Child
   NLM ID: 0372434

2: Archives of disease in childhood. Fetal and neonatal edition
   pISSN: 1359-2998
   eISSN: 1468-2052
   MEDLINE Abbr: Arch Dis Child Fetal Neonatal Ed
   NLM ID: 9501297
Let’s use the search:

“I know that there was an article published in 2001 in *JAMA* about the quality of information on the Internet. The researchers used search engines to retrieve health information in English and Spanish. There were a bunch of authors, but I don’t know their names. I do know that the words *English* and *Spanish* were in the title. Can you find this?”
Single Citation Matcher

Enter information about the article you wish to find.

- **Journal**: jama
- **Date**: 2001
- **Volume**: __________ Issue: ________ First page: ________
- **Author's last name and initials (e.g., Smith BJ)**
- **Title words**: [english spanish]

Search  Clear

**Notes:**
- You may omit any item if you wish
- Journal titles may be entered in full or as valid MEDLINE abbrevi
- For Date, you may enter yyyy, yyyy/mm, or yyyy/mm/dd. For exa
- Author names are automatically truncated to account for varying in
- That exact match, e.g., "smith i"
Saved Searches

- This new PubMed feature allows you to:
  - Save search strategies and set-up automatic email updates
  - Select filters that customize and sort your search results
  - and more...

- This feature replaces Cubby
Saved Searches

My NCBI box lets you **Sign in** or for first time users, **Register**. After a search is run, click on the **Save Search** link to save the search strategy.
After you sign in, the Save Search box displays. 1) **Enter a name for your search** (something meaningful), 2) click **Yes** or **No** for automatic e-mail updates and 3) click **OK** after you have made your selections.
Click on **My NCBI** to update saved searches. Click check boxes to get **What’s New** for selected searches. Click on **No Schedule** to get email updates.
Important My NCBI Note:

*Record your user name and password!*
EXERCISES
Customer Support & Contact Info

- NLM Customer Support
  - If you need assistance or have questions, please contact the **NLM Help Desk:**
    - **E-mail:** custserv@nlm.nih.gov
    - **Phone:** 1.888.346.3656

- NN/LM Contact Information:
  - Your Regional Web site: [http://nnlm.gov/mar](http://nnlm.gov/mar)
  - Phone: 1.800.338.7657