

Law Librarian's Guide to Medline, PubMed and MeSH

What Are These Databases, Anyway?

Medline is the National Library of Medicine's online journal index.

- Indexes life science articles in 5,200 scientific journals
- Covers 1950 to the present
- 17,000,000 bibliographic records (yep, that's right – 17 million)
- Uses a controlled vocabulary known as **MeSH (Medical Subject Headings)**
- Bibliographic records contain more than 50 electronically-searchable fields for remarkably precise and efficient searching
- Silver Platter interface of **Medline** is available to BC students, faculty and staff via BC Online Databases
- Silver Platter's **Medline** interface is mathematically-oriented; designed for right-brained thinkers
- Automatically expands/explodes searches by subject and general topic

PubMed is the NLM's National Center for Biotechnology Information's public information database.

- Indexes over 5,200 scientific journals (including the non-life science articles omitted from **Medline**)
- Covers 1950 to the present (is updated daily)
- Contains all of the bibliographic information within **Medline** + non-life science articles + articles that pre-date Medline's coverage for a particular journal + articles that are in the process of being indexed in **Medline**
- Links to the full text of many articles.
- Access to the National Library of Medicine's catalog
- Access to the National Library of Medicine's **MeSH** database
- Imports **MeSH** database information into **PubMed** searches
- 30 electronically-searchable fields
- Provides quick web tutorials and one really long web tutorial based on the NLM's all-day training session (<http://www.nlm.nih.gov/bsd/disted/pubmed.html>)
- Is free to all at <http://www.ncbi.nlm.nih.gov/sites/entrez?db=pubmed>

MeSH database can be used to electronically search for medical subject headings for use in constructing **PubMed** and **Medline** searches

- Accessible via **PubMed**
- Is called “Thesaurus” in Silver Platter’s **Medline** interface
- Can use acronyms and lay terms as well as medical jargon to find medical subject headings
- Contains medical dictionary for easy verification
- Suggests correct spelling, suggests terms
- Shows subject heading in context of **MeSH** hierarchy

How do I search these databases?

Mesh

- Simply enter a term (or your best guess at the term) into the search box and click “Go”

Sample Problem: Library patron asks you to help him find articles on a neurological phenomenon characterized by the inability to perform rapidly alternating hand and wrist motions. He thinks the medical term is something like “adidokodokokinesis”, but he doesn’t have a clue how to spell it.

Try searching **MeSH** for “adidokodokokinesis” and see what happens. Click on the first suggested term. Read the definition to verify your result.

Now, to import your result into a **PubMed** search, select “Cerebellar Ataxia” and scroll down to the bottom of the page (I also selected “Do not explode” because I want a limited number of articles). Open the “Send to” box and select “Search box with AND”. This opens a **PubMed** search. You can focus your search by adding the correctly-spelled “adiadochokinesis” AND hand AND wrist. Click “Search PubMed” and you’re good to go.

Try searching **MeSH** for a medical acronym or abbreviation, like RSD (reflex sympathetic dystrophy). Sometimes, it works.

PubMed

1. To retrieve an article by a known citation (and expand your research on that article).

- Use the Single Citation Matcher in the left vertical menu
- Note that the Citation Matcher form will suggest Journal and Author entries.
- Use the links in the bibliographic record to retrieve the full text of the article, find libraries that have the article and expand your research to find related and similar articles.

Go ahead and try it out:

Citation: Miller PS. Genetic testing and the future of disability insurance. J Law Med Ethics. 2007;35(2):45-57.

2. Simple keyword/keyphrase searching works, but advanced field searching works wonders.

- For a list of all 30 fields with brief instructions on how to use them, click on “Help”, then click on “Search field descriptions and tags”
- Can use * to truncate keywords – but be wary of using truncation in field searches

Sample problem: Patron tells you that her surgeon presented her case at a conference for a panel discussion and that the proceedings were reported in a medical journal. Her surgeon is Peter M. Mowschenson. He treated her for ulcerative colitis. The case history report was published sometime after 2002 when she had her surgery. Can you help her find the article reporting her case?

- Go to the Advanced Search form
- Enter “mowschenson” in author field
- Enter ‘ “colitis, ulcerative” ‘ in MeSH field (must use exact MeSH term for subject field searches to work)
- Enter “2000 to present” in Date field
- Select “human”, “female” and “all adults”
- Select “case report” for type of article
- Click “search” and there it is!

You can also construct advanced field searches without bothering with the advanced search form.

Sample problem: A law professor asks you to find some medical journal articles discussing whether Abraham Lincoln had Marfan's Syndrome.

- Enter 'Lincoln[ps] AND "marfan syndrome"[mesh]' in the search box and click "go"
- Be careful to enter exact subject heading and exact punctuation and spacing in searches

3. To decipher abbreviated journal titles, click on the bibliographic record link for the citation in question, then click on the journal abbreviation, then click on "journals".

- Using the first result from the Lincoln/Marfan search above, click on the "Kroen C" link, then either roll your mouse over the "Cleve Clin J Med" link until the full journal title appears, or for more detailed information on the journal, click on the link and then click Journals to bring up the bibliographic record for the journal in question.

Medline:

1. Why use the Silver Platter interface when anyone can search **Medline** in **PubMed**?

- Greater field searching options (to view a list of 50+ field tags, check the Database Guide at the top, right corner of the search page)
- Bibliographic records are organized differently and may be easier to use
- Easier to craft expanded searches using the bibliographic record of a relevant article (full record comes up automatically, whereas in PubMed, you must select the Medline display)

Sample Problem: Find a recent article on genetic discrimination legislation and figure out the appropriate MeSH subject headings to use to expand your research on genetic discrimination.

(Nota bene: I banged my head against the wall trying to find an appropriate MeSH heading for genetic discrimination in both the MeSH database and on PubMed. This is the type of question that is better researched on Silver Platter Medline simply because of the difference in format of the bibliographic records.)

- Type “genetic AND discrimination” in the title field
- Type PY>2006 in Terms Anywhere and hit “Search”
- Scan results for a relevant article that is indexed in Medline (those which haven’t been indexed in Medline will have a red “MEDLINE® In Process & Other Citations” at the bottom of the entry)
- Pull up the “complete record” for the article to view the MeSH headings
- Note that the MeSH descriptors are linked. Click on the links for “Genetic Screening legislation and jurisprudence” and “Prejudice” to find all of the articles indexed under those descriptors.
- Also, note the “full-text options” link and the “find similar” link at the bottom of the record entry

2. Some of the field tags that I use most are:

CITN for citation	TI for title
PY for publication year	PS for personal name subject
MESH for subject	KW for keyword
JN for journal name	AU for author
AD for author’s institutional affiliation	

Sample Problem: Your opposing counsel in a medical malpractice case has just identified his medical expert, a doctor named Raymond Julian Maciewicz who directs a chronic pain center at Tufts University. Has this doctor published any articles on chronic pain and trigeminal nerve injuries?

- Use the Thesaurus (it’s the MeSH database) to identify the proper subject heading for trigeminal nerve chronic pain problems – its “trigeminal neuralgia”
- Type “trigeminal neuralgia” in the MeSH field
- Type “maciewicz” in the author field
- Type “tufts” in the Author’s Institutional Address field
- And there you have the articles by this expert!