

PubMed/Medline: What Every Gastroenterologist Needs to Know

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Earlier this year, I asked an eminent New York gastroenterologist/endoscopist a few short questions about the average U.S. gastroenterologist's awareness of PubMed/Medline. It's one man's view, admittedly – but surely his answers below are not far from the truth?

- *Do gastroenterologists use PubMed? Yes.*
- *Do gastroenterologists use MeSH? I doubt that most use MeSH.*
- *Do gastroenterologists use Boolean logic in searches? Most know about it, but are not sure how to do it.*
- *Do they use the Preview/Index features? I don't think so.*
- *Do they combine free text and indexing? Definitely not.*
- *Are they aware of the limitations of MeSH (e.g., creation date issues; indexing policies)? Definitely not.*
- *Are they aware of the limitations of Medline vis-à-vis other databases in terms of currency, scope, and coverage? Not at all.*

Let's assume the above views are true, and let's also assume that it matters.

Searching PubMed

PubMed searching is easy: just enter search terms in the query box and press the Enter key, or click Go. The Features bar directly underneath the query box provides access to additional search options. The PubMed query box and Features bar are available from every screen, so you don't need to return to the home page to enter a new search.

You can enter one or more terms (e.g., "gastroesophageal reflux disease") in the query box, and PubMed automatically combines (ANDs) significant terms together using *automatic term mapping*. The terms are searched in various fields of the citation. If your search includes the Boolean operators AND, OR, NOT, they have to be in upper case:

Gerd OR Gord
Gerd AND children
Gerd NOT animals

Once you click Go, PubMed will display your search results. The query box displays your search terms as you entered them.

You can modify your current search by adding or eliminating terms in the query box or in Details. If you applied Limits, the check box next to Limits will be marked, and a listing of your limit selections will be displayed. To turn off the existing limits, click on the check box to remove the check before running your next search.

It is very useful to be able to limit the search to "title" and to "time".

Example:

1. Type "how to find the evidence you need" in the query box.
2. Click on "Limits" on the Features bar.
3. Select "Title" from the drop-down menu that starts with "All fields".
4. Click "Go"

The four hits together provide you with a small comprehensive vade-mecum for searching Medline.

Searching for Journals

PubMed (www.pubmed.org) is a service provided by the U.S. National Library of Medicine (NLM) and includes over 14 million citations for biomedical articles.

You can search by the full journal title – e.g., molecular biology of the cell; the Medline abbreviation – e.g., mol biol cell; the International Standard Serial Number (ISSN) – e.g., 1059-1524; or the variant title as it appears in the NLM catalog. See the Journals Database there for the full journal titles.

Example:

1. Click on "Journals database" in the left-hand bar.
2. Type in "gastroenterology" in the search box, and click "go".
3. From the 41 journals with titles including the word "gastroenterology," click the journal you are interested in – e.g., "China national journal of new gastroenterology = Chung-kuo hsin hsiao hua ping hsueh tsa chih".

Searching for Books

Did you know you can search 'books' in PubMed/Medline? Books on the "Bookshelf" are also linked to terms in PubMed abstracts: when viewing an abstract, select the "Books" link to see *phrases* within the abstract hyperlinked to book sections. Click on 'books' in the drop-down menu just to the left of the search box, as illustrated below. Then type in your search – e.g. "Endoscopic Retrograde Cholangiopancreatography" and click "Go". Note the 138 items in the HSTAT book series.

So, you want to search for articles written by Professor J.D. Waye, the Editor of WGN.

Example:

1. Waye JD
2. Click "go"

Searching for a Topic – GERD or GORD?

The key problem here is how to make sure you find all relevant articles about gastro-(o)esophageal reflux disease – unless you only want key articles such as reviews, perhaps . If you search for "gord" you will not find "gerd," and vice versa. But if all articles dealing with "gerd" and "gord" are indexed with the term "GERD," then you will find all articles about gastroesophageal reflux disease, whatever the spelling and description used by the author, if you search for articles indexed with the indexing term "GERD."

This is the first of three reasons why you should use: indexing. The second reason has to do with what is called "explosion." If you search for "proton-pump inhibitors" (PPIs), you will only find articles where these words occur together – usually adjacent to each other in that order. But surely you want to find literature dealing with 'esomeprazole' (drugs are usually indexed with their INN generic name – so Nexium is indexed as "esomeprazole," for example – yet another reason for using indexing) and other PPIs. In other words, you need an indexing system that assigns "narrower" terms like esomeprazole to broader terms such as "proton-pump inhibitors." This indexing system is called Medical Subject Headings (MeSH). Find MeSH terms by clicking on "MeSH Database" in the left-hand side bar. Then maybe spend a few moments viewing the animated tutorial – this will pay off later.

Clinical Queries

PubMed/Medline does provide some help by offering a choice between "clinical queries" and "systematic reviews" – the two poles of the study-type evidence continuum. If you click "clinical queries" in the left-hand bar, you can choose between the options below:

Category: therapy – diagnosis – etiology – prognosis

Emphasis: sensitive search (broad) – specific search (narrow)

If you click "systematic reviews", it limits retrieval to articles indexed with the MeSH term "systematic reviews" and/or indexed with "systematic review" as a document type.

Example:

1. Click "Clinical Queries" in the left-hand bar on the home page under "PubMed Services".
2. Mark: "Systematic Reviews".
3. Type "dysphagia" in the subject search box at the bottom of the screen.
4. Click "Go"

And sure enough – the Cochrane Reviews come rolling out.

Complex Evidence-Based Searches

You are a very busy clinician; instead of mastering the intricacies of deep thesaurus- driven evidence-based multifile searches, why not invest some time instead in telling a research librarian what you want, and then get him or her to do the job. Physicians are physicians and not knowledge managers.

Finally, remember that WGO/OMGE runs a free help desk for "remote" gastroenterologists searching for clinical or research information. E-mail WGO/OMGE's "Ask a Librarian" service at www.omge.org.

Happy searching – and thanks to the American taxpayer for providing us all with PubMed.

References and Further Reading

1. PubMed/Medline: www.pubmed.org
2. Where to get help/NLM Publications on PubMed:
 - [PubMed Help Manual](#)
 - [Tutorial](#)
 - [NLM PubMed Training Manuals](#)
 - [NLM Technical Bulletin- Articles about PubMed](#)
3. Evidence-based emergency medicine. How to find evidence when you need it, part 1: databases, search programs, and strategies:
Corrall CJ, Wyer PC, Zick LS, Bockrath CR. Ann Emerg Med 2002; 39: 302–6. [PubMed](#).
4. How to find evidence when you need it, part 2: a clinician's guide to Medline: the basics:
Gallagher PE, Allen TY, Wyer PC. Ann Emerg Med 2002; 39: 436–40. [PubMed](#).
5. How to find evidence when you need it, part 3: a clinician's guide to Medline: tricks and special skills.
Gallagher PE, Allen TY, Wyer PC. Ann Emerg Med 2002; 39: 547–51. [PubMed](#).
6. How to find evidence when you need it, part 4: Matching clinical questions to appropriate databases:
Wyer PC, Allen TY, Corrall CJ. Ann Emerg Med 2003; 42: 136–49. [PubMed](#).
7. WGO/OMGE's "Ask a Librarian" desk: www.omge.org; click on "global guidelines" and then on "Ask a librarian" in the left-hand navigation bar.

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