Searching PubMed

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Identify the key concepts (terms) for your search

- Identify the key concepts (terms) for your search (e.g., <u>anemia pregnancy</u>).
 - Alternative terms, check MeSH terms (e.g., <u>contraception</u> - <u>contraceptives</u>; <u>contraception</u>, <u>postcoital</u> - <u>contraceptives</u>, <u>postcoital</u>).

Enter the terms in the search box

- Language: American English or British English (e.g., <u>anemia</u> or <u>anaemia</u>). Searches will retrieve the same citations regardless of whether the American or British spelling is used for MeSH or entry terms.
- <u>Stopwords</u> are not indexed and PubMed will ignore them. NB: AND, OR, NOT are recognized as <u>Boolean operators</u> (see below).
- Searching for a phrase: enclose the phrase in double quotes (e.g., "<u>making pregnancy safer</u>"). Many phrases are recognized as a MeSH concept, e.g., <u>fever of unknown origin</u> (details: "fever of unknown origin"[MeSH Terms] OR ("fever"[All Fields] AND "unknown"[All Fields] AND "origin"[All Fields]) OR "fever of unknown origin"[All Fields]); enclosing the phrase in double quotes (<u>"fever of unknown origin"</u>) will give a different result (details: "fever of unknown origin"[All Fields]).
- Truncation: to find all terms that begin with a given text string, enter the truncated term/word followed by an asterisk (*), e.g. <u>flavor*</u>.

Boolean operators

- AND, OR, NOT. Most PubMed searches do not require Boolean operators to be in uppercase characters. The system recognizes both Boolean OR and NOT in either lower or uppercase. The same for AND, with some exceptions (queries including search tags may require an uppercase AND).
- The default Boolean operator between two terms is AND (<u>anemia pregnancy</u> = <u>anemia AND pregnancy</u>). The majority of searches do not require the Boolean AND.
- If search terms are recognized as MeSH terms (e.g., <u>hemolytic anemia</u>), adding AND between these terms will produce a different result: <u>hemolytic anemia</u> ("haemolytic anaemia"[All Fields] OR "anemia, hemolytic"[MeSH Terms] OR ("anemia"[All Fields] AND "hemolytic"[All Fields]) OR "hemolytic anemia"[All Fields] OR ("hemolytic"[All Fields]) OR "hemolytic anemia"[All Fields] OR ("hemolytic"[All Fields] AND "anemia"[All Fields]) ≠ <u>hemolytic AND anemia</u> (hemolytic[All Fields] AND ("anaemia"[All Fields] OR "anemia"[MeSH Terms] OR "anemia"[All Fields]).
- Use parentheses to "nest" concepts: e.g., <u>common cold AND (vitamin c OR zinc)</u>.

Search results

<u>Automatic term mapping</u>

- When you click <u>Search</u>, PubMed will look for a match in several lists: MeSH terms, journal titles, author names, all fields...
- <u>Search field descriptions and tags</u>
- To see how PubMed interpreted your search, look at <u>Search details</u> (<u>image</u>).
- Search results are displayed by default in a <u>summary format</u>: author, title, and source information. Documents can be viewed in <u>different</u> <u>formats</u> (summary-text, abstract, MEDLINE, etc.).
- Click the title of the article to see the abstract ("no abstract available" is indicated on citation's without an abstract). The <u>abstract display</u> may provide links to electronic copies of the journal article.
- <u>Sort results</u> by author, journal, article title, or publication date (<u>image</u>).
- <u>Send to clipboard</u>: click on <u>Send to, then select clipboard from the</u> <u>Choose destination menu and click Add to clipboard</u>.

Features

- <u>Limits</u>: author, journal, free full text, languages, type of article, etc.
- Previewing the number of search results
- <u>Clipboard</u>
 - Saving items in the clipboard
 - Select the citations you want to save, or select none to save all of the items in your clipboard.
 - <u>Select file from the Send to menu</u>, choose Format and Sort by, click Create file.
 - Change the name of the file to something more meaningful.
 - Use an appropriate file extension (e.g., doc).
 - Save the file to a location on your computer.
 - Removing items from the clipboard
 - Check the citations you want to delete, click "Remove selected items".

<u>Details</u> (image)

- Query translation box: actual search strategy and syntax used to run the search.
- URL: if you want to save the current strategy for later use, click on the URL button, then use your Web browser's bookmark or favorites feature to save this URL.
- Translation: shows how each term was translated.
- User query: shows the search as you entered it in the query box.

More resources

- Journals database

- Search by topic, journal title or abbreviation, ISSN, or browse by subject terms (e.g., Obstetrics[st] Journals Results).
- <u>Limit</u> searches to PubMed journals and/or currently indexed (e.g., <u>English Nursing journals</u>).
- Lists of all <u>Entrez journals</u> and those with <u>links to full-text web sites</u> are available.
- <u>MeSH database</u>: allows to
 - Locate and select MeSH terms (headings, subheadings, publication types); supplementary concept terms (substance names) and pharmacological action terms.
 - See the definition and other helpful information for a MeSH term (e.g., Anemia, Diamond-Blackfan).
 - Build a PubMed search strategy: e,g, <u>"Urinary Tract Infections/therapy"[Mesh] AND "Pregnancy"[Mesh]</u>.
 - Display MeSH terms in the hierarchy: e.g., <u>Pregnancy</u>.
 - Limit MeSH terms to a major concept for a search (major topic heading): e.g., "Pre-Eclampsia"[Majr].
 - Attach subheadings for a search: e.g., <u>"Contraceptives, Oral, Combined/contraindications"[Mesh]</u>.
- <u>Single citation matcher</u>: enter the bibliographic information you have, click Go (e.g., <u>Kulier R[first author]</u>).
- <u>Special queries</u>
 - <u>Clinical queries</u>
 - Clinical study category: e.g., ovarian cancer therapy.
 - Systematic reviews: e.g., malaria in pregnancy
 - Medical genetics searches: e.g., <u>Huntington disease genetic counseling</u>.
 - <u>Cancer topic searches</u>
 - <u>Research reporting guidelines and initiatives</u>
 - <u>TOXNET</u>

Advanced search

- <u>Advanced search</u>: incorporates search for terms within selected fields, limits, history, preview/index, details, and citation search.
 - Combine searches using PubMed search history.
 - Search for free full-text articles: e.g., <u>anemia</u> pregnancy free full text.
 - Search for articles in English language: e.g., <u>anemia</u> pregnancy English.
 - Different ways to search an eponymous disease or eponymous syndrome: <u>Turner syndrome</u>, <u>(Turner syndrome) NOT (Turner[Author])</u>, <u>turner</u> <u>syndrome[MeSH Terms]</u>.

My NCBI

- To use My NCBI you need to <u>register and sign</u> in when you want to use My NCBI features.
- My NCBI saves searches and results and features an option to automatically update and e-mail search results from your saved searches. My NCBI includes additional features for highlighting search terms, storing an e-mail address, filtering search results and setting LinkOut, document delivery service and outside tool preferences.

Reference manager

 Zotero, a free Firefox extension, allows to capture, import and archive citations directly from <u>PubMed</u>. Several different <u>citation styles</u> are available. Microsoft Word and OpenOffice plugins allow to add in-text citations and footnotes in addition to bibliographies.

Sources

- NLM Technical Bulletin, May–Jun 2007, MLA 2007: NLM Online Users' Meeting: Questions and Answers
- PubMed Help
- <u>PubMed Online Training</u> / <u>PubMed Tutorial</u>