

PubMed - A Basic Guide to Searching

First think about your question. Be as specific as possible. Identify a **problem** (eg. obesity or myocardial infarction). Next identify the **intervention** used to treat or prevent the problem (eg. diet, exercise, a specific drug or type of drug). Are you interested in **comparing** the effectiveness of 2 or more possible interventions (appetite depressants vs exercise)? What is the **outcome** you are looking for (weight loss or increased longevity)? You may not need to use all of these parameters in your search.

Search Option 1 – Getting Started: the **automatic** version

Just type your search in natural language: “Does losing weight prevent heart disease”? PubMed will follow a pre-programmed set of instructions to interpret your question and will automatically reformulate it using the search techniques described in Option 2, as appropriate. If you click on the “details” button you will see the actual search that was run.

Look through the search results. If you find a good article and would like additional similar articles, click on the “Find Related” button on the right side of the screen.

Search Option 2 –Using the Full Power of PubMed: the **manual** version

As a driver has more control over a car with a manual transmission than an automatic transmission, a searcher can more precisely determine his search results by selecting the appropriate search techniques himself rather than relying on the PubMed search system to do it for him. To take full advantage of PubMed’s functionality you may want to make an appointment for a research consultation with your medical librarian. At Brown, email Frank Kellerman or Janet Crager or call 863-1532.

PubMed can be searched using MeSH terms, author names, title words, text words or phrases, journal names, or any combination of these. Detailed instructions and tutorials can be found in PubMed “Help” in the blue frame on the left of the search screen.

The MeSH, Medical Subject Headings Database “The MeSH controlled vocabulary is a distinctive feature of MEDLINE. It imposes uniformity and consistency to the indexing of biomedical literature.”

To select MeSH search terms, use the MeSH database found in the blue frame on the left of the search screen.

The MeSH Database provides:

- A searchable list of the vocabulary used for indexing PubMed articles
- A definition for most terms
- Suggestions of older terms to use for searching earlier years of PubMed
- Suggestions of related MeSH terms
- The “MeSH Tree Structures”, a conceptual grouping of terms which enables the searcher **to easily find broader or more specific terms**. Choose the most specific term you can find. PubMed automatically searches not only any term you select but also searches all the terms found

indented under it in the Tree. You may cancel out this function by clicking on the box next to the phrase **“Do Not Explode This Term”** in the middle of the screen.

- **“Restrict Search to Major Topics”**, an option which allows further focusing of a search by ensuring that the selected term will be a high priority topic of any article retrieved.
- As you select your terms using the MeSH thesaurus, you will also be able to select subheadings to make your search more specific. Once the selections have been made, use the “Send To” drop-down box at the top of the screen to transfer the term to the PubMed search box and into the PubMed database.

Whether you use Option 1 or Option 2, you will still be able to:

Limit your Search –specify age, gender, publication type, publication year, language or subject subsets

Among the most popular choices for focusing a search is the gender or age of your target population or the language of the articles you wish to see. You may also choose the type of publication you want- randomized controlled trial, meta-analysis or review, for example.

Combine your Terms

The last step is to combine your terms using the Boolean operators AND, OR and NOT. A brief introduction to Boolean logic, taken from the online PubMed tutorial, can be found at the end of this document. You may combine a number of search terms on a single search line. You can also combine, in any way you like, any previous search statements found by clicking the “history” button on your search screen.

You may have to evaluate your results and reformulate your search several times before finding the best articles.

Obtaining the journal articles

Display the selected reference in Abstract format. At least one, and perhaps 2 icons will appear under the title of the article. If the icon to the left indicates the journal is available free, go ahead and click on it. Otherwise, click on the icon to the right, labeled SFX@brown (Soon to change to FindIt). A new screen will open, leading you to the online article if available. If not, try the next option -search JOSIAH, the Brown catalog, to see if the Library has a print copy. If the article is still unavailable, order it through interlibrary loan, ILLiad, and in a couple of days you will receive an electronic copy of the article right on your desktop .

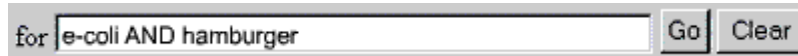
Please email or call if you have questions about searching or if you would like to set up an appointment to work on a research project.

This page is taken from the online PubMed tutorial:

Introduction to Boolean Logic

Boolean logic symbolically represents relationships between entities. There are three Boolean operators:

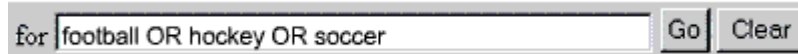
AND



A search bar with the text "for e-coli AND hamburger" and two buttons labeled "Go" and "Clear".

Use the AND operator to retrieve a set in which each citation contains all the search terms. This operator places no condition on where the terms are found in relation to one another; the terms simply have to appear somewhere in the same citation.

OR



A search bar with the text "for football OR hockey OR soccer" and two buttons labeled "Go" and "Clear".

Use the OR operator to retrieve documents that contain at least one of the specified search terms.

Use OR when you want to pull together articles on similar subjects.

NOT



A search bar with the text "for lead poisoning NOT children" and two buttons labeled "Go" and "Clear".

Use the NOT operator to exclude the retrieval of terms from your search.

A word of caution about NOT: Be careful when using this operator as you may eliminate relevant articles. In this search, we have eliminated the citations about this condition in children but may have also eliminated citations that discuss both children and other age groups.

PubMed processes Boolean logic using the following search rules and syntax:

- Boolean operators: AND, OR, and NOT, must be entered in UPPERCASE.
- PubMed processes Boolean connectors in a left-to-right sequence.
- You can change the order in which PubMed processes a search statement by enclosing, that is nesting, an individual concept in parentheses. The terms inside the parentheses will be processed as a unit and then incorporated into the overall strategy.