MeSH Database

Articles are indexed using a powerful vocabulary, called Medical Subject Headings (MeSH). The MeSH Database provides the option of identifying appropriate MeSH terms for searches.

The **MeSH Database** is available under the "More Resources" sections of the PubMed homepage and Advanced Search page, or click "Resources", then "Literature" at the top of the web page. Use this database to search for a particular term or concept. After finding a term, click on the link to view and select subheadings and to refine aspects of the MeSH term. Check the terms desired, then click on the **Send To** Search Box feature. When finished adding terms, click **Search PubMed** to run the search.

Clinical Queries

PubMed's **Clinical Queries** section, accessed from the homepage or the Advanced Search page, makes it easier to find articles that report applied clinical research. Select one of the three options.

To search by clinical study category, enter search terms in the box provided. Then select a filter category: etiology, diagnosis, therapy, prognosis, or clinical prediction guides and then either "narrow, specific search" or "broad, sensitive search".

Select **Find Systematic Reviews** to locate systematic reviews, meta-analyses, reviews of clinical trials, evidence-based medicine, consensus development conferences, and guidelines.

Select **Medical Genetics Searches** to find citations related to various topics in medical genetics. Choose one or more of the filter categories provided.

Printing, E-mailing, Downloading Results

After selecting your citations (e.g. on the Clipboard) print directly from the browser or select a text setting from **Display Settings** before printing. Alternatively, select either File or E-mail from the **Send To** menu. **File** offers format and sort options before saving the downloadable file. **E-mail** asks for a selection of options and an email address.

When downloading citations for citation management software, use the MEDLINE Display format.

My NCBI

PubMed's **My NCBI** feature stores both citations and search strategies and provides automatic e-mail updates of stored searches. Register for My NCBI by creating a User Name and Password. Click **Manage Filters** to select or create up to fifteen search filters.

Accessing Full-Text

Many PubMed citations have links to the full-text of articles through PubMed Central (a free digital archive of life sciences journal literature), through your library's electronic and print holdings, or through the publisher (the latter may require a subscription or may make an article available by pay-per-view). **Loansome Doc** allows registered users to order copies of articles from a medical library. Check with your library for details about your full text links or call your Regional Medical Library at **800-338-7657**.

PubMed BASICS

PubMed® is the U.S. National Library of Medicine's premiere search system for health information. It is available *free* on the Internet at **http://pubmed.gov.**

PubMed Content

➢ MEDLINE®: NLM's database of millions of references to articles published in biomedical and related journals which have been fully indexed
➢ In-process citations that have not yet been analyzed and indexed for MEDLINE
➢ Publisher supplied citations that may not receive full indexing for MEDLINE because they are not biomedical in nature

PubMed Features

➢ Sophisticated search capabilities, including spell checker, advanced search, and special tools for searching clinical topics
➢ Assistance in finding search terms using the MeSH (Medical Subject Heading Database), a guide to MEDLINE's controlled vocabulary
➢ Ability to store citations and automatically receive email updates for saved searches using PubMed's My NCBI
➢ Links to full-text articles, to information about library holdings, and to other NLM databases
➢ Links to other NLM search systems, such as ClinicalTrials.gov®, MedlinePlus®, NIH Clinical Alerts and Advisories, and PubMed Central

Assistance and Training

Click on **Help** above the search box or on **PubMed Tutorials** under Using PubMed on the homepage.

PubMed Searching

To Search PubMed, type a word or phrase into the query box, including subject, author and/or journal. Then click on the Search button or press the Enter key. Combine search terms with connector words: "AND", "OR" or "NOT" using upper case letters.

PubMed offers alternative searching options including the auto suggest drop down menu when entering words and an **Also Try** box available after a search.

Details, located above the search box on the Advanced Search page, provides information on how PubMed ran a search. PubMed looks first for the search words as MeSH terms, then journal titles, then authors and also searches "All Fields" for the words. **Details** shows how PubMed maps terms to MeSH headings. Changes to the search may be made in the box provided.

Limits is available from a link above the search box on all PubMed pages, including the homepage. Checkboxes may be selected for Type of Article, Language, Subsets of journals or topics, Ages, Humans or Animals, Gender, and Dates. Restrict a search to items with links to full text, and make multiple choices within categories. Click the **Search** button after making selections to run the search. A "Limits Activated" message will appear above the search results list. Limits remain in effect until removed.

Advanced Search

The Advanced Search link provides three options to refine and focus a search; Search Builder, Search History, and More Resources. The Advanced Search box always defaults to Clear, and does not retain previously run searches.

Search Builder allows creation of a search using Boolean operators. Using the All Fields selection will run search terms through the Automatic Term Mapping process, or a specific field may be selected to apply to the term. An index button is available to display the search field index and number of citations for each term in the search field. The Index display allows selection of multiple terms to "OR" together.

Search History tracks search statements and numbers them as links. Clicking on the numbered link provides a menu allowing search statements to be combined into a new search with the AND, OR or NOT connectors, or to be run, deleted, examined in Details, or saved in My NCBI.

More Resources provides additional searching quick links to: PubMed **Clinical Queries** searches, **Topic-Specific Queries** with links to additional pre-constructed search queries, to the **MeSH** and **Journals** databases, and to the **Single Citation Matcher**.

Clipboard:

This feature allows collection of selected citations from one or more searches for saving, printing, e-mailing, ordering, or storing in My NCBI Collections. The link is visible only when items are stored on the Clipboard. Click the check box beside citations to select them. Then go to the **Send To** pull-down menu and select Clipboard. To see the selected citations, click on the **Clipboard** link in the right hand column or in the PubMed Tools section of the homepage.

PubMed Search Results

After clicking on the **Search** button, PubMed displays a list of results in Summary format. To retrieve more information about the search results, use the **Display Settings** menu to change the view to the **Abstract** or **MEDLINE** formats.

Display Settings: ⊙ Summary, Sorted by Recently Added   Send to: ⊙

Results: 5

☐ Loss of metal ions, disulfide reduction and mutations related to familial ALS
1.   promote formation of amyloid-like aggregates from superoxide dismutase.
   Oztug Durer ZA, Cohlberg JA, Dinh P, Padua S, Ehrenclou K, Downes S, Tan
   JK, Nakano Y, Bowman CJ, Hoskins JL, Kwon C, Mason AZ, Rodriguez JA,
   Doucette PA, Shaw BF, Selverstone Valentine J.
   PLoS One. 2009;4(3):e5004. Epub 2009 Mar 27.
   PMID: 19325915 [PubMed - indexed for MEDLINE]
   Related articles   Free article

Related Articles

A helpful PubMed feature is the ability to find citations that are similar to those of interest. To retrieve Related Articles, click on the **Related Articles** link under the PMID of each citation in Summary format or select citations from the boxed list in the Abstract format.

Sensors

PubMed examines search terms for certain elements and provides a shaded area above the search results with links to one or more citations or databases.

- **Citation Sensor:** matches search terms with citation elements (e.g. blood choi 2009)
- **Gene Sensor:** checks for the symbol of a gene found in the Entrez Gene database (e.g. CFTR)
- **Sequence Sensor:** detects accession numbers of nucleotides or proteins (e.g. X62176)
- **Structure Sensor:** detects items (proteins, etc.) in the Structure database (e.g. 1R10)