

## Using Subheadings

Subheadings are used with MeSH terms to help describe more completely a particular aspect of a subject. In the MeSH database, subheadings logically paired with the main heading are presented. Check the appropriate subheading box(es), then use to **Search Box with AND** to build a search.

### Subheadings:

- analysis  blood  blood supply  
 diagnosis  diet therapy  drug therapy


For example, if both analysis and diagnosis were selected from the above example and sent to the **Search Box with OR**, the search would include: ("Neoplasms/analysis"[MeSH] OR "Neoplasms/diagnosis"[MeSH])

Subheadings always follow headings, e.g. the drug therapy of asthma will be displayed as: *asthma/drug therapy*.

## Major Topic Headings

Subject analysts examine each journal article and assign the most specific MeSH terms applicable - typically ten to twelve per citation. In PubMed, the major topic is represented by an asterisk. Use the **Restrict to Major Topic headings** check box to limit a search to citations where the heading (and/or subheading) is the major focus of the article, then **Send To Search Box with AND, OR or NOT**. The term will be followed by [MAJR] (e.g. "Neoplasms"[MAJR])

Note: To view MeSH terms for a selected article in PubMed, click on the MeSH Terms, etc. plus button below the citation in the abstract format.

 MeSH Terms, Substances, Secondary Source ID

### MeSH Terms:

Base Sequence

Codon

DNA Mutational Analysis

## Advanced Searching in PubMed

Search **PubMed** directly by using specific MeSH headings, subheadings and other qualifier codes:

- **MeSH Heading:** [mh] or [MeSH] may be added to a term to restrict a search to only MeSH terms (e.g. knee [mh]). [MeSH] is not needed when using subheadings.
- **Subheadings:** Each subheading has a two letter abbreviation. Therapy is **th**; so cancer/therapy and cancer/th are equivalent searches. Use only one subheading per term; combine additional subheadings by using OR (neoplasms/th OR neoplasms/an). A search may also "free float" headings [mh] and subheadings [sh] (e.g., hypertension [mh] AND toxicity [sh]). The complete list of subheading abbreviations is available in the online PubMed Help manual
- **Do Not Explode:** use [mh:noexp] to restrict searches to articles focusing on the broadest MeSH term
- **Major Topics:** use [majr] to restrict a search to citations where the term is the major topic or focus of the article. This may be used in combination with Do Not Explode: [majr:noexp]
- **Other codes:** additional codes and tags are available to limit searches. Visit PubMed **Help** for **Search Field Descriptions and Tags**

## Assistance and Training

Look for **Help** and **Tutorials** links in either PubMed or the MeSH database. Find additional information in the **MeSH Browser** at: [www.nlm.nih.gov/mesh/](http://www.nlm.nih.gov/mesh/)

*Developed and updated by NN/LM staff. Funded by NLM under contract No. N01-LM-6-3503 with UIC. This brochure may be freely reproduced. It is on the internet at <http://nmlm.gov/training/resources/meshtri.pdf>  
Revised: October 2009*



# Searching PubMed® with MeSH®

National Library of Medicine's (NLM) Medical Subject Headings (MeSH) is the controlled vocabulary used for indexing articles for the MEDLINE® subset of PubMed. MeSH terminology provides a consistent way to retrieve information where several different terms may be used for the same concept.

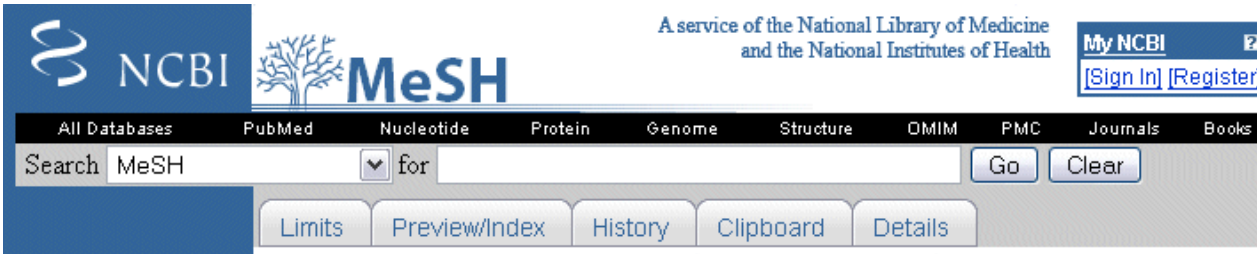
## MeSH Features

MeSH containing over 25,000 descriptors is updated weekly and reviewed annually.

- Search **Indexed for MEDLINE** citations (92% of the PubMed database) using MeSH terms
- Limit searches to citations where the MeSH term is the major focus of the article
- Broaden/Narrow searches with a MeSH tree
- Use subheading check boxes to build complex search strategies
- Focus searches using other types of MeSH terms including publication types [pt], substance names [nm] or registry numbers [rn], and pharmaceutical actions [pa]
- Access the MeSH Browser for annotations: <http://www.nlm.nih.gov/mesh/>

NOTE: MeSH terms apply only to **Indexed for MEDLINE** citations. Other types of citations (e.g. **as supplied by publisher**) cannot be searched using MeSH terms.

*The National Network of Libraries of Medicine (NN/LM), an outreach program of NLM, provides assistance and training nationwide. To find a local library, please call 800-338-7657 or go to <http://nmlm.gov/members/>*



## Searching with the MeSH Database

To access MeSH from PubMed, click on **MeSH Database** on the PubMed homepage or click **MeSH** under “More Resources” in Advanced Search. Enter the topic of interest into the Search bar and click the **Go** button.

Possible results include: a fully displayed term (e.g. prognosis), several terms (e.g. measles) or a related term (e.g. cancer).

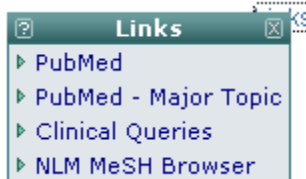
**1:** [Neoplasms](#) [Links](#)  
New abnormal growth ...

Note: verify that the definition of the term matches the expected definition.

## Using Links

In the results list, click **Links** adjacent to the MeSH term desired. The drop-down menu offers several options:

- **PubMed:** search PubMed with the term
- **PubMed – Major Topic:** search PubMed with the MeSH term, retrieving only citations where the term is a major focus
- **Clinical Queries:** put the MeSH term into the Clinical Queries search box where the search may be further refined
- **NLM MeSH Browser:** show the MeSH browser Descriptor Data for this term including Scope Note, Allowable Qualifiers and the MeSH Tree



## Refining a Search

The MeSH Database offers several methods to clarify and focus searches. From the results list, click the desired MeSH term to fully display the term. Additional information may include the definition or scope note, the year the term was added to the MeSH Database, **Previous Indexing** terms and years, **Entry Terms** (similar terms used by an author), **Registry Number** of substance names, and:

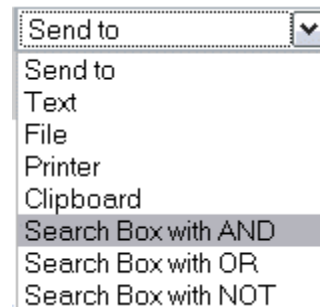
- MeSH tree(s) including this term
- **Do Not Explode this term** check box
- **Subheadings** check boxes and
- **Restrict Search to Major Topic headings only** check box

## Combining MeSH Terms

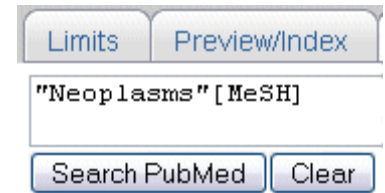
Two ways to combine MeSH terms are:

- Search the MeSH Database for each term individually, send each to PubMed using the **PubMed** option in **Links**, then combine these searches in PubMed using the **History** tab
- Use the **Send To** menu in the **MeSH Database**

To combine terms in the MeSH Database, first search and select a term by using the check box, either from results page or the full display page. Next, from the **Send To** drop down menu, select **Search Box with AND**.



A new box will appear near the top of the page containing the selected term labeled [MeSH]. To add additional terms, first **Clear** the Search bar at the top of the page and search for the next term. Add it to the search box by using **Send To Search Box with AND, with OR or with NOT**.



When all desired terms have been added to the Search Box, click **Search PubMed**.

## MeSH Tree and Explosion

MeSH terms are arranged hierarchically by subject categories, with more specific (narrower) terms arranged beneath broader terms. PubMed automatically explodes searches to include *all* narrower terms. Thus, a search for neoplasms will include all articles which focus not only on the main term, neoplasms, but also focus only on narrower terms, cysts, hamartoma, etc.

[All MeSH Categories](#)

[Diseases Category](#)

**Neoplasms**

[Cysts](#)

[Arachnoid Cysts](#)

...

[Urachal Cyst](#)

[Hamartoma](#)

[Hamartoma Syndrome, Multiple](#)

[Proteus Syndrome](#)

...

Check **Do Not Explode this term** for articles focusing only on the main term rather than solely on narrower terms.

NOTE: The MeSH tree may also be used to identify related broader or narrower terms to help focus a search or find additional search terms. Click on those terms to access them.