Medical Subject Headings (MeSH)

Databases using MeSH: BIOETHICSLINE, CINAHL*, MEDLINE (PubMed), MEDLINE (OVID), MEDCat, NLM Gateway

*70% of the CINAHL headings are also NLM MeSH headings supplemented with over 2,000 unique terms related to nursing and allied health.

Formats:
- The Medical Subject Headings are typically made available in some fashion in individual databases.
- Print versions are available in Ehrman Library in MED Ref Indexes, Call # Z695.1 M4894 + (year).

Overview:
Developed by the National Library of Medicine (NLM), MeSH is an extensive, hierarchical controlled vocabulary of medical terminology including such major categories as anatomy/body systems, organisms, diseases, chemicals and drugs, and medical equipment. There are currently almost 22,000 terms comprising the MeSH thesaurus.

A controlled vocabulary like MeSH provides a consistent way to retrieve information that may use different terminology for the same concept. In terms of performing a search, using a controlled vocabulary essentially means that you and the database are “speaking the same language.” The precision of the vocabulary and the extent of indexing mean that you can select search terms that truly focus on a topic, and be assured that you have retrieved all of the relevant items indexed using a particular term. In short, using MeSH is a powerful way to increase the relevance of the items retrieved by a search, and also to eliminate less relevant and unwanted information.

Structure:

MAJR/MESH
There are two categories of MeSH: Major MeSH [MAJR] are used to describe the primary content of an item. Major headings in MEDLINE are distinguished by an asterisk (*) after the term. MeSH terms [MESH] are used to describe secondary or general content. Both MAJR and MESH are taken from the same list of terms, but are assigned a status based on the content of the item index. On average 5-15 headings are assigned per citation in MEDLINE. Of these 3-4 are typically major headings.

Subheadings
For each category of subject headings, MeSH employs subheadings that can be used to limit or qualify the subject heading in a search. Subheadings will cover the main categories of information within a subject heading, but as they are assigned to the entire category of headings, each individual subheading may not be relevant for every term.

When searching using MeSH, it will often be more appropriate to use a subheading to refine a search strategy instead of adding a concept as a separate term.

Ex. Sciatica/surgery as opposed to Sciatica AND surgery
MeSH Trees
The hierarchical arrangement of MeSH terms is generally referred to as a MeSH Tree. This type of arrangement means that, in most databases, you can move easily up and down within the hierarchy to more general or more specific topics while staying in the same category. This way you can be surer of the relationship between your main concept and other concepts that you might choose. The hierarchy also contextualizes terms, which may provide some additional understanding of your concept.

Exploding Terms
The MeSH Trees also make possible a search capability called “exploding.” Exploding a subject heading means that narrower terms found below your term in the MeSH hierarchy will be included in your search. This can be very helpful in ensuring that you have been as thorough and comprehensive as possible in your coverage of a topic. Many databases will explode a term automatically unless you issue a command to do otherwise. Depending on your search, however, exploding may not be desirable. For more focused searches, most databases will also allow you to turn off the explode feature.

Sample MEDLINE MeSH Record

West Nile Fever
A mosquito-borne viral illness caused by the WEST NILE VIRUS, a FLAVIVIRUS and endemic to regions of Africa, Asia, and Europe. Common clinical features include HEADACHE, FEVER, maculopapular rash, gastrointestinal symptoms, and lymphadenopathy. MENINGITIS; ENCEPHALITIS; and MYELITIS may also occur. The disease may occasionally be fatal or leave survivors with residual neurologic deficits.
(From Joynt, Clinical Neurology, 1996, Ch26, p13; Lancet 1998 Sep 5;352(9130):767-71)
Year introduced: 1991

Subheadings:
blood, cerebrospinal fluid, classification, complications, congenital, diagnosis, drug therapy, economics, enzymology, epidemiology, etiology, genetics, history, immunology, metabolism, microbiology, mortality, nursing, pathology, physiopathology, prevention & control, psychology, radiography, rehabilitation, transmission, veterinary, virology

(MeSH Trees/Hierarchy)
All MeSH Categories
Diseases Category
Virus Diseases
Arbovirus Infections
Encephalitis, Arbovirus
West Nile Fever

Central Nervous System Viral Diseases
Encephalitis
Encephalitis, Viral
Encephalitis, Arbovirus
West Nile Fever

RNA Virus Infections
Flaviviridae Infections
Flavivirus Infections
West Nile Fever