Title:

Automatic Term Mapping Handout

"PubMed Tutorial for Veterinarians" URL:

http://cases.vetmoodle.org/CET_CoursePlayer/demo1/public/pubmed.html

Digital collection of the documents for the "PubMed Tutorial for Veterinarians":

http://hdl.handle.net/1969.1/158203

PubMed for Veterinarians: A Feline Hyperthyroidism Example

Automatic Term Mapping

Introduction to ATM:

Most of the time you get great results from simple searches in PubMed. Often, Automatic Term Mapping (ATM) is the reason that PubMed can easily interpret your search terms.

ATM maps, or matches, the terms you enter to synonyms known as MeSH (medical subject headings that are standard definitions of a topic, disease, anatomical part, species, etc.).
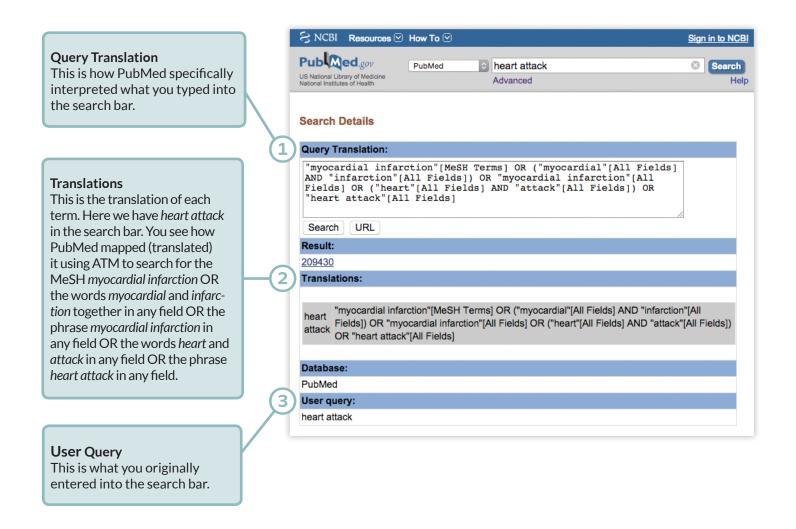
You can see how your search was interpreted by looking at the 'Search details' box on your PubMed results screen. It is important to look at this box to confirm search accuracy. Under the 'Search details' box click 'See more' if you cannot see the entire search.

ATM can provide excellent search results. For example, if you enter *heart attack*, ATM will command PubMed to search both *myocardial infarction* as a MeSH, and *heart attack* as you originally entered it.

Reading the Search Details Box

Below is a figure that will help you understand how to read the information provided in the 'Search details' box.

Query Translation
This is how PubMed specifically interpreted what you typed into the search bar.

Translations
This is the translation of each term. Here we have *heart attack* in the search bar. You see how PubMed mapped (translated) it using ATM to search for the MeSH *myocardial infarction* OR the words *myocardial* and *infarction* together in any field OR the phrase *myocardial infarction* in any field OR the words *heart* and *attack* in any field OR the phrase *heart attack* in any field.

User Query
This is what you originally entered into the search bar.

Mapping Order

ATM tries to map, or match, your search terms as a phrase in this specific order:

MeSH
Journal name
Author
Investigator

If ATM does not locate your search term as a phrase for one of these, it breaks the phrase apart and repeats the process until a match is found. If no matches are found, then the term is searched specifically as you entered it in all of the fields. There are a few exceptions; for more information see the PubMed Tutorial link from NLM at the end of this document.

Understanding ATM Interpretation

Sometimes ATM does not interpret your search terms the way you believe it will. For example, the term *age* maps to journals titles and abbreviations with the word *age* in them. It also maps the word *age* in all fields, but not necessarily the concept of chronologic aging.

By checking the search details you can correct and enhance your search based on what maps to MeSH. Consider the examples below.

- *Neuter* does not map to MeSH, instead it searches the word *neuter* in all fields.

- *Neutering* does not map to MeSH, it searches the word *neutering* in all fields.

- *Castrate* does not map to MeSH, it searches the word *castrate* in all fields.

- *Orchiectomy* maps to the MeSH for *orchiectomy*, and searches for the word *orchiectomy* in all fields.

- *Orchidectomy* maps to the MeSH for *orchiectomy*, and searches for the words *orchidectomy* or *orchiectomy* in all fields

- *Castration* maps to both the MeSH for *castration* and the MeSH *orchiectomy*. It also maps the words *castration* or *orchiectomy* in all fields.

Knowing this helps you can decide how to search for the topic. Searching for *castration* may be sufficient, or you may choose *neuter* **OR** *neutering* **OR** *castrate* **OR** *orchidectomy* **OR** *castration* because you want to include these results, and they are not categorized under the MeSH *castration* or *orchiectomy*. You could also look at the MeSH database definitions to determine the difference between the MeSH for *castration* and *orchiectomy*. Then choose the most precise search for your circumstance.

ATM makes a big difference. If you use quotation marks, you will turn off the ATM function. For example, if you only search for literature on heart attacks as a phrase by entering *"heart attack"* in quotation marks this does not allow PubMed to use ATM and will only retrieve about 3,000 results. If you search PubMed by entering *heart attack* without quotation marks, which allows PubMed to use ATM, and you will retrieve about 209,000 results.

If you truncate (or wildcard) a search term by adding a symbol to the end to extend it, for example treat* to retrieve the different endings of treat including treats, treating, treatment, etc, PubMed will also not utilize ATM.

For more information on ATM practices, try the National Library of Medicine ATM tutorial: http://www.nlm.nih. gov/bsd/disted/pubmedtutorial/020_040.html