LibGuide: PubMed

Locating PubMed

- Via the Veterinary Medical Library homepage
- Via the K-State Libraries' homepage

Medical Subject Headings (MeSH)

MeSH is the National Library of Medicine's (NLM) controlled medical vocabulary.

- MeSH indexes articles in MEDLINE and PubMed in a clear, consistent way that provides standardized terms for various medical terminology
- MeSH terms allow for synonymous concepts to be searched together (heartworm/dirofilaria immitis)

Finding MeSH Terms

- MeSH can be searched via the MeSH Database link listed under "Explore" on the main PubMed page OR
- Via the Advance search page by clicking the term searched OR
- Click on an article that relates to your topic and scroll to the bottom of the article to find all MeSH terms listed for that particular article

Searching in MeSH

An initial search in MeSH for a term will include various results including the standard medical term used by NLM (search for cat leads to cats).

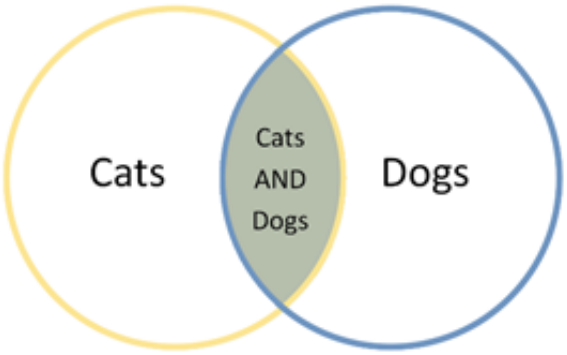
- Selecting the MeSH term will provide a brief description of the term, subheadings, and entry terms.
- **Subheadings:** used to further refine searches with specific aspects of the MeSH heading that are important/significant.

- **Entry terms:** synonyms for MeSH terms that will be included in the search if MeSH term is used.
- **Restrict to MeSH Major Topic:** limits searches for articles that contain MeSH term as the major concept of the article – very limited searching.
- **Do not include MeSH terms found below this term in the MeSH hierarchy:** Will not include these MeSH terms in search results.

Boolean Logic

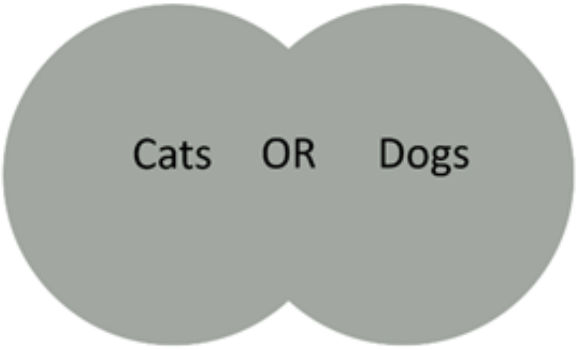
'AND' Boolean

The *and* boolean term is used to combine two or more **different** key terms, concepts, or search strings (i.e. cats *and* dogs). This indicates that both, or all, search terms **must** be included in the search results.



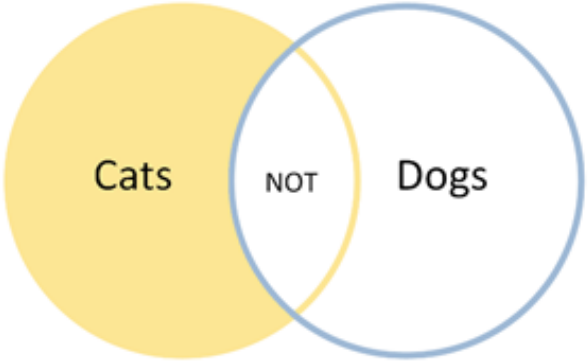
'OR' Boolean

The *or* Boolean term is used to combine two or more **similar** key terms, concepts, or search strings (i.e. cats *or* cat *or* feline *or* felines). This indicates you want all words, some of the words, one of the words, or a variation/combination of the words included in the search results.



'NOT' Boolean

The *not* Boolean term is used to eliminate the words included in the field from your search. This can cause articles to be missed or not included that would otherwise suit your search needs. This Boolean term is not recommended for most database searches.



Building a PubMed Search

It is recommended to begin a search by building search strings of synonyms and finding the appropriate MeSH term for the subject.

- Open MeSH Database to find MeSH terms
- In the search field, type in key term (i.e. *cats*) and select "search"
- Find appropriate MeSH term
- Open PubMed Database (K-State authentication will be needed)
- Build search by individually searching synonyms for "cats": *cat, feline, felines, felidae, felis*, etc. (Building a search using both the singular and plural form of a word will yield better, more concise results.)
- Select "Advanced" under the search field box.
- To combine all **like** search terms for one term/concept:
  - Click the ellipses (...) under "Actions" for the **first term** you want to build with
  - Select "Add query"
  - Click the ellipses (...) under "Actions" for the **second term** you want to add and select "OR" or "AND" depending on how you're combining the terms
  - Repeat this step for **all** search terms you want to include in the initial search string
- Select "Search" to initiate concise search using the search string method.
- Repeat previous steps for all additional terms
- To c**ombine** two or more terms:
  - Click the ellipses (...) under "Actions" for the **first search string**
  - Click the ellipses (...) under "Actions" for the **second search string** and select "AND"
  - Repeat as many times as necessary until search string is complete

For further explanation, and an example, of searching in PubMed, please see below.

Refining a Search

On the left side of the search results screen, you can refine searches further via filters.

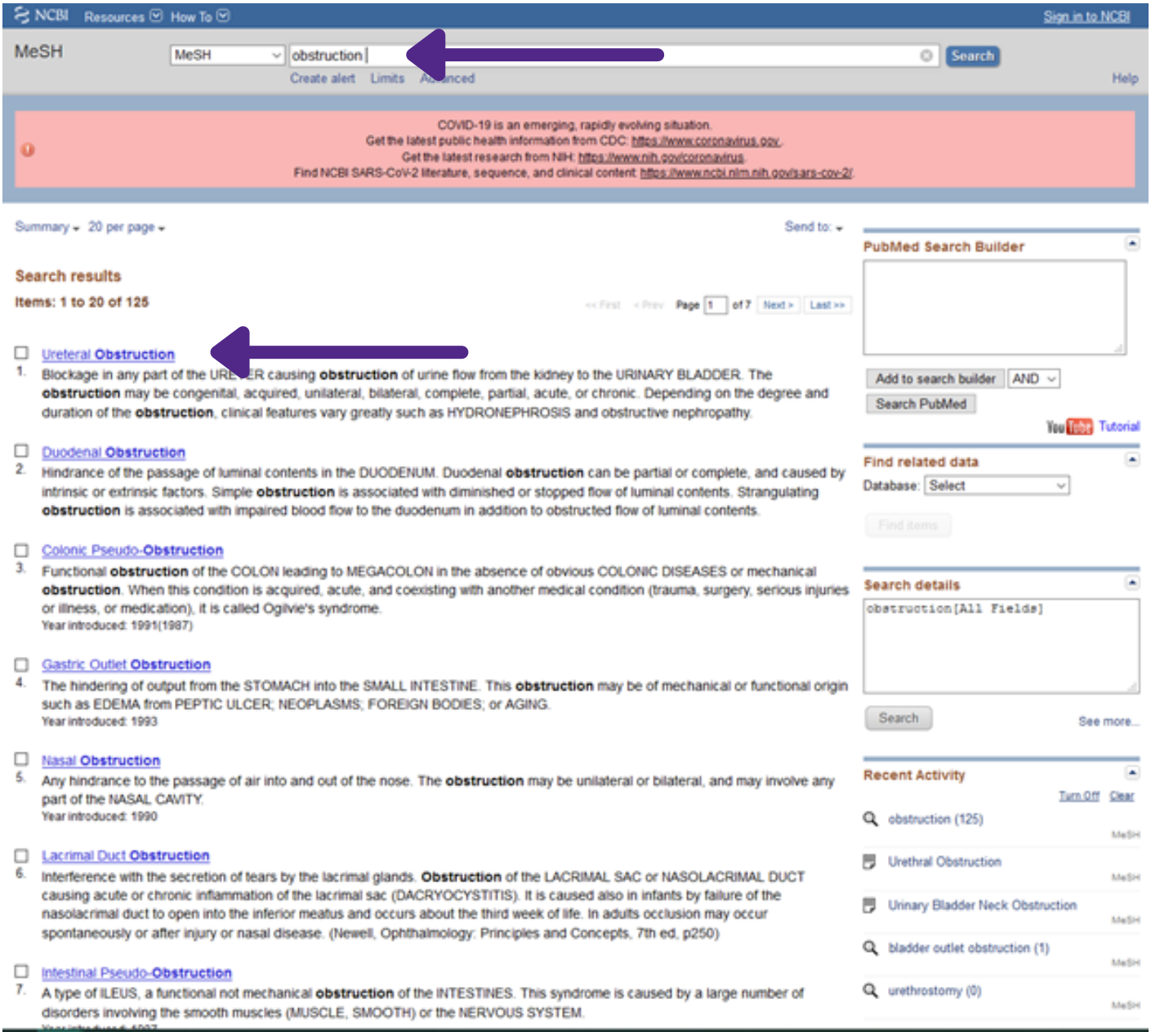
- **Article types:** Refines search via article types (*clinical trials, historical articles, systematic reviews,* etc.). Can select one or more options via *Customize*... link. Once selected, click "Show" to refine search using these parameters.
- **Text availability:** Refines by availability of text via PubMed (*abstract, free full text, full text*). Not recommended for K-State users as you can request any article via Interlibrary Loan.
- **Publication dates:** Select range of articles. Can customize range via *Custom range*... link.
- **Species:** Refine by species. Not recommended for veterinary medicine searching.
- **Reset all filters:** Clear all filters and reverts to default search.
- **Additional filters:** Additional filters are available via link (*languages, subjects, ages,* etc.).

PubMed Search Example

To conduct a search on ***obstructions in cats*** in PubMed:

Search for MeSH Terms:

- Searching for 'obstruction' gave several results. However, the term that best fits this query is the first term 'ureteral obstruction.'



- Clicking ‘ureteral obstruction’ gives further detail on the MeSH term. In this case, ‘ureteral obstruction’ is the MeSH term wanted for this search.

Ureteral Obstruction

Blockage in any part of the URETER causing obstruction of urine flow from the kidney to the URINARY BLADDER. The obstruction may be congenital, acquired, unilateral, bilateral, complete, partial, acute, or chronic. Depending on the degree and duration of the obstruction, clinical features vary greatly such as HYDRONEPHROSIS and obstructive nephropathy.

PubMed search builder options
Subheadings:

☐ analysis	☐ enzymology	☐ pathology
☐ anatomy and histology	☐ epidemiology	☐ physiology
☐ blood	☐ ethnology	☐ physiopathology
☐ chemically induced	☐ etiology	☐ prevention and control
☐ classification	☐ genetics	☐ psychology
☐ complications	☐ history	☐ radiotherapy
☐ congenital	☐ immunology	☐ rehabilitation
☐ diagnosis	☐ metabolism	☐ statistics and numerical data
☐ diagnostic imaging	☐ microbiology	☐ surgery
☐ diet therapy	☐ mortality	☐ therapy
☐ drug therapy	☐ nursing	☐ urine
☐ economics	☐ organization and administration	☐ veterinary
☐ embryology	☐ parasitology	☐ virology

☐ Restrict to MeSH Major Topic.
☐ Do not include MeSH terms found below this term in the MeSH hierarchy.

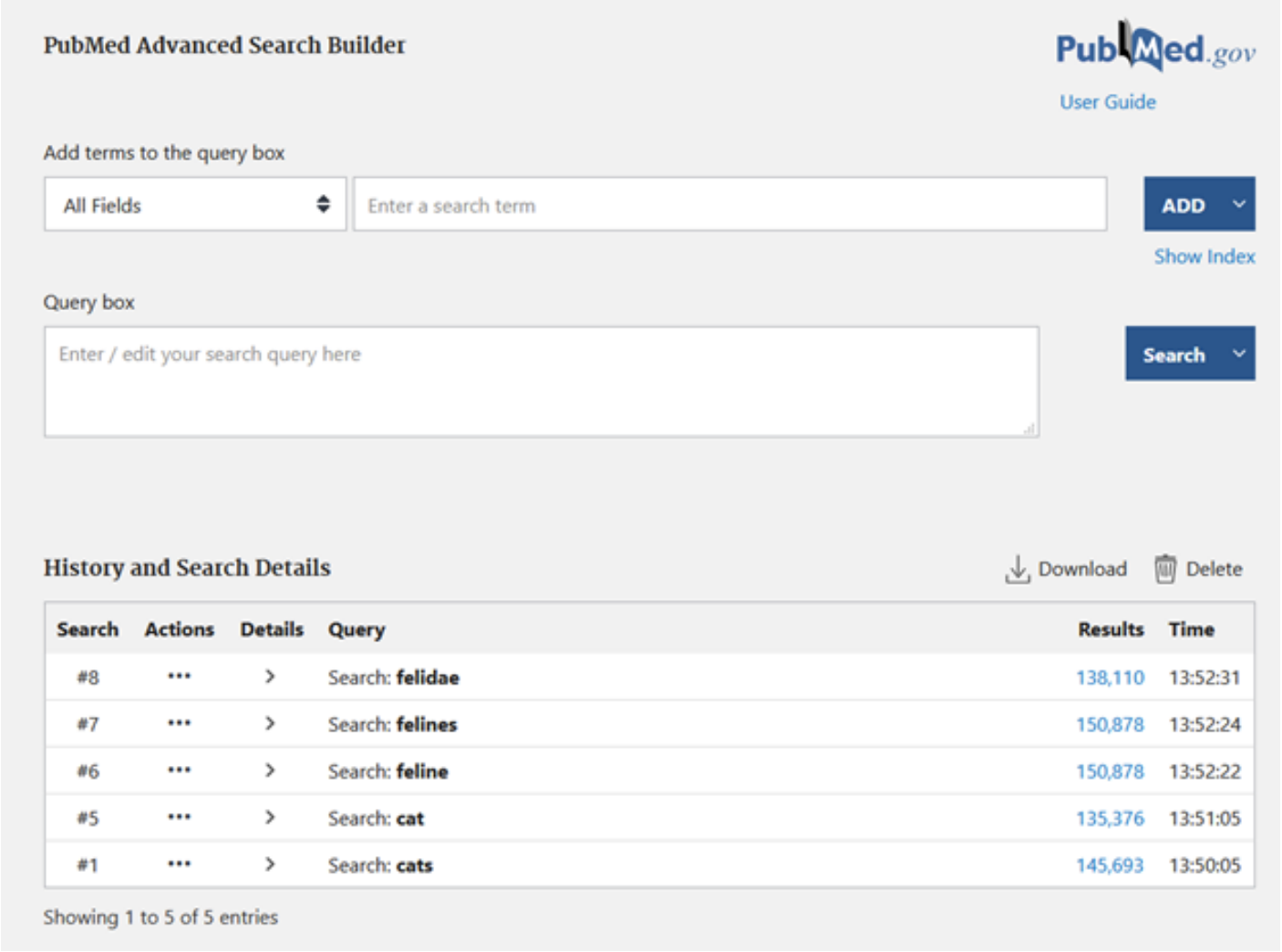
Tree Number(s): C12.777.725.776, C13.351.968.725.776
MeSH Unique ID: D014517
Entry Terms:

- Obstruction, Ureteral
- Obstructions, Ureteral
- Ureteral Obstructions

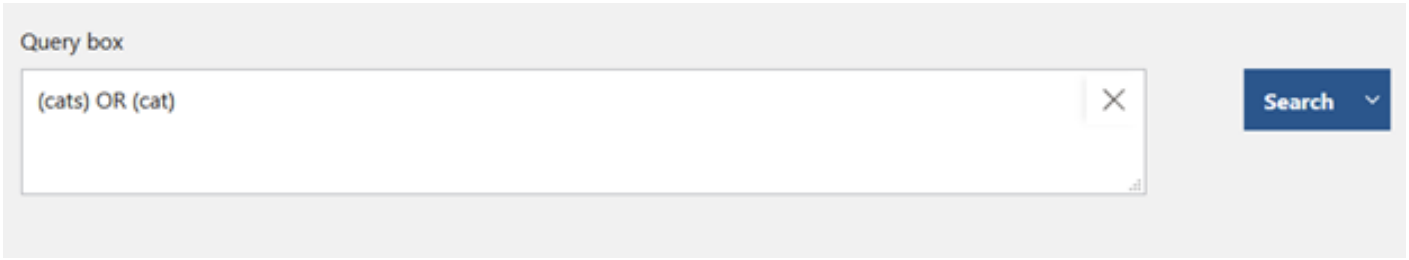
- Repeating MeSH search for ‘cat’ yielded ‘cats’ as the MeSH term

PubMed Searching:

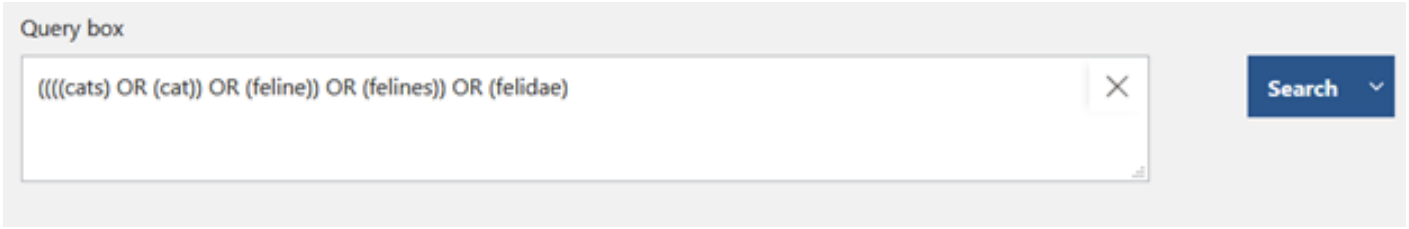
- Open PubMed database
- In the search field, type ‘cats’ and select “Search” (do not worry about results at this time)
- In the search field, type ‘cat’ and select “Search”
- Repeat searching for individual terms for any synonym of ‘cat’ (*feline*, *felines*, *felidae*, etc.)
- Select “Advanced” under search box
    - The advanced search screen will have the search history and any terms searched



- To combine all **like terms** for **cats**
  - Select the ellipses (…) under "Actions" next to 'cats' and click "add query." The search term will be added to the "Query box" automatically.
  - Using Boolean logic, select the ellipses (…) under "Actions" next to 'cat' and click "Add with OR." The search term will be added automatically to the "Query box" with the OR Boolean between both terms.

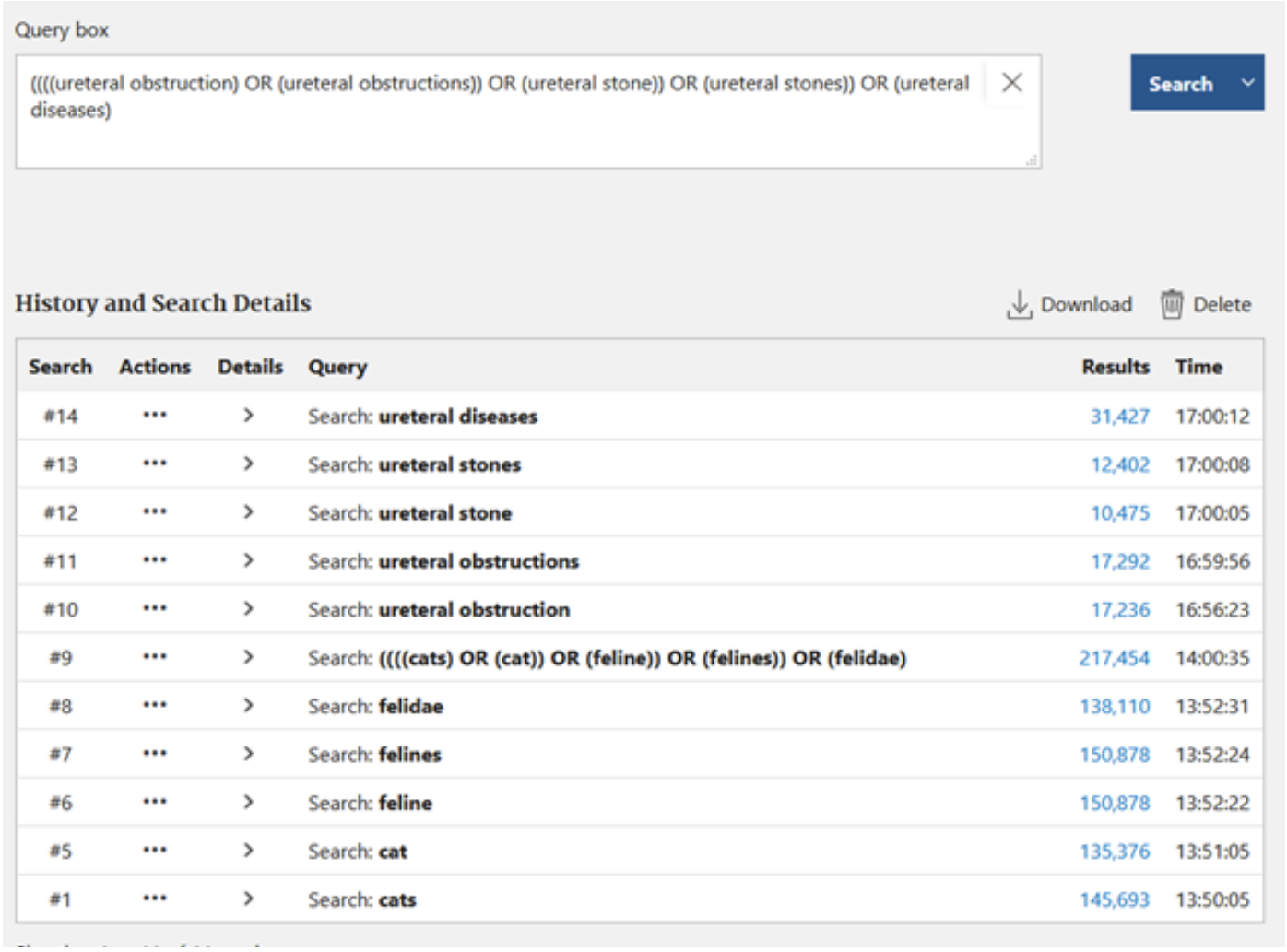


  - Repeat the above step to add all **like terms** to the "Query box."



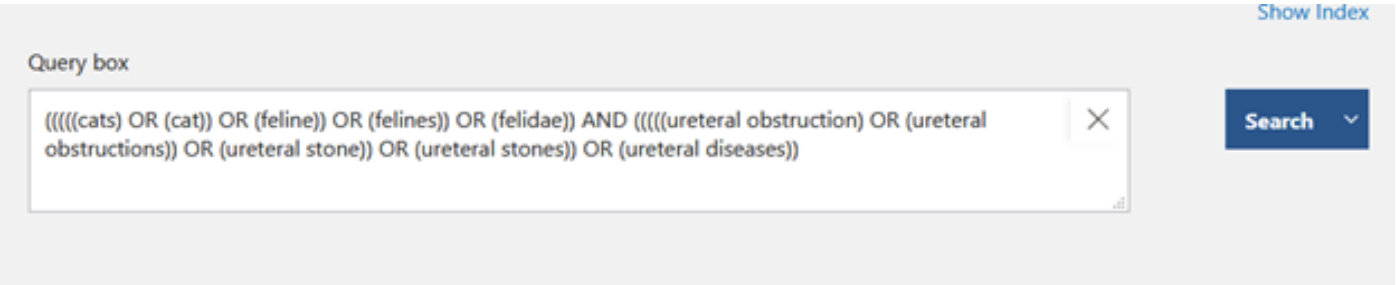
  - Select "Search" on the right hand side to conduct a search for **all like terms** of 'cat'

- Go back to the main PubMed search page
- In the search field, type 'ureteral obstruction' and select "Search"
- In the search field, type 'ureteral obstructions' and select "Search"
- Repeat these steps for all related synonyms/terms
- Select "Advanced" under the search box
- To combine all **like terms** for **ureteral obstruction**
    - Select the ellipses (...) under "Actions" next to 'ureteral obstruction' and click "add query." The search term will be added to the "Query box" automatically.
    - Using Boolean logic, select the ellipses (....) under "Actions" next to 'ureteral obstructions' and click "Add with OR." The search term will be added automatically to the "Query box" with the OR Boolean between both terms.
    - Repeat the above steps to add all **like terms** to the "Query box."
    - Select "search" on the right hand side to complete the search for this term.

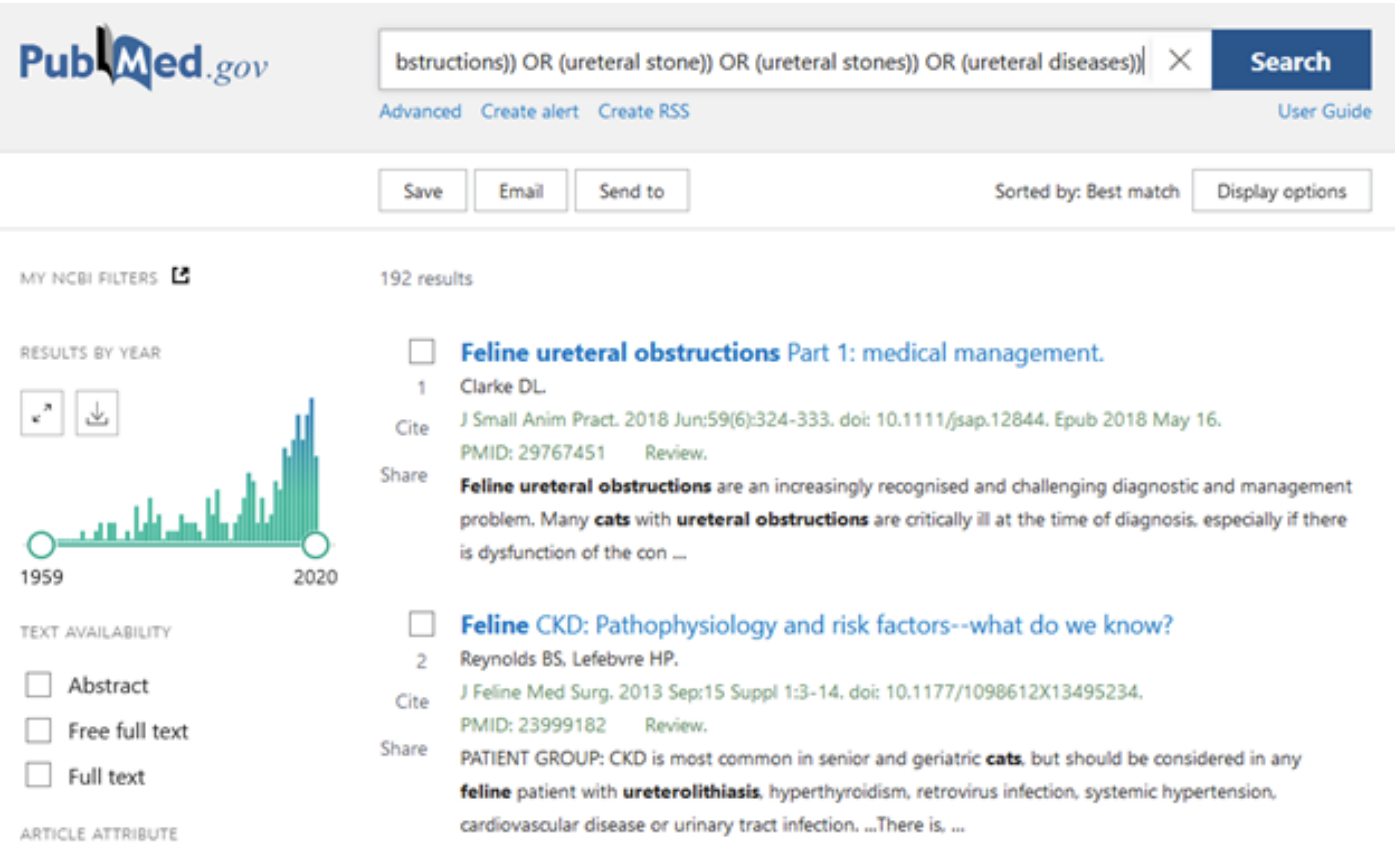


Search	Actions	Details	Query	Results	Time
#14	•••	›	Search: **ureteral diseases**	31,427	17:00:12
#13	•••	›	Search: **ureteral stones**	12,402	17:00:08
#12	•••	›	Search: **ureteral stone**	10,475	17:00:05
#11	•••	›	Search: **ureteral obstructions**	17,292	16:59:56
#10	•••	›	Search: **ureteral obstruction**	17,236	16:56:23
#9	•••	›	Search: **((((cats) OR (cat)) OR (feline)) OR (felines)) OR (felidae)**	217,454	14:00:35
#8	•••	›	Search: **felidae**	138,110	13:52:31
#7	•••	›	Search: **felines**	150,878	13:52:24
#6	•••	›	Search: **feline**	150,878	13:52:22
#5	•••	›	Search: **cat**	135,376	13:51:05
#1	•••	›	Search: **cats**	145,693	13:50:05

- If you have more than two terms to search for, repeat the top steps for each individual term.
- To **combine search terms**:
  - In the "Advanced" search screen, select the ellipses (...) next to the **cat** search string and select "add query."
  - Select the ellipses (...) next to the **ureteral obstruction** search string and select "add with AND" to combine both cats AND ureteral obstruction in one search.



  - Select "search" on the right hand side to conduct final search.



Obtaining Full-Text PDFs

Full-text PDFs are available via PubMed links provided on the library webpages (you must sign in with your K-State eID and password for full access).

- Select the article you wish to obtain on PubMed
- On the right side of the screen, under "Full text links" click the K-State "Get It" button
- You will either be directed to the full article directly or to K-State's SearchIt page where you can click on the link for the full article

If Article is Not Available as a Free PDF

- You will be directed to K-State's SearchIt page which will give you options in obtaining the article
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