



PubMed is a biomedical database operated by the National Library of Medicine that contains tens of millions of citations from MEDLINE, life science journals, and online books.

Access the Database

1. Go to the Hardin Library homepage at <http://www.lib.uiowa.edu/hardin/>
2. Click the **PubMed** button in the Popular Resources section.
3. If you are off campus, enter your Hawk ID and password when prompted.

NOTE: PubMed.gov is a freely available website but accessing it via the Hardin website allows you to access full-text articles on or off campus.

Use the Basic Search

1. Enter two or three specific search terms in the search box.
2. Click the **Search** button.

TIP: Avoid parentheses, truncation (*), and Boolean operators (AND, OR, NOT) for a robust, initial search. The *Use the Advanced Search* section details how PubMed translates search terms.

A screenshot of the PubMed Basic Search interface. It shows a search box with the text "aspirin hypertension" entered. To the right of the search box is a green button labeled "Search". Below the search box, the word "Advanced" is visible, indicating a link to the advanced search interface.

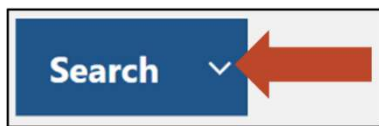
Use the Advanced Search

The advanced search interface lets you view the search details and helps combine search terms to easily modify your search.

1. Click the **Advanced** link below the search box.
2. Add your first search term (e.g., aspirin) to the **Query box**.



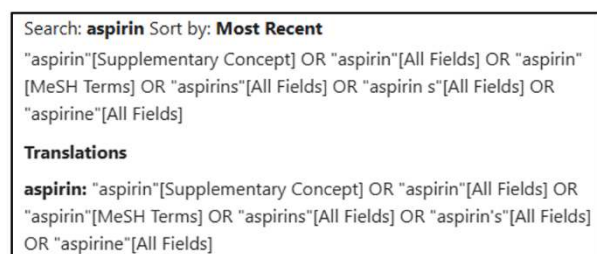
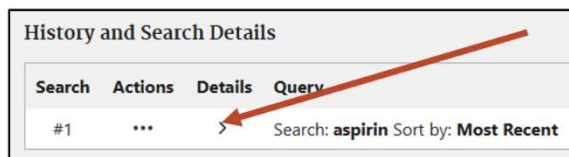
3. Click the **down arrow** next to the Search button and click **Add to History**. This adds the search term to the History and Search Details.



4. To see how PubMed's Automatic Term Mapping (ATM) translated the keyword, click the arrow under Details. The ATM feature searches robustly by mapping search terms to Medical Subject Headings (MeSH) and variations (e.g., alternate spellings) of the search term.

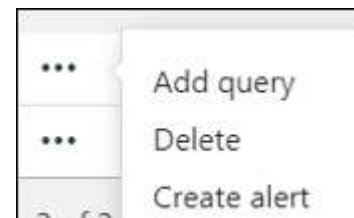
TIP: Usually, ATM works well. If the translation shows something off topic, simplify your search term if possible (e.g., *saline* instead of *sterile saline*) or **spell out abbreviations and acronyms** (e.g., *computed tomography* instead of CT).

TIP: Boolean operators (**OR**, **AND**, **NOT**) are used to combine terms, and/or concepts in a search. Typically, **OR** is used to combine synonyms within a concept (see aspirin translation below), while **AND** is typically used to combine different concepts or ideas (see below when hypertension is added with AND to the query box). Boolean operators are commands to the database and **must be capitalized**.



5. Repeat the process for your other search terms (e.g., hypertension).
6. To combine search terms, click the dots (...) under **Actions** and click **Add query** to add one search term to the Query box.

History and Search Details			
Search	Actions	Details	Query
#2	...	>	Search: hypertension Sort by: Most Recent
#1	...	>	Search: aspirin Sort by: Most Recent



- To add the remaining search terms to the **Query box**, click the dots (...) under **Actions** and then click **Add with AND**. This builds the search strategy in the Query box.



Query box

(aspirin) AND (hypertension)

×

Search

- When all terms are combined, click **Add to History**. The search and the number of results it yields appear in the History and Search Details.
- To view the results, click the **number** under Results.

History and Search Details				Download	Delete
Search	Actions	Details	Query	Results	Time
#3	...	>	Search: (aspirin) AND (hypertension) Sort by: Most Recent	4,784	10:44:50

NOTE: Your history and search details **expires after eight hours**, see below section **Save, Email, or Send Results** for help saving searches and results.

Search With MeSH

Sometimes you may want to search only with **MeSH terms** (Medical Subject Headings) for a more focused search, or you may want to explore what **MeSH terms** are available. You can do both with the **MeSH Database**.

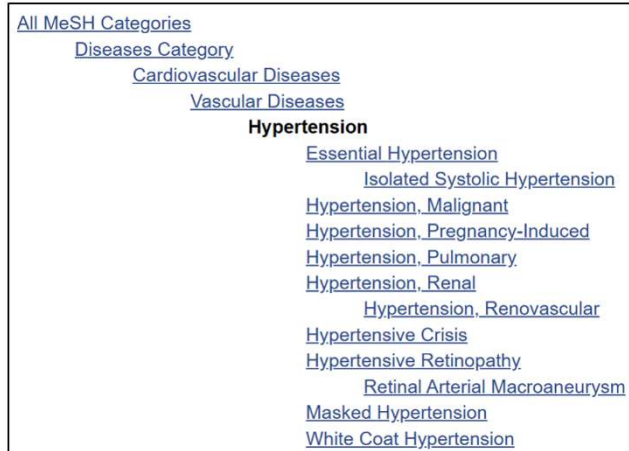
Explore the MeSH Database

Click **MeSH Database** from the Explore section of the PubMed homepage.

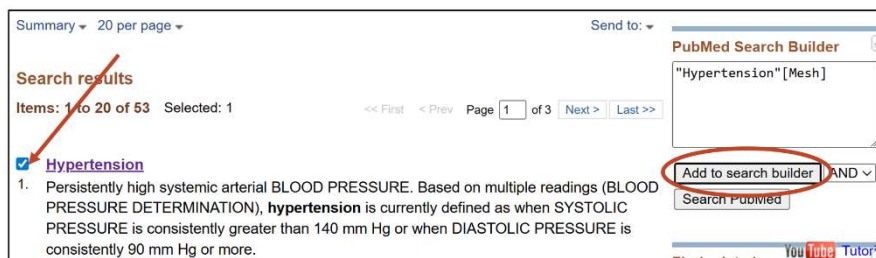
Search for one concept at a time in the MeSH Database (e.g., hypertension). The search retrieves a list of possible MeSH terms or one individual MeSH term. Use the definitions beneath the terms to identify the appropriate term, or you can click any term to see the full MeSH record for that term.



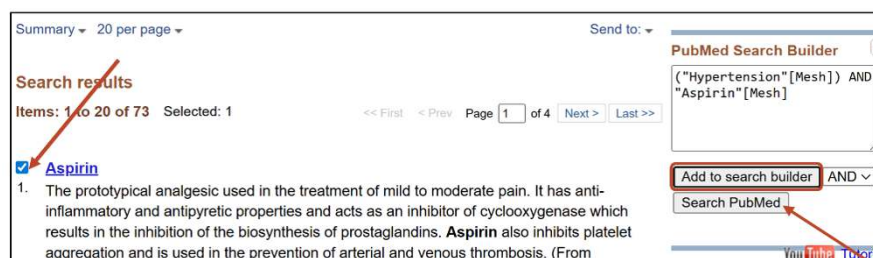
The full MeSH record provides more information about the term and shows where the term fits in the hierarchical MeSH tree structure. You can see whether there are broader or narrower terms that might fit your search better.



You can search with MeSH terms using the PubMed Search Builder from either an individual record page or from a list of MeSH terms. From a list of terms, check the box next to the term you want to select and click the **Add to search builder** button.

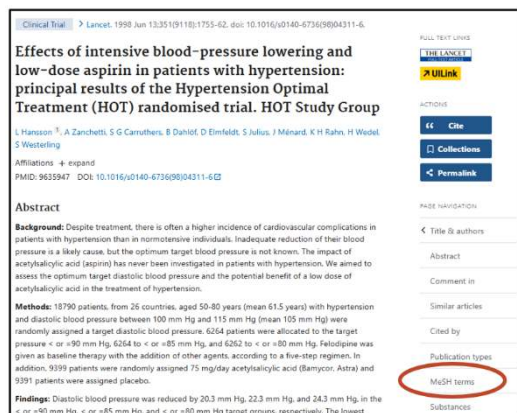


Now look for the next search term and add it to the search builder. The builder defaults to joining concepts with AND. This is appropriate when you are combining different concepts for a search. After you have entered all the search terms, select **Search PubMed**.

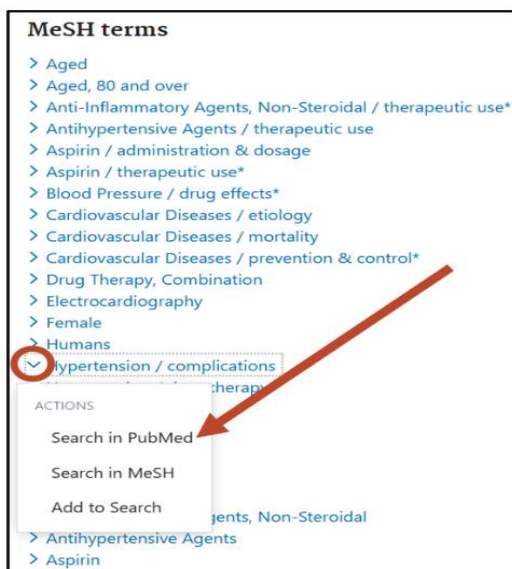


Search Using MeSH Terms from a Citation

After performing a search in PubMed, click the title of an article on the results page, to see the full citation record. On the citation record page, click the **MeSH terms** link from the outline on the right of the screen or scroll down to the MeSH terms section.



NOTE: Not all citations in PubMed have MeSH terms. Non-MEDLINE articles do not receive MeSH terms (i.e., indexing). Additionally, the process of applying MeSH Terms can take some time, so brand-new MEDLINE citations may be missing MeSH terms for a time.



TIP: Since MEDLINE, a curated subset of PubMed, includes only vetted, high-quality journals, searching with MeSH terms may be appropriate for clinical questions.

The **MeSH terms section** for a citation shows all MeSH terms applied to that citation. You can search with MeSH terms directly from the list. Click the MeSH term of interest and choose **Search in PubMed**. You can also choose **Search in MeSH** to look at the term in the MeSH Database.

NOTE: MeSH terms with * are major topics of the article. MeSH terms without * are substantively discussed in the article. Terms following / are subheadings, which focus on a particular angle of a topic. For example, the MeSH term "Cardiovascular Diseases/ prevention & control" means that the article contains information about the prevention and control of cardiovascular diseases.

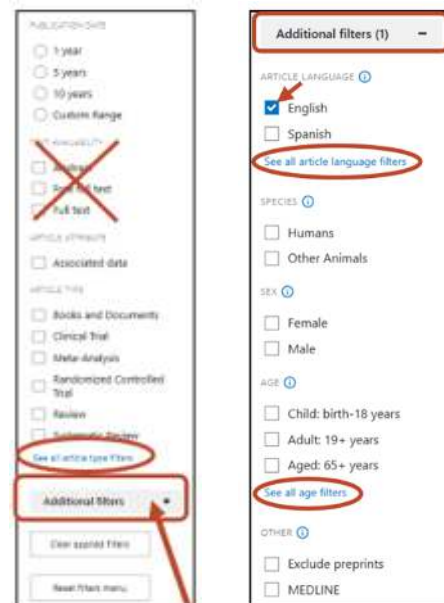
Manage Results

Limit Results

Default options for limiting search results are on the left side of the results page, including common filters such as Article Type and Publication Date.

TIP: Skip the options under TEXT AVAILABILITY. Through Hardin Library, you have access to more full text than is available in PubMed only. See the Find Full Text section below.

1. Some ARTICLE TYPES such as Systematic Reviews are always shown.
2. To access all ARTICLE TYPES click [See all article type filters](#).
3. Click **Additional filters** to access hidden filters such as ARTICLE LANGUAGE, SPECIES, and AGE.
4. Click the box that appears next to the filter, such as English.
5. To see all filter options for a category click [See all article language filters](#) or [See all age filters](#).
6. Once all filter options for a category are shown, click the box next to the desired filters, such as Spanish, and then click **Apply** at the bottom. The filters will now appear on the results page.



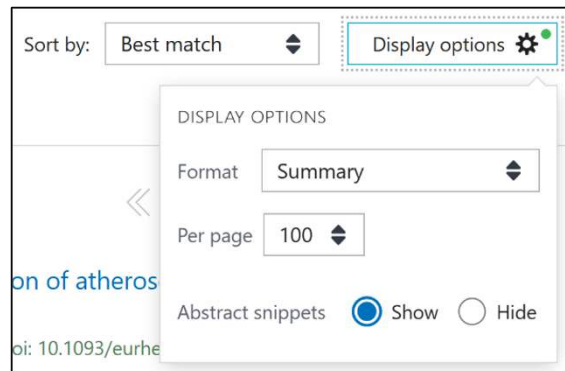
The image shows a dialog box titled 'ARTICLE LANGUAGE'. It contains two columns of checkboxes for various languages. The first column includes Georgian, German, Greek, Modern, Hebrew, Hindi, Hungarian, Icelandic, Indonesian, Italian, Japanese, and Kinyarwanda. The second column includes Serbian, Slovak, Slovenian, Spanish (which is checked), Swedish, Thai, Turkish, Ukrainian, Undetermined, Vietnamese, and Welsh. At the bottom of the dialog are 'Cancel' and 'Apply' buttons.

7. Click the desired filters on the results page. Activated filters show a checkmark. A message appears at the top of the results that indicates which filters are active.

TIP: Filters are sticky and remain applied until you clear them.

Adjust the Display

1. To change how the results display, click the **Display options** button.
2. Click the arrows in the **Format** box to view abstracts or other formats on the results page.
3. Click the arrows in the **Sort by** box to sort results by publication date or other options. PubMed defaults to the Best Match sort order, an algorithm that weights, sorts, and then ranks results based on how many times your search terms appear in certain fields.
4. Click the arrows in the **Per page** box if you wish to change the number of citations on results pages.
5. Unclick Show next to **Abstract snippets** if you wish to remove abstract snippets from the results page.

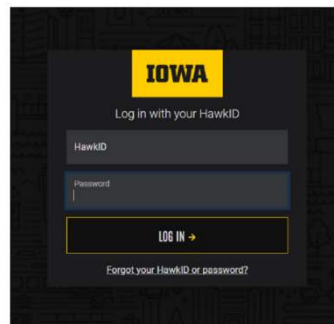
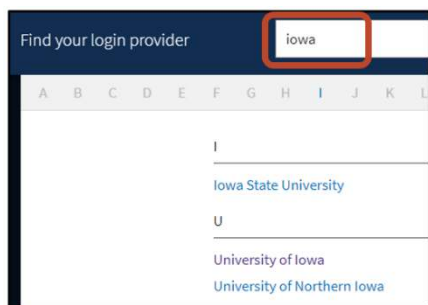
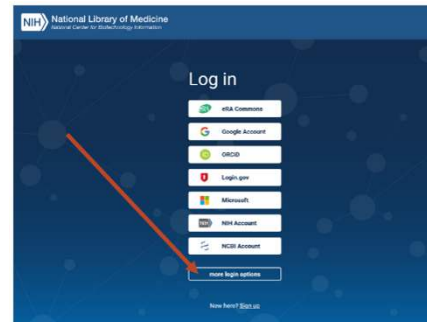
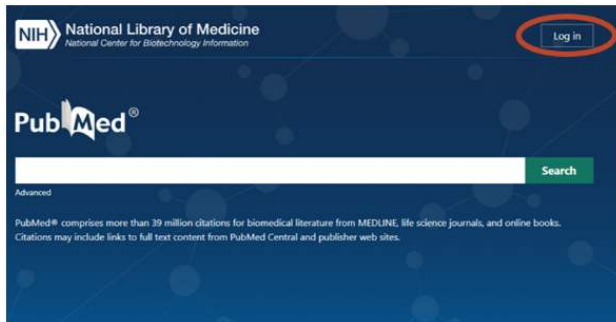


Find Full Text

1. From the results page, click the title of an article to see more information, including the abstract, similar articles, articles citing the article (Cited by), MeSH terms, and options for full text access.
2. To connect to full text, click the **UILink** button.
3. If no full text is available, request the article through interlibrary loan, using the Interlibrary Loan link if one displays or at <http://www.lib.uiowa.edu/hardin/illa/>

Log in to MyNCBI (PubMed) Account

1. Click the **Log in** button found on the top right of the PubMed homepage.
2. When logging in with a HawkID choose **more login options** on next screen.



3. Type Iowa into the **Find your login provider** search box on the top of the page.
4. Enter your HawkID and password. You may be prompted to verify with Duo mobile.

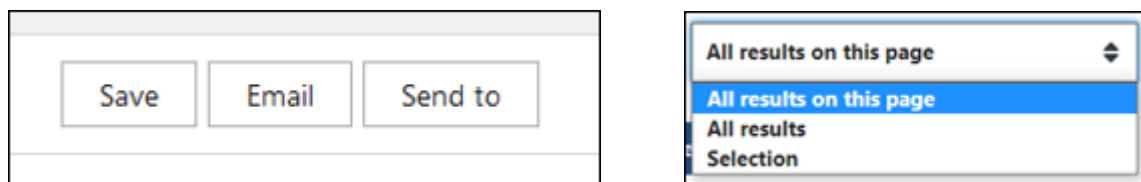
NOTE: There are other ways to log in to PubMed, other than with a HawkID, that may be more appropriate depending on the situation, such as ORCID or eRA Commons.

The Following Features and Functions Are Available Only When Logged In

Save, Email, or Send Results

The **Save** option allows downloading of citations to a file. The **Email** function sends an email with citations to only **ONE** email account. It's possible to forward this email to others afterwards. The **Send to** option lets you send citations to a citation manager, the clipboard (see *Use the Clipboard*), collections (see *Save Searches and Create Alerts*), and other options.

To **save, email, or send the results**, choose the action you want from the buttons at the top of the results page. For each option, you can choose to send selected citations by checking the boxes to the left of citations you want to keep, or you can send a page of results or all the results.



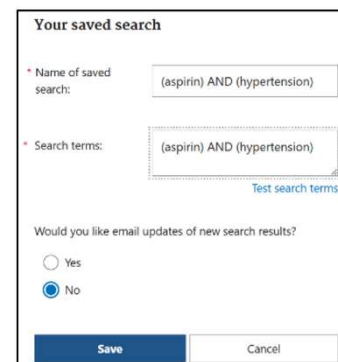
Use the Clipboard

The clipboard allows for temporary storage of citations. The citations on the clipboard **expire after eight hours** of inactivity or when you close the browser window. Items from the clipboard can be saved, emailed, or sent as well. When you have added citations to the clipboard, the Clipboard link appears under the search box on the results page and the PubMed homepage.



Save Searches and Create Alerts

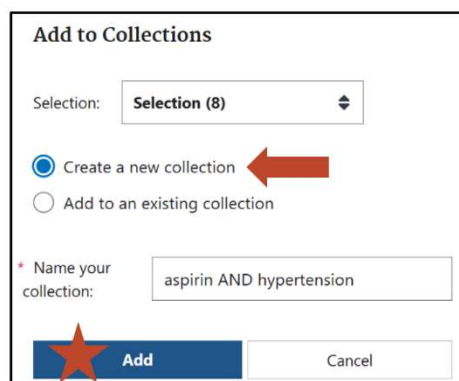
To save a search or create an alert, click the **Create alert** link under the search box on the results page. If you wish to receive email alerts for new citations, leave the **Yes** radio button marked and choose your preferences for how many citations you want to receive and how frequently. If you wish to save the search strategy but not receive email alerts, mark the **No** radio button.

The image shows a form titled 'Your saved search'. It has two main sections. The first section is for the 'Name of saved search' and 'Search terms', both containing the text '(aspirin) AND (hypertension)'. There is a 'Test search terms' link next to the search terms field. The second section asks 'Would you like email updates of new search results?' with two radio buttons: 'Yes' and 'No'. The 'No' radio button is selected. At the bottom, there are 'Save' and 'Cancel' buttons.

Saved searches appear in your My NCBI Dashboard. You can rerun these searches at any time.



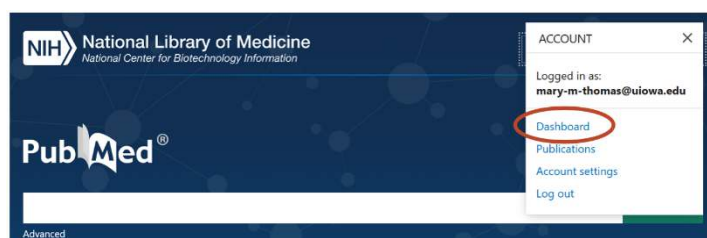
You can also save citations in Collections, which does not save the search strategy or send alerts. Under the **Send to** menu, choose **Collections**. You can choose whether to **create a new collection** or **add the citations to an existing collection** in your account.



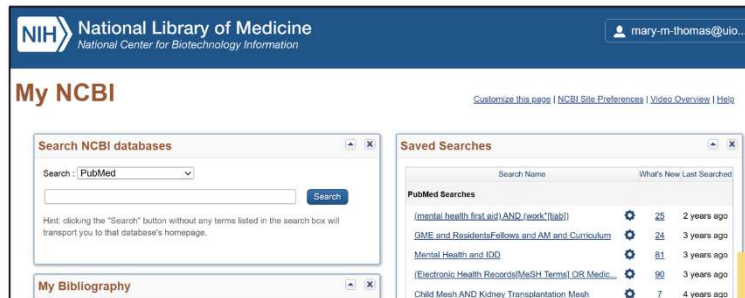
Collections appear in your My NCBI account Dashboard. You can make any collection public, providing you with a URL to share, by clicking on the gear icon and adjusting the settings.



NOTE: To access Saved Searches and Collections, log in to PubMed, then click on your account at the top right of the PubMed homepage, and choose **Dashboard** from the account menu.



The Dashboard, titled **My NCBI**, provides access to additional PubMed features and tools such as My Bibliography, Recent Activity, Saved Searches, Collections, and SciENcv.



Find Help

- Hardin Library Reference Desk: lib-hardin@uiowa.edu (319) 335-9150
- Hardin Open Workshops <https://www.lib.uiowa.edu/hardin/workshop/>
- National Library of Medicine online training for PubMed: <https://learn.nlm.nih.gov/documentation/training-packets/T0042010P/>