

# PMC Help

Last Updated: September 26, 2018



National Center for Biotechnology Information (US)  
Bethesda (MD)

National Center for Biotechnology Information (US), Bethesda (MD)

NLM Citation: PMC Help [Internet]. Bethesda (MD): National Center for Biotechnology Information (US); 2005-.

This book contains information on PMC (PubMedCentral), a service of the National Center for Biotechnology Information (NCBI).

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# PMC Help

Created: September 7, 2006; Updated: September 26, 2018.

PubMed Central® (PMC) is a free full-text archive of biomedical and life sciences journal literature at the U.S. National Institutes of Health's National Library of Medicine (NIH/NLM).

PMC provides free access to articles from journals that deposit their content in the archive. Access to the material in PMC is free, but use of the material still is subject to the copyright and/or related license terms of the respective authors or publishers. See the [PMC Copyright Notice](#) for more information. PMC is not a publisher and does not publish journal articles itself. ([Find out how journal publishers can participate in PMC](#)).

PMC also includes final, peer-reviewed author manuscripts by scientists and others who receive research funding from NIH and other funding agencies. For information on submission of author manuscripts, please visit the [NIH Manuscript Submission \(NIHMS\) system](#).

Answers to many common questions about PMC are available on the [PMC FAQ](#) pages.

This guide is meant to help you use PMC to find and read articles of interest to you.

## PMC Quick Start

Using this Quick Start section is the fastest way to begin using PMC.

- Journals in PMC
- Search Queries
- Search Results

## Journals in PMC

### Where can I find a list of journals that archive their articles in PMC?

Visit the PMC [Journal List](#) to browse a list of journals that archive some or all of their contents in PMC. The PMC Journal List includes journal titles, ISSNs, holdings, and access and embargo information.

Journals with a Participation Level of “Full” archive all articles from each issue. Journals with a participation level of “NIH Portfolio” deposit at least all NIH funded articles. More information can be found in the Journal List legend. The complete list can be downloaded in a comma-separated values (CSV) file format by clicking the [Download CSV](#) link.

### Where can I find a list of journals that recently started archiving their articles in PMC?

Journals added to PMC in the last 60 days can be found by clicking on the [New](#) tab of the PMC [Journal List](#).

### Where can I find a list of journals that selectively archive articles in PMC?

The [Special Collections](#) tab of the PMC [Journal List](#) shows a list of publisher programs and journals that have an arrangement with PMC to deposit just selected articles from either a single journal or a set of journals.

## Search Queries

### How do I search PMC?

1. Identify the key concepts for your search.
2. Enter the terms (or key concepts) in the search box at the top of the page.

3. Suggestions will display as you type your search terms. Click **Turn off** to temporarily disable the autocomplete feature. The autocomplete feature is based on PubMed query log analysis described in [“Finding Query Suggestions for PubMed.”](#)
4. Click Search.

| Example   |
|---|
| What is the role of mood in sleep disorders? The key concepts terms are “mood” and “sleep disorders”. Enter the following into the Search box, and then click <b>Search</b> |
| <a href="#">mood sleep disorders</a>  |

## How do I search by author?

In the Search box, enter the author’s full name or their last name followed by initials, without punctuation.

| Examples                         |
|----------------------------------|
| <a href="#">Joshua Lederberg</a> |
| <a href="#">Lipman DJ</a>        |

If you only know the author’s last name, use the author search field tag [au], e.g., lipman[au].

You may also click **Advanced** to use the search builder, and then select **Author** from the All Fields dropdown menu. The author search box includes an autocomplete feature.

Author names are automatically truncated to account for varying initials and designations such as Jr. To turn off the truncation, use double quotes around the author's name with the author search field tag [au], e.g., "[smith j](#)" [au].

## How do I search by journal name?

Enter in the Search box one of the following:

- full journal title
- ISSN number, a standardized international code
- title abbreviation

| Examples   |
|--|
| <a href="#">journal of the medical library association</a> |
| <a href="#">1948-7193</a>                                  |
| <a href="#">Proc Natl Acad Sci U S A</a>                   |

Please note:

- Searching with the full journal title or abbreviation is recommended for complete retrieval of indexed items; older articles may not have an ISSN.
- If a journal title or abbreviation includes a special character (e.g., parentheses, brackets, &), enter the title or abbreviation without the special characters.

If you are searching the journal name or title abbreviation in the Search box along with additional search terms, it is helpful to use quotation marks around a journal’s title.

| Example |
|---------|
|---------|

*Table continued from previous page.*

|  |
|--|
| To search for articles about obesity in the journal Preventing Chronic Disease, enter the following in the Search box:<br><a href="#">obesity "preventing chronic disease"</a> |
|--|

Alternatively, you may also click **Advanced** to use the Advanced Search Builder, and then select **Journal** from the **All Fields** dropdown menu.

## How do I find author manuscripts?

To view all [author manuscripts](#) collected under a funding agency's policy in PMC, enter "[author manuscript\[filter\]](#)" in the Search Box. You can also combine this filter with other search terms or use the "Author manuscripts" filter under Article Attribute in the sidebar of the search results page.

| Example  |
|--|
| To search for author manuscripts related to childbirth, enter the following in the Search box:<br><a href="#">childbirth AND author manuscript[filter]</a> |

If you are a researcher seeking to submit an author manuscript to PMC, visit the [NIHMS](#). (For more information on PMC submission methods, see [How Papers Get Into PMC](#).)

## How do I search by publication date?

Enter dates into the Search box using the format YYYY/MM/DD [date field], or enter a date range using a colon (:) between each date followed by a date field.

| Examples                             |
|--------------------------------------|
| <a href="#">2014/08/25[epubdate]</a> |
| <a href="#">1899:1901[pubdate]</a>   |

The recognized publication date fields are:

[pubdate] - date of publication

[epubdate] – electronic publication date

[printpubdate] – print publication date

## How do I search by date an article was made publicly available in PMC?

Enter dates into the Search box using the format YYYY/MM/DD [pmclivedate], or enter a date range using a colon (:) between each date followed by a date field.

## Search Results

### Can you explain the search results display?

PMC search results are displayed in a summary format explained in the illustration below.

Results are initially displayed in order of relevance with 20 results per page. Use **Display Settings** at the top of the results to change the default display.

From the search results page you can

1. Click on the record title to access an article
2. Access the article directly in one of three different formats (Classic Article View, PubReader, or PDF).
3. View or download the formatted citation (AMA, MLA, and APA) by clicking on **Citation**.
4. Limit results by article attribute, publication date, or funder using the sidebar filters.
5. Expand your results to include articles currently under embargo in PMC alongside the publicly accessible results, by selecting the **Include embargoed articles** filter.
6. Find related data in other NCBI datasets.
7. Send your results to a file, email them, or save them using the Clipboard and Collections tools.
8. Add custom filters.

PMC US National Library of Medicine National Institutes of Health

Search: diabetes mellitus

Save search Journal List Advanced Help

Article attributes 4  
Author manuscripts  
Digitized back issues  
Open access  
Retracted

Text availability 5  
Include embargoed articles

Publication date  
1 year  
5 years  
10 years  
Custom range...

Research Funder  
NIH  
AHRQ  
CDC  
FDA  
NIST  
VA  
Customize ...

Clear all  
Show additional filters

Display Settings: Summary, 20 per page, Sorted by Default order

**Search results**

Items: 1 to 20 of 186145

1 ☐ [Report of the Committee on the Classification and Diagnostic Criteria of Diabetes Mellitus](#)

1. The Committee of the Japan **Diabetes** Society on the Diagnostic Criteria of **Diabetes Mellitus**, Yutaka Seino, Kishio Nanjo, Naoko Tajima, Takashi Kadowaki, Atsunori Kashiwagi, Eiichi Araki, Chikako Ito, Nobuya Inagaki, Yasuhiko Iwamoto, Masato Kasuga, Toshiaki Hanafusa, Masakazu Haneda, Kohjiro Ueki  
J **Diabetes** Investig. 2010 October 19; 1(5): 212–228. Published online 2010 October 8.  
doi: 10.1111/j.2040-1124.2010.00074.x  
PMCID: PMC4020724

2 [Article](#) [PubReader](#) [PDF-621K](#) [Citation](#) 3

☐ [Risk Related to Pre-Diabetes Mellitus and Diabetes Mellitus in Heart Failure With Reduced Ejection Fraction: Insights From Prospective Comparison of ARNI With ACEI to Determine Impact on Global Mortality and Morbidity in Heart Failure Trial](#)

Søren L. Kristensen, David Preiss, Pardeep S. Jhund, Iain Squire, José Silva Cardoso, Bela Merkely, Felipe Martinez, Randall C. Starling, Akshay S. Desai, Martin P. Lefkowitz, Adel R. Rizkala, Jean L. Rouleau, Victor C. Shi, Scott D. Solomon, Karl Swedberg, Michael R. Zile, John J.V. McMurray, Milton Packer, for the PARADIGM-HF Investigators and Committees  
Circ Heart Fail. 2016 January; 9(1): e002560. Published online 2016 January 19.  
doi: 10.1161/CIRCHEARTFAILURE.115.002560  
PMCID: PMC4718182  
[Article](#) [PubReader](#) [PDF-828K](#) [Citation](#)

7 Send to: Filter your results:

All (186145)  
Embargoed (0)

8 [Manage Filters](#)

6 Find related data  
Database: Select  
Find items

Search details  
"diabetes mellitus"[MeSH Terms] OR ("diabetes"[All Fields] AND "mellitus"[All Fields]) OR "diabetes mellitus"[All Fields]

Search See more...

Recent activity  
Turn Off Clear

diabetes mellitus (186145) PMC

diabetes mellitus AND ("author manuscript" [Filter]) (30200) PMC

Example of Search Results Display. Numbers correspond with in-text list above.

See Customizing Your Search Results Display and Viewing Articles for additional information.

## How can I save my search results?

There are several ways to save PMC search results, including saving them to a file, emailing them, using the **Clipboard** to save results temporarily, and using Collections in [My NCBI](#) to save them indefinitely.

For details see Saving and Emailing Results and Searches

## I am not finding what I need. How does a PMC search work?

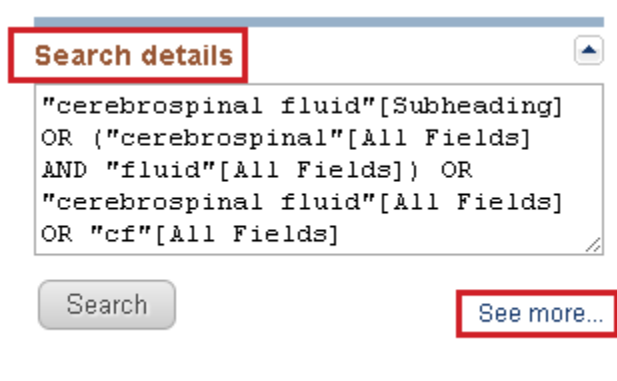
The PMC search program may modify your search terms to enhance your retrieval. Sometimes these changes may not match what you have in mind.

To see how PMC modified your search, consult the **Search details** box displayed on the results page. Click the **See more...** link for additional information on how the query was translated.



## Example

If you search for cystic fibrosis by its abbreviation **cf**, the [cf search](#) retrieves some articles that do not discuss cystic fibrosis. To see why PMC retrieved these articles, review the **Search details** box to see how PMC translated **cf** to search for articles about **cerebrospinal fluid** or **cf**. See example below.

**Search details for search for cf**

For additional information, see [automatic term mapping](#).

**I retrieved too many citations. How can I focus my search?**

To limit the number of search results:

- Replace general search terms with more specific ones (e.g., search for low back pain instead of back pain).
- Add additional terms to your search.
- Use the sidebar filters to restrict your results by article attribute, publication dates, funder, etc.
- Click **Manage Filters** in the right-hand **Filter your results** portlet to customize your [My NCBI](#) filter selections.

**Why do I get different search results in PubMed and PMC?**

Although they are interrelated, [PubMed](#) and PMC are two separate and unique resources. PubMed is a database of citations and abstracts for more than 26 million articles.

PMC is an archive of full-text journal articles. PMC contains over 3 million articles, most of which have a corresponding citation in PubMed.

For a comprehensive search, it is advisable to search PubMed and PMC separately for the following reasons:

- PubMed searches only what appears in a PubMed record—citation and abstract. PubMed does not have citations for certain types of PMC material, such as book reviews, that are considered out of scope for PubMed.
- In addition, some articles published prior to 1966 and added to PMC via the [Back Issue Digitization project](#) do not have corresponding citations in PubMed.

Also note that searches in PMC and in PubMed will generate separate search histories. For more information on the connection between PMC and PubMed, visit the [PMC FAQs](#) page.

**What if I find an error in an article?**

Articles in PMC reflect either the final published version as provided by the publisher or the manuscript version as submitted and approved by the author.

If you are the author of a final published article submitted to PMC by the journal and find an error, please email the publisher and send a copy (“cc”) of your message to the PMC Help Desk [pubmedcentral@ncbi.nlm.nih.gov].

If you discover other problems with the PMC archive (e.g., an article associated with the incorrect PDF or an error in an author manuscript), please send an email to the PMC Help Desk [pubmedcentral@ncbi.nlm.nih.gov] with a description of the problem.

## Where can I find information on PMC metadata access or high-volume retrieval?

See the [OAI-PMH Service](#) page for information and tools for Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH), which discusses access to PMC records, high-volume retrieval, and other related data utilities.

## I need further assistance and training.

To contact customer support, email the Help Desk [pubmedcentral@ncbi.nlm.nih.gov].

## Filters

You can narrow your search results by article attributes, text availability, publication dates, research funder, and search fields.

1. Run a search in PMC.
2. To activate a sidebar search filter, click the filter selection. A checkmark will appear next to the activated filter.
3. Subsequent searches will be filtered until the selected filters are cleared.

Note:

- To add additional filter categories to the sidebar, click the **Show additional filters** link, select the additional categories, and then click **Show**. To activate the additional filters, click the filter selection.
- When filters are selected a **Filters activated** message will display on the results page.
- To turn off filters, click either the **Clear all** link to remove all the filters, the **clear** link next to a filter category to clear the selections within that category, or the individual filter.
- Users can also activate additional filters with [My NCBI filters](#).

## Article attributes

Select article attributes to narrow your results based on the type of material the article represents:

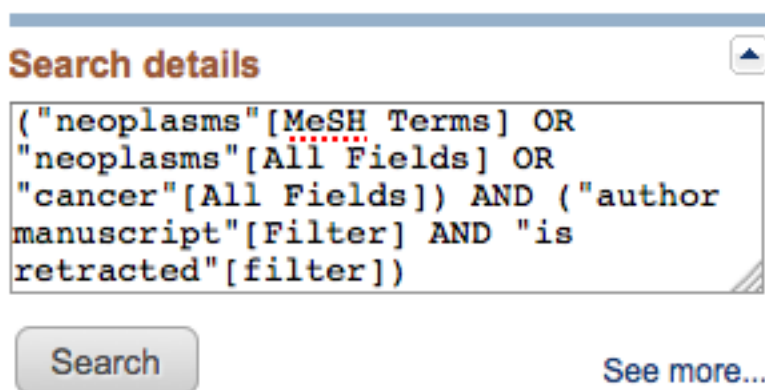
**Author manuscripts** filters a search to display records of papers that have been peer reviewed and accepted for publication by the journal and deposited in PMC under a PMC-participating funder’s policy. Some author manuscripts are available for bulk download and text mining via the [Author Manuscript Collection](#).

**Digitized back issues** filters a search to display records that were added to the archive as part of a [PMC Back Issue Digitization](#) project. These records go back to the early 19<sup>th</sup> century.

**Open access** filters a search to display records that are made available under a [Creative Commons](#) or similar license that generally allows more liberal redistribution and reuse than a traditional copyrighted work. See also the [PMC Open Access Subset](#).

**Retracted** filters results to display records that have been retracted by the journal/publisher. Reasons that an article has been retracted vary.

Selecting multiple article attributes runs an AND search. See Search details example below.



The article attribute options are those that can be consistently and accurately identified by PMC. The complete list of MEDLINE publication types is available by searching PubMed.

## Text Availability

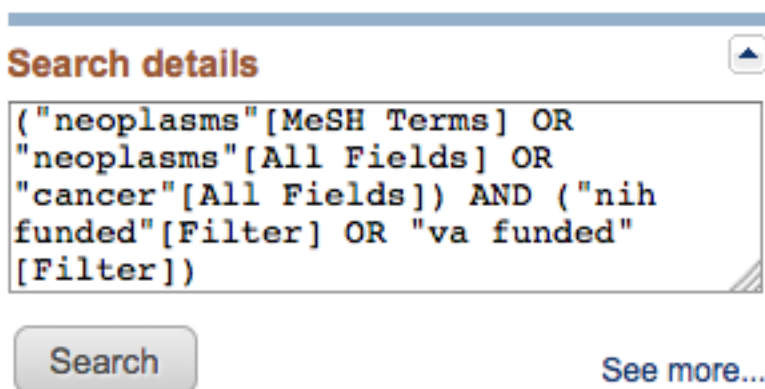
To include articles under embargo in your search results, select the **Include embargoed articles** filter.

## Publication Dates

From the filter sidebar **Publication dates** category, click **1 year**, **5 years**, **10 years**, or enter a date in the custom range box to filter your results by publication date. The publication date filter narrows the search to the date of publication of the article or issue containing the article.

## Research funder

In addition to being a digital archive of journal literature, PMC is also the repository for articles supported by a number of **U.S. and international research funders**. To narrow search results based on the organization funding the research, select one or more funder names. Selecting multiple research funders runs an OR search. See Search details example below.



To add additional funders to the search, click the **Customize...** link, select additional research funders, and then click **Show**.

Notes:

- Not all articles in PMC were supported by a PMC-participating researcher funder. Much of the content in PMC is made available because of a journal or publisher's [PMC agreement](#), regardless of funding status.
- For some funders, PMC only has funding metadata associated with author manuscript submission, so the filter may not reflect all funded content in PMC (e.g., HHMI, HAL INSERM).
- Research funding can include articles supported by grants and contracts (extramural) as well as articles authored by organization employees (intramural).

## Search Fields

Choose a search field to limit all terms entered in the search box to the selected field.

Click the **Show additional filters** link, select **Search fields**, and then click **Show**. Click the **Choose...** link under Search fields, select a search field, and then click **Apply**.

## Customized Filters

You can also customize or select additional filters in My NCBI to narrow down search results according to your own specific needs and interests.

These additional filters can be selected in the **Search Filters** function in My NCBI or via the **Manage Filters** link in the top Filter your results section of a PMC search results page. After a filter is added, it will be listed in this same section at the top of the right side of the search results page, under **Filter your results**. These can be selected to divide your search result into subsets according the filter properties. Currently, up to 15 custom filters can be activated at any one time.

Choose another database: PMC (2 active) Select the PMC database

**Browse/Search for PMC Filters**

Select category:

☐ Popular ☐ LinkOut ☒ Properties ☐ Links Select a category for your filters

Search with terms (optional):  Search

| Active                              | Name                | Description   |
|-------------------------------------|---------------------|---|
| <input checked="" type="checkbox"/> | Article Types       |   |
| <input type="checkbox"/>            | Corrected           | Articles for which there is a published correction / erratum  |
| <input type="checkbox"/>            | Has abstract        | Articles that have abstracts  |
| <input checked="" type="checkbox"/> | Has PDF             | Articles for which a PDF is available. (Includes older scanned articles as well as more recent material.) |
| <input type="checkbox"/>            | Has supp data       | Articles that include supplementary material files  |
| <input type="checkbox"/>            | Has video           | Articles that include a video   |
| <input type="checkbox"/>            | Letter              | Articles that represent letters   |
| <input type="checkbox"/>            | Reply               | Articles that represent replies to letters  |
| <input type="checkbox"/>            | Research and review | Articles that represent research/review publication types   |
| <input type="checkbox"/>            | Retracted           | Articles for which there is a published retraction notice   |
| <input type="checkbox"/>            | Retraction          | Articles that represent the notice of retraction  |
| <input type="checkbox"/>            | Scanned             | Full text available only as a scanned copy of the original print  |
| <input checked="" type="checkbox"/> | Public Access       |   |
| <input checked="" type="checkbox"/> | Publisher Groups    |   |
| <input checked="" type="checkbox"/> | Subsets             |   |
| <input type="checkbox"/>            | Embargoed           |   |

The "properties" category allows you to filter articles by article type, public access status, publisher groups or by a specific subset.

### Example of Filters Display in My NCBI

For details on using Filters in My NCBI, see Working with Filters in [My NCBI Help](#). Details on setting up your own filters can be found in the [Creating Custom Filters](#) section.

## Using the Advanced Search Builder

Click **Advanced** under the Search box to go to the Advanced Search Builder.

## PMC Advanced Search Builder

(Brown D[Author]) AND "Diabetes & Metabolism Journal"[Journal]

Edit

Clear

Builder

Author

Brown D

Show index list

AND

Journal

Diabetes & Metabolism Journal

Hide index list

diabetes metabolism journal (176)

diabetes nutr metab (2)

diabetes obes metab (65)

diabetes res clin pract (73)

diabetes research and clinical practice (73)

diabetes spectr (5)

diabetes spectrum (5)

diabetes spectrum a publication of the american diabetes association (145)

diabetes technol ther (145)

diabetes technology therapeutics (145)

Previous 200

Next 200

Refresh index

AND

All Fields

Show index list

Search

or Add to history

History

Download history

Clear history

| Search | Add to builder | Query                               | Items found | Time     |
|--------|----------------|-------------------------------------|-------------|----------|
| #4     | Add            | Search diabetes                     | 230520      | 11:53:16 |
| #3     | Add            | Search neuropathy[Body - Key Terms] | 12861       | 11:52:56 |

### Example of Advanced Search Builder Display

## Searching by a specific field

For example, to search by **author**, select **Author** from the **All Fields** menu, and then enter an author's name. The name will automatically display in the Search box. To search by journal, select **Journal** from the **All Fields** menu, and enter a journal name.

To search for other fields in an article, use the **All Fields** pull-down menus to select a field before entering a term in the search **Builder** box.

Note that the default Boolean operator is AND; if desired, choose OR or NOT from the pull-down menu. PMC processes all Boolean operators from left to right.

Note that you may also search a specific field without using the Advanced Search Builder, by adding the search field name to a term, enclosed in square brackets (Search Field Descriptions and Tags). Case and spacing do not matter.

#### Example

aromatherapy [mesh terms]

## Browsing the index of terms

The Advanced Search Builder **Show index list** provides an alphabetical display of all terms in each PMC search field. You can browse by all fields or within a specific field such as, for example, “MeSH Subheading”.

1. Click **Advanced** and use the **Builder** to select a search field from the **All Fields** menu.
2. Click **Show index list**.
3. The index displays an alphabetical list of search terms and the number of results for each term. Click **Previous 200** or **Next 200** to move within the index.
4. Scroll until you find a term and then highlight it to add it to the Search box.

You can select multiple items from the index list, and the **Builder** will automatically join the terms with the OR operator.

## Previewing the number of search results

Use the **Add to history** link in Advanced search to display the items found before displaying the search results:

1. Click **Advanced**.
2. Use the **Builder** to add search terms to the Search box.
3. Click **Add to history** to display the number of results in history.
4. To display the results, click the history **Items found** link.

## Combining searches using History

Searches can be combined or used in subsequent searches using the search number from Advanced search **History**.

1. Click **Advanced**.
2. In the **History** list, click **Add** to move the search to the Builder.
3. Alternatively, click the search number to display additional options to add the search to the **Builder**, including Boolean operators OR or NOT. Other menu options include:
  - Delete from history
  - Show search results
  - Show search details
  - Save in [My NCBI](#)
4. Add additional search terms in the **Builder**.
5. Click **Search**.

## More information about the History:

- The history will be lost after 8 hours of inactivity.
- Click **Clear history** to delete all searches from history.
- PMC will move a search statement number to the top of the **History** if a new search is the same as a previous search.
- History search numbers may not be continuous because some numbers are assigned to intermediate processes, such as displaying a result in another format.
- The maximum number of searches available in **History** is 100. Once the maximum number is reached, PMC will remove the oldest search from history and add the most recent search.
- A separate history will be retained for each database, although the search numbers will be assigned sequentially for all databases.
- The history feature uses browser cookies. To use this feature, your web browser must be set to accept [cookies](#).



- Results in the **Clipboard** are represented by the search number #0, which may be used in searches. For example, to limit the results you have collected in the clipboard to author manuscripts, use the following search: “#0 AND author manuscript [filter]”. This does not change or replace the **Clipboard** contents.

## Displaying the Search Details

The PMC search program may modify or add additional search terms to your search to optimize retrieval.

See the **Search details** box on the results page to view your search as it was translated using automatic term mapping and search rules.

### More information about Search details:

- Click on **See more...** to see the **Query Translation** used to run the search.
  - To edit the search in the **Query Translation** box, add or delete terms and then click the **Search button** just below the box.
  - Click **URL** to display the current search as a URL to bookmark for future use. Searches created by combining History numbers should not be saved using the URL feature, because the history numbers are not persistent
- The **Result** link is the total number of results for the search.
- Translations** details how each term was translated using PMC's search rules and syntax

**User query** shows the search terms as you entered them in the query box and whether there were any syntax errors in the query.

## Searching for a phrase

PMC does not perform adjacency searching. However, many phrases are recognized by the MeSH Translation Table used in PMC's automatic term mapping feature. For example, if you enter “influenza in birds”, PMC recognizes this phrase as a MeSH concept. If a phrase is not recognized, you can instruct PMC to bypass automatic term mapping and search for a phrase using the formats outlined below.

#### Examples

- Enclose the phrase in double quotes: "[kidney allograft](#)"
- Use a **search tag**: [kidney allograft\[tw\]](#)
- Use a hyphen instead of a space: “[first-line](#)”
- Truncate**: [kidney allograft\\*](#)

### More information about phrase searching:

- If you use a hyphen or quotes and the phrase is not found, the hyphen or quotes are ignored and the phrase is processed using automatic term mapping. Phrases may appear in a PMC article but not be in the phrases index.
- When you enter your search terms as a phrase (using quotation marks), PMC will not perform automatic term mapping, which includes expansion of [MeSH terms](#). For example, "health planning" will include results that are indexed to the MeSH term, Health Planning, but will not include the more specific terms, e.g., Health Care Rationing, Health Care Reform, Health Plan Implementation, etc., that are included with the automatic MeSH mapping.

## Truncating search terms

To search for all terms that begin with a word, enter the word followed by an asterisk (\*). For example,



| Example  |
|--|
| <a href="#">flavor*</a>  |
| finds terms that begin with the root term flavor, such as flavored, flavorful, flavoring, etc. |

### More information about truncation:

- PMC searches for the first 600 variations of a truncated term. If a truncated term (e.g., “tox\*”) produces more than 600 variations, PMC displays a warning message to lengthen the root word to search for all endings.
- Truncation turns off automatic term mapping and the automatic expansion of a [MeSH term](#). For example, “heart attack\*” will not map to the MeSH term “Myocardial Infarction” or include any of the more specific terms, e.g., “Myocardial Stunning”; “Shock”, or “Cardiogenic”.
- Truncating a word in a multi-word query may result in an unexpected phrase search. For example, the search fetus infection\* maternal will treat fetus infection\* as a phrase.
- Truncation stops at the end of a term, that is, it does not process beyond a space.

## Combining search terms with Boolean operators (AND, OR, NOT)

Enter Boolean operators in uppercase characters to combine or exclude search terms:

- **AND** retrieves results that include all of the search terms.
- **OR** retrieves results that include at least one of the search terms.
- **NOT** excludes the retrieval of terms from your search.
- Use parentheses to group terms as desired.

#### Examples

Find articles on DNA that were authored by Ostell in 2000:

[dna\[MeSH Terms\]](#) AND [ostell\[au\]](#) AND [2000\[pubdate\]](#)

Find articles on the effects of heat or humidity on multiple sclerosis:

[\(heat OR humidity\)](#) AND [multiple sclerosis](#)

Find articles about arthritis excluding author manuscripts:

[arthritis](#) NOT [author manuscript\[filter\]](#)

[common cold](#) AND [\(vitamin c OR zinc\)](#)

### More information about using Boolean operators:

Boolean operators must be used when combining tagged search terms as follows: *search term [tag] **BOOLEAN OPERATOR** search term [tag]*. (See [Search field descriptions and tags](#) for more information about search tags.)

In a multi-word search, PMC will use automatic term mapping to identify concepts. For example, for the search *air bladder fistula*, the PMC program will search "air bladder" as a phrase. If you do not want this automatic phrase search, enter each term separated by the Boolean operator AND, e.g., *air AND bladder AND fistula*.

## Searching in a specific field or index

To search a specific field in an article (e.g., author, title, journal, etc.) and bypass the automatic term mapping, tag the search term by following it with the appropriate [search tag](#).

- The search tag must be enclosed in square brackets.
- Case and spacing do not matter.

|                                |
|--------------------------------|
| Examples                       |
| <a href="#">cough[journal]</a> |
| <a href="#">crabs [mh]</a>     |
| <a href="#">Crabs[mh]</a>      |

## Searching for author manuscripts

You may use the **Author manuscript** filter to narrow your search results or enter [author manuscript \[filter\]](#) without other search terms to view all author manuscripts in PMC.

Note: If you are a researcher seeking to submit a manuscript, visit the [NIH Manuscript Submission](#) homepage.

## Customizing Your Search Results Display

PMC search results initially display in a summary format with 20 results per page sorted by relevance.

## Changing the Default Display Settings

Use **Display Settings** to:

- Change the result format
- Change the number of items per page
- Change the sort order for your search results

The screenshot shows the PMC search interface. At the top, there is a search bar with the text "diabetes mellitus" and a dropdown menu set to "PMC". Below the search bar are links for "Save search", "Journal List", "Limits", and "Advanced". A red box highlights the "Display Settings" dropdown menu, which is currently set to "Summary, 20 per page, Sorted by Default order". A blue arrow points to the "Choose display settings" link. The dropdown menu is open, showing three columns: "Format", "Items per page", and "Sort by".

| Format                                   | Items per page                      | Sort by  |
|--|-------------------------------------|--|
| <input checked="" type="radio"/> Summary | <input type="radio"/> 5             | <input checked="" type="radio"/> Default order |
| <input type="radio"/> Summary (text)     | <input type="radio"/> 10            | <input type="radio"/> Publication Date         |
| <input type="radio"/> MEDLINE            | <input checked="" type="radio"/> 20 | <input type="radio"/> Journal                  |
| <input type="radio"/> PMCID List         | <input type="radio"/> 50            | <input type="radio"/> PMC Live Date            |
|  | <input type="radio"/> 100           |  |

An "Apply" button is located at the bottom right of the dropdown menu.

### Changing Default Display Settings

## Sorting your search results

The default sort order for search results is based on an algorithm that analyzes the full text of every PMC article that contains any of your search terms. For a given search query, "weight" is calculated for each article depending on how many search terms are found, which fields they are found in, and the size of the article. Although recently-published articles are given more weight, this is not a major sorting factor.

You may change the sort order for search results using the **Display Settings** pull-down menu to select a different sort by setting:

- Default Order
- Publication Date
- Journal
- PMC Live Date

## Saving and Emailing Results and Searches

PMC offers a wide variety of methods to save search results.

### Send to Options

Use the **Send to** dropdown in order to:

- Save results to a file
- Send results by e-mail
- Save results temporarily in your Clipboard
- Save results permanently in MyNCBI Collections

[Display Settings:](#) ☒ Summary, 20 per page, Sorted by PMC Live Date

**Results: 1 to 20 of 148509**

<< First < Prev Pa

**Send to:** ☒

Choose Destination

- ☐ File
 ☐ Clipboard  
☐ E-mail
 ☐ Collections

- ☐ [The long-term effect of screening and lifestyle counseling](#)  
 1. [activity and diet: the Inter99 Study – a randomized controlled trial](#)

#### Send to Menu Options

### Send to File

- In your search results, use the result check boxes to select results. You may move to other pages to continue your selections. If you do not make any selections, PMC will save the entire retrieval.
- From the **Send to** pull-down menu, select **File**. Then select a format and a sort order, and click **Create file**.
- Your Web browser will prompt you to save the PMC search results to a file on your computer.

More information about saving results to a file:

- Saving a large retrieval may take several minutes.
- The default for the **Send to File** feature is to save the entire retrieval unless you select specific results. For example, if you use the **Send to File** feature on a screen displaying 1-20 items of 2,356, your saved file will contain all 2,356 results.

### Send to E-mail

- In your search results, use the check boxes to select results. To email all results displayed on the page, do not make any selections.
- From **Send to**, select **E-mail**.
- Choose selections for **Format**, **Sort by**, or **Number to send**.
- Enter an email address. You may also enter a message that will be included in the e-mail.
- Click **E-mail**. The system returns you to your results page and displays a message confirming that the email message was sent.

You may use [My NCBI](#) to setup an automatic emailing of search updates.

Your PMC results will be sent from the NCBI automatic mail server, sent by [Entrez](#) [nobody@ncbi.nlm.nih.gov]. Do not reply to this message. This is not a functioning customer service email address.

You may email up to 200 items at a time to a single email address.

## Send to Clipboard

The Clipboard gives you a place to collect selected results from one or several searches. The Clipboard will be lost after 8 hours of inactivity on PMC or on any of the other [Entrez](#) databases.

If you want to store results indefinitely, then you should use [My NCBI Collections](#).

To add results to the Clipboard:

- In your search results, use the check boxes to select results. You may move to other pages to continue your selections. To save all of your results, leave all of the check boxes unchecked.
- From the Send to pull-down menu, select **Clipboard**.
- To view your selections, click the **Clipboard** items link.

To delete results from the Clipboard:

- While viewing the contents of the clipboard, check individual items, and then click **Remove selected items**
- To delete all items from the Clipboard, do **not** select any items, click **Remove all items**.

More information about the Clipboard:

- The maximum number of items that can be placed in the Clipboard is 500. If you select **Clipboard** from the **Send to** menu without selecting results using the check box, PMC will add all (up to 500 results) of your search results to the Clipboard.
- Adding the same article to the Clipboard multiple times will not result in duplicate entries in the Clipboard.
- PMC uses cookies to add your selections to the Clipboard. For you to use this feature, your Web browser must be set to accept cookies.
- Results in the Clipboard are represented by the search number #0, which may be used in Boolean search statements. For example, to limit the results you have collected in the Clipboard to author manuscripts, use the following search: “#0 AND author manuscript [filter]”. This does not affect or replace the Clipboard contents.

## Send to Collections

[My NCBI](#) saves searches and results and features an option to automatically update and email search results from your saved searches. My NCBI includes additional features for highlighting search terms, storing an email address, filtering search results, and setting LinkOut, document delivery service, and outside tool preferences.

Using My NCBI Collections, you can save multiple searches grouped by any criteria you want to use.

**Note:** To use My NCBI, your Web browser must be set to accept [cookies](#).

Click the **My NCBI Sign In link**, located at the top right of the page header, to sign into My NCBI or register for an account.

## Saving searches as RSS (Really Simply Syndication) feeds

PMC does not currently support RSS feeds directly through the PMC search page. However, in PubMed you can create an RSS feed by using a search that restricts retrieval to the PMC subset. For detailed information, see the PubMed Central Subset section of [PubMed Help: Searching PubMed](#).

## Creating a URL to bookmark your search

You can create a URL with your search terms that can be bookmarked in your Web browser for future use. Documentation is also available for [creating a web link to PubMed](#).

- Run a search and then click **See more** under **Search Details**.
- Click **URL** below the **Query Translation** box.
- Bookmark the URL using your Web browser function. You can also copy the URL from the Web browser's URL address box.

### More information about creating a bookmark:

- Searches created using a search statement number in **History** (for example, “#1 OR #2 AND human[mh]”) should not be saved using the URL feature, because these search statement numbers are lost when the History expires. You may click on the **History** numbers to save a search in [My NCBI](#) using the drop-down menu.
- After saving the bookmark, you may want to use your Web browser's edit functions to rename the bookmark.

## Viewing Articles

PMC offers multiple ways to view an article or the citation data associated with it, including Classic View, PubReader, ePub, PDF, and Citation.

### Classic View

In addition to providing text, tables and figures, the Classic View of an article in PMC offers:

- Easy-to-spot location for the PMCID
- Navigation within the article using the **Go to** link
- Links to other publications by the article's authors
- Links to related articles in PubMed, PMC, and other Entrez databases

Journal List > Nutr Diabetes > v.2(1); 2012 Jan > PMC3302146

**Nutrition & Diabetes**

Nutr Diabetes. 2012 Jan; 2(1): e26.  
Published online 2012 Jan 16. doi: [10.1038/nutd.2011.21](https://doi.org/10.1038/nutd.2011.21)

**Appetite regulation and weight control: the role of gut hormones**

**B. Perry<sup>1,2</sup> and Y. Wang<sup>1,2,\*</sup>**

[Author information](#) ▶ [Article notes](#) ▶ [Copyright and License information](#) ▶

This article has been [cited by](#) other articles in PMC.

**Abstract**

The overwhelming increase in the prevalence of overweight and obesity in recent years represents one of the greatest threats to the health of the developed world. Among current treatments, however, gastrointestinal (GI) surgery remains the only

**Formats:**  
Article | [PubReader](#) | [ePub \(beta\)](#) | [PDF \(320K\)](#) | [Citation](#)

**Related citations in PubMed**

- Brain-gut axis and its role in the control of food intake. [J Physiol Pharmacol. 2004]
- Regulation of food intake by gastrointestinal hormones. [Curr Opin Gastroenterol. 2006]
- The role of gut hormones in appetite regulation (review). [Acta Physiol Hung. 2014]
- Gut hormones: a weight off your mind. [J Neuroendocrinol. 2008]
- Neuro-hormonal control of food intake: basic mechanisms and clinic; [J Physiol Pharmacol. 2005]

See reviews...  
See all...

Example of Classic View front matter display

## Using navigational tools and links to PubMed/Entrez

Click on an author's name in the front-matter section to see PubMed records for other publications by the article authors.

Use the **Related Citations in Pubmed** list in the sidebar to view related articles in PubMed.

Also in the sidebar is a **Links** section, which gives a list of links to other resources in NCBI related to this article, including the PubMed record, and, as applicable, Gene, Protein, Taxonomy and other Entrez databases.

When applicable, the front matter of an article may also contain links to related articles such as:

- Corrections
- Retractions
- Comments
- Cited by

For editorial or subscription information about a journal, click on the journal banner at the top of the page to visit the journal or publisher website.

## PubReader

**PubReader** is an alternative web presentation to the Classic View that offers another, more reader-friendly way to look at articles in the PMC archive. Designed particularly for enhancing readability on tablet and other small screen devices, PubReader can also be used on desktops and laptops and from multiple web browsers. The view is available for any article that is available in full-text in PMC. You can get to the PubReader view from:

- search results pages;
- an issue Table of Contents; or
- the Formats links in the top right corner of an article page in PMC.



## Human fascioliasis in Argentina: retrospective overview, critical analysis and baseline for future research

Roberto Mera y Sierra, Veronica H Agramunt, [...], and Santiago Mas-Coma

[Additional article information](#)

### Abstract

In Argentina, human fascioliasis has never been adequately analysed, although having a physiography, climate, animal

countries, although the lack of intensity studies and surveys in rural areas does not allow for an adequate evaluation. Human infection occurs mainly in January-April, when higher precipitation and temperatures interact with field activities during summer holidays. A second June peak may be related to Easter holidays. The main risk factor appears to be wild watercress ingestion (214) during recreational, weekend outings or holiday activities, explaining numerous family outbreaks involving 63 people and infection far away from their homes. Diagnosis mainly relied on egg finding (288), followed by serology (82), intradermal reaction (63), surgery (43), and erratic fluke observation (6). The number of fascioliasis-hydatidosis co-infected patients (14) is outstanding. Emetine appears as the drug most used (186), replaced by triclabendazole in recent years (21). Surgery reports are numerous (27.0%). A long delay in diagnosis

### Example of PubReader View

[Learn more about PubReader](#)

## Summary/Page Browse display

Many older articles in PMC are viewable in a Summary/Page Browse format (for example, [PMC2483210](#)). The full text of these articles is still available in PDF format (as a scanned copy of the original print version). An increasing number of Summary/Page Browse articles include a **Selected References** section offering links to citation records in PubMed or to other PMC articles.

## Citation Exporter View

The Citation Exporter view makes it easy to retrieve either styled citations that you can copy/paste into your manuscripts or download into a format compatible with your bibliographic reference manager software.

When viewing a PMC search results page, each result summary includes a **Citation** link. When, clicked, this opens a pop-up window that you can use to copy and paste citations formatted in one of three popular styles: AMA (American Medical Association), MLA (Modern Language Association), or APA (American Psychological Association). In addition, the box has links at the bottom that can be used to download the citation information in one of three machine-readable formats, which most bibliographic reference management software can import.



☐ [Corneal pain activates a trigemino-parabrachial pathway in rats](#)

7. Sue A. Aicher, Deborah M. Hegarty, Sam M. Hermes  
Brain Res. Author manuscript; available in PMC 2015 March 6.  
Published in final edited form as: Brain Res. 2014 March 6; 1550: 18–26. Published online  
PMCID: PMC3972123  
[Article](#) [PubReader](#) [PDF–1.3M](#) [Citation](#)

Search Result Showing Citation Link

Citation

Copy and paste a formatted citation from below or use one of the hyperlinks at the bottom to download a file for import into a bibliography manager.

|     |   |
|-----|---|
| AMA | Genton C, Cristescu R, Gatti S, et al. Recovery Potential of a Western Lowland Gorilla Population following a Major Ebola Outbreak: Results from a Ten Year Study. Hayward M, ed. <i>PLoS ONE</i> 2012;7(5):e37106. doi:10.1371/journal.pone.0037106.   |
| MLA | Genton, Céline et al. "Recovery Potential of a Western Lowland Gorilla Population Following a Major Ebola Outbreak: Results from a Ten Year Study." Ed. Matt Hayward. <i>PLoS ONE</i> 7.5 (2012): e37106. <i>PMC</i> . Web. 16 Oct. 2014.   |
| APA | Genton, C., Cristescu, R., Gatti, S., Levréro, F., Bigot, E., Caillaud, D., ... Ménard, N. (2012). Recovery Potential of a Western Lowland Gorilla Population following a Major Ebola Outbreak: Results from a Ten Year Study. <i>PLoS ONE</i> , 7(5), e37106. doi:10.1371/journal.pone.0037106 |

Download as: [RIS](#) [NBIB](#) [JSON](#)

Citation Exporter Pop-Up Window

The same citation box can also be invoked from an individual article, either in Classic View (with the **Citation** link among the list of formats) or the PubReader view, by clicking on the citation information just below the article title in the banner.

These human-readable styled citations and machine-readable formats will be available through a public API. For more information on this and other utilities please subscribe to the [pmc-utils-announce mailing list](#).

Search field descriptions and tags

Search field descriptions and their corresponding tags are listed in the table below. Please note, however, that the following search tags apply only to articles that have been indexed by PubMed/MEDLINE: **MeSH Major Topic** [MAJR], **MeSH Subheadings** [SH], **MeSH Terms** [MH], **Grant Number** [GR], **EC/RN Number** [RN], and **Supplementary Concept** [NM]. Use of these tags will restrict the retrieval of search results to the MEDLINE-indexed subset of PMC.

|                        |                        |                             |
|------------------------|------------------------|-----------------------------|
| Abstract [AB]          | Filter [FILTER]        | Pagination [PG]             |
| Accession [ACCN]       | Full Author Name [FAU] | PMC Live Date [PMCLIVEDATE] |
| Acknowledgements [ACK] | Grant Number [GR]      | Publication Date [PUBDATE]  |



Table continued from previous page.

|  |                                     |                            |
|--|-------------------------------------|----------------------------|
| Affiliation [AD]                       | Issue [IP]                          | PubMed ID [PMID]           |
| All Fields [ALL]                       | Journal Title [TA]                  | Reference [REFR]           |
| Author [AU]                            | MeSH Major Topic [MAJR]             | Reference Author [REFA]    |
| Article Body - All Words [ARTICLE]     | MeSH Subheadings [SH]               | Section title [SECT]       |
| Article Body - Key Terms [KWD]         | MeSH Terms [MH]                     | Supplementary Concept [NM] |
| DOI [DOI]                              | Methods - Key Terms [METH]          | Text Words [TW]            |
| EC/RN Number [RN]                      | Organism [ORGN]                     | Title [TI]                 |
| Electronic Publication Date [EPUBDATE] | Organism Unsynonymized [ORGN_NOSYN] | Volume [VI]                |
| Figure/Table Caption [CAPT]            |                                     |                            |

**Note:** See an alphabetical list of all the search terms for a particular search field by the index in Advanced Search Builder.

## Abstract [AB]

Includes all words and numbers in the abstract of an article. English language abstracts are taken directly from the published article. If an article does not have a published abstract, PMC does not create one.

## Accession [ACCN]

Includes accession numbers from the GenBank sequence database that are cited in PMC articles.

## Acknowledgements [ACK]

Includes all words in the acknowledgement section of an article (e.g., “National Institutes of Health[ack]”).

## Affiliation [AD]

Includes the institutional affiliation and address (including email address, when available) of the authors of the article as it appears in the journal. This field can be used to search for work done at specific institutions (e.g., "mayo[ad] AND clinic[ad]").

## All Fields [ALL]

Includes all searchable PMC fields. However, only terms where there is no match found in one of the Translation tables or Indexes via the automatic term mapping process will be searched in All Fields.

## Author [AU]

To search for an author, enter the last name followed by a space and up to the first two initials followed by a space and, if applicable, a suffix abbreviation. Do not include a period or comma after the last name (e.g., "fauci as or o'brien jc jr"). Initials and suffixes may be omitted when searching.

PMC automatically truncates on an author's name to account for varying initials, e.g., o'brien j [au] will retrieve o'brien ja, o'brien jb, o'brien jc jr, as well as o'brien j. To turn off this automatic truncation, enclose the author's name in double quotes and qualify with [au] in brackets, e.g., "o'brien j"[au] to retrieve just o'brien j.

See Full Author Name [FAU] below for more information on author searching.

## Article Body - All Words [ARTICLE]

Includes all words and numbers in the body of an article except for the Abstract and References.

## Article Body - Key Terms [KWD]

Includes all key terms in the body of an article except for the Abstract and References.

## Digital Object Identifier [DOI]

A unique string that identifies a piece of intellectual property in an online environment. Many publishers assign DOI to their online full text articles.

## EC/RN Number [RN]

EC/RN numbers are assigned by:

- The Food and Drug Administration (FDA) Substance Registration System for Unique Ingredient Identifiers (UNII), e.g., Y92OUS2H9B
- The Enzyme Commission (EC) to designate a particular enzyme, e.g., EC 1.1.1.57
- The Chemical Abstracts Service (CAS) for Registry Numbers, e.g., 2751-14-6

The EC/RN number search field includes both the Registry Number and the Related Registry Number (available in the NLM MeSH Browser).

## Electronic Publication Date [EPUBDATE]

The date of the electronic publication. Dates or date ranges must be entered using the format YYYY/MM/DD [epubdate] (e.g., 1998/04/06 [epubdate]). The month and day are optional (e.g., 1998 [epubdate] or 1998/03 [epubdate]). To enter a date range, insert a colon (:) between the dates (e.g., 1996:1997 [epubdate] or 1998/01:1998/04 [epubdate]).

## Entrez Date [EDAT]

The date the article was added to the PMC database. Search results are displayed in Entrez Date order, i.e., last in, first out.

## Figure/Table Caption [CAPT]

Includes all words and numbers in the figure and table captions of an article.

## Filter [FILTER]

Technical tags used by PMC to qualify results. These include:

- [cc license\[filter\]](#)
- [is corrected\[filter\]](#)
- [is retracted\[filter\]](#)
- [has expression of concern\[filter\]](#)
- [open access\[filter\]](#)
- [author manuscript\[filter\]](#) – all author manuscripts in PMC.
- [nih author manuscript\[filter\]](#) – research manuscripts by NIH-funded scientists.
- [epmc author manuscript\[filter\]](#) – research manuscripts funded by [Europe PMC funders](#).
- [capmc author manuscript \[filter\]](#) – research manuscripts deposited by PMC Canada
- [has associated data\[filter\]](#) - articles or manuscripts with supplementary materials and/or data availability statements and/or data citations

## Full Author Name [FAU]

The full author names from all articles for which full names are provided to PMC from the publisher. Full author searching can be entered in natural or inverted order, e.g., “julia s wong” or “wong julia s”. See Author [AU] for more information on author searching.

## Grant Number [GR]

The grant number search field includes research grant numbers, contract numbers, or both that designate financial support by agencies of the US PHS (Public Health Service), and other national or international funding sources. The four parts of the grant data are:

1. number, e.g., LM05545
2. PHS 2-character grant abbreviation, e.g., LM
3. institute acronym, e.g., NLM NIH HHS
4. country, e.g., United States

Each individual grant part can be searched using [gr], e.g., NIH[gr]

### More information about NIH grant numbers and tips for searching:

NIH grant numbers, e.g., 5R01CA101211-03, typically have three main parts:

1. A prefix that indicates the type of grant, e.g., 5R01.
2. An 8-character serial number consisting of a 2-letter NIH institute/center code and a 6-digit number, e.g., CA101211.
3. A suffix that includes additional data such as grant year.

To search for an individual NIH grant number, use the 8-character serial number and the [gr] tag (e.g., ca101211[gr]).

**Note:** For a broader search, use the 2-letter grant code assigned to an agency and the [gr] tag (e.g., ca[gr]). For the broadest search, use the agency abbreviation and the [gr] tag (e.g., nci[gr]). See [Grant codes and agency abbreviations](#) used in grant numbers for help determining the agency abbreviation using the grant code.

See also [Funding Support](#) and Acknowledgements for additional information.

## Issue [IP]

The number of the journal issue in which the article is published.

## Journal Title [TA]

The journal title abbreviation, full journal title, or ISSN number (e.g., J Biol Chem, Journal of Biological Chemistry, 0021-9258). If a journal title contains parentheses or brackets, enter the name without the parentheses or brackets, e.g., Proc (Bayl Univ Med Cent) as “Proc Bayl Univ Med Cent”.

The PMC [Journal List](#) is available to browse journal titles, holdings and embargo information. Or use the [Journals Database](#) look up the full name, abbreviation, and ISSN number of a journal.

## MeSH Major Topic [MAJR]

A MeSH term that is one of the main topics discussed in the article. See MeSH Terms below.

## MeSH Subheadings [SH]

MeSH Subheadings are used with MeSH terms to help describe more completely a particular aspect of a subject. For example, the drug therapy of asthma is displayed as asthma/drug therapy. See [MeSH/Subheading Combinations](#).

The MeSH Subheading field allows users to "free float" Subheadings, e.g., "hypertension [mh] AND toxicity[sh]".

MeSH Subheadings automatically include the more specific Subheading terms under the term in a search. To turn off this automatic feature, use the search syntax [sh:noexp], e.g., "therapy [sh:noexp]".

In addition, you can enter the MEDLINE two-letter MeSH Subheading abbreviations rather than spelling out the Subheading (e.g., dh[sh] = diet therapy [sh]). See [PubMed Help: MeSH Subheadings for a full list of abbreviations](#).

## MeSH Terms [MH]

NLM's [Medical Subject Headings](#) controlled vocabulary of biomedical terms that is used to describe the subject of each journal article in MEDLINE. MeSH contains more than 23,000 terms and is updated annually to reflect changes in medicine and medical terminology. MeSH terms are arranged hierarchically by subject categories with more specific terms arranged beneath broader terms. Entrez allows you to view this hierarchy and select terms for searching in the [MeSH database](#).

Skilled subject analysts examine journal articles and assign to each the most specific MeSH terms applicable, typically 10 to 12. Applying the MeSH vocabulary ensures that articles are uniformly indexed by subject, whatever the author's words.

### Notes on MeSH Terms and Major MeSH Topic search fields:

To search the term only as a MeSH term, it must be tagged using the search field, e.g., [mh] for MeSH Terms or [majr] for MeSH Major Topic. A tagged term is checked against the PMC MeSH translation table and mapped to the appropriate MeSH term. Some concepts may map to two or more MeSH terms. To turn off this mapping, enclose the MeSH term in double quotes and tag with [mh], e.g., "cold"[mh].

MeSH terms are arranged hierarchically by subject categories with more specific terms arranged beneath broader terms. MeSH terms in PMC automatically include the more specific MeSH terms in a search. For more detailed information about MeSH vocabulary including the hierarchical structure, please see the [MeSH home page](#).

### MeSH/Subheading Combinations:

To directly attach MeSH subheadings, use the format MeSH Term/Subheading, e.g., "neoplasms/diet therapy". You may also use the MEDLINE two-letter MeSH subheading abbreviations, e.g., neoplasms/dh. The [mh] tag is not required, however [majr] may be used, e.g., "plants/genetics[majr]". Only one subheading may be directly attached to a MeSH term.

For a MeSH/Subheading combination, PMC always includes the more specific terms arranged beneath broader terms for the MeSH term and also includes the more specific terms arranged beneath broader [subheadings](#). The broader subheading, or one of its subheadings, will be directly attached to the MeSH term or one of its subheadings. For example, "hypertension/therapy" also retrieves "hypertension/diet therapy"; "hypertension/drug therapy"; "hypertension, malignant/therapy"; "hypertension, malignant/drug therapy", and so on, as well as "hypertension/therapy".

To turn off the automatic inclusion of the more specific terms, use the syntax *[field:noexp]*, e.g., hypertension[mh:noexp], or hypertension[majr:noexp], or hypertension/therapy[mh:noexp]. The latter example turns off the more specific terms in both parts, searching for only the one Subheading therapy attached directly to only the one MeSH term hypertension.

MeSH terms can be selected for searching in the drop-down menu in the [Advanced Search Builder](#).

## Methods - Key Terms [METH]

Key terms from the methods section of the article abstract.

## Organism [ORGN]

Contains the scientific and common names for the organisms in the NCBI taxonomy database that are found in PMC articles. The NCBI taxonomy database only includes species that are represented in the public sequence databases, so many of the organisms mentioned in PMC articles will not be found in this index. To cut down on false hits, matches to scientific names are required to add PMC articles to this index - common names in this field will only retrieve articles that mention the corresponding scientific name.

By default, the PMC organism search is “unexpanded” and does not include more specific terms. The query mammalia[orgn] will only retrieve articles that explicitly mention mammalia. The query mammalia[orgn:exp] will retrieve articles that mention any of the species of mammals.

## Organism Unsynonymized [ORGN\_NOSYN]

Organism names that are identified as synonyms in the [NCBI taxonomy database](#) will retrieve the same set of articles in the PMC Organism index (e.g., "Danio rerio[orgn]" = "Brachydanio rerio[orgn]"). The Organism unsynonymized index will only retrieve articles that use the exact name as given.

## Pagination [PG]

Enter only the first page number on which the article appears. The result will display the full pagination of the article, but this field is searchable using only the first page number.

## PMC Live Date [PMCLIVEDATE]

Date the article was first available in PMC. Dates or date ranges must be entered using the format YYYY/MM/DD, e.g. "1998/04/06 [pmclivedate]". The month and day are optional (e.g., "1998 [pmclivedate]" or "1998/03 [pmclivedate]"). To enter a date range, insert a colon (:) between each date (e.g., "1996:1997[pmclivedate]" or "1998/01:1998/04[pmclivedate]").

## Publication Date [PUBDATE]

The date that the article was published. Dates or date ranges must be searched using the format YYYY/MM/DD, e.g. "1998/03/06[pubdate]". The month and day are optional (e.g., "1998[pubdate]" or "1998/03 [pubdate]").

To enter a date range, insert a colon (:) between each date (e.g., "1996:1998[pubdate]" or "1998/01:1998/04[pubdate]").

Use the following format to search X days, months, or years immediately preceding today's date where X = numeric value:

- “last X days”[pubdate]
- “last X months”[pubdate]

- “last X year”[pubdate]

**Note:** Journals vary in the way the publication date appears on an issue. Some journals include just the year, whereas others include the year plus month or year plus month plus day. Some journals use the year and season (e.g., Winter 1997). The publication date in the citation is recorded as it appears in the journal. It is recommended that you search only by year (e.g., “1996[pubdate]” or “1995:1997[pubdate]”).

## PubMed ID [PMID]

Unique identifier for the PubMed record for a PMC article.

## Reference [REFR]

Includes words and numbers in the titles in an article references section.

## Reference Author [REFA]

Includes authors cited in an article references section.

PMC references do not list the full author name. The format to search for a reference author is the same as article Author searching.

## Section title [SECT]

Includes words and numbers in an article section title.

## Supplementary Concept [NM]

Includes chemical, protocol or disease terms. Synonyms to the supplementary concepts will automatically map when tagged with [nm]. This field was implemented in mid-1980; however, many chemical names are searchable as MeSH terms before that date.

## Text Words [TW]

Includes all words and numbers in the title, abstract and article body, as well as in table and figure captions and in the article reference section.

## Title [TI]

Words and numbers included in the title of an article.

## Volume [VI]

The number of the journal volume in which an article is published.

# Appendixes

## Automatic term mapping

Untagged terms that are entered in the Search box are matched (in this order) against a [MeSH](#) (Medical Subject Headings) translation table, a Journals translation table, the Full Author translation table, and an Author index.

When a match is found for a term or phrase in a translation table the mapping process is complete and does not continue to the next translation table.

## Stopwords

PMC searches use the same stopwords that are used in PubMed. See [PubMed Stopwords](#) for more information.

## PMC MeSH translation table

The PMC MeSH translation table contains:

- MeSH terms
- The See-Reference mappings (also known as entry terms) for MeSH terms
- MeSH Subheadings
- Terms derived from the Unified Medical Language System ([UMLS](#)) that have equivalent synonyms or lexical variants in English
- Supplementary concept (substance) names and their synonyms

If a match is found in this translation table, the term will be searched as MeSH (which includes the MeSH term and any specific terms indented under that term in the [MeSH hierarchy](#)), and in all fields. For example, if you enter “vitamin c” in the query box, PMC will translate this search to: "ascorbic acid"[MeSH Terms] OR vitamin c[Text Word]

### More information about automatic term mapping:

See the Search details to verify how your terms are translated. If you want to report a translation that does not seem accurate for your search topic, please email the information to the PMC Help Desk [pubmedcentral@ncbi.nlm.nih.gov]

## Journals translation table

The Journals translation table contains:

- full journal title
- title abbreviation
- ISSN number

These will automatically map to the journal abbreviation that is used to search journals in PMC. For example, if you enter the journal title *annals of botany* in the PMC Search box and check the Search details you will see it translate to: “Ann Bot”[Journal] OR “annals of botany”[All Fields]”

## Full Author translation table

The Full Author translation table contains full author names from all articles for which full names are provided to PMC from the publisher.

### More information about full author searching:

- A comma following the last name for searching is optional. For some names, however, it is necessary to distinguish which name is the last name by using the comma following the last name, e.g., “james, ryan”.
- Omit periods after initials and put all suffixes at the end, e.g., vollmer charles jr
- Initials and suffixes are not required. If you include a middle initial or suffix, you will only retrieve results for articles that were published using the middle initial or suffix.
- To distinguish author initials that may match a full author name use the [fau] search tag, e.g., “peterson do[fau]”.



## Author index

If the term is not found in the above tables, except for Full Author, and is not a single term, PMC checks the author index for a match. When combining multiple authors, to avoid a match with full author names, include initials or use the [au] search tag, e.g., ryan[au] james[au].

### If no match is found?

PMC breaks apart the phrase and repeats the above automatic term mapping process until a match is found.

PMC ignores stopwords in searches. See [PubMed Help: Stopwords](#) for a full list of stopwords.

If there is no match, the individual terms will be combined (with AND) together and searched in all fields.

## Cookies

A "cookie" is information stored by a web server on your computer. See the [NLM Privacy Policy](#) for additional information.

In the case of PMC, cookies are used to store information about your interactions that may be needed later to perform a particular function.

To use interactive features, you need to enable cookies on your computer. Please consult your browser's Help for information on enabling cookies.

If you have problems using cookie-dependent features of PMC even after enabling cookies, possible reasons may include:

- Cookies are blocked by your provider or institution. Check with your Internet provider and/or the system administrator at your institution to see if cookies can be accepted.
- Your computer's date and time settings are incorrect. Check your computer's time settings to ensure that they are correct.

## Character Conversions

When running a search that includes special characters (e.g., pound sign, dollar sign), PMC uses certain characters to have specific meaning, whereas others are converted to spaces. (See [PubMed Character Conversions](#) for more information.) However, in the abstracts and full text of PMC articles, all characters are represented as accurately as possible

## PMC URL Format

PMC's URL format is consistent with other NCBI sites.

In general, the first URL path segment will identify the resource type. Subsequent path segments identify the specific resource, and sometimes sub-resources. Query string parameters are used to filter or refine results, and to specify the response format.

In many cases, there are multiple URLs that will access the same resource. In these cases, we identify one as the canonical URL (shown **bold** in the table below), and use of the ancillary URLs will cause a redirect to the canonical one. URLs are relative to [www.ncbi.nlm.nih.gov/pmc](http://www.ncbi.nlm.nih.gov/pmc).

| Resource type    | URL(s)            |
|------------------|-------------------|
| List of journals | <b>/journals/</b> |



*Table continued from previous page.*

| Resource type                    | URL(s)   |
|----------------------------------|--|
| List of journals matching search | <b>/journals/?term=respiratory</b>   |
| A specific journal archive       | <b>/journals/2/</b><br>/journals/domain/pnas/<br>/journals/jrid/32141/<br>/journals/issn/1091-6490/<br>/ivip/1091-6490/                                    |
| Latest issue                     | <b>/journals/2/latest/</b>   |
| Issue                            | <b>/issues/157490/</b><br>/ivip/0021-9738/117/8/   |
| Article full text                | <b>/articles/PMC2814059/</b><br>/articles/2814059.3/<br>/articles/pmid/20126278/<br>/articles/doi/10.1371/currents.RRN1147/<br>/ivip/0021-9738/117/9/2380/ |
| Article PDF                      | <b>/articles/PMC2150930/pdf/f-62-00001.pdf</b>   |
| Figure                           | <b>/articles/PMC2278217/figure/F5/</b>   |
| Table                            | <b>/articles/PMC2278217/table/T1/</b>  |
| Article manuscript               | <b>/articles/mid/NIHMS20955/</b>   |
| Cited-by list                    | <b>/articles/PMC369838/citedby/</b>  |