



Introduction to PubMed

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2013

Introduction to PubMed

Effective use of the globally accessible, freely available interface for MEDLINE, the National Library of Medicine's premier biomedical research, healthcare, and basic medical science bibliographic database

What is PubMed?

PubMed is a World Wide Web database developed by the National Center for Biotechnology Information (NCBI) at the National Library of Medicine (NLM). It was developed in conjunction with publishers of biomedical literature as a search tool for accessing literature citations and linking to full-text journals at Web sites of participating publishers. As a service of the National Library of Medicine, PubMed provides access to over 23 million MEDLINE citations back to the 1950's and additional life science journals. PubMed includes links to many sites providing full text articles and other related resources. New records are added to PreMedline daily, either directly by publishers or by the National Library of Medicine, making PubMed the most current MEDLINE service available.

What is the difference between MEDLINE and PubMed?

Produced by the National Library of Medicine as well, the MEDLINE database is widely recognized as the premier source for bibliographic and abstract coverage of biomedical literature. MEDLINE encompasses information from Index Medicus, Index to Dental Literature, and International Nursing Index, as well as other sources of coverage in the areas of allied health, biological and physical sciences, humanities and information science as they relate to medicine and healthcare, communication disorders, population biology, and reproductive biology. More than 23 million citations from some 5,600 journals are indexed, plus selected monographs of congresses and symposia. In addition to providing access to MEDLINE, PubMed provides access to:

- The out-of-scope citations (e.g., articles on plate tectonics or astrophysics) from certain MEDLINE journals, primarily general science and chemistry journals, for which the life sciences articles are indexed for MEDLINE.
- Citations that precede the date that a journal was selected for MEDLINE indexing.
- Some additional life science journals that submit full text to PubMedCentral™ and receive a qualitative review by NLM.

PubMed also provides access and links to the integrated molecular biology databases included in NCBI's Entrez retrieval system. These databases contain DNA and protein sequences, 3-D protein structure data, population study data sets, and assemblies of complete genomes in an integrated system.

Learning Objectives

This module emphasizes use of PubMed for searching the professional medical journal literature. This is an introductory handout that will walk you through the basics of PubMed. Specific learning objectives include:

1. Recognize the nature and interface and be able to effectively use the search tools provided;
2. Navigate the PubMed interface and be able to use the search tools and services provided effectively;
3. Understand **Medical Subject Headings (MeSH)** and automatic term mapping for controlled vocabulary relating to effective literature searching;
4. Conduct effective search strategies of the biomedical literature content of information resources available through PubMed.

The NCBI Entrez Systems

PubMed is part of the NCBI Entrez System. **Entrez** is a search and retrieval system that integrates information from databases at NCBI. These databases include nucleotide sequences, protein sequences, macromolecular structures, whole genomes, and MEDLINE.


Entrez provides access to:

3D Domains	domains from Entrez Structure
BioSystems	pathways and systems of interacting molecules
Books	online books
Cancer Chromosomes	cytogenetic databases
CDD	conserved protein domain database
dbGaP	genotype and phenotype
EST	expressed sequence tag records
Gene	gene-centered information
Genome	whole genome sequences and mapping
Genome Project	genome project information
GENSAT	gene expression atlas of mouse central nervous system
GEO DataSets	experimental sets of GEO data
GEO Profiles	expression and molecular abundance profiles
GSS	genome survey sequence records
HomoloGene	eukaryotic homology groups
Journals	detailed information about the journals indexed in PubMed and other Entrez databases
MeSH	detailed information about NLM's controlled vocabulary
NLM Catalog	catalog of books, journals, and audiovisuals in the NLM collections
Nucleotide	core subset of nucleotide sequence records
OMIA	Online Mendelian Inheritance in Animals

OMIM	Online Mendelian Inheritance in Man
Peptidome	MS/MS proteomic experiments
PopSet	population study data sets
Protein	sequence database
Probe	sequence-specific reagents
Protein Cluster	a collection of related protein sequences
PubChem BioAssay	bioactivity screens of chemical substances
PubChem Compound	unique small molecule chemical structures
PubChem Substance	deposited chemical substance records
PubMed	biomedical literature citations and abstracts
PubMed Central	free, full text journal articles
Site Search	NCBI web and FTP web sites
SNP	single nucleotide polymorphism
SRA	Sequence read archive
Structure	three-dimensional macromolecular structures
Taxonomy	organisms in GenBank
UniGene	gene-oriented clusters of transcript sequences
UniSTS	markers and mapping data

Getting Started

Go to <http://www.pubmed.gov> The URL will translate to <http://www.ncbi.nlm.nih.gov/pubmed/>




PubMed

PubMed comprises more than 23 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.

PubReader

A whole new way to read scientific literature at PubMed Central



Using PubMed <ul style="list-style-type: none"> PubMed Quick Start Guide Full Text Articles PubMed FAQs PubMed Tutorials New and Noteworthy  	PubMed Tools <ul style="list-style-type: none"> PubMed Mobile Single Citation Matcher Batch Citation Matcher Clinical Queries Topic-Specific Queries 	More Resources <ul style="list-style-type: none"> MeSH Database Journals in NCBI Databases Clinical Trials E-Utilities LinkOut
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Using PubMed

[PubMed Quick Start Guide](#)

[Full Text Articles](#)

[PubMed FAQs](#)

[PubMed Tutorials](#)

[New and Noteworthy](#) 

The Using PubMed section will explain more about searching PubMed and will supplement the material presented in this document.

PubMed® Online Training

[Return to PubMed](#)

PubMed Tutorial

Be PubMed proficient. Take the [PubMed Tutorial](#).

Go to:

[Understanding the Vocabulary](#) - [Building the Search](#) - [Managing the Results](#) - [Saving the Search](#) - [Getting the Articles](#)

Quick Tours

The following are brief [animated tutorials](#) with audio for using PubMed. Running times are rounded to the nearest minute. Click on the link to launch the tour.

Searching PubMed

- [Search PubMed by Author](#) (2 min., May 2013)
- [Searching PubMed by Author and Subject](#) (1 min., May 2013)
- [PubMed Simple Subject Search](#) (1 min., March 2013)
- [PubMed Simple Subject Search: How It Works](#) (1 min., May 2013)
- [Use MeSH to Build a Better PubMed Query](#) (3 min., YouTube video, February 2013)
- [PubMed: The Filters Sidebar](#) (2 min., YouTube video, December 2012)
- [Search for a Journal](#) (2 min., January 2013) - See also [Searching for Journals in the NLM Catalog](#)
- [Retrieving Citations from a Journal Issue](#) (1 min., January 2013)
- [Advanced Search Builder](#) (2 min., YouTube video, December 2011)

Managing Results

Saving Searches (My NCBI)

- [Save Searches and Set E-mail Alerts](#) (2 min., YouTube video, May 2013)
- [E-mail Alerts for Articles from Your Favorite Journals](#) (3 min., March 2013)

Collections and Bibliographies (My NCBI)

- [Save Search Results in Collections](#) (3 min., YouTube video, August 2012)
- [Editing Collections](#) (3 min., May 2013)
- [My Bibliography](#) (3 min., YouTube video, January 2012)
- [My Bibliography: Public Access Compliance](#) (3 min., YouTube video, April 2013)
- [Sharing Collections](#) (2 min., October 2012)

Preferences and Filters (My NCBI)

- [Retrieving Your My NCBI Username or Password](#) (2 min., October 2012)

Hot Topics

- [My Bibliography: Public Access Compliance](#)

More Resources

Journals in NCBI Databases

More Resources

[MeSH Database](#)

[Journals in NCBI Databases](#)

[Clinical Trials](#)

[E-Utilities](#)

[LinkOut](#)

Use the **Journals in NCBI Database** to locate specific indexed journals. Enter a topic, journal title, MEDLINE abbreviation or ISSN. You may also enter a single word from the journal title or several adjacent words in the title in order to track down the desired journal. Use an asterisk (*) at the end of a word to truncate (e.g., "engl*" would match to "England", "English", etc.)

Typing "New Engl*" in the Journals in NCBI Database is one way to locate the New England Journal of Medicine, for example.

NLM Catalog: Journals referenced in the NCBI Databases

Limit your NLM Catalog search to the subset of journals that are referenced in NCBI database records

Enter topic, journal title or abbreviation, or ISSN: [Advanced Search](#)
New Engl* × Search

- ☐ [The New England journal of medicine](#)
31. Aberman, Arnold; Massachusetts Medical Society.
NLM Title Abbreviation: N Engl J Med
ISSN: 0028-4793 (Print) ; 1533-4406 (Electronic) ; 0028-4793 (Linking)
Boston, Massachusetts Medical Society.
Currently indexed for MEDLINE
NLM ID: 0255562 [Serial]

MeSH Database

More Resources

[MeSH Database](#)

[Journals in NCBI Databases](#)

[Clinical Trials](#)

[E-Utilities](#)

[LinkOut](#)

MeSH (Medical Subject Heading) is NLM's controlled vocabulary for indexing articles in PubMed. MeSH provides a consistent way to retrieve information that may use different terminology for the same concepts. Use the **MeSH Database** to translate natural language terms to MeSH terms that have been used to index articles in PubMed (see additional information about MeSH below).

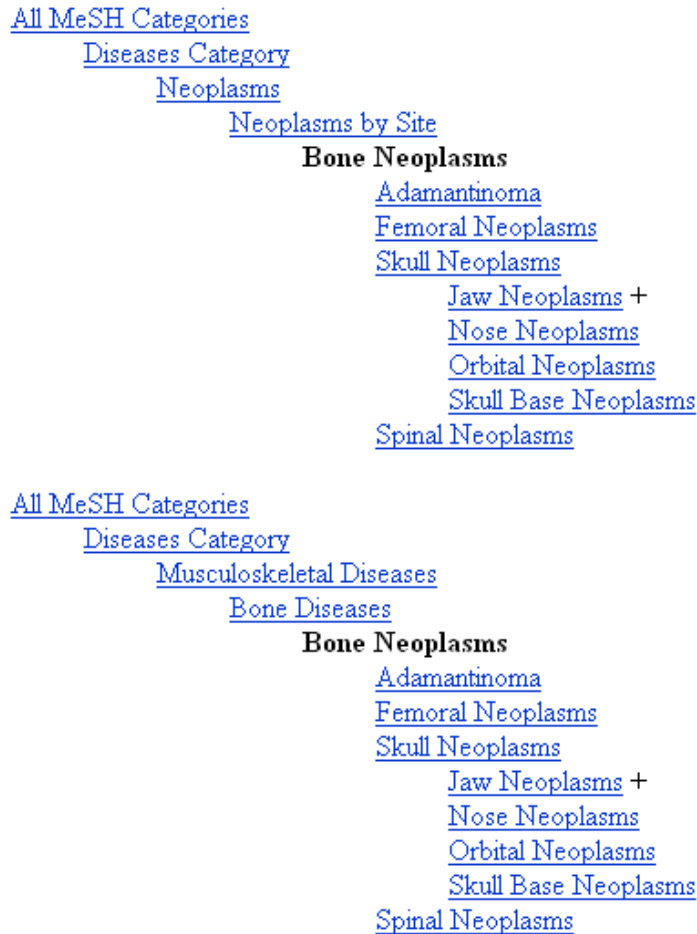
Typing "bone cancer" in the MeSH Database will map the terms to the proper MeSH term (i.e., Bone Neoplasms).

MeSH MeSH bone cancer Search
[Limits](#) [Advanced](#) [Help](#)

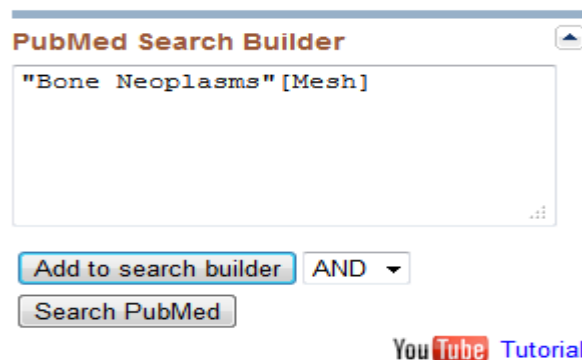


MeSH

MeSH (Medical Subject Headings) is the NLM controlled vocabulary thesaurus used for indexing articles for PubMed.



The searcher is presented with both the proper MeSH term as well as an indication of where that term resides in the **MeSH Tree**, which reflects the hierarchical organization of medical subject headings (see below). Once you have located the MeSH term which you wish to conduct your search for citations, click the **Add to search builder with AND** button to build the search term into a developing search strategy.




Clicking the **Search PubMed** button results in a (far too broad) search being conducted for, in this case, all articles that have been indexed with the MeSH term "Bone Neoplasms").

Display Settings: ☒ Summary, 20 per page, Sorted by Recently Added

Send to: ☒

Results: 1 to 20 of 10127

<< First < Prev Page 1 of 507 Next > Last >>

 Filters activated: Review [Clear all](#)

- ☐ [Metastases to the oral cavity](#)
1. Raubenheimer EJ, Noffke CE, Hendrik HD.
SADJ. 2012 Nov;67(10):586-8. **Review**.
PMID: 23957102 [PubMed - indexed for MEDLINE]
[Related citations](#)
- ☐ [Malignant tumours of the jaws](#)
2. Coleman H, Sukumar S.
SADJ. 2012 Nov;67(10):578-80. **Review**.
PMID: 23957100 [PubMed - indexed for MEDLINE]
[Related citations](#)
- ☐ [Sarcoma chemotherapy](#)
3. Walczak BE, Irwin RB.
J Am Acad Orthop Surg. 2013 Aug;21(8):480-91. doi: 10.5435/JAAOS-21-08-480. **Review**.
PMID: 23908254 [PubMed - indexed for MEDLINE]
[Related citations](#)
- ☐ [\[Embolization of skull-base hypervascular tumors: description of a series of cases and proposal of a therapeutic algorithm\]](#)
4. Péreza RA, Espinosa-García H, Alcalá-Cerra G, de la Rosa Manjarrez G, Gómez FO, Barrios AR.
Bol Asoc Med P R. 2013;105(2):20-7. **Review**. Spanish.
PMID: 23882985 [PubMed - indexed for MEDLINE]
[Related citations](#)

Conducting an effective search within PubMed requires executing an effective search strategy. The database is too large – contains far too many citations – for one to use a single search term (even a proper MeSH term) and expect to locate a highly focused article on the desired topic. For example, if we were interested in locating a review article dealing with the chemically induced occurrence of endometrial tissue growth (tumors) as a side effect of Tamoxifen administration in breast cancer therapy, it would not be helpful to simply search on the term “Breast Cancer” (or, to use the proper MeSH term, “Breast Neoplasms”) alone. That said, the database also cannot effectively handle open-ended phrases (e.g., typing “review articles about endometriosis associated with Tamoxifen therapy in breast cancer treatment” will not yield the desired results). To yield the desired results, we need to break down any query into its searchable components (i.e., chemically induced endometriosis; drug therapy for breast cancer; therapeutic use and administration of Tamoxifen). Conduct separate searches for each of these sub-concepts and then use the proper Boolean operator to include only articles that deal with all three concepts. See Principles of Boolean Logic below.

Use the MeSH Database again to narrow your search term more precisely.

MeSH

MeSH

breast cancer

Save search Limits Advanced

Display Settings: ☒ Summary, 20 per page

Send to: ☒

Results: 1 to 20 of 52

<< First < Prev Page 1 of 3 Next > Last >>

☐ [Breast Neoplasms](#)

1. Tumors or cancer of the human BREAST.

☐ [Inflammatory Breast Neoplasms](#)

2. Metastatic **breast cancer** characterized by EDEMA and ERYTHEMA of the affected breast due to LYMPHATIC METASTASIS and eventual obstruction of LYMPHATIC VESSELS by the cancer cells.
Year introduced: 2011

☐ [KIAA1967 protein, human \[Supplementary Concept\]](#)

3. don't confuse with Deleted in Bladder Cancer 1(also know as DBC1); RefSeq NM_021174
Date introduced: March 20, 2008

Breast Neoplasms

Tumors or cancer of the human BREAST.

PubMed search builder options

[Subheadings:](#)

- | | | |
|--|--|--|
| <input type="checkbox"/> analysis | <input type="checkbox"/> epidemiology | <input type="checkbox"/> psychology |
| <input type="checkbox"/> anatomy and histology | <input type="checkbox"/> ethnology | <input type="checkbox"/> radiography |
| <input type="checkbox"/> blood | <input type="checkbox"/> etiology | <input type="checkbox"/> radionuclide imaging |
| <input type="checkbox"/> blood supply | <input type="checkbox"/> genetics | <input type="checkbox"/> radiotherapy |
| <input type="checkbox"/> cerebrospinal fluid | <input type="checkbox"/> history | <input type="checkbox"/> rehabilitation |
| <input type="checkbox"/> chemically induced | <input type="checkbox"/> immunology | <input type="checkbox"/> secondary |
| <input type="checkbox"/> chemistry | <input type="checkbox"/> legislation and jurisprudence | <input type="checkbox"/> secretion |
| <input type="checkbox"/> classification | <input type="checkbox"/> metabolism | <input type="checkbox"/> statistics and numerical data |
| <input type="checkbox"/> complications | <input type="checkbox"/> microbiology | <input type="checkbox"/> surgery |
| <input type="checkbox"/> congenital | <input type="checkbox"/> mortality | <input type="checkbox"/> therapy |
| <input type="checkbox"/> cytology | <input type="checkbox"/> nursing | <input type="checkbox"/> transmission |
| <input type="checkbox"/> diagnosis | <input type="checkbox"/> organization and administration | <input type="checkbox"/> ultrasonography |
| <input type="checkbox"/> diet therapy | <input type="checkbox"/> parasitology | <input type="checkbox"/> ultrastructure |
| <input type="checkbox"/> drug therapy | <input type="checkbox"/> pathology | <input type="checkbox"/> urine |
| <input type="checkbox"/> economics | <input type="checkbox"/> physiology | <input type="checkbox"/> veterinary |
| <input type="checkbox"/> embryology | <input type="checkbox"/> physiopathology | <input type="checkbox"/> virology |
| <input type="checkbox"/> enzymology | <input type="checkbox"/> prevention and control | |

Again, click **Add to search builder with AND** button to execute the narrowed search on drug therapy of breast neoplasms. Then, use the MeSH Database to add additional search terms to the query (i.e., chemically induced endometriosis; therapeutic use and administration of Tamoxifen). Use the MeSH Database to identify the proper MeSH terms for each natural language term (e.g., Breast Neoplasms is the proper MeSH term for breast cancer). For each search term in the search (i.e., Breast Neoplasms, Tamoxifen, and Endometriosis), conduct a separate search, then narrow the term in each case according to desired subheadings, and then add the search term to the developing search strategy by clicking on the **Search PubMed** button.

[Display Settings:](#) ☒ Full

Breast Neoplasms

Tumors or cancer of the human BREAST.

PubMed search builder options

[Subheadings:](#)

- | | | |
|--|--|--|
| <input type="checkbox"/> analysis | <input type="checkbox"/> epidemiology | <input type="checkbox"/> psychology |
| <input type="checkbox"/> anatomy and histology | <input type="checkbox"/> ethnology | <input type="checkbox"/> radiography |
| <input type="checkbox"/> blood | <input type="checkbox"/> etiology | <input type="checkbox"/> radionuclide imaging |
| <input type="checkbox"/> blood supply | <input type="checkbox"/> genetics | <input type="checkbox"/> radiotherapy |
| <input type="checkbox"/> cerebrospinal fluid | <input type="checkbox"/> history | <input type="checkbox"/> rehabilitation |
| <input type="checkbox"/> chemically induced | <input type="checkbox"/> immunology | <input type="checkbox"/> secondary |
| <input type="checkbox"/> chemistry | <input type="checkbox"/> legislation and jurisprudence | <input type="checkbox"/> secretion |
| <input type="checkbox"/> classification | <input type="checkbox"/> metabolism | <input type="checkbox"/> statistics and numerical data |
| <input type="checkbox"/> complications | <input type="checkbox"/> microbiology | <input type="checkbox"/> surgery |
| <input type="checkbox"/> congenital | <input type="checkbox"/> mortality | <input type="checkbox"/> therapy |
| <input type="checkbox"/> cytology | <input type="checkbox"/> nursing | <input type="checkbox"/> transmission |
| <input type="checkbox"/> diagnosis | <input type="checkbox"/> organization and administration | <input type="checkbox"/> ultrasonography |
| <input type="checkbox"/> diet therapy | <input type="checkbox"/> parasitology | <input type="checkbox"/> ultrastructure |
| <input checked="" type="checkbox"/> drug therapy | <input type="checkbox"/> pathology | <input type="checkbox"/> urine |

[Send to:](#) ☒

PubMed Search Builder

"Breast Neoplasms/drug therapy"
[Mesh]

AND

[You Tube](#) [Tutorial](#)

Related information

[PubMed](#)

[PubMed - Major Topic](#)

[Clinical Queries](#)

[NLM MeSH Browser](#)

[dbGaP Links](#)

[MedGen](#)

Click the **Advanced** button and look at the **Search History** to view the results of the developing search strategy.

History

[Download history](#) [Clear history](#)

Search	Add to builder	Query	Items found	Time
#28	Add	Search "Endometriosis/chemically induced"[Mesh]	185	14:20:31
#27	Add	Search "Tamoxifen"[Mesh]	17263	14:20:11
#26	Add	Search "Breast Neoplasms/drug therapy"[Mesh]	36768	14:19:49
#24	Add	Search "Breast Neoplasms"[Mesh]	206463	14:19:30

Use the proper Boolean operators (see below) and syntax to combine the search sets in order to identify articles meeting the desired criteria (i.e., articles indexed about Breast Neoplasms/drug therapy AND Tamoxifen AND Endometriosis/chemically induced).

NCBI Resources How To Sign in to NCBI

PubMed Home More Resources Help

PubMed Advanced Search Builder [YouTube Tutorial](#)

Use the builder below to create your search

[Edit](#) [Clear](#)

Builder

All Fields [Show index list](#)

AND All Fields [Show index list](#)

[Search](#) or [Add to history](#)

History [Download history](#) [Clear history](#)

Search	Add to builder	Query	Items found	Time
#28	Add	Search "Endometriosis/chemically induced"[Mesh]	185	14:20:31
#27	Add	Search "Tamoxifen"[Mesh]	17263	14:20:11
#26	Add	Search "Breast Neoplasms/drug therapy"[Mesh]	36768	14:19:49
#24	Add	Search "Breast Neoplasms"[Mesh]	206463	14:19:30

Click on the search statement numbers to add them to the search builder box at top of screen (i.e., set #26 AND set #27 AND set #28).

Click the hyperlink entry in the **Result** column to reveal the articles yielded by this search strategy. Or choose to narrow the results further (e.g., narrow the results to review articles).

History [Download history](#) [Clear history](#)

Search	Add to builder	Query	Items found	Time
#29	Add	Search ("Breast Neoplasms/drug therapy"[Mesh]) AND "Tamoxifen"[Mesh] AND "Endometriosis/chemically induced"[Mesh]	17	14:25:37
#28	Add	Search "Endometriosis/chemically induced"[Mesh]	185	14:20:31
#27	Add	Search "Tamoxifen"[Mesh]	17263	14:20:11
#26	Add	Search "Breast Neoplasms/drug therapy"[Mesh]	36768	14:19:49
#24	Add	Search "Breast Neoplasms"[Mesh]	206463	14:19:30

Limits

[Show additional filters](#)

Article types

Review

More ...

Text availability

Abstract available

Full text available

Publication dates

10 years

Custom range...

Species

Humans

[Clear all](#)




[Show additional filters](#)


Note the various parameters by which the searcher may limit the results of a search, including: Article types (e.g. Meta-Analysis, Multicenter Study, Review, etc.), Ages (article subjects), Languages (article language), or Publication dates, etc. Publications are displayed in the database in the order that they are indexed. Usually the most recently published materials are at the top of list, but that is not always the case. Limit by publication date to get custom date ranges.


To see all the limit options, click on Show additional filters. In this case, we are interested only in review articles.



Once the desired parameters have been set, click on the limit so that the check mark appears.

Note: The inclusion of each additional parameter will likely result in fewer (and hopefully more relevant) “hits”. In this case, we have narrowed the results of our search down to three (3) review articles for the desired subject matter (narrowed from tens of thousands of articles on the single subject of Breast Neoplasms).


[Resources](#)  [How To](#) 



 [RSS](#)
[Save search](#)
[Advanced](#)

[Show additional filters](#)
[Display Settings:](#)  Summary, Sorted by Recently Added
 [Send to:](#) 

[Clear all](#)

Article types clear

☒ **Review**

More ...

Text availability

Abstract available
 Full text available

Publication dates

10 years
 Custom range...


Species

Humans

[Clear all](#)

[Show additional filters](#)

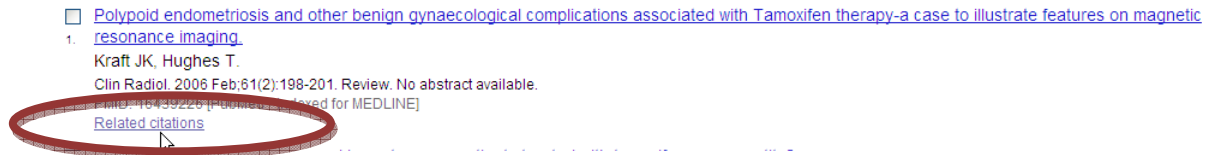
Results: 3

 Filters activated: Review [Clear all](#)

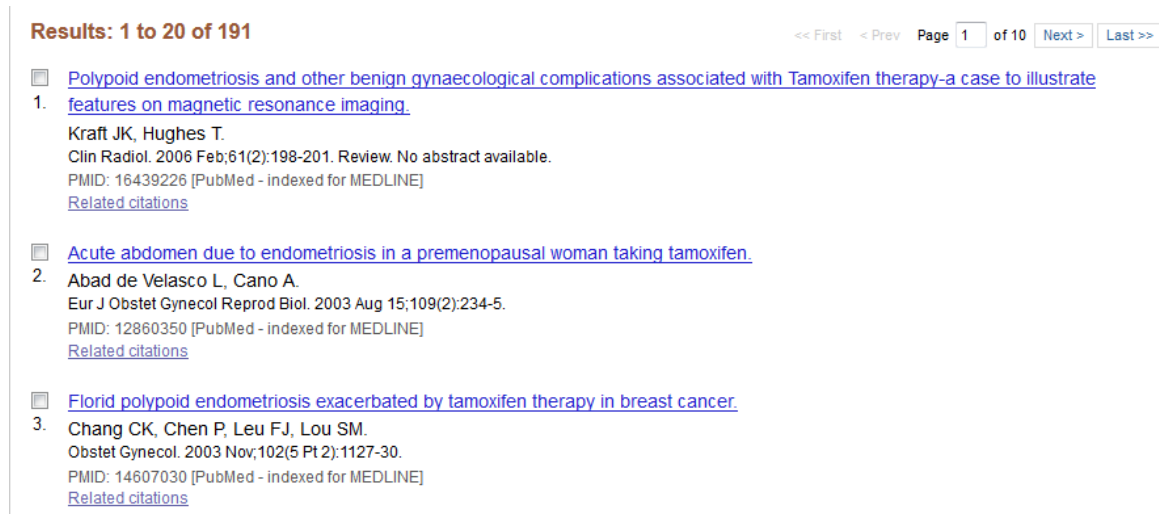
- ☐ [Polypoid endometriosis and other benign gynaecological complications associated with Tamoxifen therapy-a case to illustrate features on magnetic resonance imaging.](#)
 Kraft JK, Hughes T.
 Clin Radiol. 2006 Feb;61(2):198-201. **Review.** No abstract available.
 PMID: 16439226 [PubMed - indexed for MEDLINE]
[Related citations](#)
- ☐ [Adenomyosis in postmenopausal breast cancer patients treated with tamoxifen: a new entity?](#)
 Cohen I, Beyth Y, Tepper R, Figer A, Shapira J, Cordoba M, Yigael D, Altaras MM.
 Gynecol Oncol. 1995 Jul;58(1):86-91. **Review.**
 PMID: 7789896 [PubMed - indexed for MEDLINE]
[Related citations](#)
- ☐ [Postmenopausal tamoxifen treatment and endometrial pathology.](#)
 Cohen I, Altaras MM, Shapira J, Tepper R, Beyth Y.
 Obstet Gynecol Surv. 1994 Dec;49(12):823-9. **Review.**
 PMID: 7885659 [PubMed - indexed for MEDLINE]
[Related citations](#)

Words to the Wise: Related Citations in PubMed

Effective literature searching is a product of a carefully designed and executed search strategy, but there is always a degree of iteration involved in refining a search strategy. Serendipity cannot be ruled out! Often a search will turn up a handful of relevant articles among dozens or hundreds of articles otherwise off-topic. By using the **Related citations in PubMed** option, a searcher can leverage one relevant article in a given search by asking PubMed to identify other articles that have been indexed in a similar fashion.



PubMed manages this by searching for articles which have similar Major MeSH headings (see below) as that of the selected article.



FOCUS and EXPLODE

PubMed presents options to the searcher using MeSH terminology for restricting (focus) to Major MeSH terms only and to determine whether or not to expand the results of a search by including subordinate subject headings falling below a given term in the MeSH Tree (explode). By default, PubMed always explodes a search term.

Exploding a search term will generally result in more articles being included in the search results. The search is broadened conceptually to include not only those articles indexed to a given term (e.g., Bone Neoplasms) but also articles that have been indexed using search terms that are subordinate to a given term in the MeSH Tree (e.g., Adamantinoma, Femoral Neoplasms, Skull Neoplasms, etc.).

Restricting (focusing) a search to major topic headings only will generally result in fewer but more relevant search results. PubMed will identify only a subset of those articles which indexers have determined that the given subject heading represents a substantial component of the article's content.

☐ Restrict to MeSH Major Topic.

☐ Do not include MeSH terms found below this term in the MeSH hierarchy.

See below the relative results when options to Restrict Search to Major Topic headings only and to Explode a search term are variously exercised and combined.

History

[Download history](#) [Clear history](#)

Search	Add to builder	Query	Items found	Time
#30	Add	Search "Bone Neoplasms"[Majr]	77988	15:25:54
#29	Add	Search "Bone Neoplasms"[Mesh:NoExp]	46692	15:25:33
#28	Add	Search "Bone Neoplasms"[Majr:NoExp]	35800	15:25:08

Set #28 includes ONLY HIGHLY RELEVANT articles indexed to Bone Neoplasms but NO subordinate concepts that fall beneath Bone Neoplasms in the MeSH Tree (fewer than Set #29).

Set #29 includes ALL articles indexed to Bone Neoplasms but NO subordinate concepts that fall beneath Bone Neoplasms in the MeSH Tree.

Set #30 includes ONLY HIGHLY RELEVANT articles indexed to Bone Neoplasms or HIGHLY RELEVANT articles indexed to subordinate concepts that fall beneath Bone Neoplasms in the MeSH Tree (contains more than both Set #28 and Set #29 because additional concepts are being included in the search).

Controlled Vocabulary: “Speaking MeSH”

[All MeSH Categories](#)

[Diseases Category](#)

[Neoplasms](#)

[Neoplasms by Site](#)

Bone Neoplasms

[Adamantinoma](#)

[Femoral Neoplasms](#)

[Skull Neoplasms](#)

[Jaw Neoplasms +](#)

[Nose Neoplasms](#)

[Orbital Neoplasms](#)

[Skull Base Neoplasms](#)

[Spinal Neoplasms](#)

Effective retrieval of biomedical and healthcare information requires that the searcher understand the principles by which medical information is both organized and accessed. MeSH is a vocabulary of medical and scientific terms assigned to most documents in MEDLINE/PubMed by a team of subject experts. The advantages of using MeSH terms over text terms found in the title and abstract of a document include:

- **MeSH terms are assigned to the entire article**

MeSH terms are assigned on the subject of the entire document, not just the citation text (title and abstract). Thus, a search using a MeSH term can find relevant documents even when the term in question is not found in the citation. This is especially important for that minority of documents which do not have abstracts, since titles are very short and often omit important terms.

- **Some MeSH terms are designated as Major Topic**

Some MeSH terms are assigned as Major Topic terms, meaning that the indexer has determined that these terms represent the major thrust of the document. Using the Major Topic field in PubMed or the MeSH Browser can help you discard documents that are less

relevant to your search. These terms are designated in the Citation and MEDLINE reports with an asterisk (*).

- **Some MeSH terms have subheadings**

Some MeSH terms have an additional subheading, which indicates that a given MeSH term applies in a very specific manner to this document. These subheadings are added to their parent MeSH term with an intervening slash (/) character. For instance, the term "Antibiotics/administration and dosage" means that this document is specifically about the administration and dosage of antibiotics. A search for "antibiotics" will still find this citation, of course. But, judicious use of subheadings can serve to make your query more specific and thus avoid irrelevant material.

- **MeSH terms are Exploded**

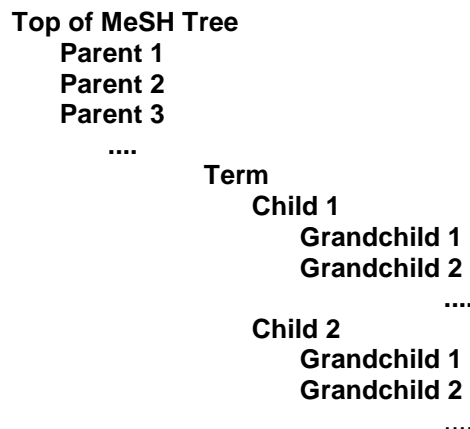
MeSH terms are normally Exploded when used in a search. This means that a search using a MeSH term finds not only documents indexed under that term, but also all documents indexed using more specific terms that are included in the meaning of this MeSH term. For example, searching for the term "Antibiotics" will also retrieve documents indexed using the terms "Antibiotics, Aminoglycoside", "Amoxicillin", "Ticarcillin", and many other terms that fall into this subject. This "Explosion" is accomplished by using the MeSH Tree, which groups specific terms under more general headings. The MeSH Browser permits you to examine the MeSH Tree and select items from it that match your interest area.

An Important Caveat re: PubMed

It is important to realize that not all documents in PubMed contain MeSH terms. Assigning MeSH terms takes time; as a result, documents recently added to the database may not have MeSH terms. Moreover, some short documents (e.g. letters to the editor) do not routinely get indexed. Searching using MeSH terms exclusively will not find these documents; thus, if your search fails to turn up enough relevant items, you may still wish to substitute appropriate text words in order to find these less well-indexed citations.

Hierarchical Organization of Medical information: The MeSH Tree

Once you have selected a term, the MeSH Browser will give you its definition and show you its position in the MeSH Tree, in this fashion:



The Parents shown above are the terms in the MeSH Tree which are each more general in subject than the term below. For instance, "Anti-Infective Agents" is a Parent of "Antibiotics". Similarly, the Children of a term are those terms, if any, that are more specific than the term itself; "Kanamycin" is a Child of "Antibiotics."



If a Child has Children of its own, these will be shown up to a certain point. When space does not permit, a Child will be followed with the character '+' to indicate that it has children which are not displayed.

To move to another term displayed in the MeSH tree, simply select the term.

Note: Many terms appear in more than one place in the MeSH Tree, because they logically fall into several different subject areas. When this occurs, the Browser will show you all locations. For example, "Fungemia" is found under both "Septicemia" and "Mycoses" since it matches both subjects.

Principles of Boolean Logic

AND: search for documents that have both the new term AND the old one
OR: search for documents that have either the new term OR the old one
NOT: search for documents that have the old term NOT the new one

<p style="text-align: center;">AND</p> 	<p>Joins concepts together into one search set.</p> <p>HYPERSENSITIVITY and STUDENTS, MEDICAL</p> <p>would yield only articles which include both concepts.</p>
<p style="text-align: center;">OR</p> 	<p>Joins concepts together into one search set and is used to gather synonymous terms or allied concepts together.</p> <p>STUDENTS, MEDICAL or EDUCATION, MEDICAL or SCHOOLS, MEDICAL or FACULTY, MEDICAL or ACADEMIC MEDICAL CENTERS</p>

Citation Matcher

PubMed Tools

[PubMed Mobile](#)

[Single Citation Matcher](#)

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[Clinical Queries](#)

[Topic-Specific Queries](#)

The citation matcher function allows searchers to match their own list of citations to PubMed citations, using bibliographic information such as journal, volume, issue, page number, and year. The Citation Matcher returns the corresponding PMID. This number can then be used to easily link to PubMed. This service is frequently used by publishers or other database providers who wish to link from bibliographic references on their web sites directly to PubMed citations.

- Use the [Single Citation Matcher](#) to find a single article.
- Use the [Batch Citation Matcher](#) to look for many articles and request them in bulk by email. For instructions, send an empty message except for the word "help" in the body of the message.

Using the partial bibliographic information, we can track down Linus Pauling's publications about Vitamin C and cancer.

PubMed Single Citation Matcher

Use this tool to find PubMed citations. You may omit any field.

Journal • Help	<input type="text"/>		
Date	<input type="text" value="yyyy/mm/dd"/>	(month and day are optional)	
Details	Volume <input type="text"/>	Issue <input type="text"/>	First page <input type="text"/>
Author name • Help	<input type="text" value="Pauling"/>		
Limit authors	<input type="checkbox"/> Only as first author	<input type="checkbox"/> Only as last author	
Title words	<input type="text" value="vitamin C AND cancer"/>		

Search

[Clear form](#)

[Display Settings:](#) ☒ Summary, Sorted by Recently Added

[Send to:](#) ☒

Results: 3

- ☐ [A proposition: megadoses of vitamin C are valuable in the treatment of cancer.](#)
 1. **Pauling L, Moertel C.**
Nutr Rev. 1986 Jan;44(1):28-32. No abstract available.
PMID: 3951764 [PubMed - indexed for MEDLINE]
[Related citations](#)
- ☐ [Workshop on vitamin C in immunology and cancer.](#)
 2. **Pauling L, Anderson R, Banic S, Basu TK, Kallistratos G, Murata A, Panush R, Schmähl D, Siegel BV.**
Int J Vitam Nutr Res Suppl. 1982;23:209-19. No abstract available.
PMID: 6180999 [PubMed - indexed for MEDLINE]
[Related citations](#)
- ☐ [Vitamin C therapy of advanced cancer.](#)
 3. **Pauling L.**
N Engl J Med. 1980 Mar 20;302(12):694-5. No abstract available.
PMID: 7354772 [PubMed - indexed for MEDLINE]
[Related citations](#)

[Display Settings:](#) ☒ Summary, Sorted by Recently Added

[Send to:](#) ☒

Clinical Queries

PubMed Tools

[PubMed Mobile](#)

[Single Citation Matcher](#)

[Batch Citation Matcher](#)

[Clinical Queries](#)

[Topic-Specific Queries](#)

This specialized search is intended for use by clinicians and has built-in search "filters" based largely upon the work of Haynes, R.B., et al (1994). The filters contain search terms and strategies designed to retrieve particular study types. Five study categories are provided; etiology, diagnosis, therapy, prognosis, and clinical prediction guides. You may indicate whether you wish your search to be a Broad search (i.e., include mostly relevant articles but probably including some less relevant ones) or a Narrow search (i.e., include mostly relevant articles but probably omitting a few).

The clinical queries section is highly effective in locating materials in support of evidence-based clinical recommendations. For example, the utility can be used to quickly locate systematic reviews of aspirin therapy for stroke prevention.

PubMed Clinical Queries

Results of searches on this page are limited to specific clinical research areas. For comprehensive searches, use [PubMed](#) directly.

Search

Clinical Study Categories

This column displays citations filtered to a specific clinical study category and scope. These search filters were developed by [Haynes RB et al](#). See more [filter information](#).

Systematic Reviews

This column displays citations for systematic reviews, meta-analyses, reviews of clinical trials, evidence-based medicine, consensus development conferences, and guidelines. See [filter information](#) or additional [related sources](#).

Medical Genetics

This column displays citations pertaining to topics in medical genetics. See more [filter information](#).

If you would like to see details about the search strategies that comprise the filters, go to the Clinical Queries filter table at:

http://www.ncbi.nlm.nih.gov/books/NBK3827/#pubmedhelp.Clinical_Queries_Filters

If you are really stressed for time, but still need an evidence-based answer, Clinical Queries should be one of the first places to search. This is, of course, if the question is for etiology, diagnosis, therapy, prognosis, or clinical prediction guides.

PubMed Clinical Queries

Results of searches on this page are limited to specific clinical research areas. For comprehensive searches, use [PubMed](#) directly.

<input type="text" value="aspirin therapy AND stroke prevention AND meta-analysis"/> <input type="button" value="Search"/>		
Clinical Study Categories Category: <input type="text" value="Therapy"/> Scope: <input type="text" value="Broad"/>	Systematic Reviews	Medical Genetics Topic: <input type="text" value="All"/>
Results: 5 of 214 Economic evaluation of dabigatran for stroke prevention in patients with non-valvular atrial fibrillation. Silva Miguel L, Rocha E, Ferreira J. Rev Port Cardiol. 2013 July - August; 32(7-8):557-565. Epub 2013 Jul 26. The efficacy and safety of aspirin plus dipyridamole versus aspirin in secondary prevention following TIA or stroke: A meta-analysis of randomized controlled trials. Li X, Zhou G, Zhou X, Zhou S. J Neurol Sci. 2013 Sep 15; 332(1-2):92-6. Epub 2013 Jul 17.	Results: 5 of 153 The efficacy and safety of aspirin plus dipyridamole versus aspirin in secondary prevention following TIA or stroke: A meta-analysis of randomized controlled trials. Li X, Zhou G, Zhou X, Zhou S. J Neurol Sci. 2013 Sep 15; 332(1-2):92-6. Epub 2013 Jul 17. Treatment Strategies for Patients With Peripheral Artery Disease Jones WS, Schmit KM, Vemulapalli S, Subherwal S, Patel MR, Hasselblad V, Heidenfelder BL, Chobot MM, Posey R, Wing L, et al. 2013. 11 Nov	Results: 0 of 0 This column displays citations pertaining to topics in medical genetics. See more filter information .

LINKOUT

More Resources

[MeSH Database](#)

[Journals in NCBI Databases](#)

[Clinical Trials](#)

[E-Utilities](#)

[LinkOut](#)

LinkOut is a service that allows you to link directly from PubMed and other NCBI databases to a wide range of information and services beyond the NCBI systems. LinkOut aims to facilitate access to relevant online resources in order to extend, clarify, and supplement information found in NCBI databases. Examples of LinkOut Resources include full-text publications, biological databases, consumer health information, research tools, and more.

All links are specially assigned to specific database records. When accessing a link through LinkOut, no additional searching should be necessary to access the relevant resource that has been linked to the record. Online resources that may be valuable to users of PubMed and other NCBI databases are encourage to participate in LinkOut.


Links to external resources are listed in the LinkOut display of an Entrez record. Users can access the LinkOut display by clicking "LinkOut" from the Abstract and Citation formats in PubMed or comparable display formats in other Entrez databases. The LinkOut display is also available from the item's display record.

In PubMed, external resources can also be accessed through an icon from the Abstract and Citation formats. Users can customize the LinkOut display and icon through the LinkOut Preferences in My NCBI.

- LinkOut is a feature that provides external links from PubMed citations to publisher Web sites for full-text journal articles, biological databases, consumer health information, and research tools.
- Online full text - Links to online full text from publishers and from PubMed Central appear in PubMed's Abstract and Citation displays.

- Library holdings - Library holdings may be online full text available from the library's provider or a record of print holdings
- Consumer health information - Articles may contain links to the MedlinePlus consumer health resource.
- Commentaries on articles - Links to commentaries or discussion to extend/continue the topic discussed in the article cited in a PubMed citation. Commentaries appear under "Other Literature Sources".
- Supplemental materials - Supplemental materials are the materials directly supporting the research discussed in the cited article, including data sets from experiments/studies, accessory graphics, images, and sound and multimedia files related to the article.
- Practice guidelines - PubMed citations may contain links to the National Guideline Clearinghouse.

My NCBI (formerly known as Cubby)

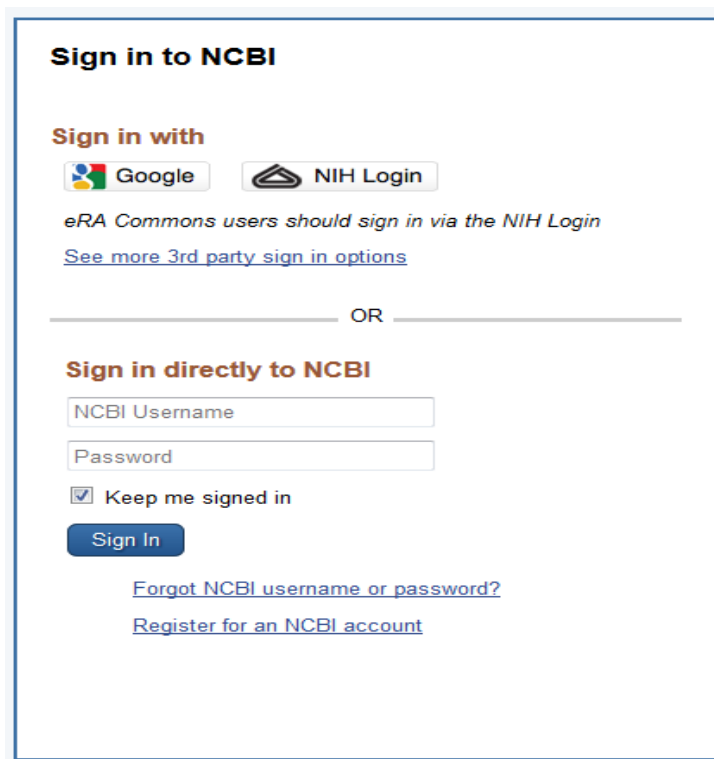


NCBI Resources How To Sign in to NCBI

PubMed.gov PubMed Search

US National Library of Medicine
National Institutes of Health

Advanced Help



Sign in to NCBI

Sign in with

Google NIH Login

eRA Commons users should sign in via the NIH Login

[See more 3rd party sign in options](#)

OR

Sign in directly to NCBI

NCBI Username

Password

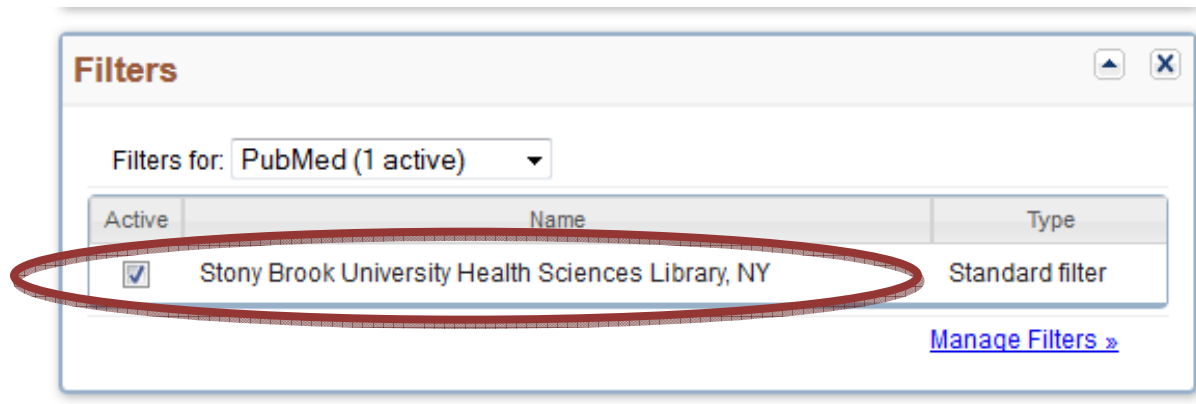
☒ Keep me signed in

Sign In

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One advantage of creating an account with MyNCBI is that you can limit your searches to full text articles available from the Health Sciences Library.



The My NCBI feature provides a Stored Search feature to store and update searches. It also allows you to customize your LinkOut display to include or exclude links to providers.

To Save Your Searches and Set Up Automatic Email Updates

1. Sign into My NCBI.
2. Run your search. You may use History numbers in your search, however, PubMed processes from left to right so order your search statement numbers with this in mind, or use parentheses for nesting.
3. Click on Save search located above the search text box.
4. You may edit the name of the search. The maximum number of characters for the search name is 100. Saved search names will be included in the Subject of the automatic email update messages received in the future.
5. Click Save.
6. Fill in the Save Search Settings form if you would like to receive automatic email updates of new search results.
7. Click the set an email address link if you have not already saved one. This address will be used for all email updates for the account.
8. Select the frequency of your updates. Emailed updates will be sent daily on the scheduled days selected starting from the appropriate day after the schedule is set.
9. Select a Report format.
10. You may also change the number of items to be sent, or add additional text (up to 200 characters) to the automatic updates.

11. Click Save.

12. To change or create a schedule for a saved search select Saved Data, click the Manage Saved Searches link, and then click Edit for the saved search.

Notes:

- Links to [Related Citations](#) cannot be saved in My NCBI.
- Dates and date ranges are **not** advisable for saved searches.
- Saved searches cannot be edited.
- If an email update bounces back (cannot be delivered) three times, the email address will be changed to invalid.
- Each My NCBI account can only have one email address.
- In the event an update is not sent out on schedule or is incomplete, the next scheduled update will include the omitted items, if any.
- Email updates may be affected by email filtering SPAM software. Consider adding nih.gov domain to your email "safe list." If your If your settings do not allow you to add e-mail addresses to a safe list, consult the help section of your e-mail program, or contact your e-mail/Internet provider's customer support to research your configuration options.

Saved Searches		
Search Name	What's New	Last Searched
Protein Searches		
soy	10	10 days ago
oncogenes	292	10 days ago
PubMed Searches		
swimmers ear	0	10 days ago
lyme disease AND dogs	0	10 days ago
lyme disease	22	15 days ago
dogs AND allergies	227	3 years ago