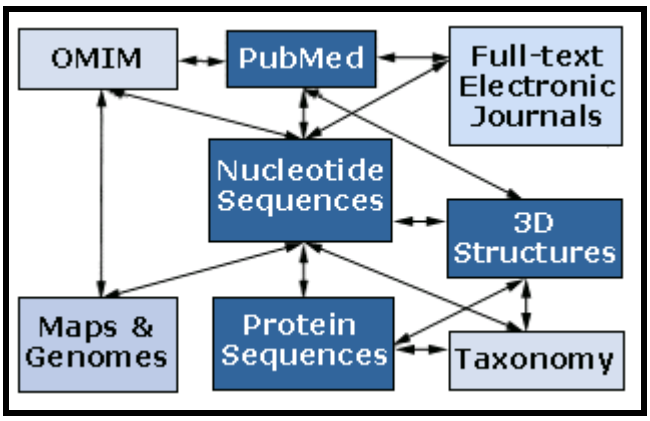
(pubmed.gov)

- PubMed® is a database developed by the National Center for Biotechnology Information (NCBI) at the National Library of Medicine (NLM) available on the Web.
- PubMed is one of several databases under NCBI's Entrez retrieval system.
- PubMed, a database of over 14 million bibliographic citations back to the 1950s provides access, free of charge, to MEDLINE®.
- PubMed also has links to the full-text of articles at participating publishers' Web sites, biological data, sequence centers, etc. from third parties.
- PubMed provides links to the integrated molecular biology databases maintained by NCBI. These databases contain: DNA and protein sequences, genome mapping data, and 3-D protein structures, aligned sequences from populations, and the Online Mendelian Inheritance in Man (OMIM).

Interrelationships between Entrez Databases

- Links between MEDLINE records and sequence records make it easy to find MEDLINE abstracts associated with sequence records and vice versa.
- The following diagram illustrates the relationships between the information resources in Entrez:



Publisher Supplied Citations

- These are citations that are supplied electronically by publishers directly to PubMed. The citations are then forwarded to NLM's Index Section to be processed. (Not all citations are supplied electronically).
- Citations received electronically have the status tag: **[PubMed - as supplied by publisher]**.

Sample PubMed citation that was submitted electronically but processing has not yet begun:

Notice the [PubMed – as supplied by publisher] status tag.

LiCalsi C, Maniaci MJ, Christensen T, Phillips E, Ward GH, Witham C.

A powder formulation of measles vaccine for aerosol delivery.
Vaccine. 2001 Mar 21;19(17-19):2629-2636.
PMID: 11257402 [PubMed - as supplied by publisher]

In Process

- These citations are being reviewed for inclusion in MEDLINE and, if in scope, subsequently are indexed with MeSH® vocabulary. In addition the bibliographic data in these records is being checked for accuracy.
- In process records carry the status tag: **[PubMed – in process].**
- In process records are added to PubMed Tuesday-Saturday.

Sample of an In Process citation in PubMed:

Notice the [PubMed – in process] status tag.

LiCalsi C, Maniaci MJ, Christensen T, Phillips E, Ward GH, Witham C.

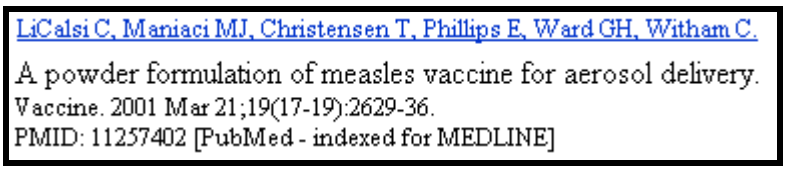
A powder formulation of measles vaccine for aerosol delivery.
Vaccine. 2001 Mar 21;19(17-19):2629-36.
PMID: 11257402 [PubMed - in process]

MEDLINE

- This is NLM's premier bibliographic database covering the fields of medicine, nursing, dentistry, veterinary medicine, the health care system, the preclinical sciences, and other areas of the life sciences.
- MEDLINE records contain bibliographic citations and in most cases author abstracts from more than 4,600 biomedical journals published in the United States and 70 other countries.
- Although most records are from English-language sources or have English abstracts.
- Approximately 76% of MEDLINE records include abstracts as they appear in the journal.
- MEDLINE has over 12 million records from 1966 to the present.
- MEDLINE records are added to PubMed Tuesday-Saturday.
- After MeSH terms (NLM's controlled vocabulary terms) and other indexing terms are added, the in process citations graduate to MEDLINE records. These "completed" records have also been checked for bibliographic accuracy.
- Fully indexed MEDLINE records carry the status tag **[PubMed – indexed for MEDLINE].**

Sample MEDLINE citation in PubMed

Notice the [PubMed – indexed for MEDLINE] status tag.


LiCalsi C, Maniaci MJ, Christensen T, Phillips E, Ward GH, Witham C.
A powder formulation of measles vaccine for aerosol delivery.
Vaccine. 2001 Mar 21;19(17-19):2629-36.
PMID: 11257402 [PubMed - indexed for MEDLINE]

OLDMEDLINE CITATIONS

- These citations are to articles from international biomedical journals covering the fields of medicine, preclinical sciences, and allied health sciences.

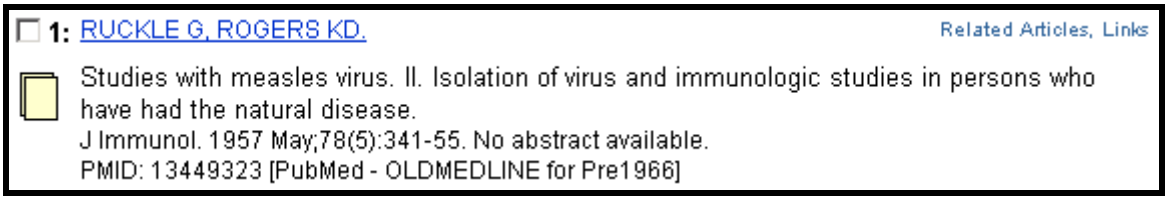
- The approximately 1.5 million OLDMEDLINE citations, which do not include abstracts, were originally printed in hardcopy indexes published from 1953 through 1965.

- OLDMEDLINE citations have been created using standards that are different from the data entry standards for MEDLINE records. There are also variations among OLDMEDLINE citations in the data fields present as well as in their format, depending on the original source from which the citations were obtained.

- OLDMEDLINE citations lack the accumulated changes and improvements that have been made to data in MEDLINE during annual maintenance.

- OLDMEDLINE records carry the status tag **[PubMed – OLDMEDLINE for Pre1966**]

Sample OLDMEDLINE citation in PubMed


1: RUCKLE G, ROGERS KD. Related Articles, Links

Studies with measles virus. II. Isolation of virus and immunologic studies in persons who have had the natural disease.
J Immunol. 1957 May;78(5):341-55. No abstract available.
PMID: 13449323 [PubMed - OLDMEDLINE for Pre1966]

Non-MeSH Indexed Citations

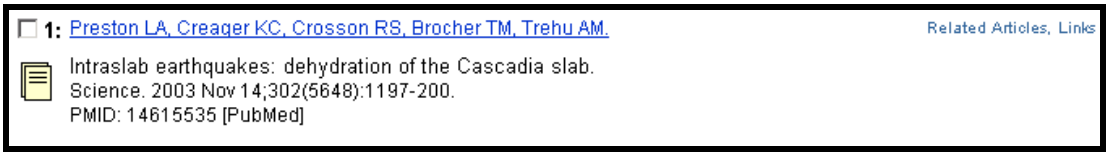
- Some citations received electronically from publishers never become MEDLINE citations.
- These records are not indexed with MeSH terms.
- These records have either the status tag **[PubMed]** or **[PubMed – as supplied by publisher]** and remain in PubMed but are not MEDLINE citations.
- There are three sources of these types of records:

1. Out-of-scope articles from selectively indexed MEDLINE journals

- This may occur when a particular article in a selectively indexed journal is out-of-scope for MEDLINE (such as a geology article in a general scientific journal like *Science* or *Nature*).
- These citations have been reviewed for accurate bibliographic data.
- The status tag **[PubMed]** appears on these citations.

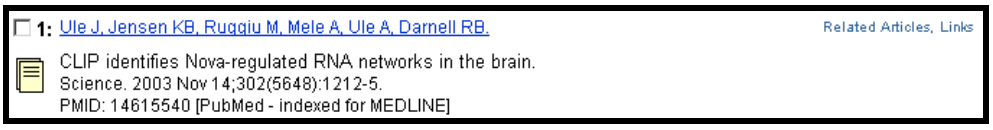
Sample citation for an article that is out of scope for MEDLINE:

Notice the [PubMed] status tag.



Sample citation for an article from the same journal issue that *is* indexed for MEDLINE:

Notice the [PubMed-indexed for MEDLINE] status tag.

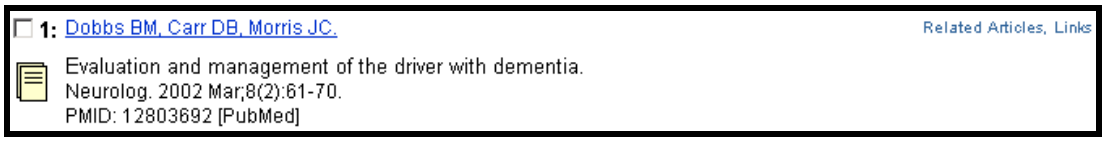


2. Articles from issues of journals published prior to selection for MEDLINE indexing

- These earlier citations will not be indexed with MeSH headings.
- Prior to late 2003:
  - ► the citations were *not* reviewed for accurate bibliographic data
  - ► the status tag of **[PubMed – as supplied by publisher]** appears
- Beginning in late 2003:
  - ► the citations have been reviewed for accurate bibliographic data.
  - ► the status tag of **[PubMed]** appears

Example: NLM began indexing the journal, *The Neurologist* with v. 9, no. 1, 2003. However, the publisher electronically supplied NLM with citations from earlier volumes. The citations from back volumes were entered into PubMed but will not be indexed with MeSH.

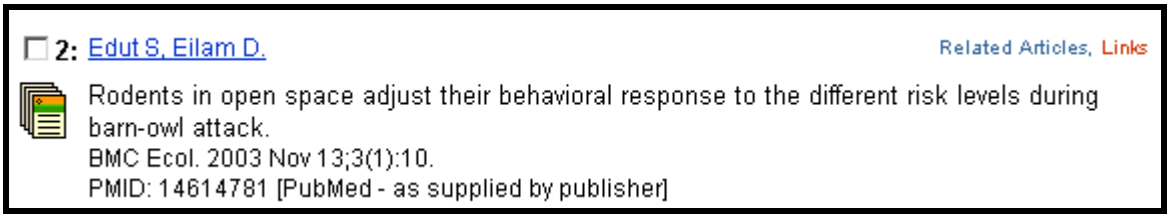
Notice the [PubMed] status tag from an item from vol. 8, 2003.



Notice the [PubMed – indexed for MEDLINE] status tag on an item from volume 9, 2003.

Indexing information for a particular journal can be found in the "Indexed In" field of the Details format of LOCATORplus (NLM's Integrated Library System at locatorplus.gov). Use PubMed's Journals Database to link to this information.

3. Articles archived in PubMed Central from non-MEDLINE journals



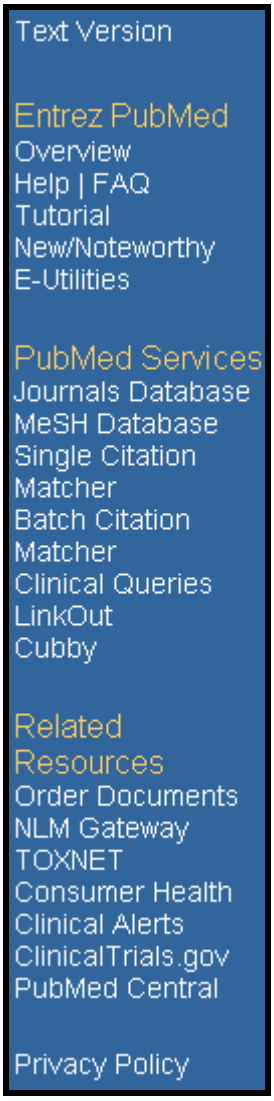
See next page for a Citation Status Tags Summary Table.

PubMed Citation Status Tags Summary Table

Citation Status Tag Value	Condition(s)	MeSH-indexed?	Biblio-graphic data checked?	How to search
[PubMed – as supplied by publisher]				
	• Citations supplied electronically when first received. • Citations from issues of journals published before journal selected for MEDLINE indexing (records received prior to late 2003). • Citations from non-MEDLINE journals archived in PubMed Central	No	No	publisher [sb]
[PubMed – in process]				
	• Citations in review for inclusion in MEDLINE	No	No	in process [sb]
[PubMed – indexed for MEDLINE]				
	• Fully indexed citations.	Yes	Yes	medline [sb]
[PubMed – OLDMEDLINE for Pre1966]				
	• Citations originally printed in hardcopy indexes published from 1953 through 1965.	No	Yes	oldmedline [sb]
[PubMed]				
	• Out-of-scope articles from selectively indexed MEDLINE journals • Since late 2003, citations from issues of journals published prior to selection for MEDLINE indexing	No	Yes	pubmednotmedline [sb]

PubMed's Home Page

The Sidebar



Text Version - specifically for users who require special adaptive equipment to access the Web and use PubMed.

Entrez PubMed

- The **Overview** provides a detailed description of the PubMed database including database coverage and PubMed journal information.
- Click on **Help** for explanations of all the features and search and retrieval options within PubMed. **FAQs** are frequently asked questions and answers about PubMed.
- Click on **Tutorial** for a Web-based, interactive training program for PubMed.
- **New/Noteworthy** provides information about PubMed system enhancements.
- **E-Utilities** are tools that provide access to Entrez data outside of the regular web query interface.

PubMed Services

- Use the **Journals Database** to search for journals. The list of journals with links to full-text is also included in the browser.
- The **MeSH Database** allows you to find and select terms from the MeSH Vocabulary.
- The **Single Citation Matcher** allows you to locate a specific article.
- The **Batch Citation Matcher** is a tool for publishers.
- The **Clinical Queries** page was designed for clinicians and has built-in search "filters" including systematic reviews.
- **LinkOut** provides users with links from PubMed and other Entrez databases to a wide variety of relevant web-accessible online resources including full-text publications.
- The **Cubby** stores search strategies for updating searches, and LinkOut preferences to specify which LinkOut providers you want displayed in PubMed.

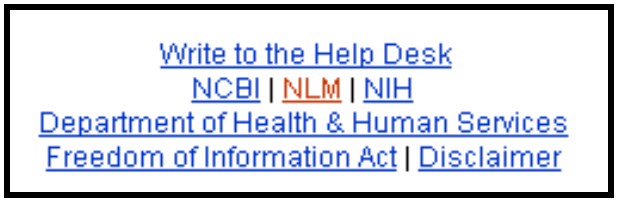
Related Resources

- **Order Documents** is a link to the Loansome Doc feature to order full-text copies of articles from a local medical library (local fees and delivery methods may vary).
- Click on the **NLM Gateway** to access NLM's other Web-based service that also provides access to MEDLINE and additional NLM databases.
- **TOXNET** has databases on toxicology, hazardous chemicals, and related areas.
- **Consumer Health** is a link to MEDLINE*plus*, NLM's Web site for consumer health information.
- **Clinical Alerts** expedite the release of findings from the NIH-funded clinical trials that could significantly affect morbidity and mortality.
- Click on **ClinicalTrials.gov** to access the NIH/NLM Web site to locate clinical research studies open to participation.
- **PubMed Central** is an archive of life science journals. Access is free and unrestricted.

Privacy Policy

The National Center for Biotechnology Information's Privacy Policy for PubMed users.

The Footnote



- Click on **Write to the Help Desk** to send an e-mail message to NLM Customer Service.
- Click on **NCBI, NLM, NIH** or **Department of Health & Human Services** to access the Web pages of the agencies responsible for the creation and maintenance of PubMed.
- Click on **Freedom of Information Act** (FOIA) to access the NIH FOIA Home Page.
- Click on **Disclaimer** to obtain information on copyright status, disclaimer of liability and endorsement, and NLM downloading policy.

Searching With PubMed

PubMed provides many methods of searching to meet users' individual needs. You can run a simple search by entering a few search terms in the query box or construct complex search strategies using Boolean operators and using the various functions provided by the Features bar.

PubMed's Features bar provides these tools:

- Limits
- Preview/Index
- History
- Clipboard
- Details

In addition, these services are also available:

- MeSH Database
- Clinical Queries/Systematic Reviews
- The Journals Database
- The Single Citation Matcher
- Cubby

PubMed makes use of **cookies** and **JavaScript** from your Web browser for several functions. For more information about cookies, see PubMed's Help.

How it Works

Subject Searching

Search: *Find citations to articles about having a rash and a fever.*

Entering Search Terms

- Enter significant terms in the query box (e.g., ***rash fever***).
- Click on the **Go** button.
- Use the **Clear** button to erase the contents of the query box.

PubMed Automatic Term Mapping

Unqualified terms that are entered in the query box are matched against (in this order):

1. MeSH (Medical Subject Headings) Translation Table
2. Journals Translation Table
3. Author Index

1. MeSH Translation Table contains**:**

- MeSH Headings
- Subheadings
- Publication Types
- Entry Term mappings (also known as synonyms) for MeSH terms
- Mappings derived from the Unified Medical Language System (UMLS)
- Supplementary Concepts and synonyms to the Supplementary Concepts

If a match is found in this translation table, the term will be mapped to the appropriate MeSH term and searched as MeSH **and** as a Text Word.

Example:

PubMed Translation: ("exanthema"[MeSH Terms] OR rash[Text Word])

- Rash is an entry term for the MeSH term, Exanthema.

When a term is searched as a MeSH Heading, PubMed automatically searches that heading and the more specific headings underneath in the hierarchy. This is called exploding a term.

For example, when searched as a MeSH Term, PubMed will search the heading Exanthema as well as the more specific term(s) in the hierarchy:

2. Journals Translation Table contains**:**

- Full journal title
- MEDLINE abbreviation
- International Standard Serial Number (ISSN)

Example:

PubMed Translation: "J Cell Biol"[Journal]

If a name of a journal also happens to be a MeSH term, it must be searched with a field tag (see the Search Field Descriptions section of this workbook). Otherwise, PubMed will search the term as a MeSH heading and as a Text Word, and the search will ***not*** include the term as a journal name. For example, the search for Science untagged will not search for citations from the journal *Science*.

3. Author Index

- If the phrase is not found in the MeSH **or** Journal Translation Tables **and** is a word with one or two letters after it, PubMed then checks the Author Index.

- Enter the author's name in the form of Last Name (space) Initials:

Examples:

o'brien jm
adams sh
pogonka t

- If only the first initial is used, PubMed automatically truncates the author's name to account for varying initials.

Example:

- This search retrieves citations to articles written by o'brien j, o'brien ja, o'brien jz, etc.

If only an author's last name is entered, PubMed will search that name in All Fields (Author field plus all other searchable fields). It will not default to the Author Index because the last name is not followed by initial(s). Special attention is needed when the last name is the same as a MeSH term (see the Search Field Descriptions section of this workbook).

If no match is found?

- PubMed breaks apart the phrase and repeats the above process until a match is found.
- Terms that don't make a match will be searched in "All Fields." Individual terms will be combined (ANDed) together.

Example:

PubMed Translation:

((pressure [MeSH Terms] OR pressure[Text Word]) AND point[All Fields])

- PubMed breaks apart a long phrase from right to left:

Example:

Searches for:	Results:	Action:
head lice shampoo	No match found	Removes term on right to re-run Automatic Term Mapping process.
head lice	Match found in MeSH Translation Table	***head lice*** will be searched as ***pediculus[MeSH Terms] OR head lice[Text Word]***
shampoo	No match found in Translation Tables	***shampoo*** will be searched as ***shampoo[All Fields]***

PubMed then combines (ANDs) the terms to produce a single search strategy:

pediculus[MeSH Terms] OR head lice[Text Word]
AND
shampoo[All Fields]

Phrase Searching

- PubMed searches for phrases under these conditions:

1. The phrase is entered with a search tag:
   kidney allograft [tw]

2. The phrase is enclosed in double quotes: (The absence of a search tag indicates the search should be conducted in All Fields.)
   "kidney allograft"

3. The term is hyphenated:
   first-line

4. The term is truncated:
   kidney allograft*

Example:

PubMed Translation: "pressure point"[All Fields]

- The above formats for phrase searching instruct PubMed to ***bypass*** automatic term mapping. Instead PubMed looks for the phrase in its Index of searchable terms. If the phrase is in the Index, PubMed will retrieve citations that contain the phrase.

- PubMed may fail to find a phrase because it is not in the Index.

- Your phrase may actually appear in citation and abstract data, but may ***not*** be in the Index. If this is the case, the double quotes are ignored and the phrase is processed using Automatic Term Mapping.

When you enclose a phrase in double quotes, PubMed will ***not*** perform automatic term mapping which includes explosions of MeSH terms. For example, "health planning " ***will*** include citations that have the MeSH heading, Health Planning, but ***will not*** include the more specific indentations (e.g., Health Care Rationing, Health Care Reform) that are included with automatic MeSH mapping and explosion.

Truncation (finding all terms that begin with a given text string):

- Place an asterisk (*) at the end of a string of characters to search for all terms that begin with that string. The asterisk may only be used at the ***end*** of a string of characters.

Example: mimic* will find all terms that begin with the letters m-i-m-i-c-; e.g., mimic, mimics, mimicing.

- PubMed searches the first 600 variations of a truncated term. If a truncated term, e.g., tox*, produces more than 600 variations, PubMed displays the following warning message on the Results screen in pink near the top of the screen:

Wildcard search for 'tox*' used only the first 600 variations. Lengthen the root word to search for all endings.

Truncation turns off automatic term mapping. For example, heart attack* will not map to the MeSH term, Myocardial Infarction or include any of its more specific terms, e.g., Myocardial Stunning.

PubMed Stopword List

PubMed also compares each search with to a list of commonly found terms that are referred to as "stopwords." Stopwords may be ignored. This list is available in PubMed's Help.

Search Results Screen

Once you click on **Go** or press the Enter key, PubMed will automatically:

- Run the search
- Retrieve and display citations

The following is the Results screen returned by PubMed for the search example:

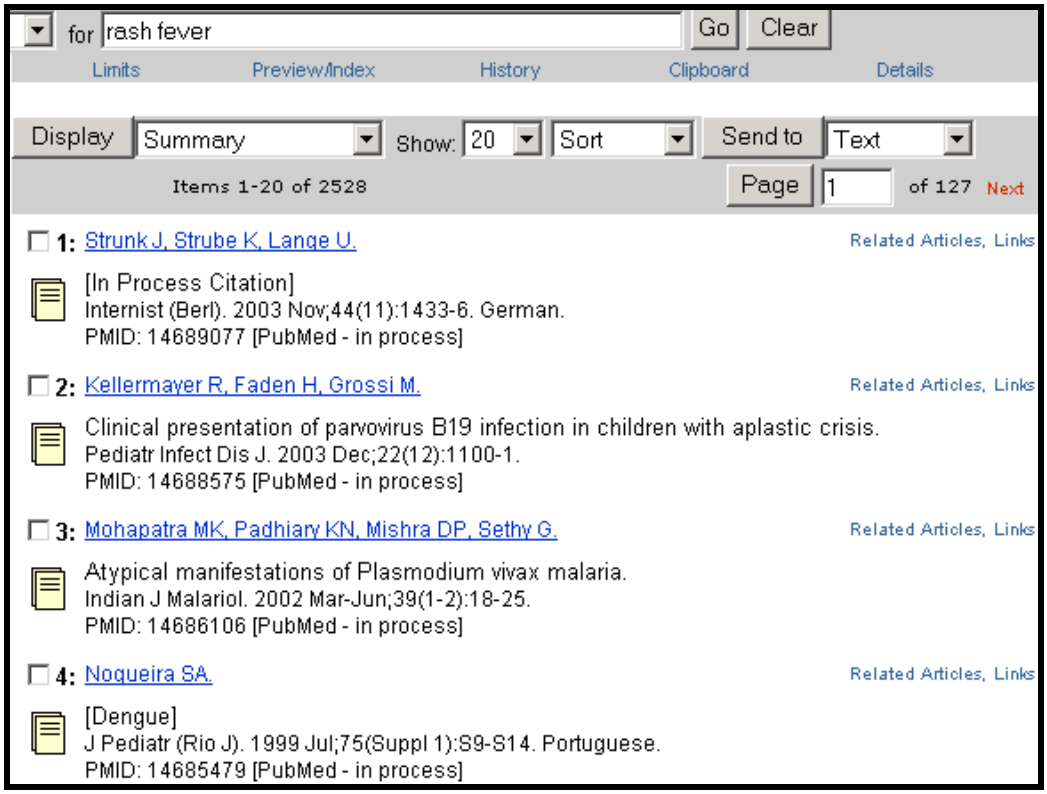
Find citations to articles about having a rash and fever.

*Active **query box** displaying current search.*

***Display** options*
***Show** pull-down*
***Sort** options*
***Send to** options*
Page options

Citations are displayed in Summary format.

Icons indicating presence of abstract and/or availability of free full text.



See next page for further explanation.

Results Screen

Query Box containing current search

- The query box displays **your** search.
- This box is active; you can modify the current search by adding or eliminating terms and clicking on the **Go** button.
- Click on the **Clear** button to clear the search in the query box and start a new search.

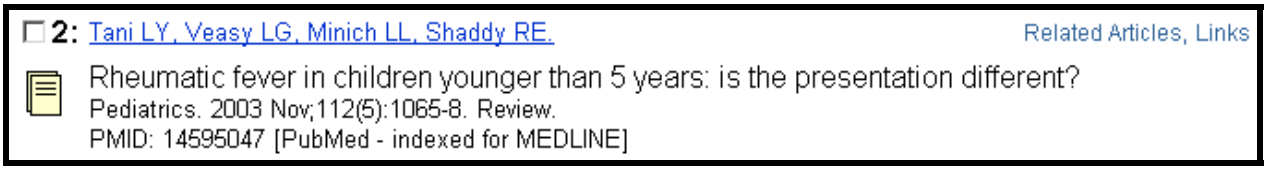
Action Bar Selections

- These options are available both at the top and bottom of the Results screens.
- The next few workbook pages will explain each function.

Display Options

Summary Format

PubMed citations are initially displayed in the **Summary** format.



The Summary format may include the following:

- **Author Name(s):** All authors from the record are displayed.
- **Corporate Author:** Identifies the corporate authorship of an article.
- **Links:** Available links such as Related Articles, Protein, Nucleotide, LinkOut, Books, etc.
- **Title of the article:** Most foreign language titles will be translated into English and placed within brackets.
- **Source:** Includes journal title abbreviation, date of publication, volume, issue, and pagination.
- **Abstract/Free Full text icons:**

Note the following icons to the right of the retrieved abstracts:

Citation includes no abstract.

Citation includes an abstract.

An icon with an orange and green banner indicates free full text is available from PubMed Central (PMC), NLM's free digital archive of life sciences journal literature.

An icon with a green banner indicates there is a link to full text and no payment or subscription is required.

- May also include language (for non-English articles) and Publication Type if the article is a review or retracted publication. Articles without abstracts will display the notation: "No abstract available" and the No Abstract icon.
- Annotations to associated citations (e.g., Errata).
- PubMed Unique Identifier (PMID).
- A status tag: **[PubMed - as supplied by publisher]**, **[PubMed - in process]**, **[PubMed - indexed for MEDLINE],** or **[PubMed]**

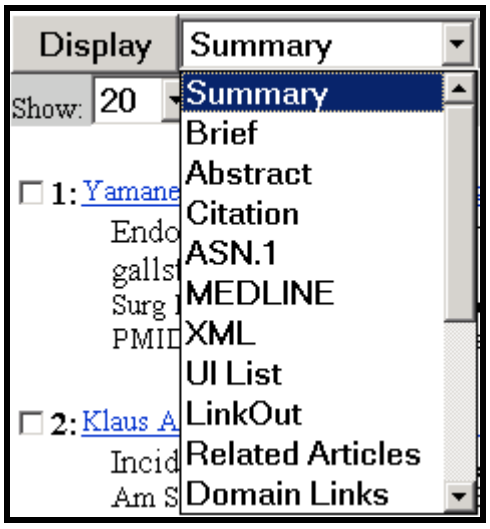
Additional Display Options

You can access other display formats from the Results screen in the following manner:

- **Individual Citations:** Clicking on the author name link or the abstract icon link will display the citation in the Abstract display format.
- **All Citations:** Select the format and click on the Display button.
- **Selected Citations**: Clicking on the box found to the left of the item number allows you to select one or multiple items. Clicking on the **Display** button will display the selected item(s) in the desired display format.

Other Display Formats

The pull-down menu next to the **Display** button allows the user to select available display formats:



Summary, Abstract, Citation, MEDLINE, and Related Articles are the most appropriate display selections for bibliographic information.

Abstract Format

May include the following information:

- Source (journal title abbreviation, date of publication, volume, issue and pagination)
- Title
- On non-English *language* articles, [Article in language] tag
- Author(s)
- Corporate Author
- Affiliation (address) of first author
- Abstract (if present) from published article
- Publication Types (except for "Journal Article")
- Annotations to associated citations (e.g., errata)
- PMID
- Status tag
- Links

Pediatrics. 2003 Nov;112(5):1065-8. Related Articles, Links

Full text article at www.pediatrics.org

Rheumatic fever in children younger than 5 years: is the presentation different?

Tani LY, Veasy LG, Minich LL, Shaddy RE.

Department of Pediatrics, University of Utah, and Primary Children's Medical Center, Salt Lake City, UT 84113, USA. pcltani@ihc.com

OBJECTIVE: To review our experience with children who presented with rheumatic fever (RF) before 5 years of age and to compare their presentation with that of older children. METHODS: The cardiology database was reviewed to identify patients who were younger than 5 years and had a diagnosis RF using the Jones criteria from January 1985 through March 2000. Patient age, sex, date and age at presentation, and the major Jones criteria fulfilled were noted. When carditis was present, its severity was judged to be moderate to severe when there was radiographic cardiomegaly and/or clinical congestive heart failure. The clinical presentation of patients who presented in the first 5 years of life were compared with the presentation of those whose RF was diagnosed after 5 years of age. Clinical findings at follow-up evaluation and echocardiographic findings both at presentation and at follow-up were noted for the children who were younger than 5 years at presentation. RESULTS: Of 541 cases of RF seen from January 1985 through March 20000, 27 (5%) were in children who were younger than 5 years (median: 4.0 years; range: 1.9-4.9 years). Major Jones criteria at presentation were arthritis in 17, carditis in 14, chorea in 3, and erythema marginatum in 3. The carditis was mild in 4 and moderate to severe in 10 patients. Compared with older children, younger children were more likely to present with moderate to severe carditis, arthritis without carditis or chorea, or the rash of erythema marginatum and were less likely to have chorea. The incidence of carditis was similar in the 2 groups as was the ratio of boys to girls. At follow-up (9.6 +/- 5.6 years), 69% of younger children who presented with carditis have clinical rheumatic heart disease. Subclinical, echocardiographically detected valvular abnormalities were detected both at presentation (33% of all children with RF before 5 years of age) and at follow-up (55% of those who initially had carditis). CONCLUSIONS: Approximately 5% of children with RF were younger than 5 years at diagnosis. Compared with older patients, children who presented before 5 years of age were more likely to have moderate to severe carditis and to present with arthritis or the rash of erythema marginatum and were less likely to have chorea. Chronic rheumatic heart disease was common in young children who presented with carditis. Long-term follow-up is necessary to determine the outcome for young children with subclinical echocardiographic evidence of valvular disease.

Publication Types:
- Review
- Review, Multicase

PMID: 14595047 [PubMed - indexed for MEDLINE]

Citation Format

May include the following information:

- Source (journal title abbreviation, date of publication, volume, issue and pagination)
- Title
- On non-English *language* articles, [Article in language] tag
- Author(s)
- Corporate Author
- Affiliation (address) of first author
- Publication Types (except for "Journal Article")
- Annotations to associated citations (e.g., errata)
- MeSH Terms
- Personal Name as Subject (if present)
- Chemical substances (if present)
- Grant numbers (if present)
- PMID
- Status tag
- Links

1: Pediatrics. 2003 Nov;112(5):1065-8. Related Articles, Links

Full text article at www.pediatrics.org

Rheumatic fever in children younger than 5 years: is the presentation different?

Tani LY, Veasy LG, Minich LL, Shaddy RE.

Department of Pediatrics, University of Utah, and Primary Children's Medical Center, Salt Lake City, UT 84113, USA. pcltani@ihc.com

OBJECTIVE: To review our experience with children who presented with rheumatic fever (RF) before 5 years of age and to compare their presentation with that of older children. METHODS: The cardiology database was reviewed to identify patients who were younger than 5 years and had a diagnosis RF using the Jones criteria from January 1985 through March 2000. Patient age, sex, date and age at presentation, and the major Jones criteria fulfilled were noted. When carditis was present, its severity was judged to be moderate to severe when there was radiographic cardiomegaly and/or clinical congestive heart failure. The clinical presentation of patients who presented in the first 5 years of life were compared with the presentation of those whose RF was diagnosed after 5 years of age. Clinical findings at follow-up evaluation and echocardiographic findings both at presentation and at follow-up were noted for the children who were younger than 5 years at presentation. RESULTS: Of 541 cases of RF seen from January 1985 through March 20000, 27 (5%) were in children who were younger than 5 years (median: 4.0 years; range: 1.9-4.9 years). Major Jones criteria at presentation were arthritis in 17, carditis in 14, chorea in 3, and erythema marginatum in 3. The carditis was mild in 4 and moderate to severe in 10 patients. Compared with older children, younger children were more likely to present with moderate to severe carditis, arthritis without carditis or chorea, or the rash of erythema marginatum and were less likely to have chorea. The incidence of carditis was similar in the 2 groups as was the ratio of boys to girls. At follow-up (9.6 +/- 5.6 years), 69% of younger children who presented with carditis have clinical rheumatic heart disease. Subclinical, echocardiographically detected valvular abnormalities were detected both at presentation (33% of all children with RF before 5 years of age) and at follow-up (55% of those who initially had carditis). CONCLUSIONS: Approximately 5% of children with RF were younger than 5 years at diagnosis. Compared with older patients, children who presented before 5 years of age were more likely to have moderate to severe carditis and to present with arthritis or the rash of erythema marginatum and were less likely to have chorea. Chronic rheumatic heart disease was common in young children who presented with carditis. Long-term follow-up is necessary to determine the outcome for young children with subclinical echocardiographic evidence of valvular disease.

Publication Types:
- Review
- Review, Multicase

MeSH Terms:
- Child, Preschool
- Chorea/epidemiology
- Chorea/etiology
- Comparative Study
- Databases, Factual
- Erythema/epidemiology
- Erythema/etiology
- Female
- Follow-Up Studies
- Heart Valve Diseases/diagnosis
- Heart Valve Diseases/etiology
- Heart Valve Diseases/ultrasonography
- Human
- Incidence
- Infant
- Male
- Myocarditis/diagnosis
- Myocarditis/epidemiology
- Myocarditis/etiology
- Myocarditis/ultrasonography
- Retrospective Studies
- Rheumatic Fever/complications
- Rheumatic Fever/diagnosis*
- Rheumatic Heart Disease/diagnosis
- Rheumatic Heart Disease/epidemiology
- Rheumatic Heart Disease/ultrasonography

PMID: 14595047 [PubMed - indexed for MEDLINE]

MEDLINE Format

Two- to four-character tagged field format displaying all fields of the PubMed record.

Tani LY et al. Rheumatic fever in children y...[PMID: 14595047]

```
PMID- 14595047
OWN - NLM
STAT- completed
DA  - 20031103
DCOM- 20031125
IS  - 1098-4275
VI  - 112
IP  - 5
DP  - 2003 Nov
TI  - Rheumatic fever in children younger than 5 years: is the presentation
      different?
PG  - 1065-8
AB  - OBJECTIVE: To review our experience with children who presented with
      rheumatic fever (RF) before 5 years of age and to compare their
      presentation with that of older children. METHODS: The cardiology database
      was reviewed to identify patients who were younger than 5 years and had a
      diagnosis RF using the Jones criteria from January 1985 through March
      2000. Patient age, sex, date and age at presentation, and the major Jones
      criteria fulfilled were noted. When carditis was present, its severity was
      judged to be moderate to severe when there was radiographic cardiomegaly
      and/or clinical congestive heart failure. The clinical presentation of
      patients who presented in the first 5 years of life were compared with the
      presentation of those whose RF was diagnosed after 5 years of age.
      Clinical findings at follow-up evaluation and echocardiographic findings
      both at presentation and at follow-up were noted for the children who were
      younger than 5 years at presentation. RESULTS: Of 541 cases of RF seen
      from January 1985 through March 20000, 27 (5%) were in children who were
      younger than 5 years (median: 4.0 years; range: 1.9-4.9 years). Major
      Jones criteria at presentation were arthritis in 17, carditis in 14,
      chorea in 3, and erythema marginatum in 3. The carditis was mild in 4 and
      moderate to severe in 10 patients. Compared with older children, younger
      children were more likely to present with moderate to severe carditis,
      arthritis without carditis or chorea, or the rash of erythema marginatum
      and were less likely to have chorea. The incidence of carditis was similar
      in the 2 groups as was the ratio of boys to girls. At follow-up (9.6 +/-
      5.6 years), 69% of younger children who presented with carditis have
      clinical rheumatic heart disease. Subclinical, echocardiographically
      detected valvular abnormalities were detected both at presentation (33% of
      all children with RF before 5 years of age) and at follow-up (55% of those
      who initially had carditis). CONCLUSIONS: Approximately 5% of children
      with RF were younger than 5 years at diagnosis. Compared with older
      patients, children who presented before 5 years of age were more likely to
      have moderate to severe carditis and to present with arthritis or the rash
      of erythema marginatum and were less likely to have chorea. Chronic
      rheumatic heart disease was common in young children who presented with
      carditis. Long-term follow-up is necessary to determine the outcome for
      young children with subclinical echocardiographic evidence of valvular
      disease.
AD  - Department of Pediatrics, University of Utah, and Primary Children's
      Medical Center, Salt Lake City, UT 84113, USA. pcltani@ihc.com
FAU - Tani, Lloyd Y
AU  - Tani LY
FAU - Veasy, L George
AU  - Veasy LG
FAU - Minich, L LuAnn
AU  - Minich LL
FAU - Shaddy, Robert E
AU  - Shaddy RE
LA  - eng
PT  - Journal Article
PT  - Review
PT  - Review, Multicase
PL  - United States
TA  - Pediatrics
JID - 0376422
SB  - AIM
SB  - IM
MH  - Child, Preschool
MH  - Chorea/epidemiology/etiology
MH  - Comparative Study
MH  - Databases, Factual
MH  - Erythema/epidemiology/etiology
MH  - Female
MH  - Follow-Up Studies
MH  - Heart Valve Diseases/diagnosis/etiology/ultrasonography
MH  - Human
MH  - Incidence
MH  - Infant
MH  - Male
MH  - Myocarditis/diagnosis/epidemiology/etiology/ultrasonography
MH  - Retrospective Studies
MH  - Rheumatic Fever/complications/*diagnosis
MH  - Rheumatic Heart Disease/diagnosis/epidemiology/ultrasonography
RF  - 41
EDAT- 2003/11/05 05:00
MHDA- 2003/12/03 05:00
PST - ppublish
SO  - Pediatrics 2003 Nov;112(5):1065-8.
```

Use this format for downloading records into bibliographic management software programs.

Retrieval Summary

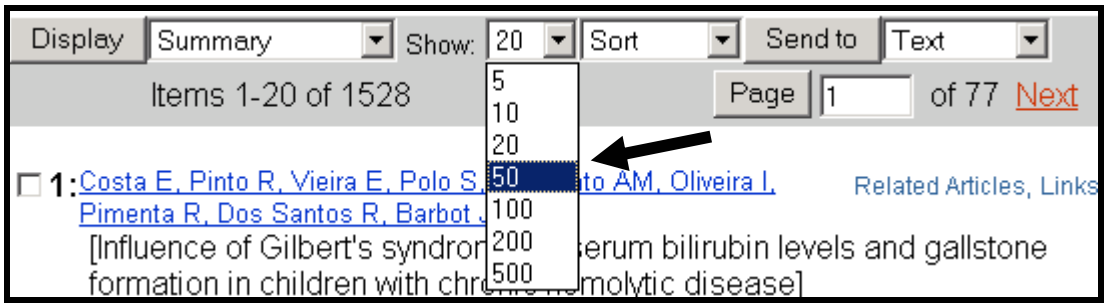
- The retrieval summary line displays the total number of citations retrieved by the search, and how many pages of citations there are given the selected number of citations per page (see Show).

Page Selection

- Use links for **Previous** and **Next** to navigate through search results.
- To move to a non-adjacent page, enter the desired page number and then press the **Page** button.
- The current page number is displayed in the Page box.

Show pull-down menu

- PubMed initially displays search results in batches of 20 citations per page.



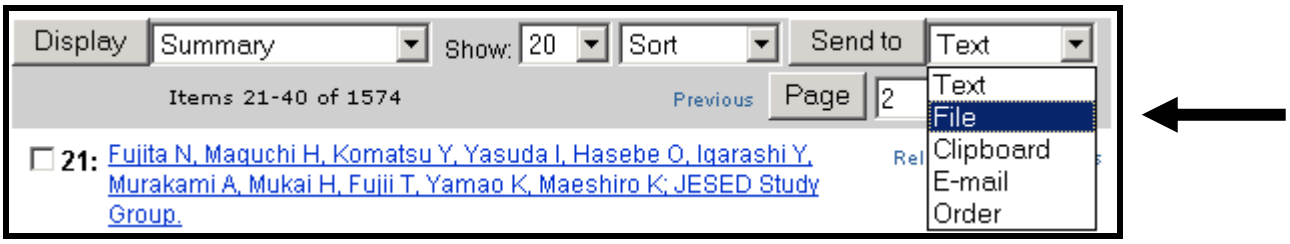
- Click on the **Show** pull-down menu to select a higher/lower number and then click **Display**.
- PubMed redisplays the citations based on your selection.
- You can change the display format and the Show number at the same time.

Sort

To sort items by author, journal, or publication date, click on the Sort pull-down menu select a sort field, then click display.

You can sort directly from the results screen, or you can collect citations on the Clipboard and sort the items there.

Send to File

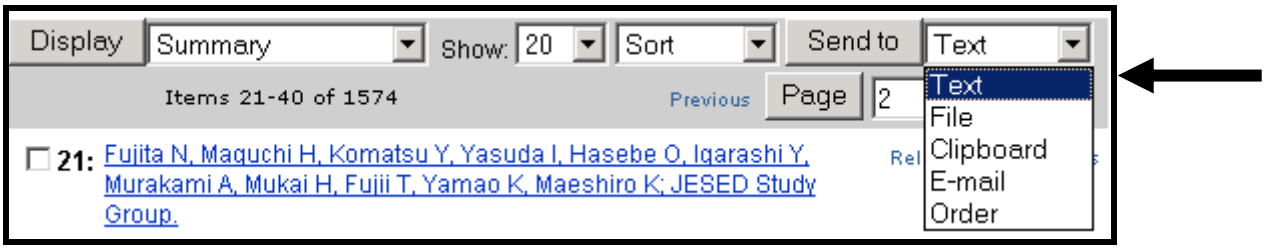


- To save and send your **entire set of search results** to a file, use the Display pull-down menu to select the desired format, select **File** from the Send to menu and click the **Send to** button. This saves the results in the display format selected.

- To mark **selected citations** to save and send to a file, click on the check-box to the left of the item number as you go through each page of your retrieval. After you have finished selecting citations, choose a display format, select File and click the **Send to** button.

The maximum number of items that can be saved is **10,000**.

Send to Text

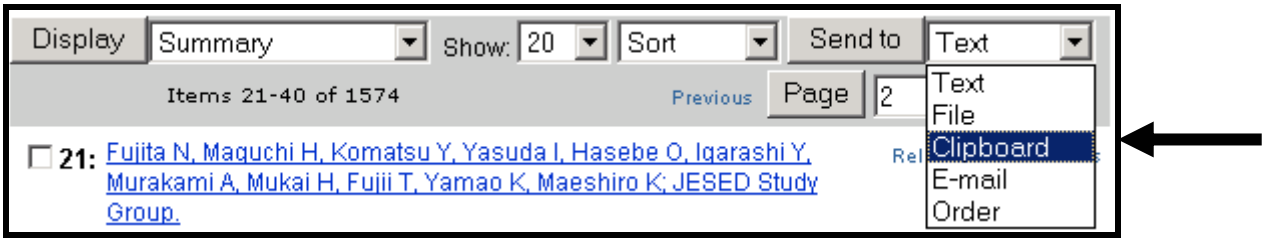


- Use Text to redisplay citations omitting the Web or HTML components.
- Use Text when printing so you don't print PubMed's sidebar and buttons and save paper!
- Text will display either selected citations, or if no citations are selected, all the citations on the page.
- Before using the **Text** option, consider changing the display format and the number of items displayed on each page.
- Select **Text** and click the **Send to** button.
- When finished with the Text display, use your Web browser's Back button to return to your results in the regular format.

Printing

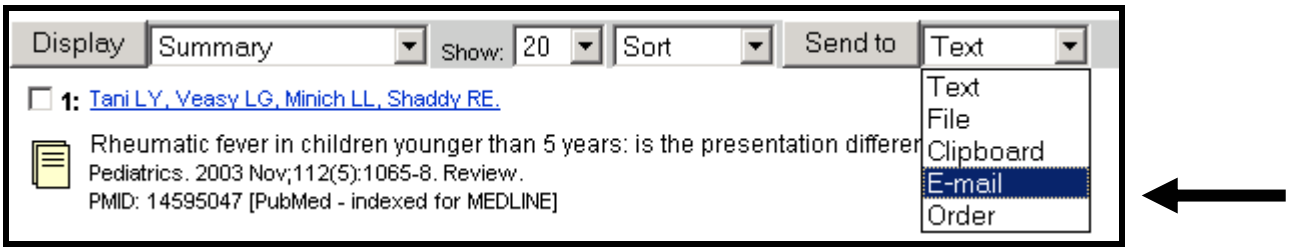
- Use the Print function of your Web browser**,** which will print all the information and citations displayed on your Web page.
- Consider using the **Text** button described above.
- Think about changing the display format and using the Show pull-down menu to display all of your citations on one Web page. You can only print the citations from the displayed page.

Send to Clipboard



- The Clipboard allows you to collect selected citations from one search or several searches
- that you may want to print, save, or order.
- The maximum number of items that can be placed in the Clipboard is **500**.
- To place an item in the Clipboard, click on the box to the left of the citation, select **Clipboard** from the Send to menu, and then click the **Send to** button.
- Once you have added a citation to the Clipboard, the item number color will change.
- Using the Clipboard is discussed in the Features Section of this Workbook.

Send to E-mail



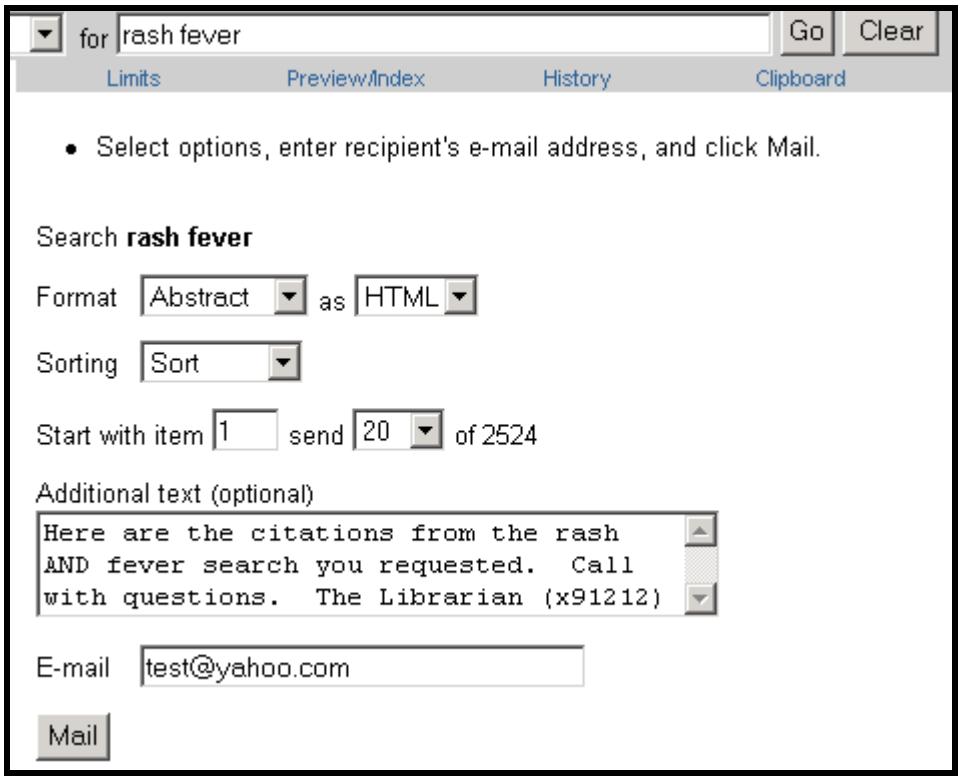
- Select E-mail from the Send to menu and then click the **Send to** button.
- You are brought to an options screen:

Settings on the options screen reflect selections on the Results page and can be modified if desired.

Add a message if you wish.

Enter e-mail address.

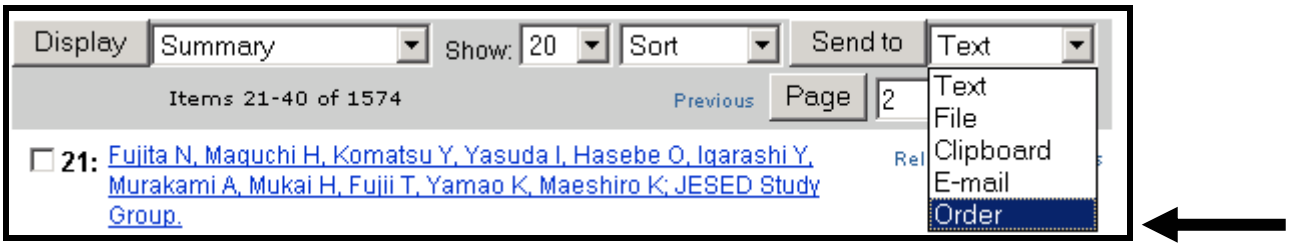
*Click **Mail** button.*



E-mail Tips:

- ✓ You may E-mail up to 500 items.
- ✓ The HTML option allows the PubMed e-mail messages to display as a results page with hyperlinks to Related Articles, LinkOut, etc. The recipient's e-mail service must be set for HTML view to allow for proper display.
- ✓ A default E-mail address may be stored via Cubby User Preferences. See the Cubby section of the workbook for details.

Send to Order



- Select **Order** from the Send to menu and then click the **Send to** button to use an automated document ordering program called **Loansome Doc**.

- You can also **Order** directly from the Clipboard.

What is Loansome Doc?

The Loansome Doc feature allows you to order the full-text of an article from a Loansome Doc participating library. Prior to using this feature, you need to establish an agreement with a Loansome Doc participating library. Your Loansome Doc library will provide you with their **Library ID**, which is needed when setting up the service within PubMed or the NLM Gateway.

What does it cost?

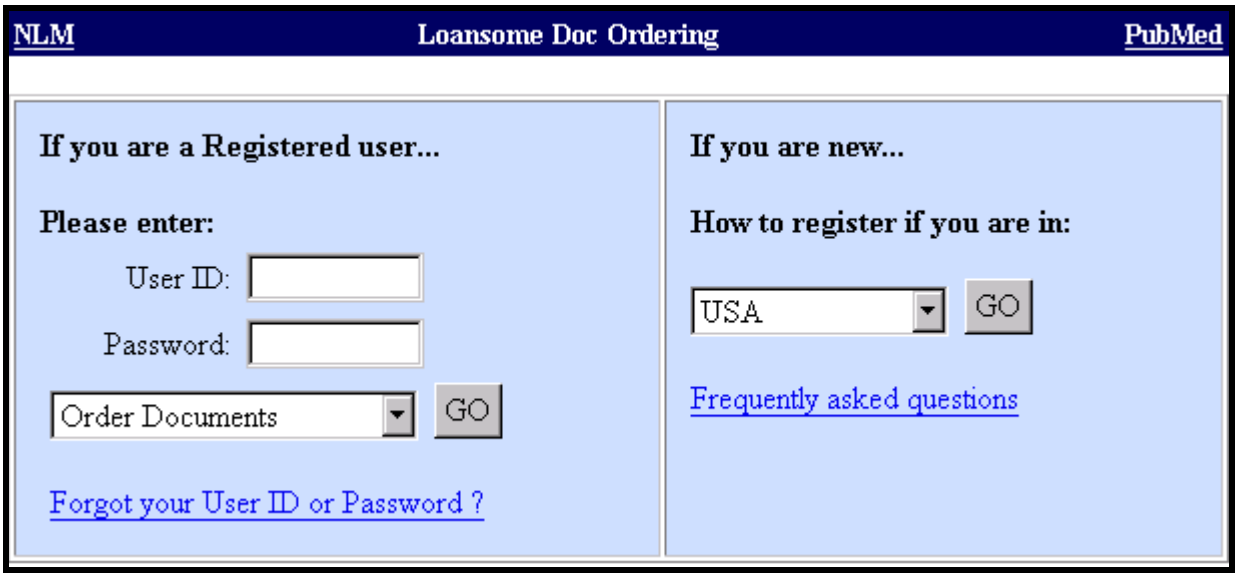
The library providing you this service will explain their ordering fees, if any. This service is generally **not** free.

What library can provide me with this kind of service?

Call your Regional Medical Library at **1-800-338-7657** Monday-Friday, 8:30 A.M. – 5:00 P.M. in all time zones to find out which medical library in your area can set you up with the Loansome Doc ordering service. Or visit **http://www.nnlm.nlm.nih.gov/members/** to find a library that can help you.

To order articles, select the citations for the articles by clicking on the check-box to the left of each item.

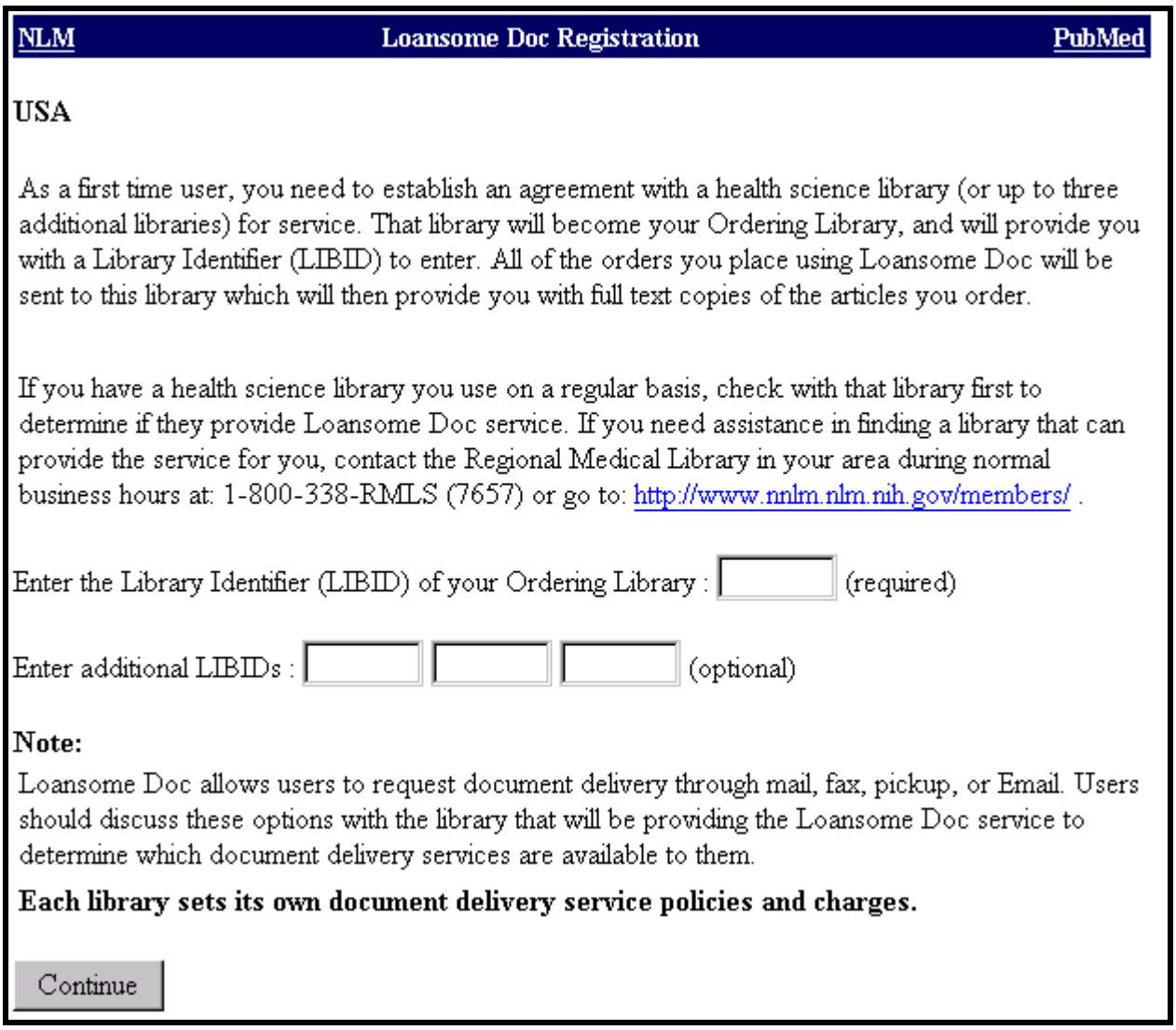
- Click on the **Order** button.
- You are brought to the page shown below.



On this page you can:

- log into Loansome Doc
- obtain a status report of your orders
- modify information on your Loansome Doc ID record
- learn about registering for a Loansome Doc User ID/password

If you are new to Loansome Doc, click on the **GO** button to learn about registering. The Loansome Doc Registration page (shown below) provides important information.



NLM Loansome Doc Registration PubMed

USA

As a first time user, you need to establish an agreement with a health science library (or up to three additional libraries) for service. That library will become your Ordering Library, and will provide you with a Library Identifier (LIBID) to enter. All of the orders you place using Loansome Doc will be sent to this library which will then provide you with full text copies of the articles you order.

If you have a health science library you use on a regular basis, check with that library first to determine if they provide Loansome Doc service. If you need assistance in finding a library that can provide the service for you, contact the Regional Medical Library in your area during normal business hours at: 1-800-338-RMLS (7657) or go to: http://www.nnlm.nlm.nih.gov/members/ .

Enter the Library Identifier (LIBID) of your Ordering Library : (required)

Enter additional LIBIDs : (optional)

Note:

Loansome Doc allows users to request document delivery through mail, fax, pickup, or Email. Users should discuss these options with the library that will be providing the Loansome Doc service to determine which document delivery services are available to them.

Each library sets its own document delivery service policies and charges.

Continue

Enter the Library Identifier (LIBID) of your Ordering Library and click on the **Continue** button at the bottom of the screen to continue the registration process.

NLM Loansome Doc Registration PubMed

IDENTIFICATION INFORMATION

First Name : Laura
Last Name : Smith (required)
Title : MD (e.g. MD, Ph.D, RN etc.)

ADDRESS INFORMATION

Address 1 : Acme Hospital (required)
Address 2 : 12 Acme Blvd.
City : Remote City (required)
State/Province : Ohio (U.S. and Canada Only)
State/Province : (International Only)
Country : USA (required)
Zip/Postal Code : 43555 (required)
Phone country code : 1 (required)
Phone area/city code : 419 (required for U.S.)
Phone local number : 555-5555 (required)
Phone Extension : 1234

Delivery Information

Delivery Method : Mail
Fax country code :
Fax area/city code :
Fax local number :
Fax Extension :
Email :
Print comment entered below on all orders.
Comment : Account Number 123456

Authorize ordering library to obtain articles from other libraries if ordering library is unable to fill the request.

Authorize : ○ No ◉ Yes

LOGIN INFORMATION

Enter a User ID and Password of your choice to use for all future orders.

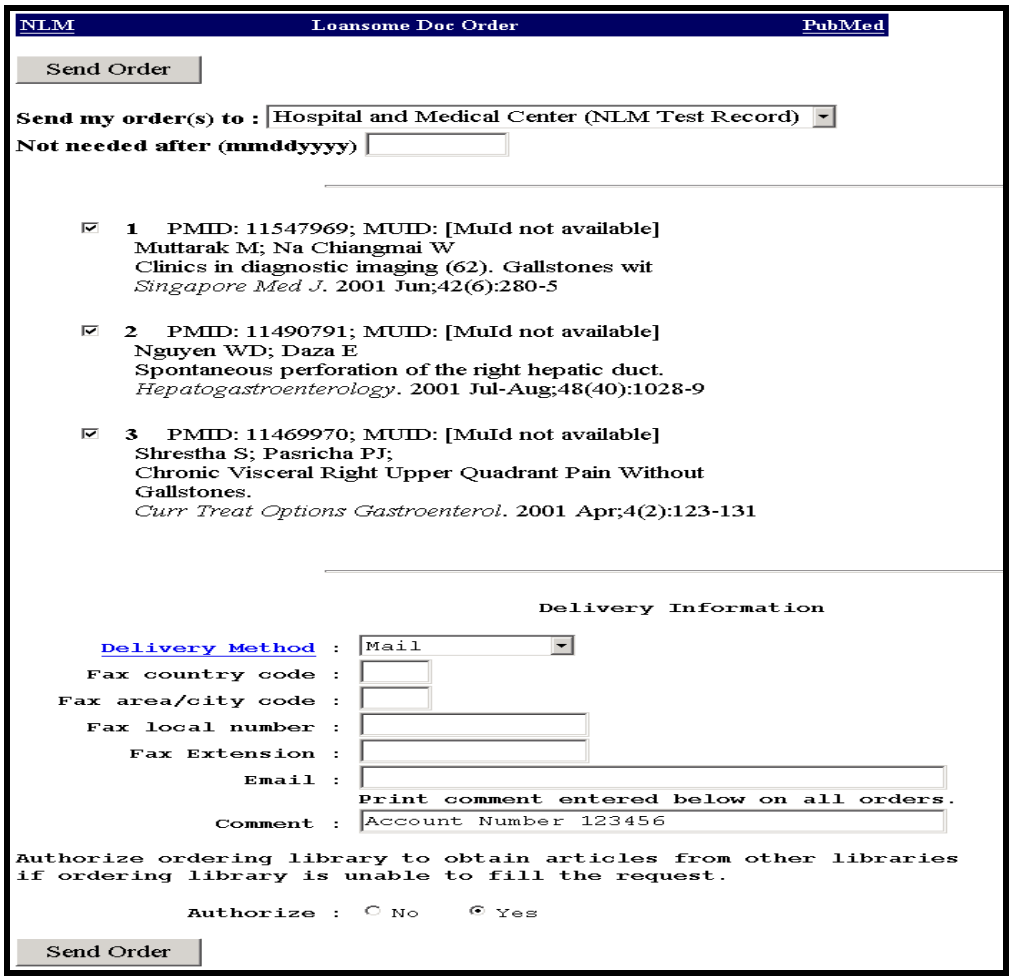
User ID : 123abc (required)
Password : ****** (required)
Retype Password : ****** (required)

Register

Next, you receive a screen explaining copyright compliance. Click on the **Accept** button.

Loansome Doc now brings you to a screen confirming the citations you are ordering and your user information. Click on the **Send Order** button after reviewing the information.

The articles you selected to order.

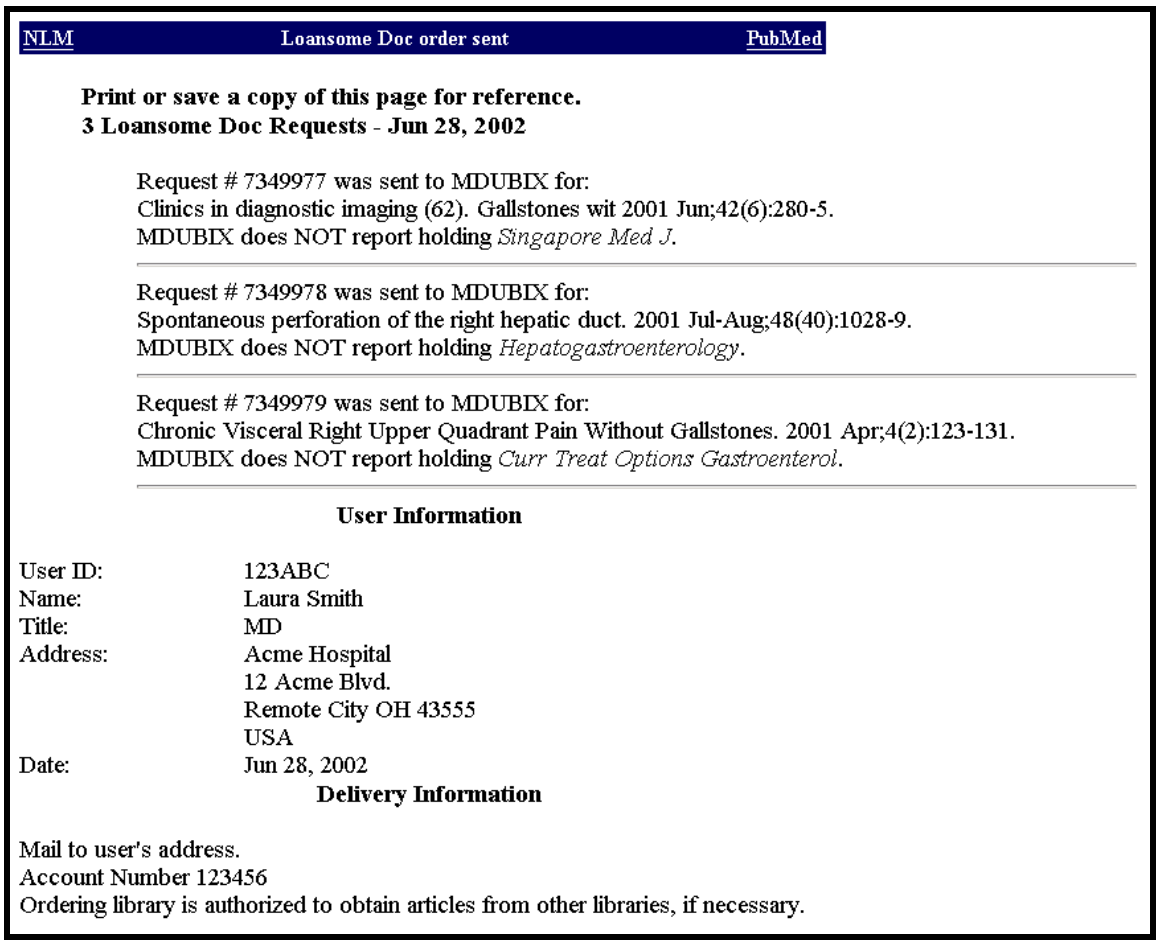


Send Order *button*

Next you are brought to the Loansome Doc order sent screen, which confirms that your order was sent to the ordering library.

"Request Sent" message

User-supplied information



NLM Loansome Doc order sent PubMed

Print or save a copy of this page for reference.
3 Loansome Doc Requests - Jun 28, 2002

Request # 7349977 was sent to MDUBIX for:
Clinics in diagnostic imaging (62). Gallstones wit 2001 Jun;42(6):280-5.
MDUBIX does NOT report holding *Singapore Med J.*

Request # 7349978 was sent to MDUBIX for:
Spontaneous perforation of the right hepatic duct. 2001 Jul-Aug;48(40):1028-9.
MDUBIX does NOT report holding *Hepatogastroenterology*.

Request # 7349979 was sent to MDUBIX for:
Chronic Visceral Right Upper Quadrant Pain Without Gallstones. 2001 Apr;4(2):123-131.
MDUBIX does NOT report holding *Curr Treat Options Gastroenterol*.

User Information

User ID:	123ABC
Name:	Laura Smith
Title:	MD
Address:	Acme Hospital 12 Acme Blvd. Remote City OH 43555 USA
Date:	Jun 28, 2002

Delivery Information

Mail to user's address.
Account Number 123456
Ordering library is authorized to obtain articles from other libraries, if necessary.

Practice Exercises

1. Find references about shingles and facial paralysis. Display the records in the format that shows the abstract and the MeSH headings. How does PubMed map the term, shingles?

2. Find references about hypertension and a nosebleed. How does PubMed map the term, nosebleed? Display all of the retrieved records on one Web page.

3. Find references about genetically modified food. Display the retrieved records in the format where you display the abstract but not the MeSH headings.

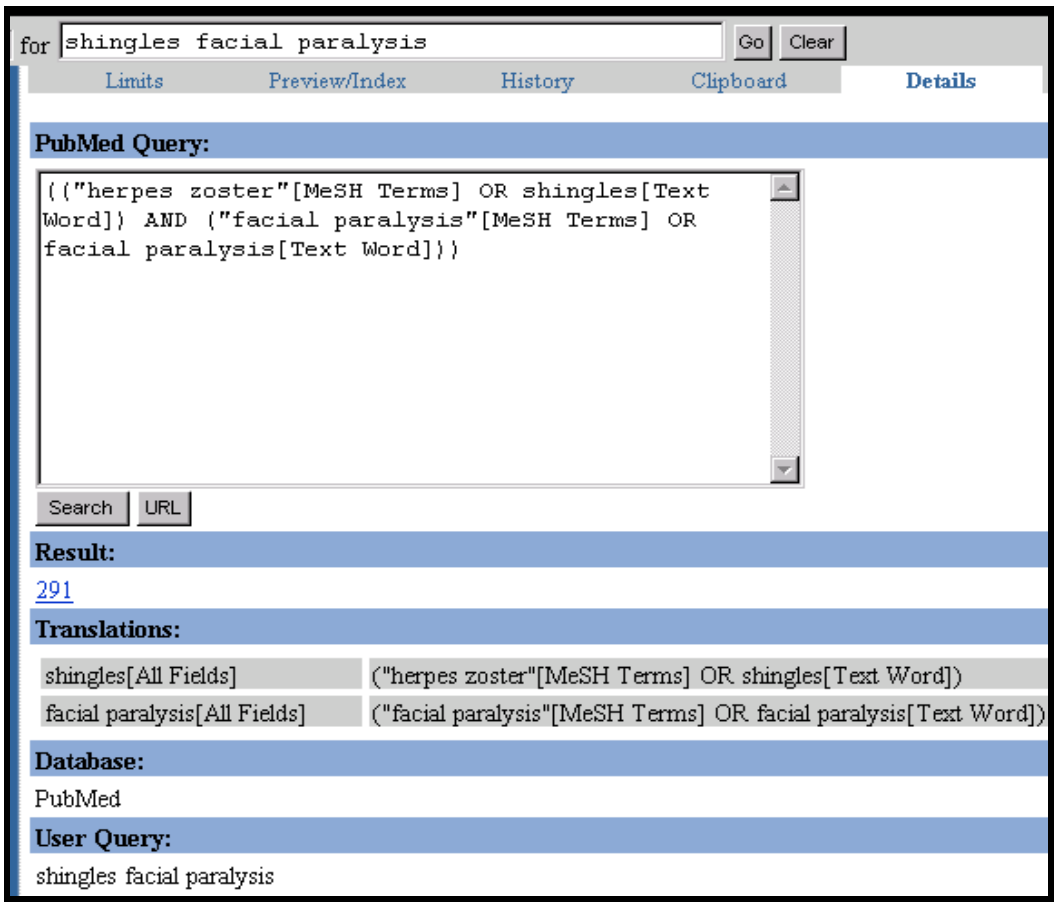
4. Are there articles by George Barrera-Hernandez referenced in MEDLINE?

5. Please find information about wisdom tooth pain. Using the Details screen, determine to what MeSH Heading wisdom tooth maps.

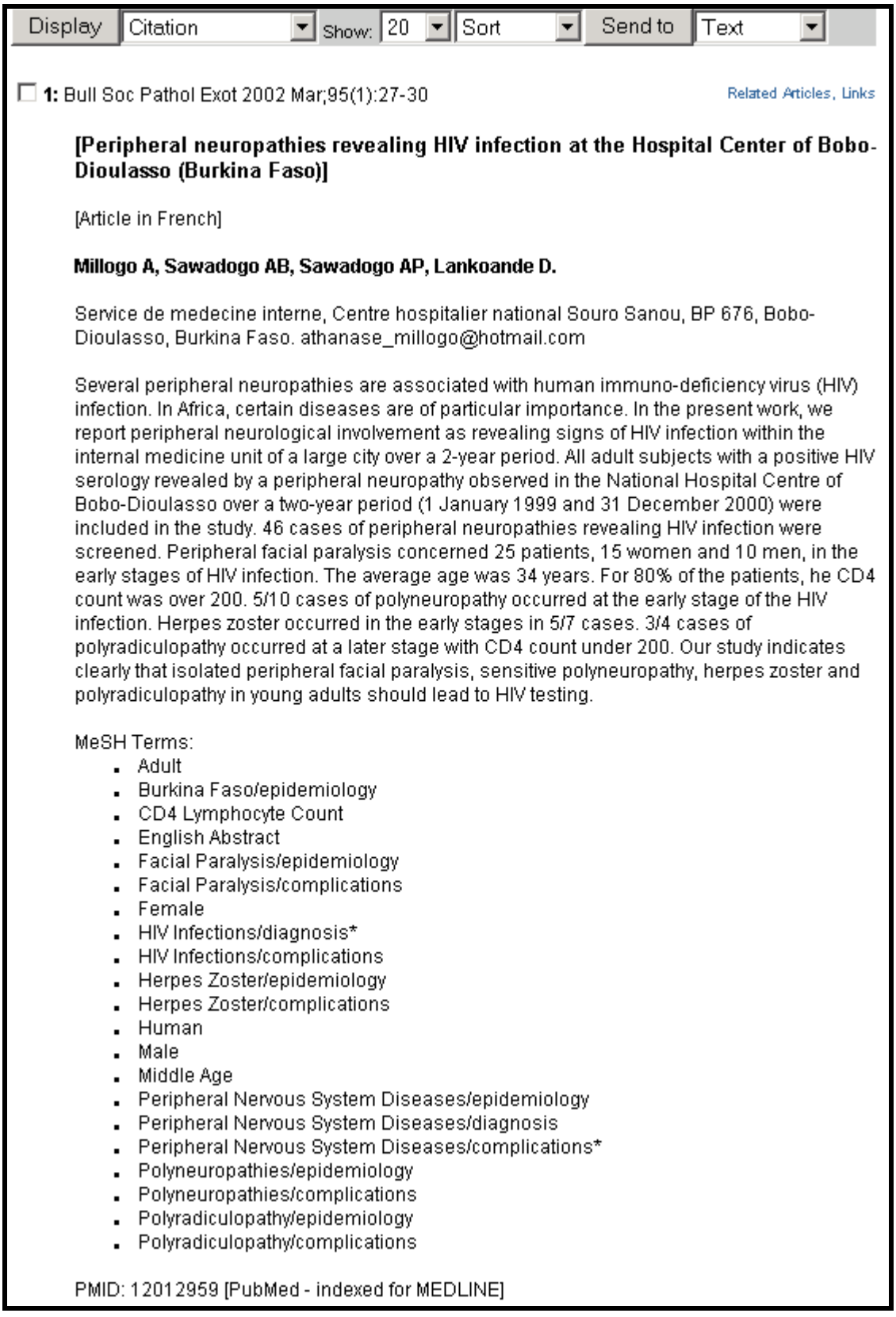
Suggested Answers

1. Find references about shingles and facial paralysis. Display the records in the format that shows the abstract and the MeSH headings. How does PubMed map the term, shingles?

Enter shingles facial paralysis in the query box, click **Go**. Click on **Details** to see that the term shingles maps to the MeSH heading **Herpes Zoster**.



Use the **Citation** display format to display both the abstract and MeSH headings.



Display Citation Show: 20 Sort Send to Text

1: Bull Soc Pathol Exot 2002 Mar;95(1):27-30 Related Articles, Links

[Peripheral neuropathies revealing HIV infection at the Hospital Center of Bobo-Dioulasso (Burkina Faso)]

[Article in French]

Millogo A, Sawadogo AB, Sawadogo AP, Lankoande D.

Service de medecine interne, Centre hospitalier national Souro Sanou, BP 676, Bobo-Dioulasso, Burkina Faso. athanase_millogo@hotmail.com

Several peripheral neuropathies are associated with human immuno-deficiency virus (HIV) infection. In Africa, certain diseases are of particular importance. In the present work, we report peripheral neurological involvement as revealing signs of HIV infection within the internal medicine unit of a large city over a 2-year period. All adult subjects with a positive HIV serology revealed by a peripheral neuropathy observed in the National Hospital Centre of Bobo-Dioulasso over a two-year period (1 January 1999 and 31 December 2000) were included in the study. 46 cases of peripheral neuropathies revealing HIV infection were screened. Peripheral facial paralysis concerned 25 patients, 15 women and 10 men, in the early stages of HIV infection. The average age was 34 years. For 80% of the patients, he CD4 count was over 200. 5/10 cases of polyneuropathy occurred at the early stage of the HIV infection. Herpes zoster occurred in the early stages in 5/7 cases. 3/4 cases of polyradiculopathy occurred at a later stage with CD4 count under 200. Our study indicates clearly that isolated peripheral facial paralysis, sensitive polyneuropathy, herpes zoster and polyradiculopathy in young adults should lead to HIV testing.

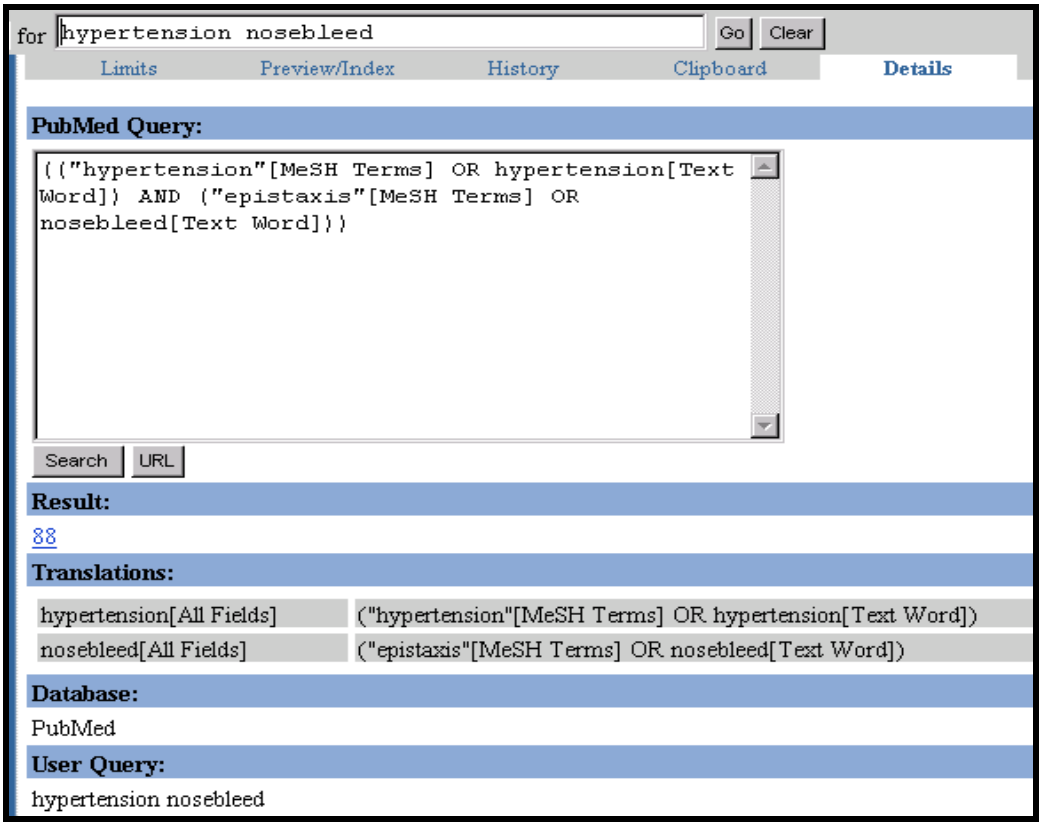
MeSH Terms:

- Adult
- Burkina Faso/epidemiology
- CD4 Lymphocyte Count
- English Abstract
- Facial Paralysis/epidemiology
- Facial Paralysis/complications
- Female
- HIV Infections/diagnosis*
- HIV Infections/complications
- Herpes Zoster/epidemiology
- Herpes Zoster/complications
- Human
- Male
- Middle Age
- Peripheral Nervous System Diseases/epidemiology
- Peripheral Nervous System Diseases/diagnosis
- Peripheral Nervous System Diseases/complications*
- Polyneuropathies/epidemiology
- Polyneuropathies/complications
- Polyradiculopathy/epidemiology
- Polyradiculopathy/complications

PMID: 12012959 [PubMed - indexed for MEDLINE]

2. Find references about hypertension and a nosebleed. How does PubMed map the term, nosebleed? Display all of the retrieved records on one Web page.

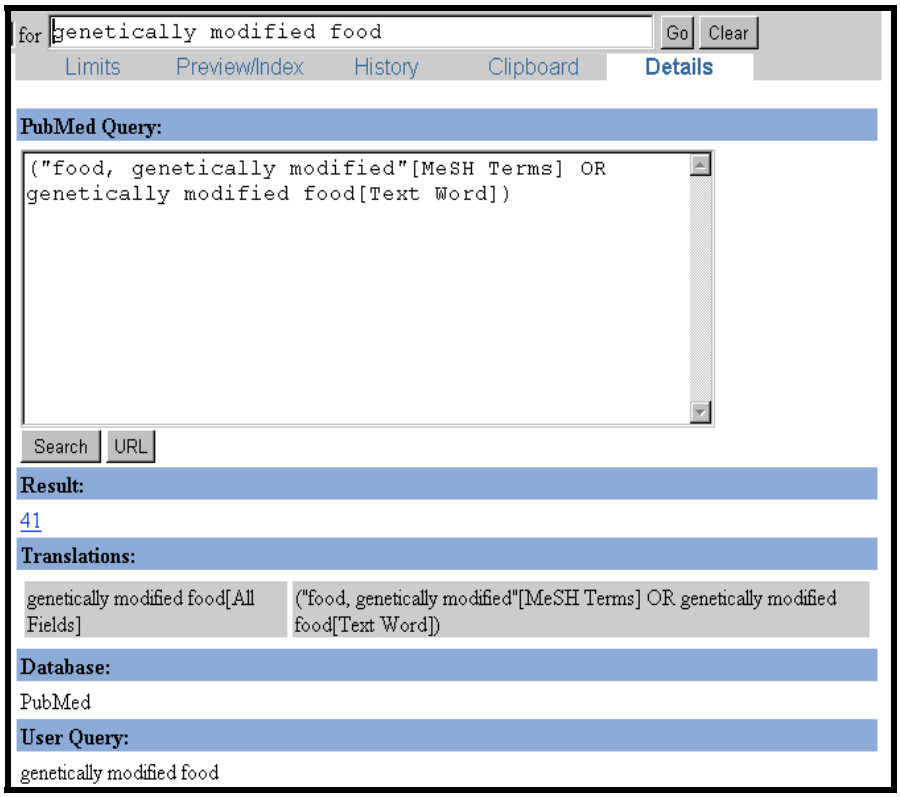
Details:



The term, nosebleed, maps to the MeSH heading, **epistaxis**. From the **Show pull-down** menu, choose a number higher than your final retrieval set in order to display all the records on one Web page. Click the **Display** button.

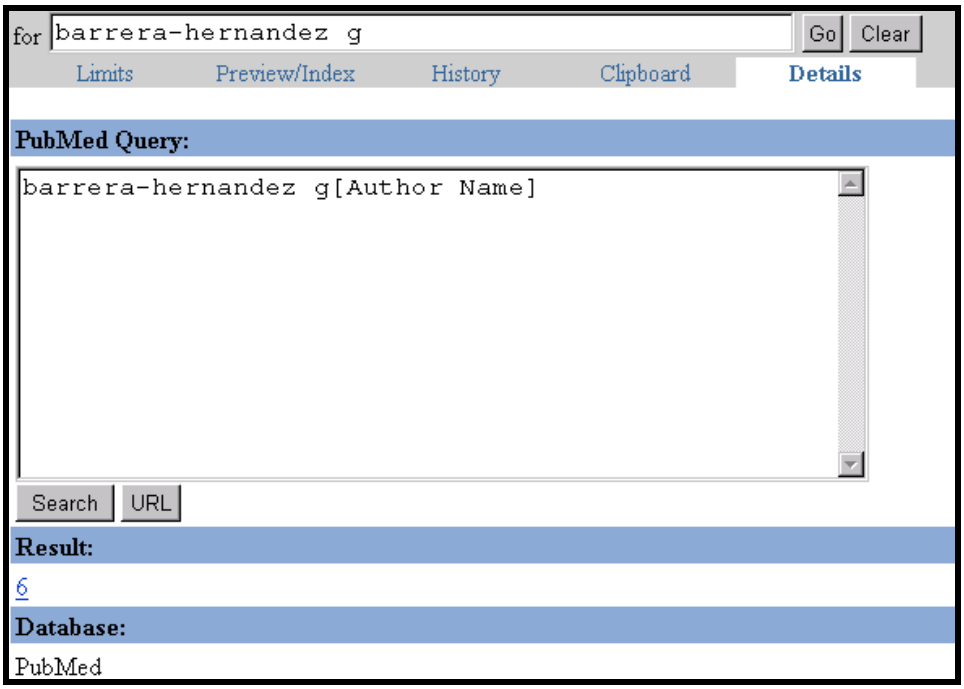
3. Find references about genetically modified food. Display the retrieved records in the format where you display the abstract but not the MeSH Headings.

Details:



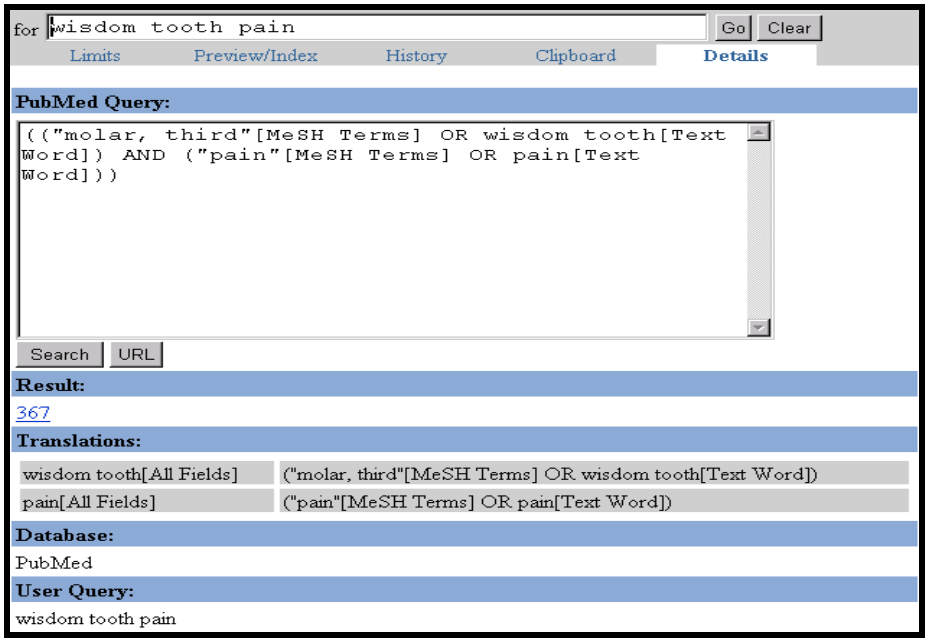
Use the **Abstract** display format to display the records with abstracts (if present) but not MeSH headings.

4. Are there articles by George Barrera-Hernandez referenced in MEDLINE?



5. Please find information about wisdom tooth pain. Using the Details screen, determine to what MeSH Heading wisdom tooth maps.

Molar, Third *is the MeSH term to which wisdom tooth maps*

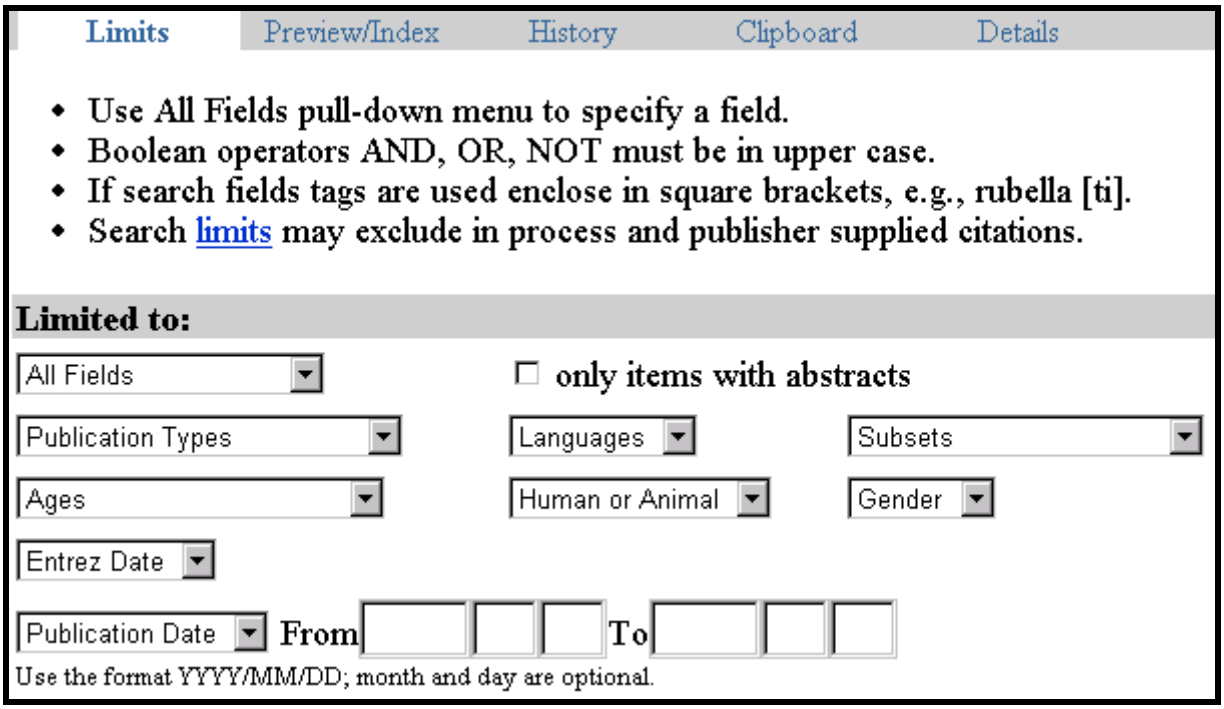


Features Bar

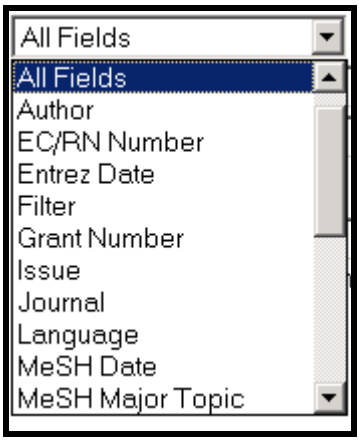
The Features Bar offers several additional functions.

Limits

- Click on **Limits** on the Features Bar to bring up the Limits page.



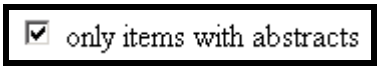
Field Selection



- You may limit your search terms to a specific search field.
- To select a specific field, click the All Fields pull-down menu and select a search field. Enter multiple terms separated by Boolean operators.

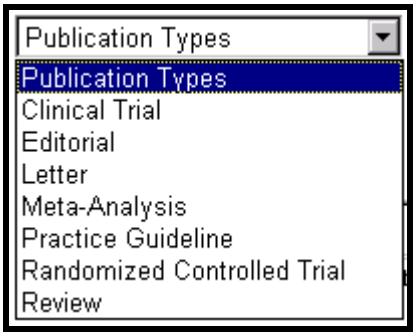
  Example: Select MeSH Terms from the pull-down, enter bed rest AND pain in the query box, click **Go**.

Only items with abstracts



- Click in this box to limit your retrieval to only citations with an abstract.

Publication Types



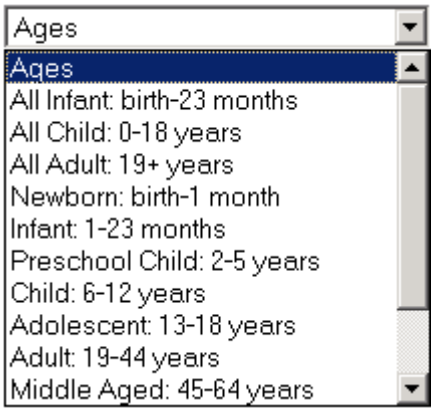
- You may limit your retrieval based on the type of material the citation represents.
- The Publications Types pull-down menu contains a list of frequently searched publication types. The full list of Publication Types can be found in Help. Or use the Preview/Index feature to view and search Publication Types.

Languages

- Journals from approximately forty languages are indexed.
- The Languages pull-down menu contains a list of frequently searched languages. The full list of Languages can be viewed and searched using the Preview/Index feature.

Ages

- To search for a specific age group for human studies, click on the Ages pull-down menu and make a selection.

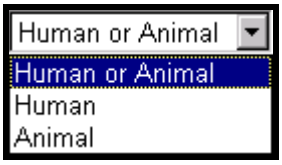


Gender

- To search for a specific gender, click on the Gender pull-down menu and make a selection.

Human or Animal

- To search for a specific study group, click on the Human or Animal pull-down menu and make a selection.



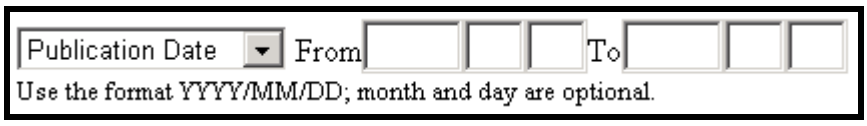
Dates

- PubMed contains citations published back to the 1950s.
- New citations are added Tuesday-Saturday.
- You may restrict to two date fields from the Limits screen:
  - Entrez Date: the date the citation was initially added to PubMed
  - Publication Date: the date the article was published
- When PubMed displays your search results, the citations are displayed in Entrez Date order – last in, first out.

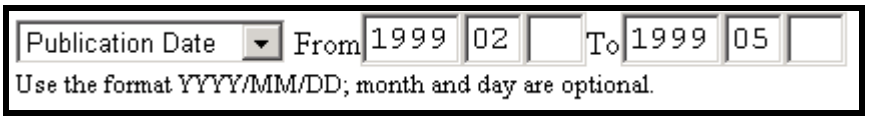
Limiting by Dates

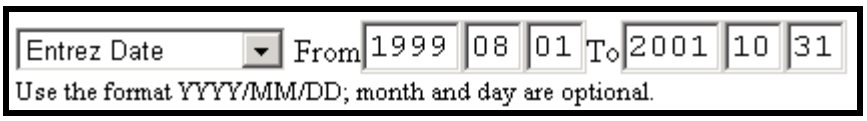
- Use the Entrez Date pull-down menu to limit your search back in time from 30 days to 10 years.

- The Publication Date pull-down menu toggles between Publication Date and Entrez Date.
- Use the From: and To: boxes to specify a range of dates.
- Enter the dates in the format of YYYY/MM/DD (month and day are optional).

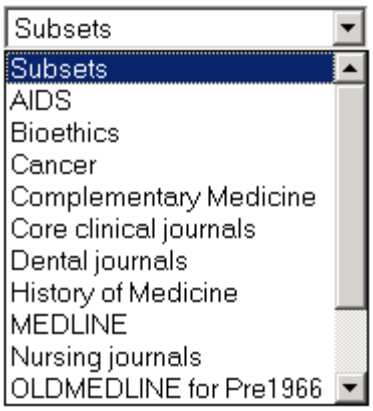


Examples:





Subsets



Allows you to limit your retrieval to one of the four types of groupings of records:

1. Citation status:
   - MEDLINE: completed citations with MeSH headings and other indexing terms that have also been checked for accuracy
   - OLDMEDLINE for Pre1966: citations without abstracts or current MeSH indexing that were originally printed in hardcopy indexes published from 1953 through 1965
2. Subjects:
   - AIDS
   - Bioethics
   - Cancer
   - Complementary Medicine
   - History of Medicine
   - Space Life Sciences
   - Toxicology
3. Journal groupings:
   - Core clinical journals: 120 English-language journals from the formerly published *Abridged Index Medicus*
   - Dental
   - Nursing
4. Other:
   - PubMed Central: citations for articles available free in NLM's archive of life sciences journal literature

Limits Indicator

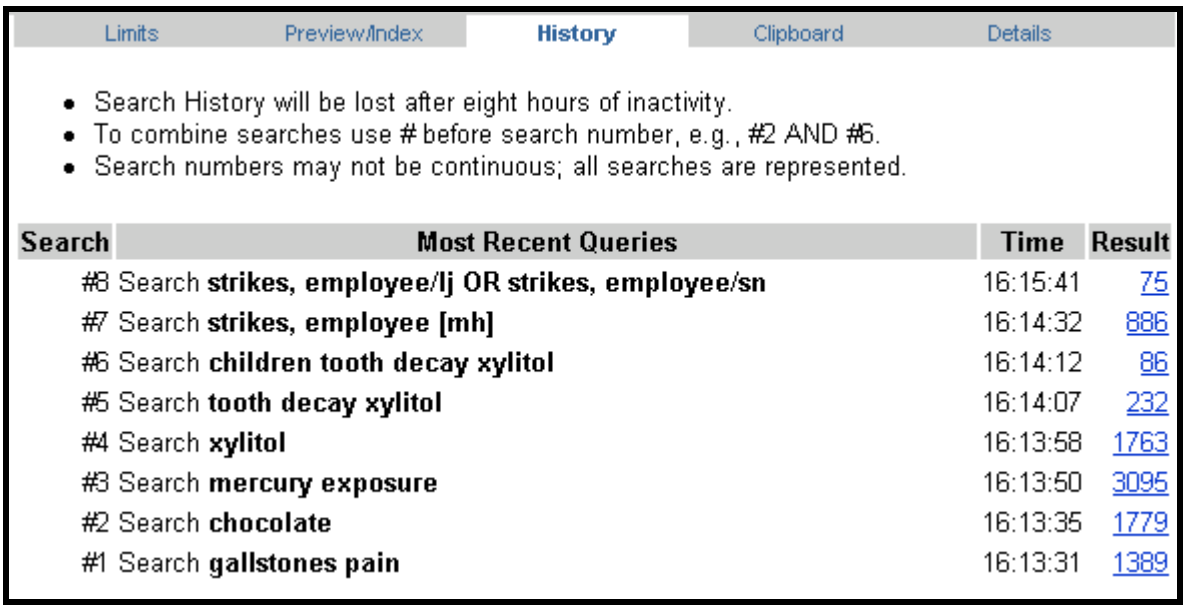
- Once you have selected Limits, a check box appears next to the Limits on the Features Bar.
- If you run a search, the limits in effect will appear in the yellow bar above the Display button:

Limits: English, Review

To **turn off all of the limits** before you run your next search, click on the check box next to Limits on the Features Bar to remove the check and turn off the limits.

History

- History temporarily holds up to 100 searches and results.
- The History screen displays:
  - Your search query
  - The time of the search
  - The number of citations in your search results



Using History

- You can use the search statement numbers shown in History in search strategies.

Example:

Boolean operators must be typed in all caps as shown in the example above.

Other examples: #8 AND #10
#7 OR #14

Use the Preview button to preview the number of search results before displaying the citations.

History Tips:

- ✓ Maximum number of queries that can be held in History is **100**.
- ✓ Your search history will be **lost after 8 hours of inactivity**.
- ✓ PubMed will move a search statement number to the top of the History if the new search is the same as a previous search.
- ✓ A separate Search History will be kept for each of the Entrez databases although the search statement numbers will be assigned sequentially for all databases.
- ✓ **Caution**: Search statement numbers from History should not be used in a strategy that you intend to save using the URL button in Details or in search strategies you plan to store in the Cubby.

  Why not? Although the strategy will be saved, your History will be lost after 8 hours of inactivity. Any search statement numbers included in the saved strategy will be gone, or possibly replaced by other searches.

Click on the **Clear History** button available at the bottom of the History screen to remove all searches from the History.

Preview/Index

This page is home to two functions: Preview and Index.

Use Preview/Index to:

- Preview the number of search results before displaying the citations.
- Refine search strategies by adding one or more terms, one at a time.
- Add terms to a strategy from specific search fields.
- View and select terms from the Index to develop search strategies.
- View your search strategy as you continue to refine your search.

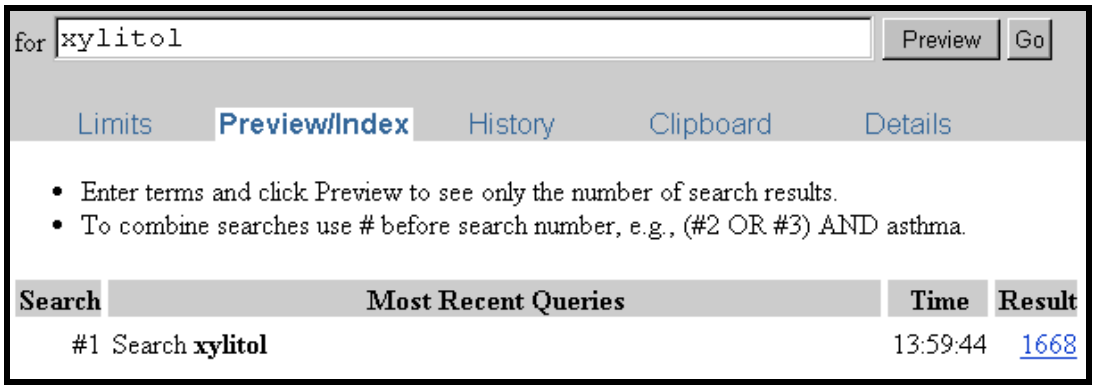
Preview

Previewing the number of search results before displaying the citations

Search Request: *Find citations about xylitol and tooth decay.*

- Enter terms in the query box and click Preview.

- PubMed returns the number of citations but not the actual results.

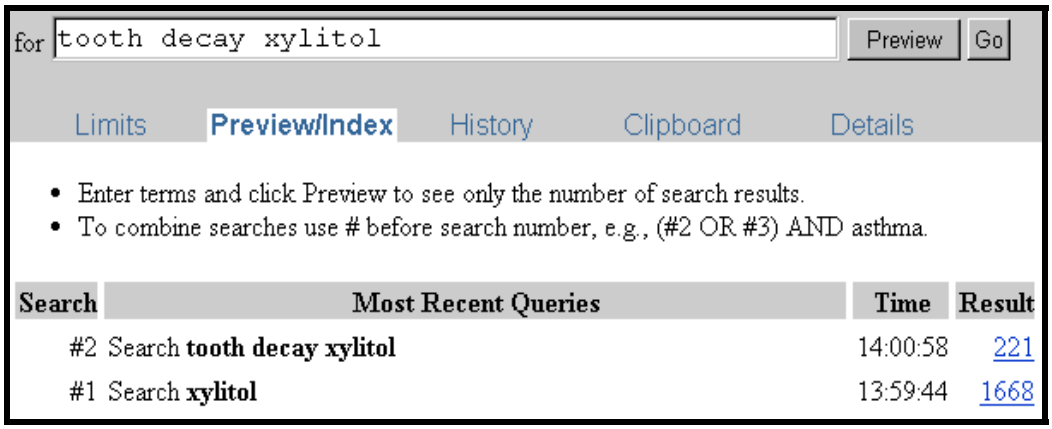


***Result** shows the number of citations.*

Refining search strategies by adding one or more terms at a time

- Add another term (e.g., tooth decay) to the query box and click Preview.
- View your search strategy and number of results as you continue to refine your search.

__Preview__ shows search strategy and number of results as each term is added.



Preview displays the last three queries from History. Use History to review up to the last 100 queries. The Clear History button in History also clears the history information from the Preview/Index.

History will be lost after 8 hours of inactivity on PubMed.

Index

Viewing and selecting terms from the Index to develop search strategies

- Use the Index button to view and select terms from the Index and to add them to your search strategy.
- The Index allows you to view a listing of searchable terms within a search field.
- You may also select terms to build a search strategy using Boolean operators.

Selecting a field and entering a term to look up in the Index

Search Request: *Find patient information about anthrax.*

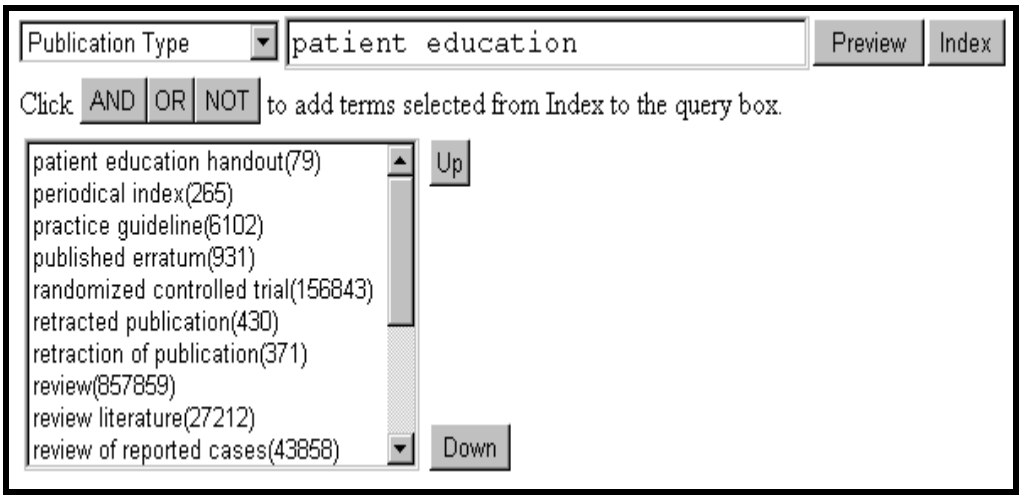
On the Preview/Index screen enter anthrax in the PubMed query box:

- Select Publication Type from the pull-down menu, type the term, patient education and click on the Index button.

*PubMed displays a portion of the alphabetical list of available terms for the selected search field. Scroll up and down this window using the **scroll bar**.*

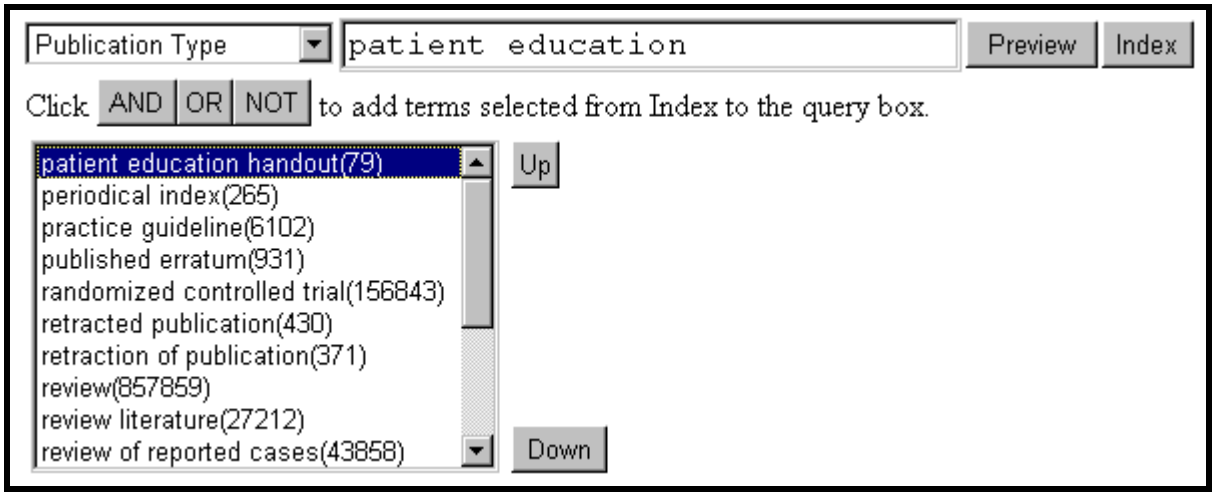
The number of citations that contain the term appears in parentheses to the right of the term.

*To scroll up or down the entire Index for the field, click the **Up** or **Down** buttons.*



Selecting a term from the Index

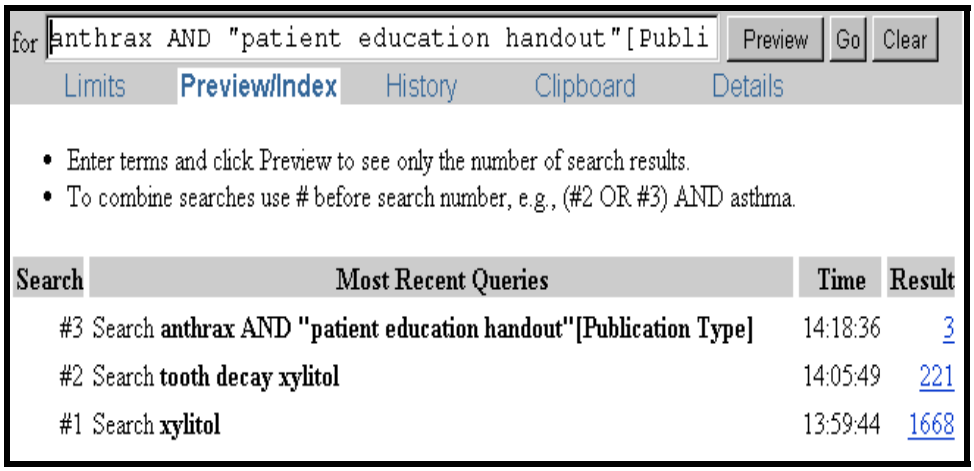
- Click on the term to highlight it.



- Click on Preview.
- Continue viewing, selecting, and previewing search terms until your strategy is complete.

Query box *shows the search term and the search field.*

Result *shows the number of citations.*

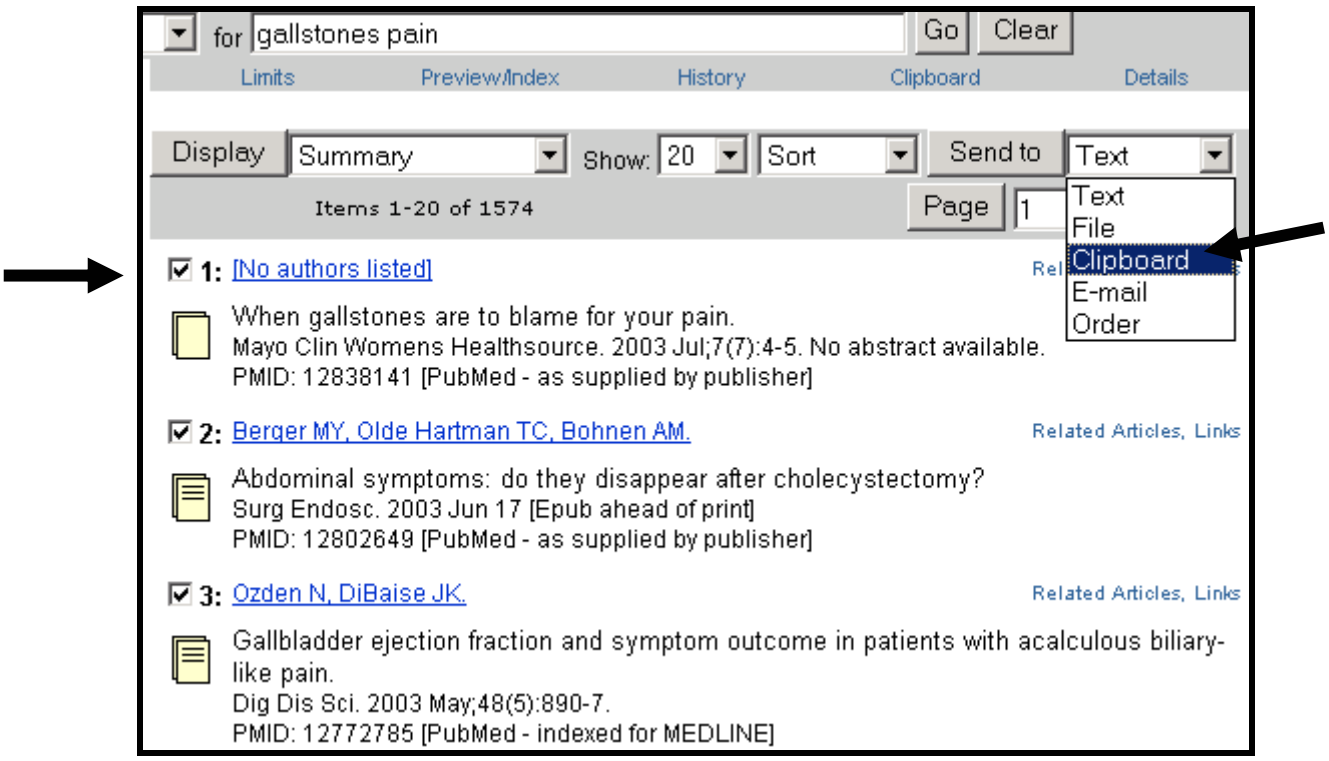


Preview automatically ANDs together selected search terms and previews the search. Use the **Boolean operators** to combine search terms as needed. If you use the Boolean operators, your search terms are added to the PubMed query box and you must click Preview to see the number of results.

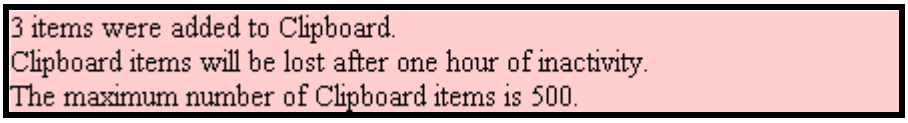
To **OR** together multiple terms from an Index display and then add (i.e., **AND**) them to your search, click on each term while holding down the Crtl-key (PC) or the Command-key (Mac). When all the terms you want are highlighted, click the connector AND to add the terms (OR'ed together) to the query.

Clipboard

- Clipboard allows you to collect selected citations from one search or several searches.



- You can sort, print, save, or order the citations on the Clipboard.
- To place items on the Clipboard, click on the check-box to the left of the citation.
- Then select Clipboard from Send to.
- Click the Send to button. You get a confirmation message stating that the items are added to the Clipboard.



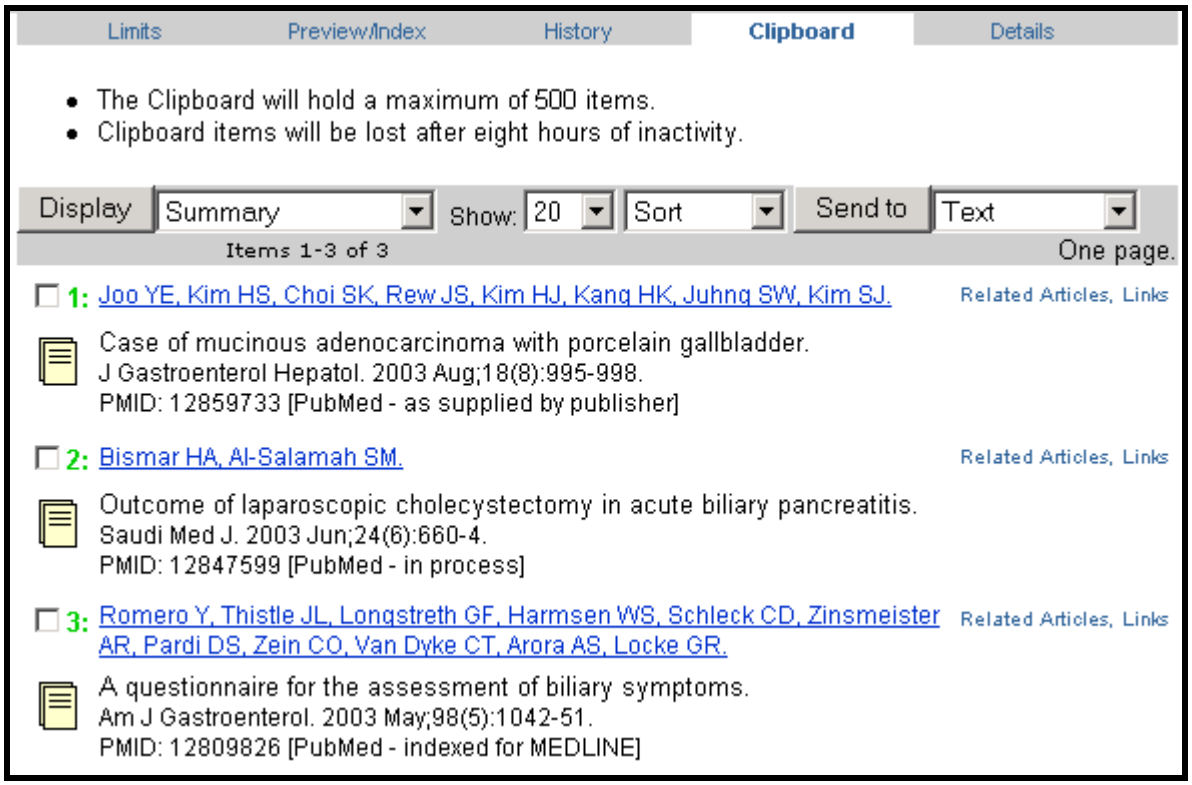
- Once the citations are added to the Clipboard, the items number color changes.

Clipboard Tips:

- ✓ If you send items to the **Clipboard** without selecting citations using the check-box, PubMed will add up to 500 citations from your retrieval to the clipboard.
- ✓ The maximum number of items that can be added to the clipboard is 500.
- ✓ The clipboard will be lost after 8 hours of inactivity.

Using the Clipboard

- To view the contents of your clipboard, click on Clipboard from the Features bar.



Deleting citations from the Clipboard

- To delete citations on the Clipboard, click on the check-box to the left of the item number, select **Clip Remove** from Send to menu and then click on the **Send to** button.
- To empty the Clipboard, select **Clip Remove** from the Send to menu and then click on the **Send to** button.

Citations on the Clipboard may be incorporated into a search statement using #0. For example, limit the items on the Clipboard to English language citations using the following search:

#0 AND english [la]

This does not affect or replace the Clipboard contents.

Details

- Clicking on Details displays your search query as it was translated by PubMed including MeSH term and PubMed phrase index mappings.
- Error messages (e.g., stopwords, truncation warnings, misspellings) are also displayed.
- The PubMed Query box in Details allows you to edit a search strategy and resubmit it.
- Details also allows you to save a search strategy.

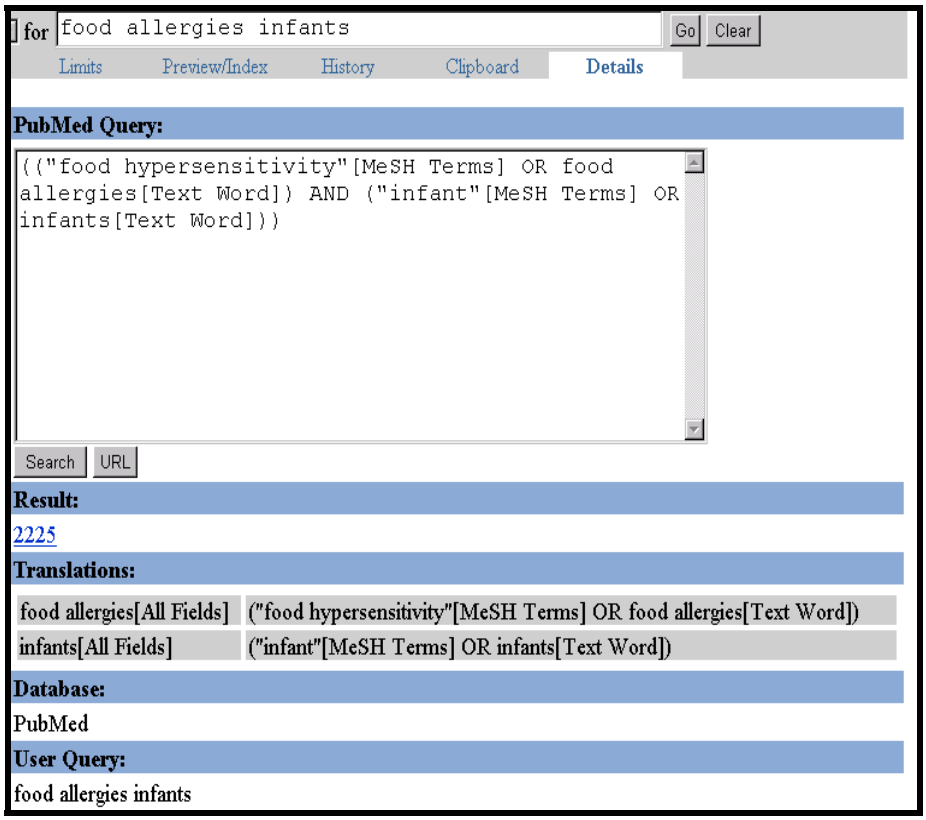
Here's a closer look at Details:

*You can modify the search strategy if you wish and then click on the **Search** button.*

*Click on the **URL** button to create a URL that allows you to save your search strategy.*

*Click on the **Result** number hyperlink to return to the current search results.*

PubMed Translations



Saving a search strategy from Details:

- Click on the **URL** button. PubMed will return to the search results screen. The translated search strategy will be displayed in the query box and this search strategy will also be embedded as part of the URL.

- Next, use your Web browser's bookmark (favorite) function to save the URL as a bookmark. After saving the bookmark, you may want to use your Web browser's edit functions to rename the bookmark.

- Save a search strategy using the **URL** button if you want to email the URL to a colleague or create a link on a Web page.

- **Caution**: Search statement numbers from History should not be used in a strategy that you intend to save using the URL button in Details or in search strategies you plan to store in the Cubby. Why not? Although the strategy will be saved, your History will automatically be lost or cleared after 8 hours of inactivity. Any search statement numbers included in the saved strategy will be gone, or possibly replaced by other searches.

Current Awareness Searching

If you wish to run a search periodically to retrieve recent information since you last ran the search, you can use the PubMed **Cubby**. See **Cubby Section** of this workbook for detailed information on **Cubby Stored Searches**.

Practice Exercises

1. Using only the query box, find some information about using a living donor for a liver transplantation. Using Limits, further restrict the search to only review articles. Display the results so you can see the MeSH Headings and the entire retrieval is on one page.

2. Locate citations about using a baboon for a bone marrow transplant that were published between 1997-2000.

3. Find references about injuries from backpacks or backpacking. Bookmark this search strategy so the search can be run again at a later date.

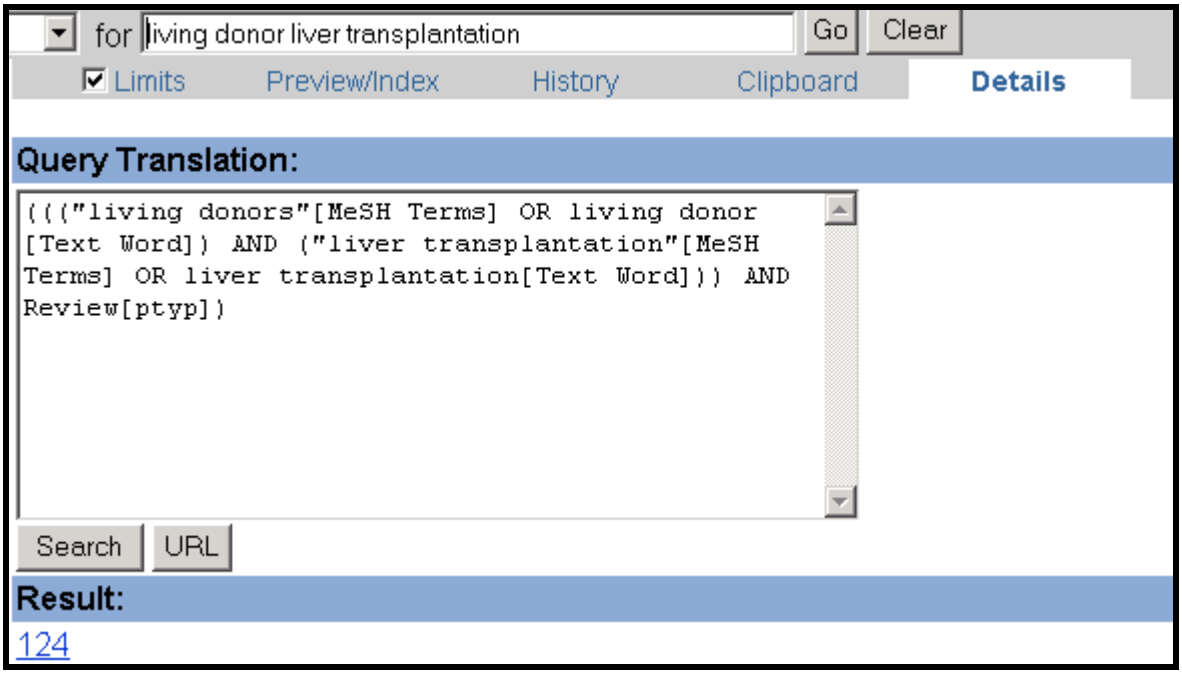
4. Search the phrase pressure point from the Text Word Index (available on Preview/Index).

5. Find citations about using botox to treat migraines. Add the search results to the Clipboard. Go to the Clipboard to see the items.

6. A patron is interested in references about tuberculosis, particularly in the early literature (pre1966).

Suggested Answers

1. Using only the query box, find some information about using a living donor for a liver transplantation. Using Limits, further restrict the search to only review articles. Display the results so you can see the MeSH Headings and the entire retrieval is on one page.

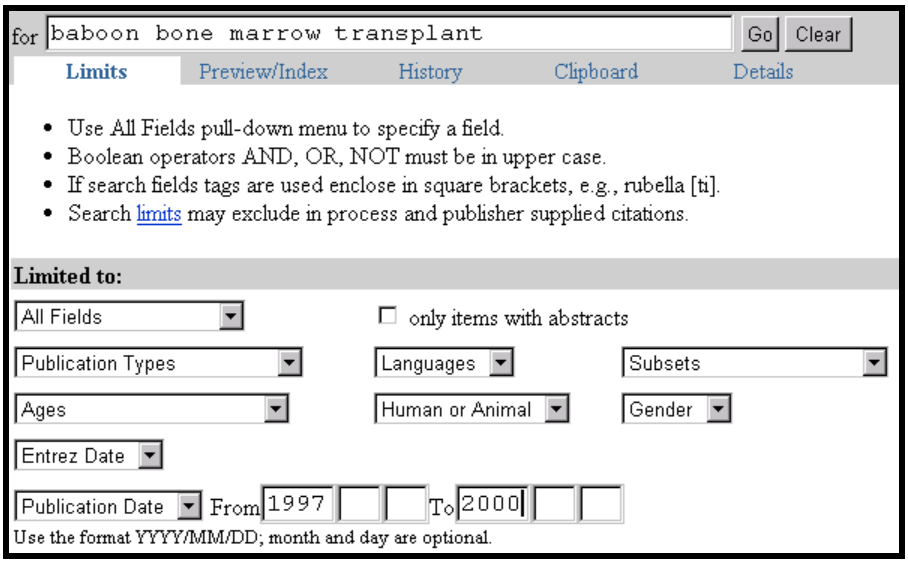


Then Display the results so you see the MeSH headings and the entire retrieval is on one page.

*Use the **Citation** format to see the MeSH terms.*

*Use the **Show** pull-down menu to display all the items on the same Web page.*

2. Locate citations about using a baboon for a bone marrow transplant that were published between 1997-2000.

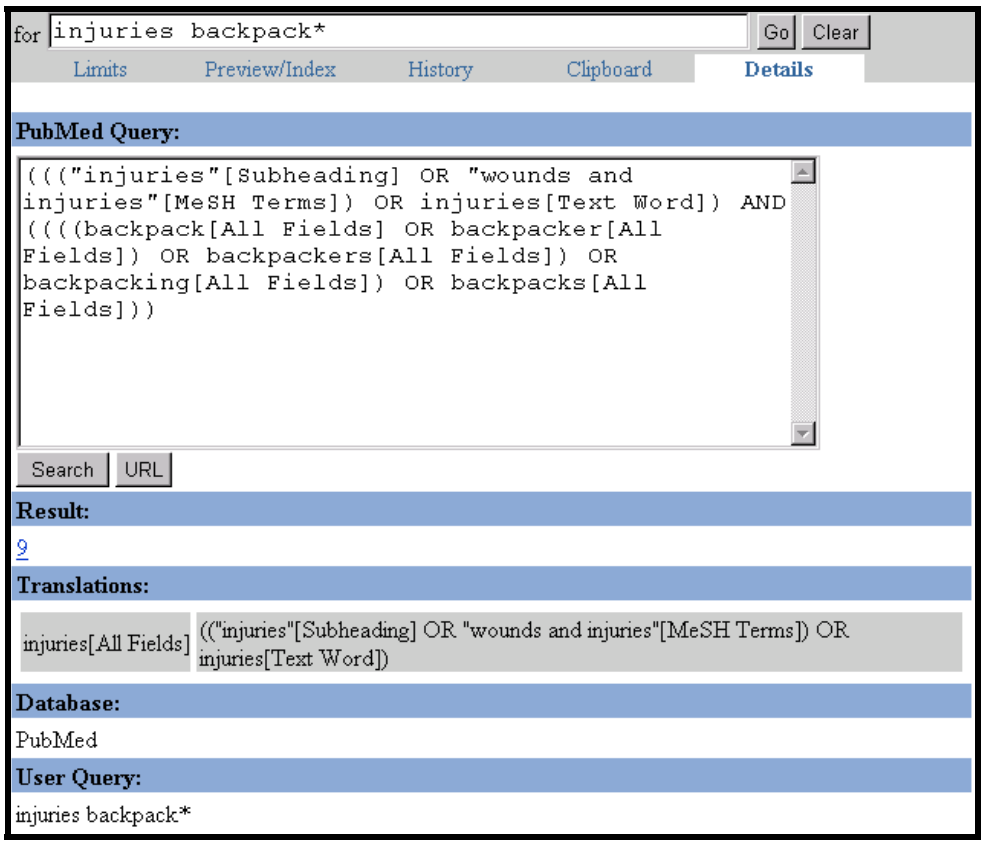


3. Find references about injuries from backpacks or backpacking. Bookmark this search strategy so the search can be run again at a later date.

Details:

If you truncate backpack you pick up:*

Backpack
Backpacker
Backpackers
Backpacking
backpacks



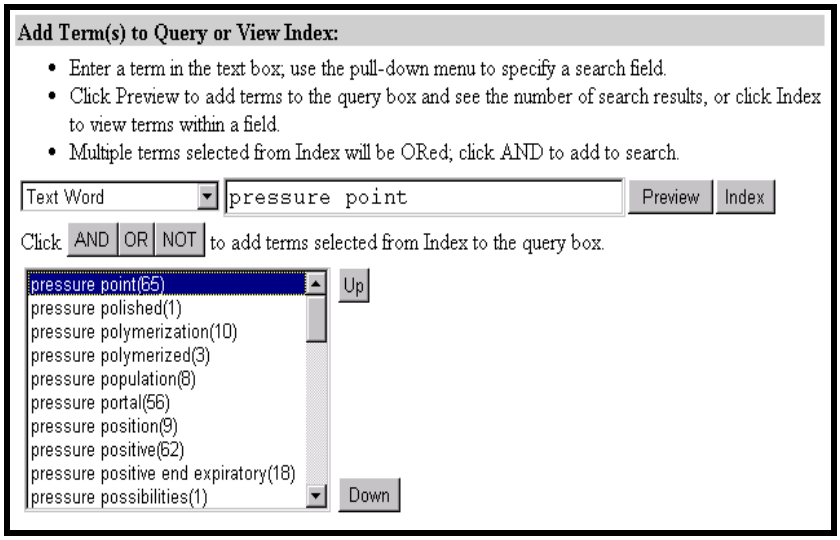
Use the URL button from Details to have PubMed embed the search strategy into a URL. Use your Web browser's bookmark function to save this URL.

4. Search the phrase pressure point from the Text Word Index (available on Preview/Index).

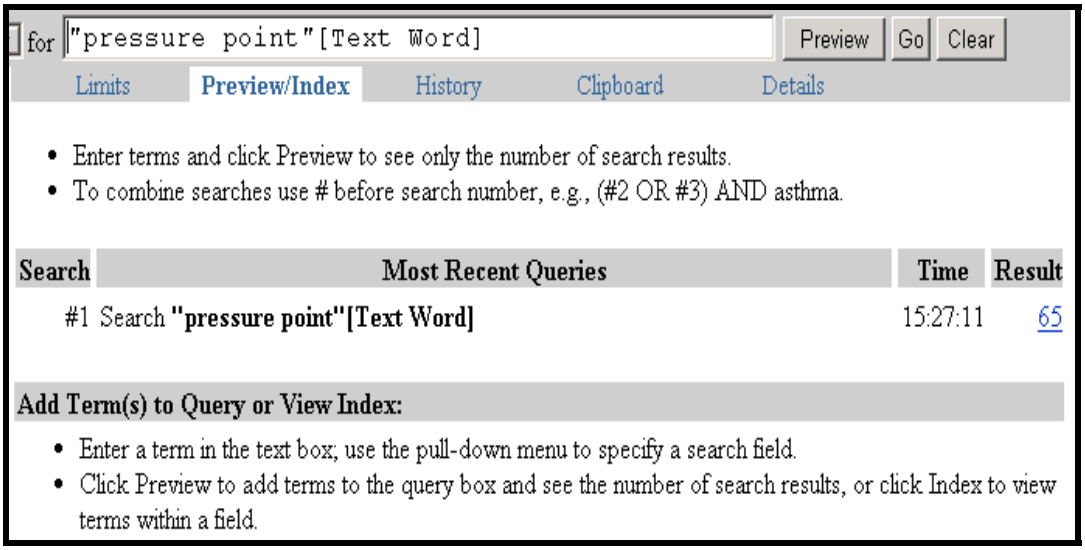
Select Text Word from the All Fields pull-down.

Enter pressure point in the text box.

*Click on **Index** to see pressure point in the Text Word Index.*

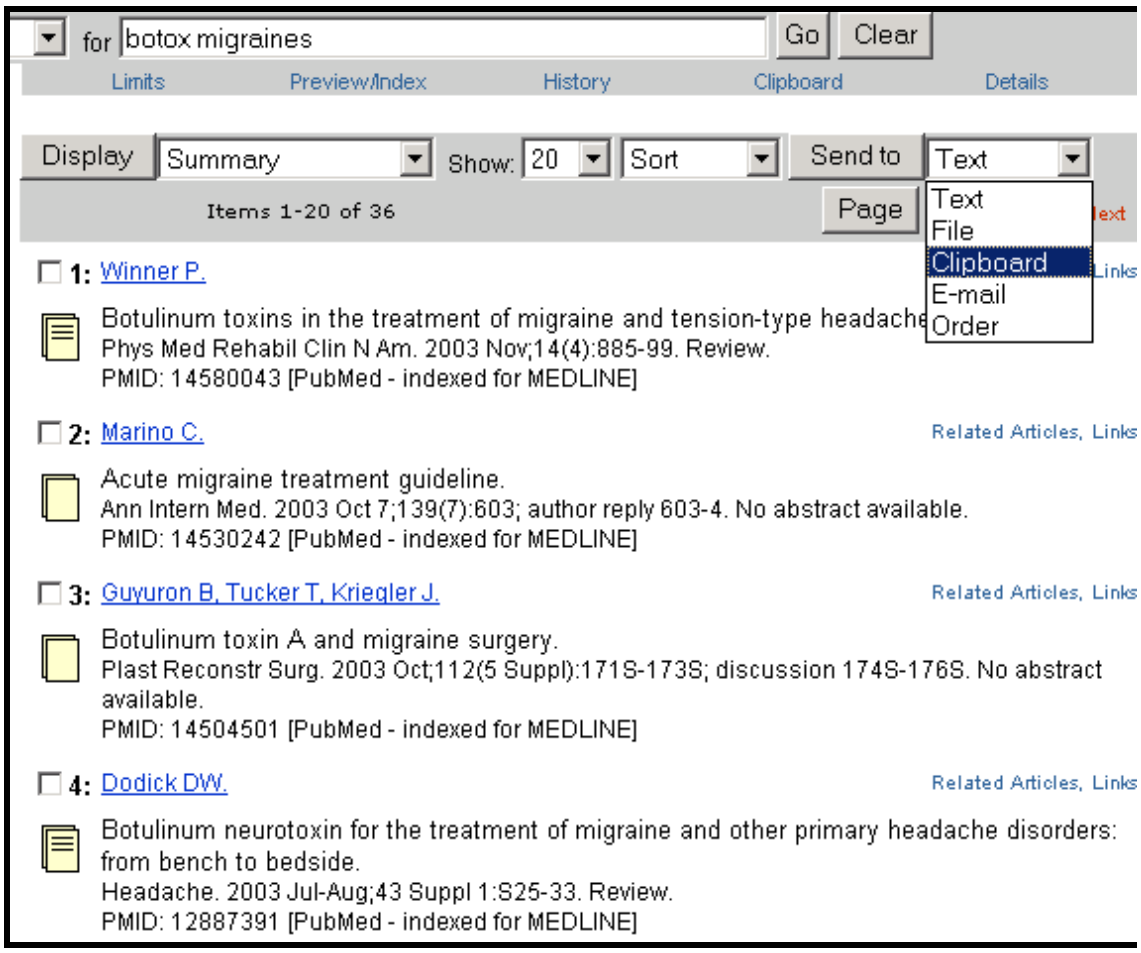


To search from the Index, select pressure point and click **Preview**.

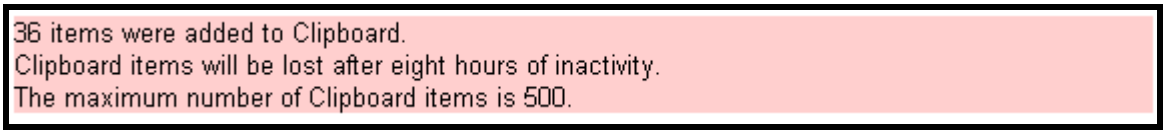


5. Find citations about using botox to treat migraines. Add the search results to the Clipboard. Go to the Clipboard to see the items.

Enter botox migraines in the query box. Select ***Clipboard*** *from Send to menu. Click* ***Send to*** *button to add all the items to the Clipboard .*

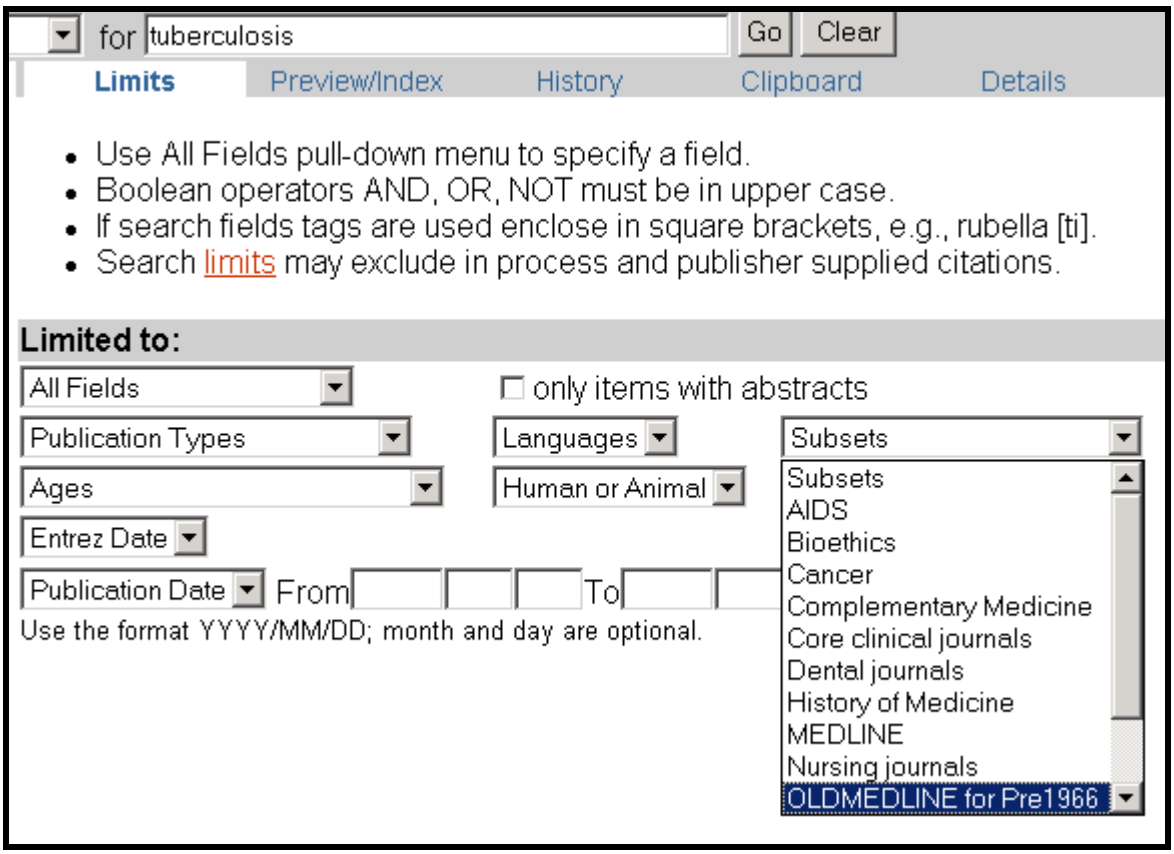


Once you send the items to Clipboard, the following message tells you the items were added.



To see the items on the Clipboard, click on **Clipboard** on the Features Bar.

6. A patron is interested in references about tuberculosis, particularly in the early literature (pre1966).



N O T E S

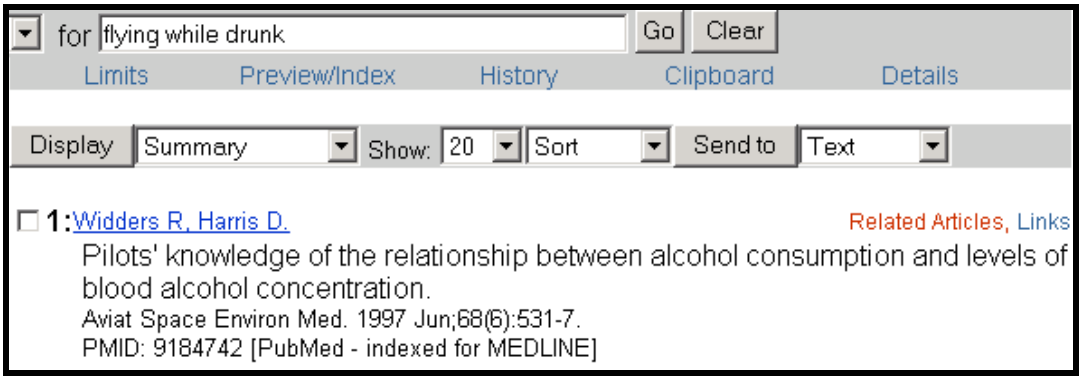
Related Articles/LinkOut

Related Articles

- Citations in PubMed have a **Related Articles** link. Clicking on this link will access the citations in PubMed that are most closely related to the original citation.
- To create this list of Related Articles PubMed compares words from the Title and Abstract of each citation, as well as the MeSH headings assigned, using a powerful word-weighted algorithm.
- The Related Articles citations display is in rank order from most to least relevant. The citation you linked from is displayed first.

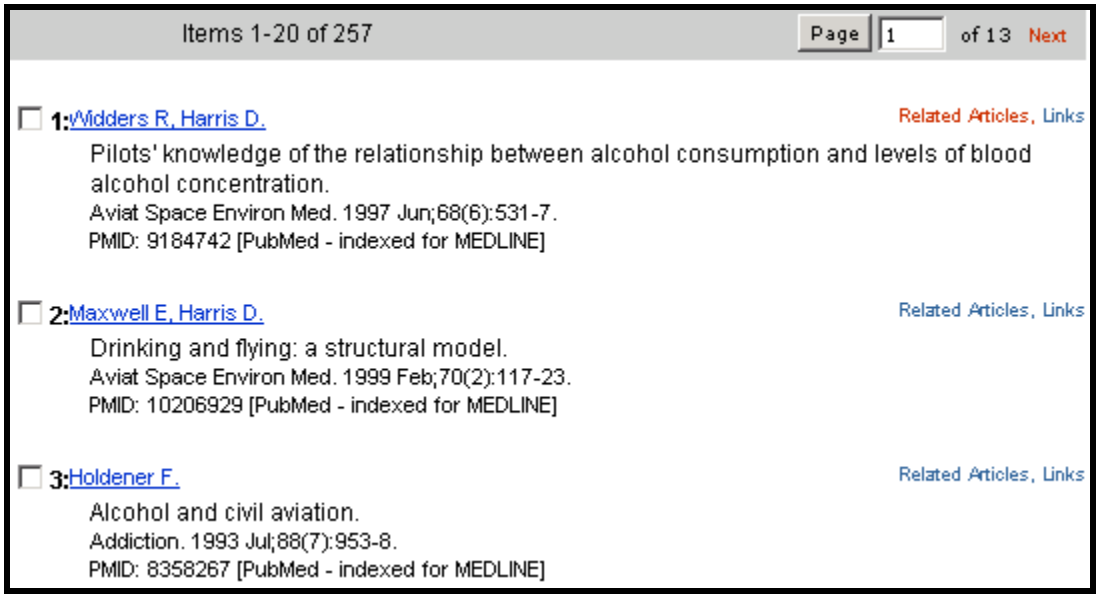
A detailed explanation of the Related Articles algorithm is available in the PubMed **Help** under **Links, Related Articles, Computation of Related Articles**.

Example: *Find citations to articles about flying while drunk.*



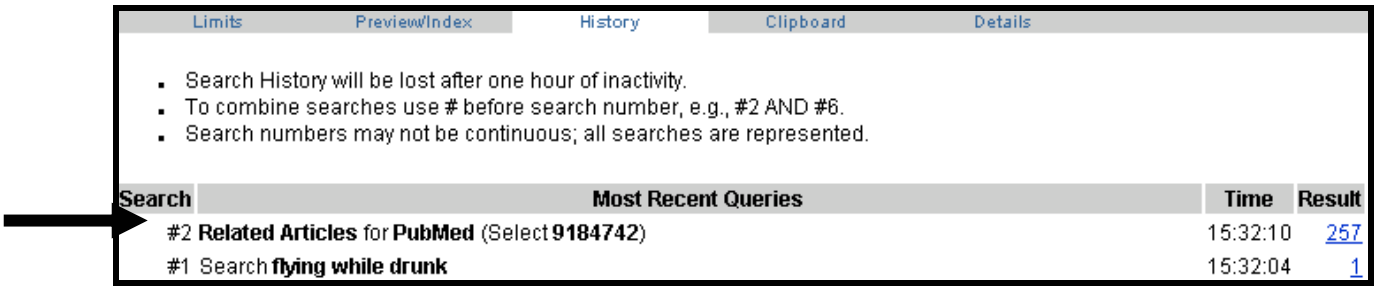
Related Articles Link

- This search retrieves only 1 citation. Now click on the Related Articles link and PubMed will display a list of related citations.



Refining your Related Articles retrieval set:

- Click History
- The Related Articles link is represented as: Related Articles for PubMed (Select 9184742), where 9184742 is the PMID in this example.



Use the search statement number (e.g., #2) and use Limits or combine with another concept:

Example: #2 AND english [la]

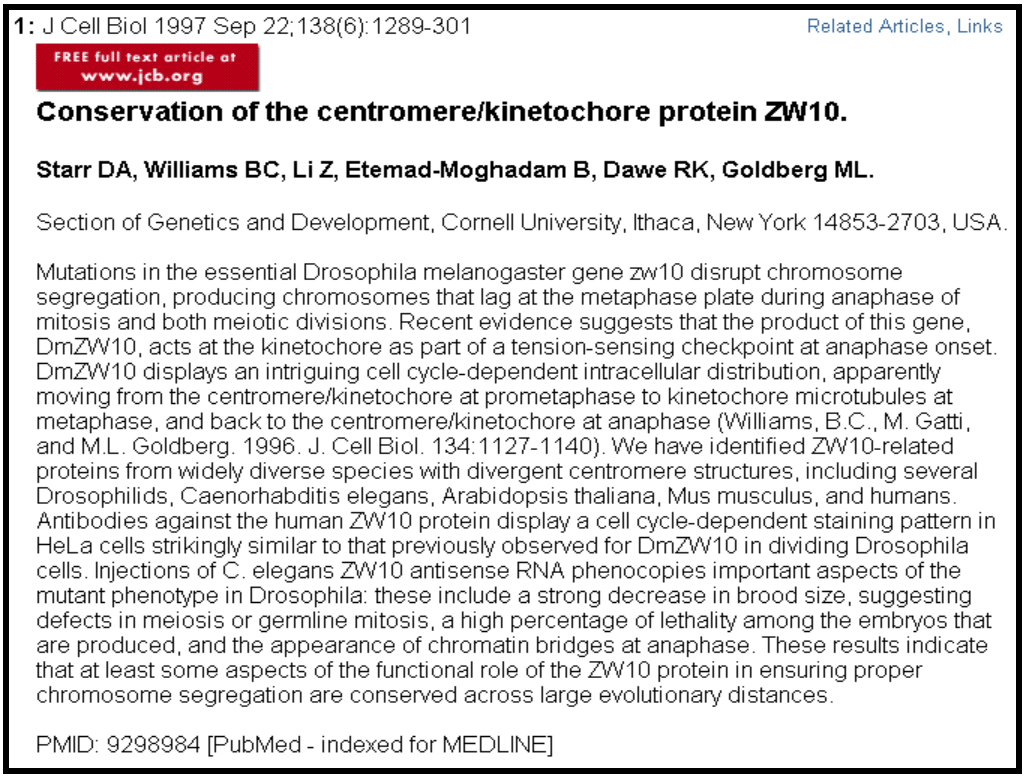
Refining will remove the ranking by relevancy.

LinkOut

LinkOut provides links from PubMed and other Entrez databases to a wide variety of relevant web-accessible online resources including full-text publications.

Full-text is available when you see an icon link on the Abstract or Citation display formats. Free full-text icons are displayed on the Summary, Abstract or Citation display formats.

The icon link to full-text from the Abstract format.



1: J Cell Biol 1997 Sep 22;138(6):1289-301 Related Articles, Links

FREE full text article at www.jcb.org

Conservation of the centromere/kinetochore protein ZW10.

Starr DA, Williams BC, Li Z, Etemad-Moghadam B, Dawe RK, Goldberg ML.

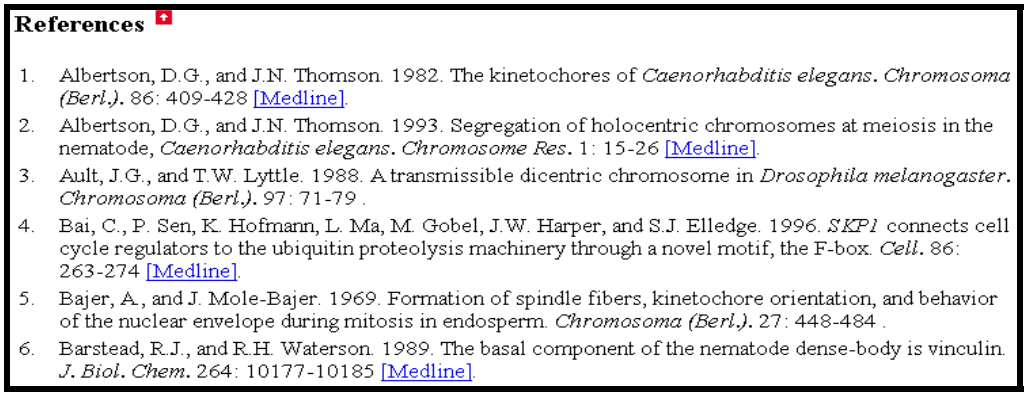
Section of Genetics and Development, Cornell University, Ithaca, New York 14853-2703, USA.

Mutations in the essential Drosophila melanogaster gene zw10 disrupt chromosome segregation, producing chromosomes that lag at the metaphase plate during anaphase of mitosis and both meiotic divisions. Recent evidence suggests that the product of this gene, DmZW10, acts at the kinetochore as part of a tension-sensing checkpoint at anaphase onset. DmZW10 displays an intriguing cell cycle-dependent intracellular distribution, apparently moving from the centromere/kinetochore at prometaphase to kinetochore microtubules at metaphase, and back to the centromere/kinetochore at anaphase (Williams, B.C., M. Gatti, and M.L. Goldberg. 1996. J. Cell Biol. 134:1127-1140). We have identified ZW10-related proteins from widely diverse species with divergent centromere structures, including several Drosophilids, Caenorhabditis elegans, Arabidopsis thaliana, Mus musculus, and humans. Antibodies against the human ZW10 protein display a cell cycle-dependent staining pattern in HeLa cells strikingly similar to that previously observed for DmZW10 in dividing Drosophila cells. Injections of C. elegans ZW10 antisense RNA phenocopies important aspects of the mutant phenotype in Drosophila: these include a strong decrease in brood size, suggesting defects in meiosis or germline mitosis, a high percentage of lethality among the embryos that are produced, and the appearance of chromatin bridges at anaphase. These results indicate that at least some aspects of the functional role of the ZW10 protein in ensuring proper chromosome segregation are conserved across large evolutionary distances.

PMID: 9298984 [PubMed - indexed for MEDLINE]

Links back to citations in PubMed are often provided within the references at the end of an article viewed from a publisher's Web site:

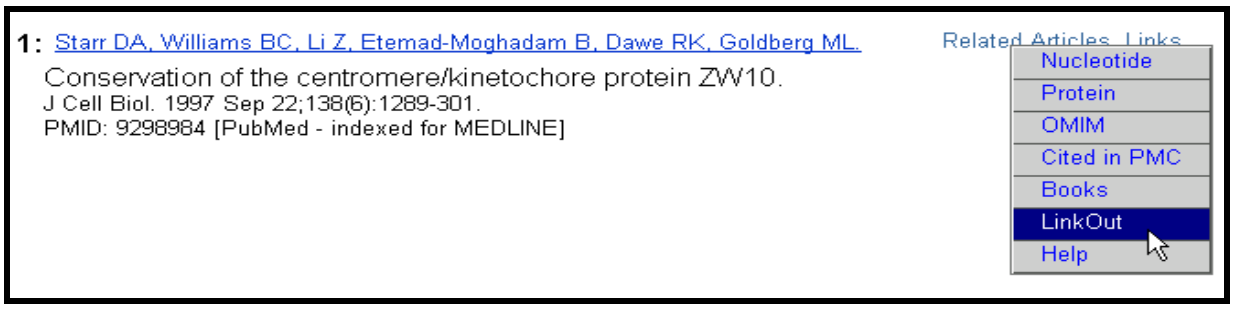
*Click on **[Medline]** link to go to the PubMed record for this reference.*

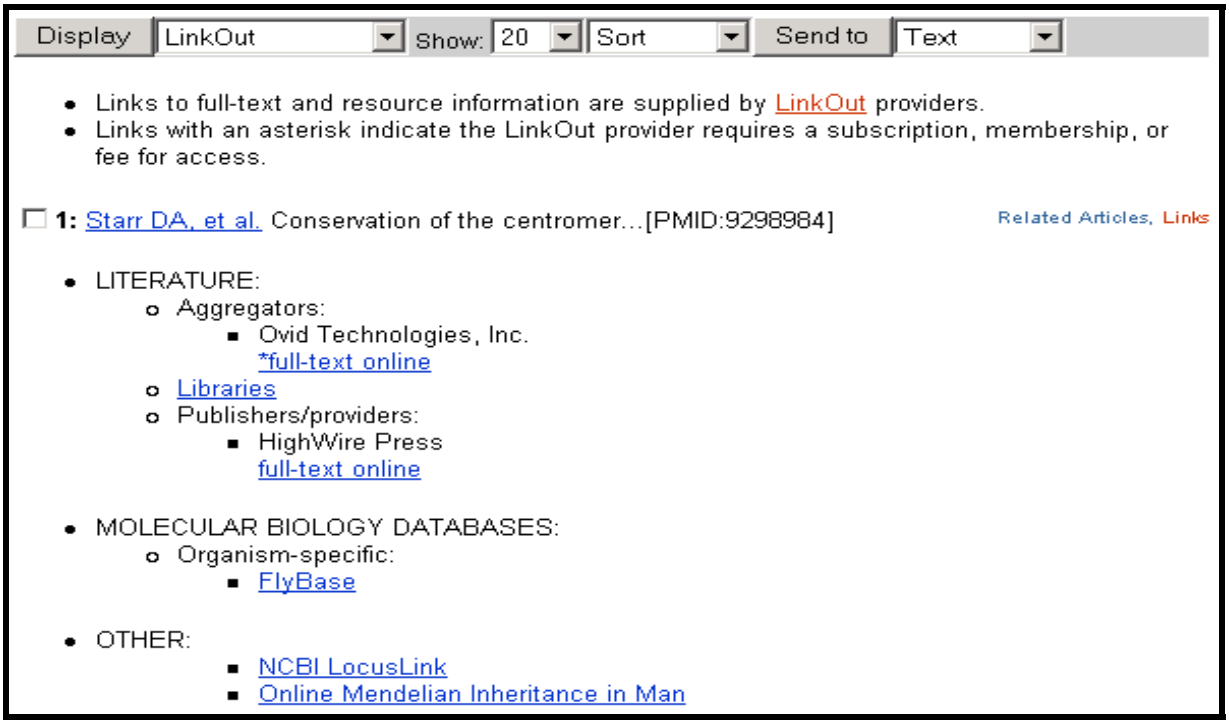


References

1. Albertson, D.G., and J.N. Thomson. 1982. The kinetochores of *Caenorhabditis elegans*. *Chromosoma (Berl.)*. 86: 409-428 [Medline].
2. Albertson, D.G., and J.N. Thomson. 1993. Segregation of holocentric chromosomes at meiosis in the nematode, *Caenorhabditis elegans*. *Chromosome Res.* 1: 15-26 [Medline].
3. Ault, J.G., and T.W. Lyttle. 1988. A transmissible dicentric chromosome in *Drosophila melanogaster*. *Chromosoma (Berl.)*. 97: 71-79 .
4. Bai, C., P. Sen, K. Hofmann, L. Ma, M. Gobel, J.W. Harper, and S.J. Elledge. 1996. *SKP1* connects cell cycle regulators to the ubiquitin proteolysis machinery through a novel motif, the F-box. *Cell*. 86: 263-274 [Medline].
5. Bajer, A., and J. Mole-Bajer. 1969. Formation of spindle fibers, kinetochore orientation, and behavior of the nuclear envelope during mitosis in endosperm. *Chromosoma (Berl.)*. 27: 448-484 .
6. Barstead, R.J., and R.H. Waterson. 1989. The basal component of the nematode dense-body is vinculin. *J. Biol. Chem.* 264: 10177-10185 [Medline].

To see the full list of web-accessible online resources for an item, select LinkOut from the Links pull-down menu.





- The LinkOut format displays resources (if available) by broad categories (e.g., LITERATURE), and then by subject categories (e.g., Libraries). Click on the Libraries link to see a list of libraries with electronic or print subscriptions for the cited journal.
- Links with an asterisk indicate a subscription, membership, or fee for access is required.

To limit your retrieval to full-text, use the following Subset [sb] values:
free full text [sb] - Citations that include a link to a free full-text article.
full text [sb] - Citations that include a link to a full-text article.
Example: diabetes AND full text [sb]
See Search Field Descriptions section to learn more about Subsets.

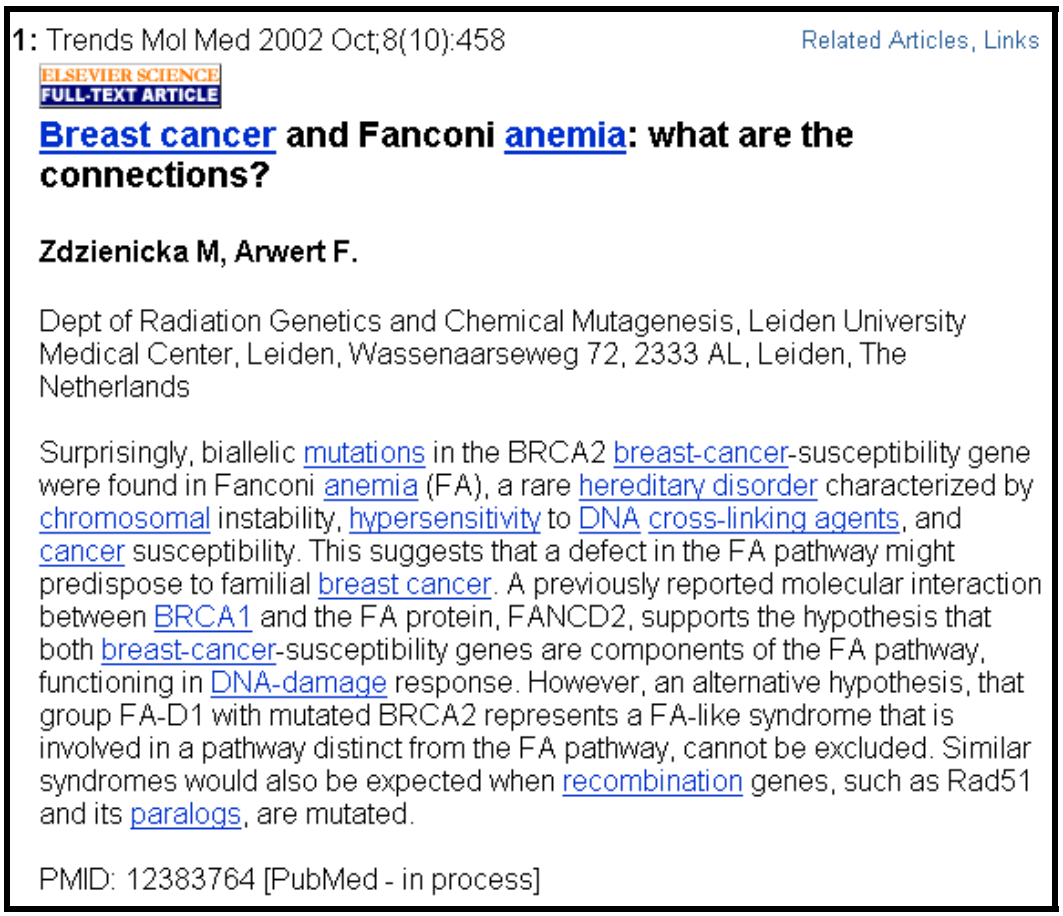
Books Link

- Books links take you from terms in titles and abstracts to the Bookshelf database. This is a collection of biomedical books.

Example: *Search PubMed for BRCA1.*

- For the first item, use the Links pull-down menu to select the Books link.
- This takes you to a facsimile of the Citation format, in which some terms are links. These correspond to terms that are also found in the books available on the Bookshelf.

Note the links.



1: Trends Mol Med 2002 Oct;8(10):458 Related Articles, Links

ELSEVIER SCIENCE FULL-TEXT ARTICLE

Breast cancer and Fanconi anemia: what are the connections?

Zdzienicka M, Arwert F.

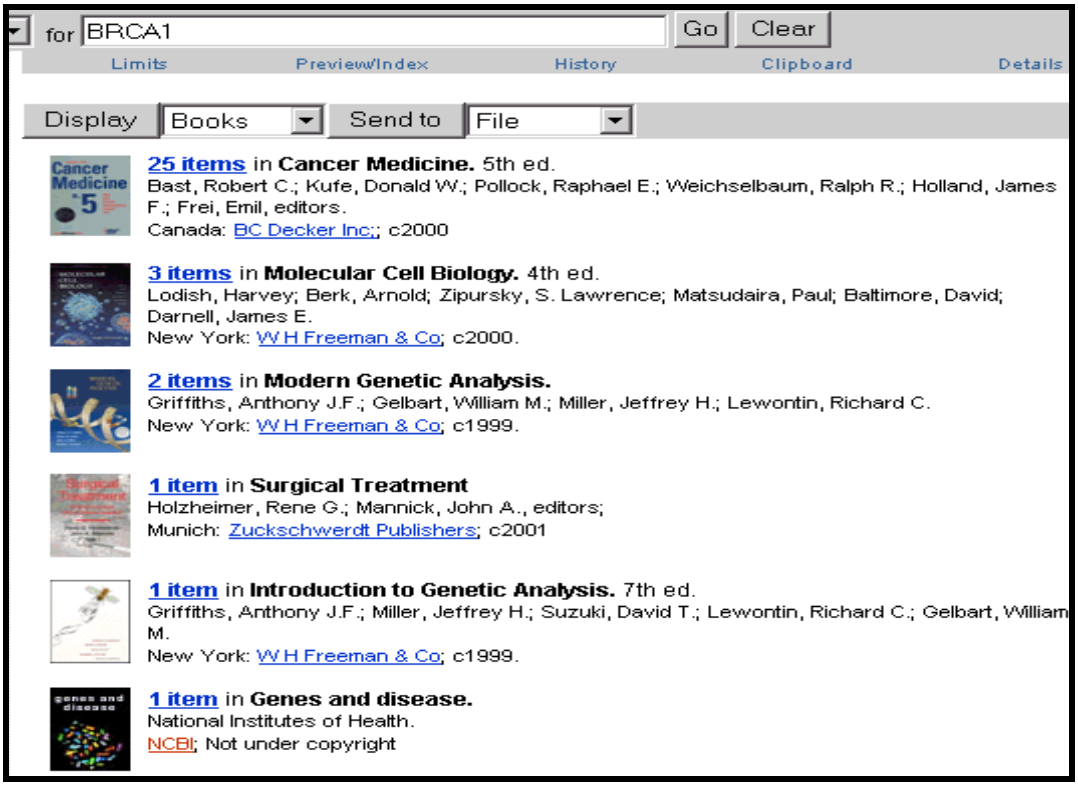
Dept of Radiation Genetics and Chemical Mutagenesis, Leiden University Medical Center, Leiden, Wassenaarseweg 72, 2333 AL, Leiden, The Netherlands

Surprisingly, biallelic mutations in the BRCA2 breast-cancer-susceptibility gene were found in Fanconi anemia (FA), a rare hereditary disorder characterized by chromosomal instability, hypersensitivity to DNA cross-linking agents, and cancer susceptibility. This suggests that a defect in the FA pathway might predispose to familial breast cancer. A previously reported molecular interaction between BRCA1 and the FA protein, FANCD2, supports the hypothesis that both breast-cancer-susceptibility genes are components of the FA pathway, functioning in DNA-damage response. However, an alternative hypothesis, that group FA-D1 with mutated BRCA2 represents a FA-like syndrome that is involved in a pathway distinct from the FA pathway, cannot be excluded. Similar syndromes would also be expected when recombination genes, such as Rad51 and its paralogs, are mutated.

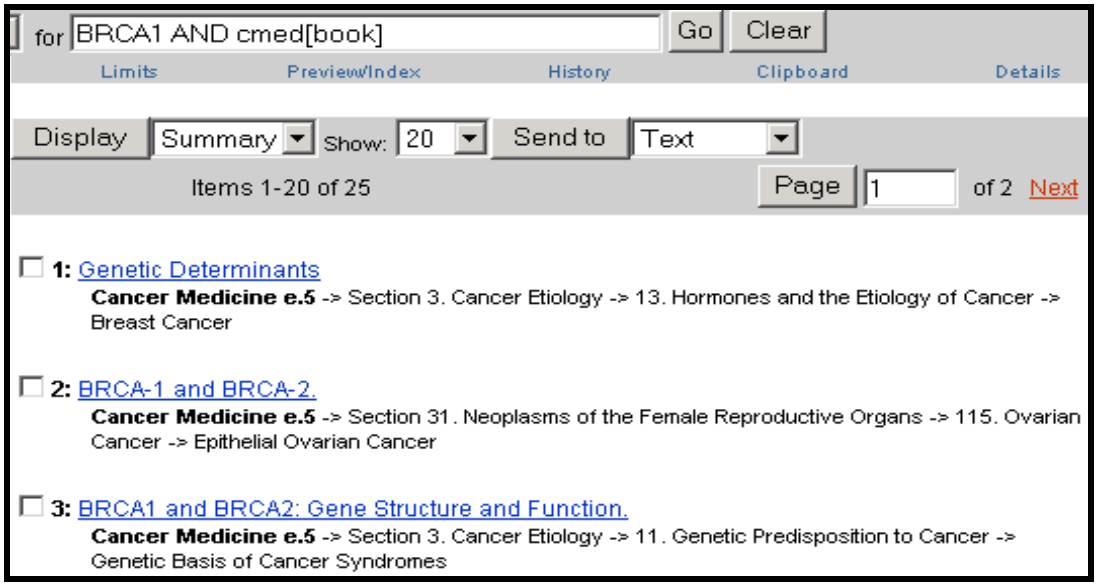
PMID: 12383764 [PubMed - in process]

To learn more about Books, go to the Bookshelf at http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Books.

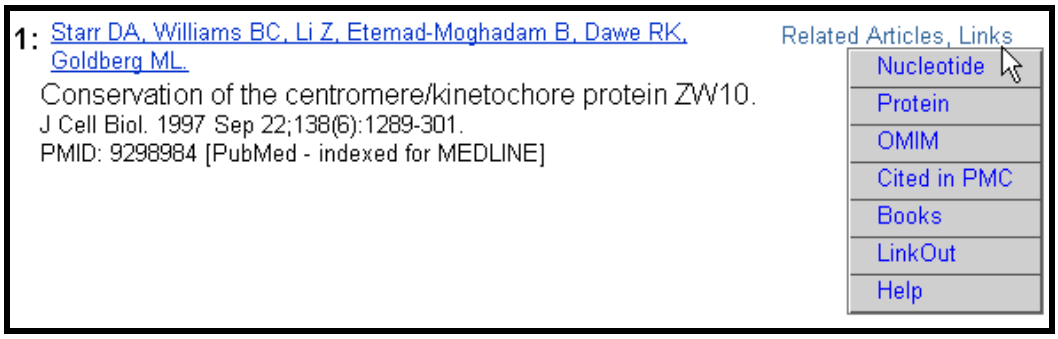
- Clicking on a link (e.g., BRCA1) takes you to a list of books in which the phrase is found. Click on the link (i.e., 30 items) to see sections of *Cancer Medicine* that discuss this gene.



- Three sections are displayed in a Summary format. Choose a section title to learn more about the BRCA1 gene.



Links to Other Resources and NCBI Databases



Links pull-down with links to other resources.

Protein - Protein sequences from Swiss-Prot, PIR, PRF, PDB, and translated protein sequences from the DNA sequences databases.
Nucleotide - DNA sequences from GenBank, EMBL, and DDBJ.
OMIM - Online Mendelian Inheritance in Man. This database is a catalog of human genes and genetic disorders authored and edited by Dr. Victor A. McKusick and his colleagues at Johns Hopkins and elsewhere, and developed for the Web by NCBI.
PopSet - The PopSet database contains aligned sequences submitted as a set from a population, phylogenetic or mutation study describing such events as evolution and population variation.
Structure - The Molecular Modeling Database (MMDB) contains 3-dimensional structures determined by X-ray crystallography and NMR spectroscopy.
Genome - Provides access to records and graphic displays of entire genomes and chromosomes for megabase sequences obtained from large-scale sequencing of genomes and chromosomes.
Taxonomy – The NCBI taxonomy database contains the names of all organisms that are represented in the genetic databases with at least one nucleotide or protein sequence.
ProbeSet - Gene Expression Omnibus (GEO) is a gene expression and hybridization array data repository, as well as a curated, online resource for gene expression data browsing, query and retrieval.
3D Domains - 3D Domains are compact structural domains identified automatically in MMDB, Entrez's macromolecular three-dimensional structure database.
UniSTS - a NCBI resource that reports information about markers, or Sequence Tagged Sites (STS).
Domains - Conserved Domain Database (CDD) may be used to identify the conserved domains present in a protein sequence.
SNP - Single Nucleotide Polymorphisms database serves as a central repository for both single base nucleotide substitutions and short deletion and insertion polymorphisms.
UniGene - gene-oriented clusters of transcript sequences; Each UniGene cluster contains sequences that represent a unique gene, as well as related information such as the tissue types in which the gene has been expressed and map location.

N O T E S

Cubby

Cubby Functions

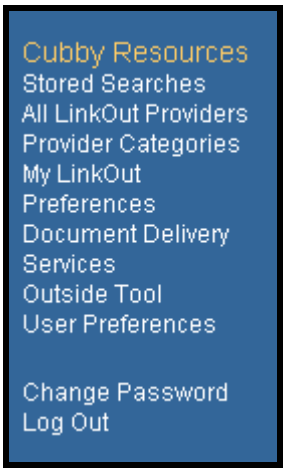
- The Cubby stores searches that can be updated at any time from any computer (to check for new items since you last checked).
- The Cubby stores User Preferences (default e-mail address).
- The Cubby stores LinkOut preferences that specify which LinkOut providers you want displayed in PubMed.
- The Cubby stores Document Delivery Services preferences.

To use the Cubby, your Web browser must be set to accept cookies.

Getting to the Cubby

- Click on Cubby on the PubMed Sidebar.

Cubby Sidebar



- **Stored Searches** provides a link to your Cubby Stored Searches.
- **All LinkOut Providers** lists each LinkOut provider in alphabetical order.
- **Provider Categories** lists LinkOut providers organized by subject categories.
- The **My LinkOut Preferences** page displays the LinkOut preferences you have selected.
- **Document Delivery Services** allows you to customize the service you link to when you click the Order button.
- **Outside Tool** - institutions use this to setup a link on all PubMed records to point back to the institution's local service.
- **User Preferences** allows you to store a default e-mail address.
- The **Change Password** page lets you change your password.
- **Log Out** logs you out of the Cubby. Your login is good for 12 hours, unless you log out.

Using Cubby

- To use Cubby you need a User Name and Password.
- To create your User Name and Password click "I Want to Register for Cubby."
- If you've forgotten your password, click "Help! I Forgot My Password." (You will need to know your User Name and security word.)

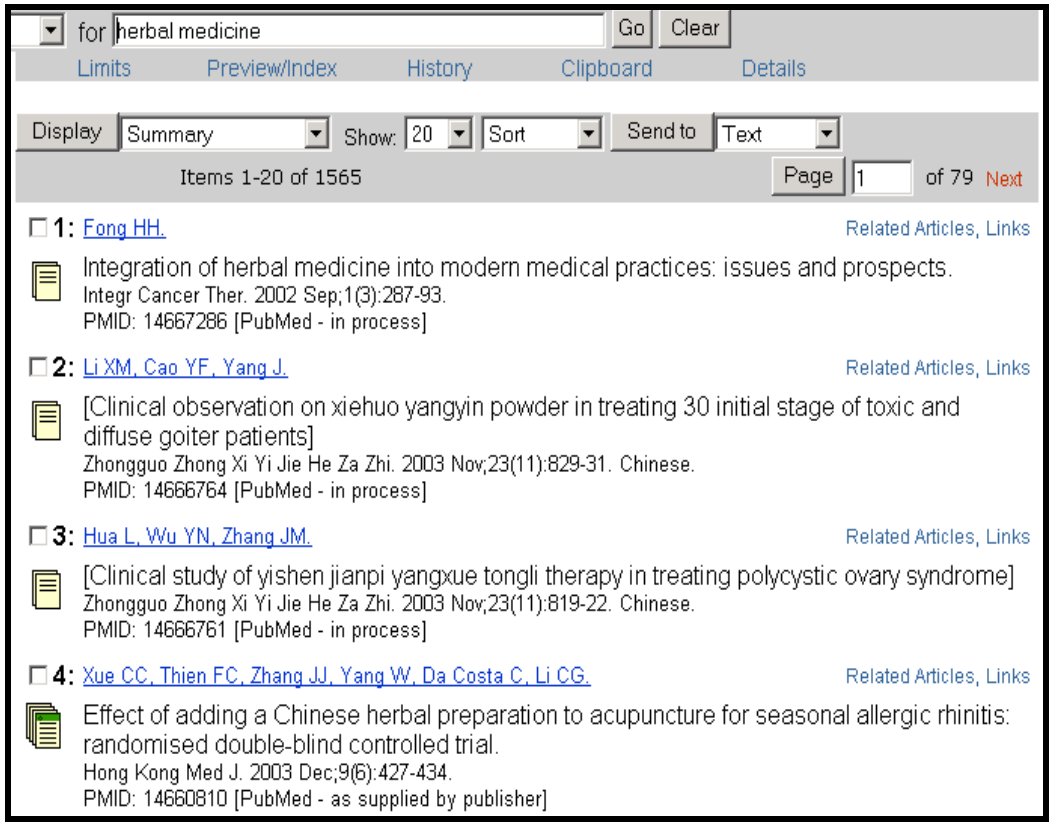
Cubby Stored Searches

Use the Cubby to store a new search strategy, see a list of your stored searches, check for new items retrieved by a stored search since you last checked, or delete a stored search.

How to Store a Search

- From anywhere in PubMed, run or Preview your search.
- You can store any search using terms and limits necessary for your topic.

*Enter **herbal medicine** in the query box and click **Go**.*



- Click **Cubby** on the sidebar.

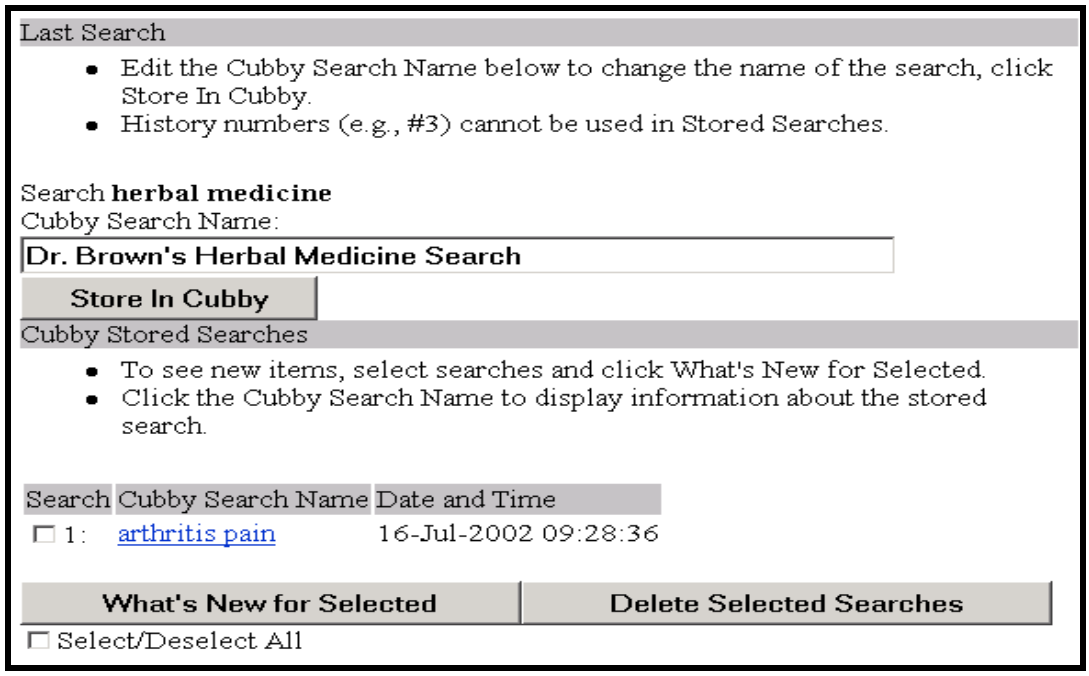
- Last Search displays the last search query, including limits, if used.
- Edit the name of the search to something manageable yet meaningful, if necessary.

***Last Search** displays your last query.*

*Edit the **Cubby Search Name**, if desired.*

*Click **Store in Cubby.***

Previously stored search(es).



You can store up to 100 searches in a single Cubby account. You can have as many Cubby accounts as you need.

The Cubby will let you store multiple searches with identical names. Be sure to name each of your Cubby stored searches uniquely.

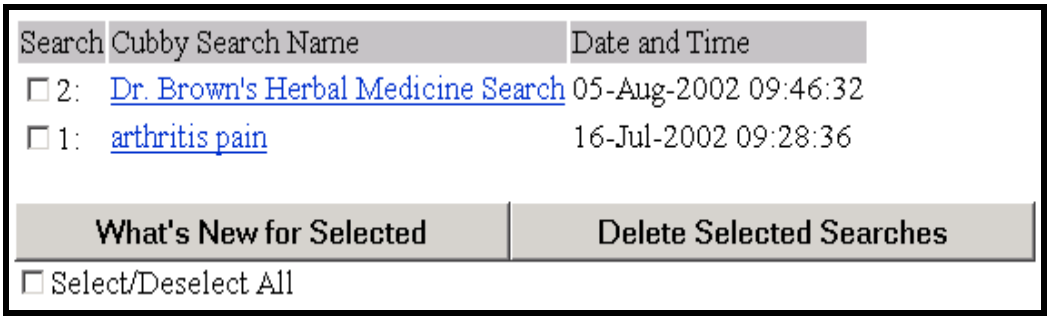
Links to "Related Articles" and History numbers (e.g., #3) cannot be stored as part of Cubby Stored Searches. Also, dates or date ranges are not recommended in your strategies. See the What's New Strategy (discussed later in this workbook) for more information on date ranges.

Stored Search Information

- Stored searches are numbered and listed in descending order according to the date and time they were originally stored.

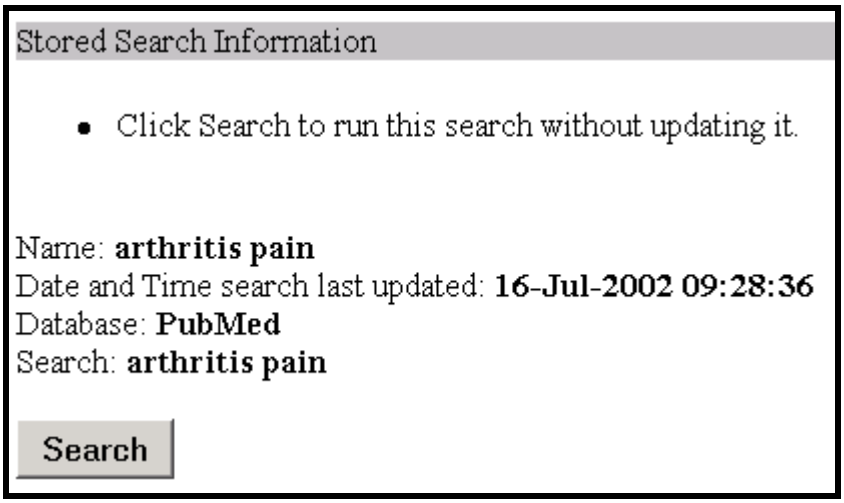
- To review information about a stored search, click on the search name.

*Click on a **Cubby Search Name** to see search information.*



- Stored Search Information includes the search name, date and time last updated, database searched, search terms, as well as fields and limits when applicable.

- Click the **Search** button to run the search without update limits. This will not change the date and time the search was last updated.



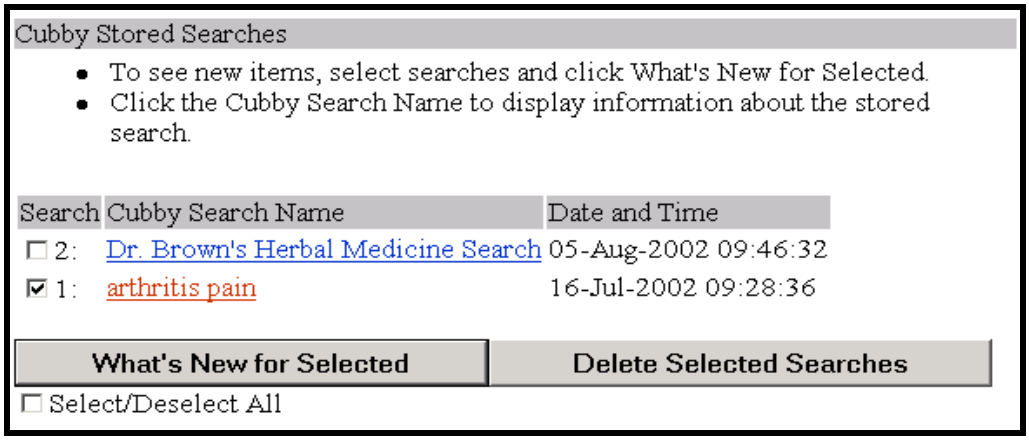
Updating Cubby Stored Searches

It is easy to check for new items since your last update.

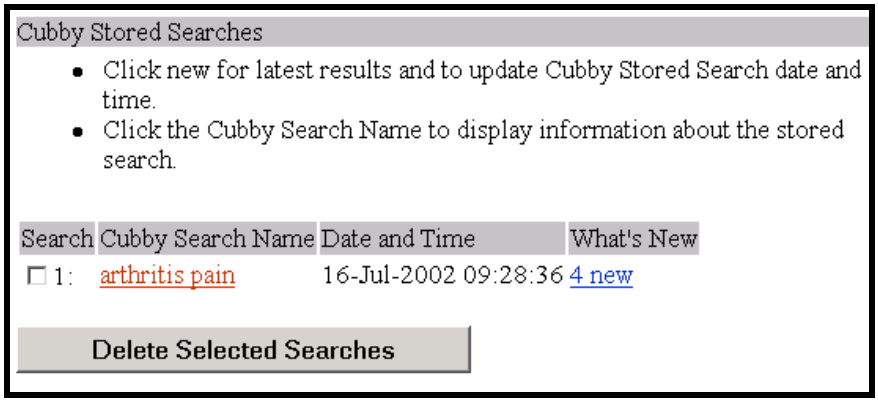
- Select the stored search(es) you want to update by clicking the check box(es) next to the Cubby Search Name.
- To select all searches click the "Select/Deselect All" check box.
- Click the **What's New for Selected** button.

*Select the **arthritis pain** search.*

*Click the **What's New for Selected** button.*



- The Cubby displays the list of searches you selected along with an additional column indicating the number of new items retrieved since the last time you checked.
- If there are no new items, the Cubby displays "0 new."
- Click **# new** to link to the new items.
- Clicking on this link displays the new items, **and** updates the stored search in the Cubby with the new date and time.
- If you do not click **# new**, the search, date, and time are not updated.



*Click on **4 new** to link to the new item(s) and update the stored search date and time.*

The **Details** button will not display on the results screen after updating a Cubby stored search. This is because the update strategy for your search actually incorporates three separate strategies and Details can only display a single strategy at a time.

The What's New strategies used for the Cubby feature are detailed in PubMed's Help.

Deleting Stored Searches

Select the stored search by clicking the check box next to the Cubby Search Name, and click "Delete Selected Searches." You can select and delete multiple searches at one time.

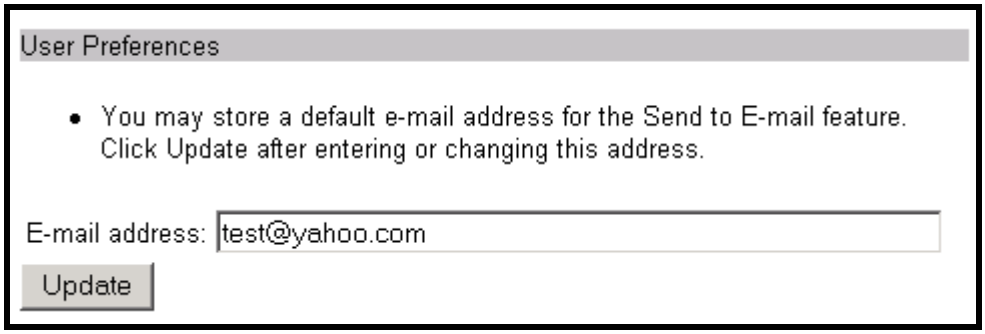
Logging Out

- Click **Log Out** from the Cubby sidebar to Log Out. Otherwise your login remains active for 12 hours.

Store a default E-mail address in Cubby

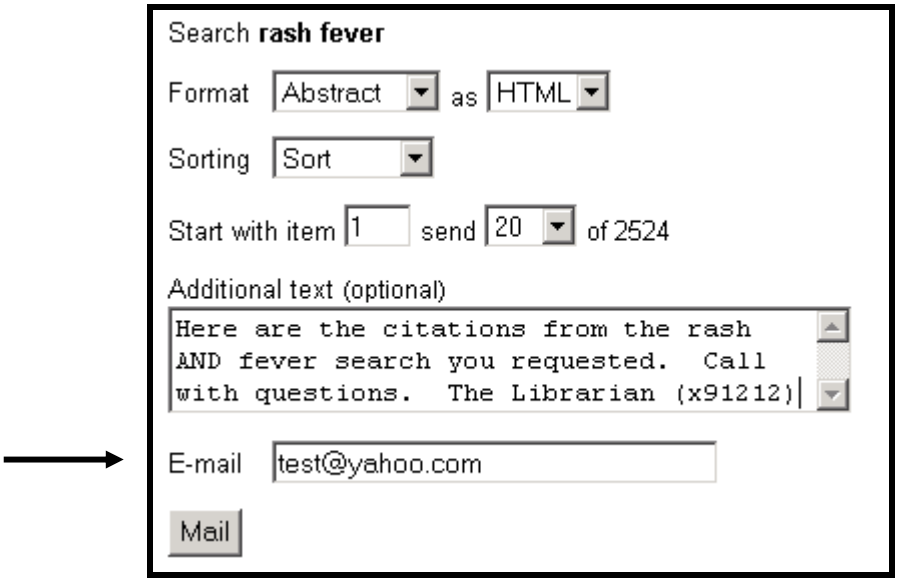
- Log into the Cubby
- Click on **User Preferences** from the Cubby sidebar

Enter e-mail address.
*Click the **Update** button.*



Using a default E-mail address

- Log into Cubby (if not already logged in).
- Select E-mail from the Send to menu from search results or a Clipboard screen
- The stored e-mail address will display on the E-mail options page:



N O T E S

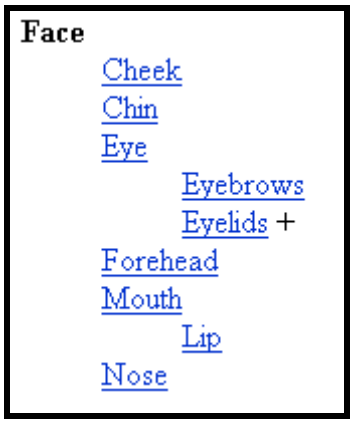
Searching with MeSH

Two selections are available for MeSH searching from the field selection pull-down menu in Limits:

- MeSH Terms - Use when you want to specify that a term is searched only as a MeSH heading not also as a Text Word.

When a term is searched as a MeSH Heading, PubMed automatically searches that heading and the more specific headings underneath in the hierarchy. This is called exploding a term.

For example, the MeSH term **Face** when searched as MeSH Term in PubMed would search the heading Face as well as all the more specific terms below the term in the hierarchy:



Searching with MeSH terms will ***exclude*** in process citations and publisher-supplied citations as they have not been indexed with MeSH headings.

- MeSH Major Topic - Use when you wish to limit to articles where the topic is the main point of the article.

MeSH Database

The MeSH Database allows you to:

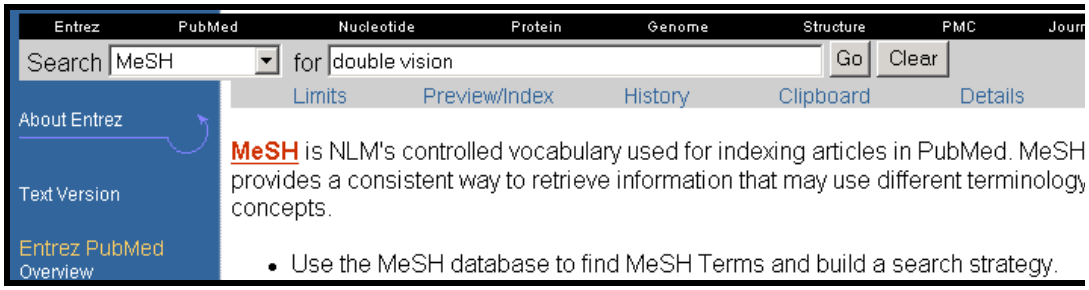
- Locate and select MeSH terms (Headings, Subheadings, & Publication Types)
- See the definition and other helpful information for a MeSH term.
- Build a PubMed search strategy.
- Display MeSH terms in the hierarchy.
- Limit MeSH terms to a major concept for a search.
- Attach subheadings for a search.
- Link to the NLM MeSH Section's MeSH Browser

How to Get There

- Click on **MeSH Database** on the sidebar.

Let's use the MeSH Database to find the proper MeSH term for condition of *double vision* and then search PubMed for relevant citations.

*Enter the term, **double vision**, in the query box and click the **Go** button.*



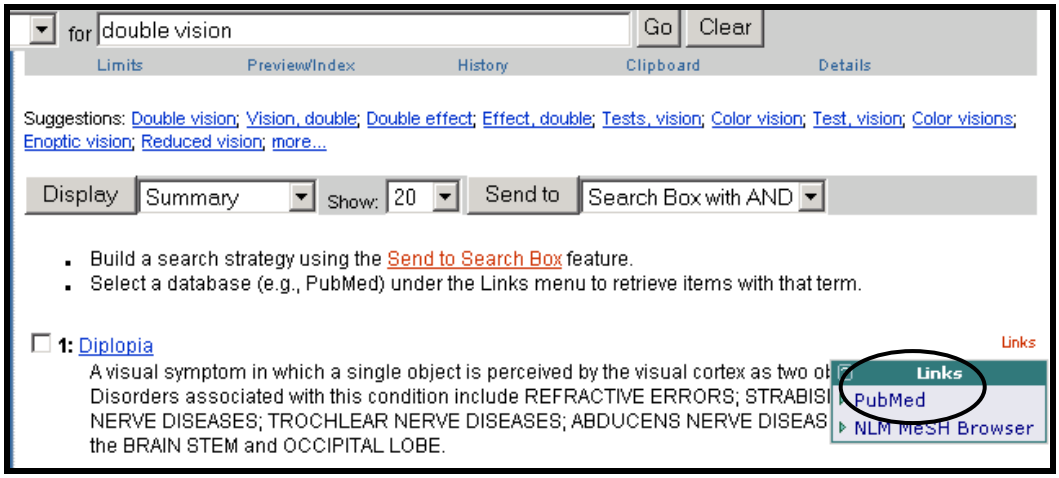
PubMed displays retrieval from this database in the Summary format as shown below.

- Select PubMed from the Links pull-down menu to run a PubMed search with that term.

***Suggestions** are MeSH or Entry terms generated by an algorithm that compares letter combinations.*

Scope Note (meaning for this concept is displayed.)

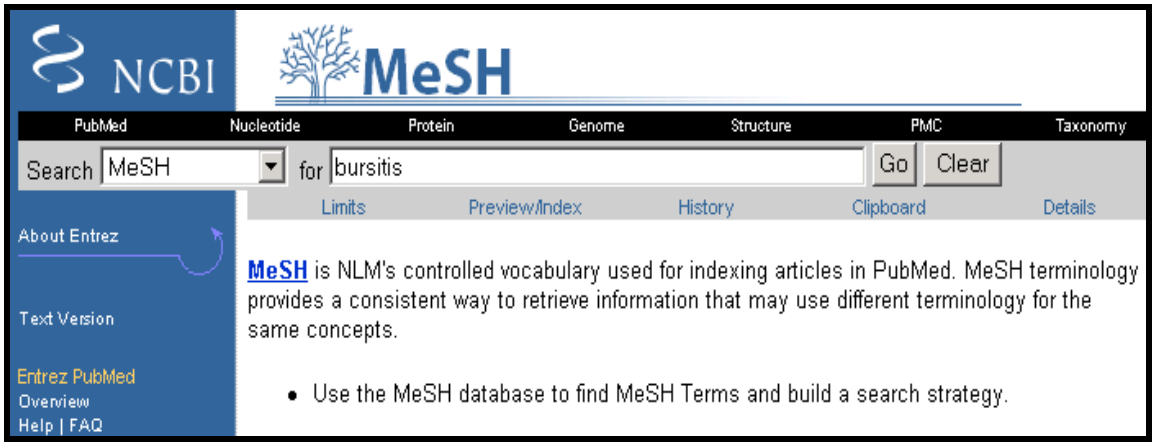
***Links** allows you to run a PubMed search or link to MeSH Section MeSH Browser.*



The Feature bar links (Limits, History, etc.) from the MeSH Database deal specifically with the MeSH Database not the PubMed database.

Now, let's use the MeSH Database to build a search strategy for a search for citations about the *diagnosis of bursitis* which requires the use of a subheading.

Enter the term, ***bursitis*** *, in the query box and click the* ***Go*** *button.*



PubMed displays retrieval from this database in the Summary format:

Click on the term to see the Full display.

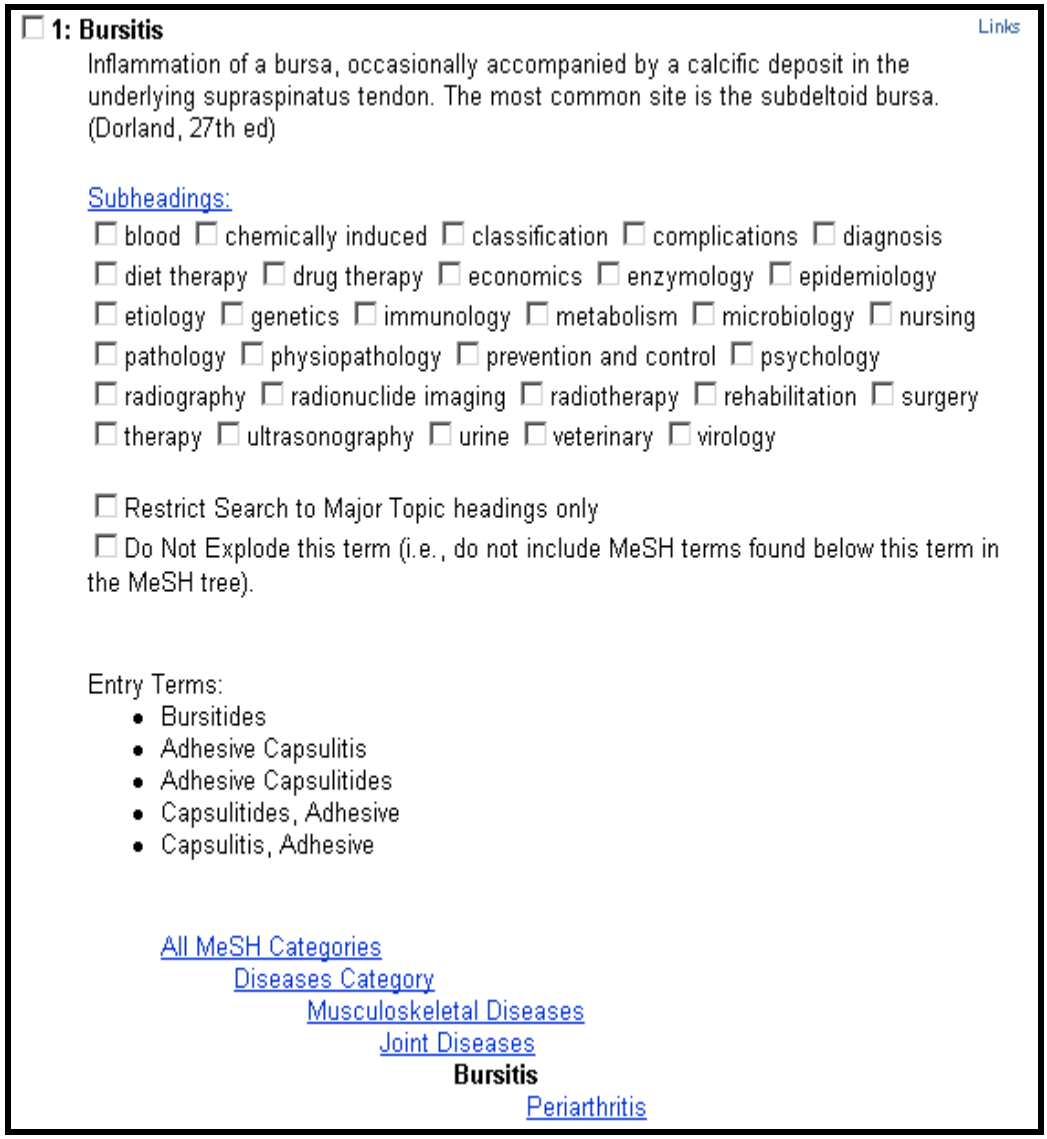
The **Full** Display provides more information about the term:

*Use the check boxes to select subheadings. Click on the **Subheadings** link to see a list of subheading definitions.*

Use these checkboxes to restrict to major topic or to not explode a term.

Entry Terms (synonyms) are provided.

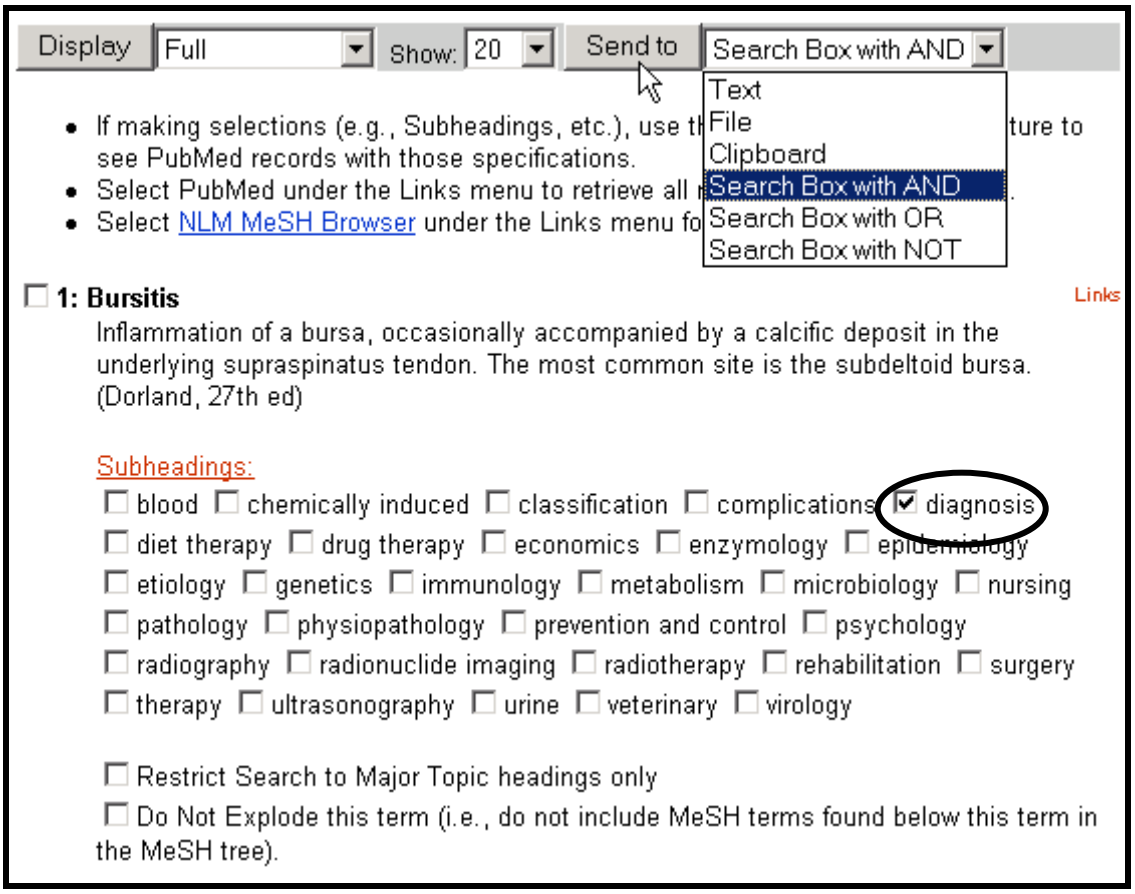
MeSH hierarchy is displayed with searched term in boldface.



Send to Search Box

To specify a search for:
*Citations about the **diagnosis** of bursitis*

1. Select the diagnosis subheading from the Full display screen.
2. Select Search Box with AND and click on the **Send to** button.



The term with any specifications will appear in the Search Box:

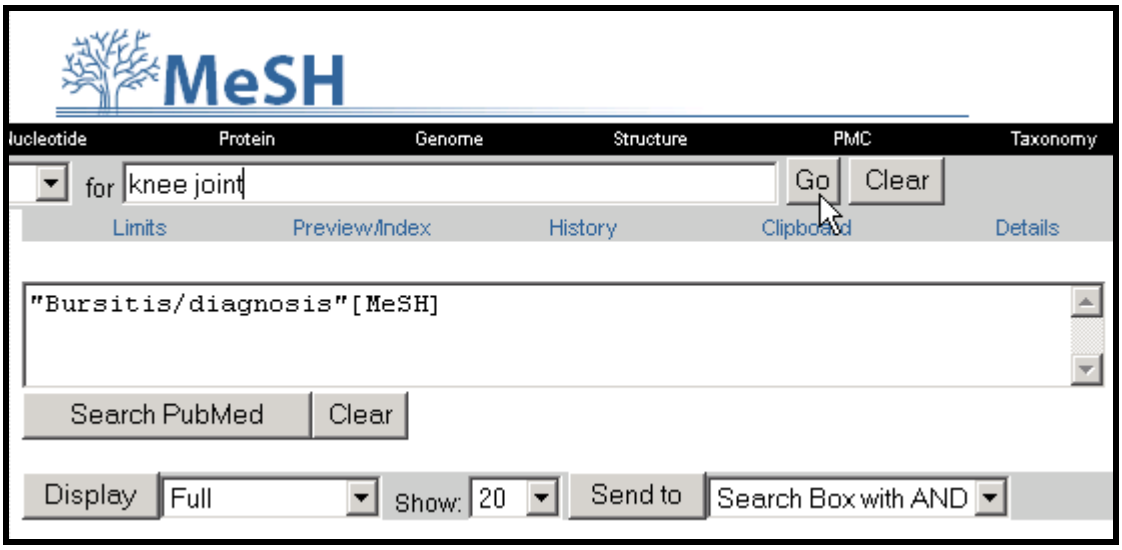
To add additional terms to this strategy, continue searching the database and add terms to the Search Box using the Send to Search Box feature.

Now, let's adjust our search to specifically look for articles discussing the ***diagnosis of bursitis in the knee joint***.

Enter **knee joint** in the Query box, click **Go**.

Searching on the next term.

Here's the strategy being built.

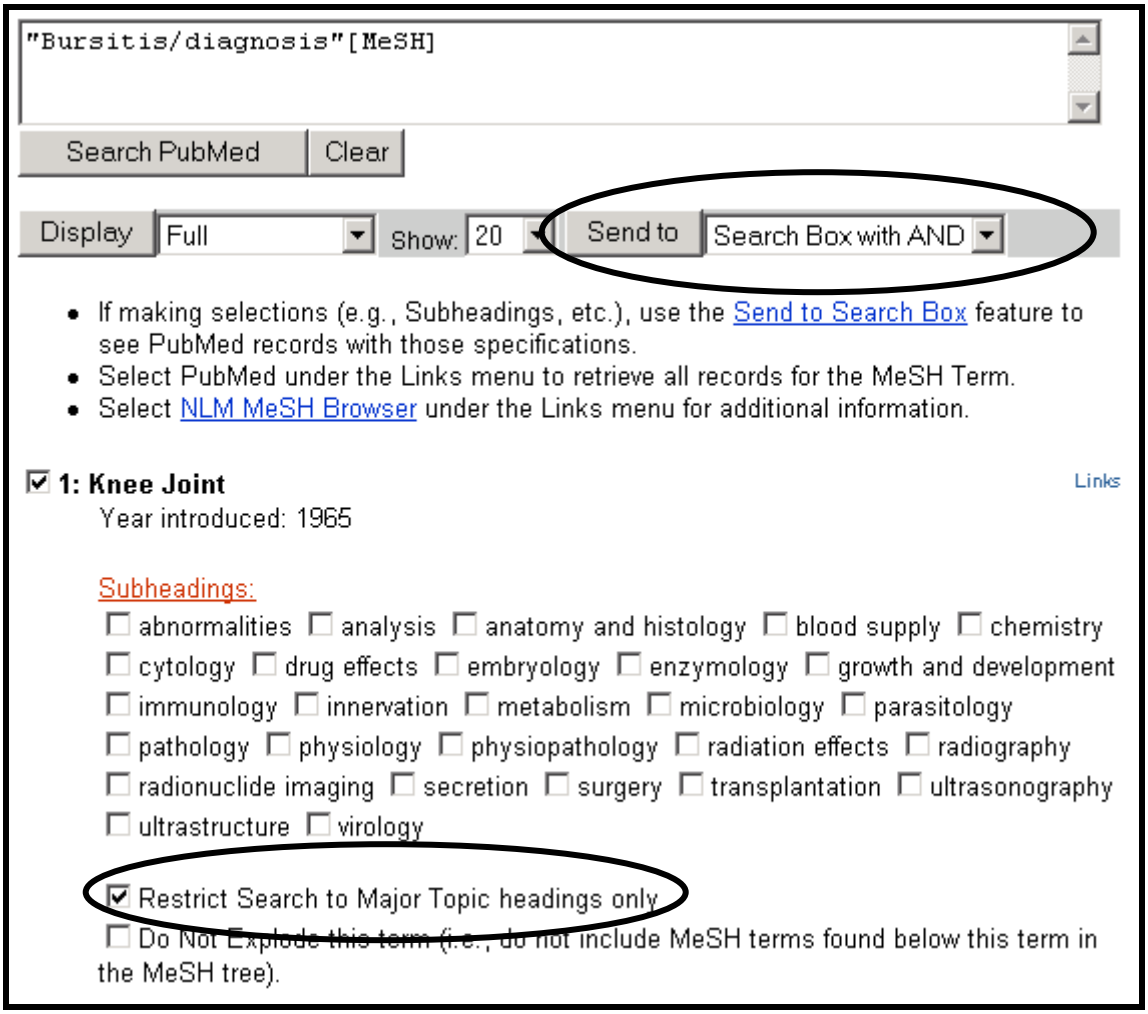


This brings you to the Summary display for **Knee Joint**.

Next, click on the **Knee Joint** term link to see the Full display for this term.

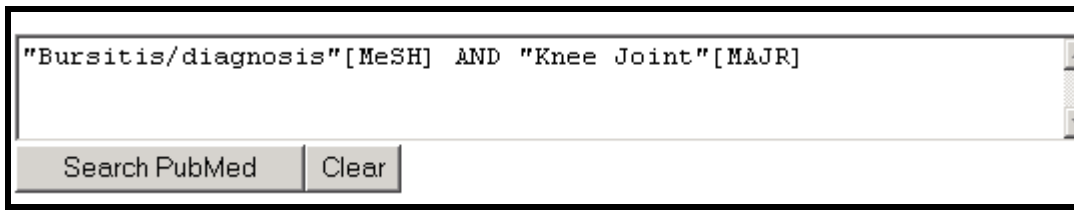
Now, let's restrict to citations where the major focus of the article is knee joints and then add this term to the strategy we are building:

1. Click in the check box for: Restrict Search to Major Topics only.
2. Select Search Box with AND and click on the **Send to** button.



Now, the search is built and is ready to be run in PubMed. Click the **Search PubMed** button below the Search box:

*Click **Search PubMed** button.*



Practice Exercises

Try using the MeSH database to build your searches that require the use of MeSH headings.

1. Find articles discussing prostate cancer as the main focus of the article. Build this search in the MeSH Database. After searching this in PubMed, use the PubMed Limits to retrieve citations to articles entered in the last 2 years.

2. Find citations to articles discussing the surgical or drug treatment of osteosarcoma in children (Hint: use subheadings). Limit to studies involving the drug, cisplatin. Also, limit to English language articles.

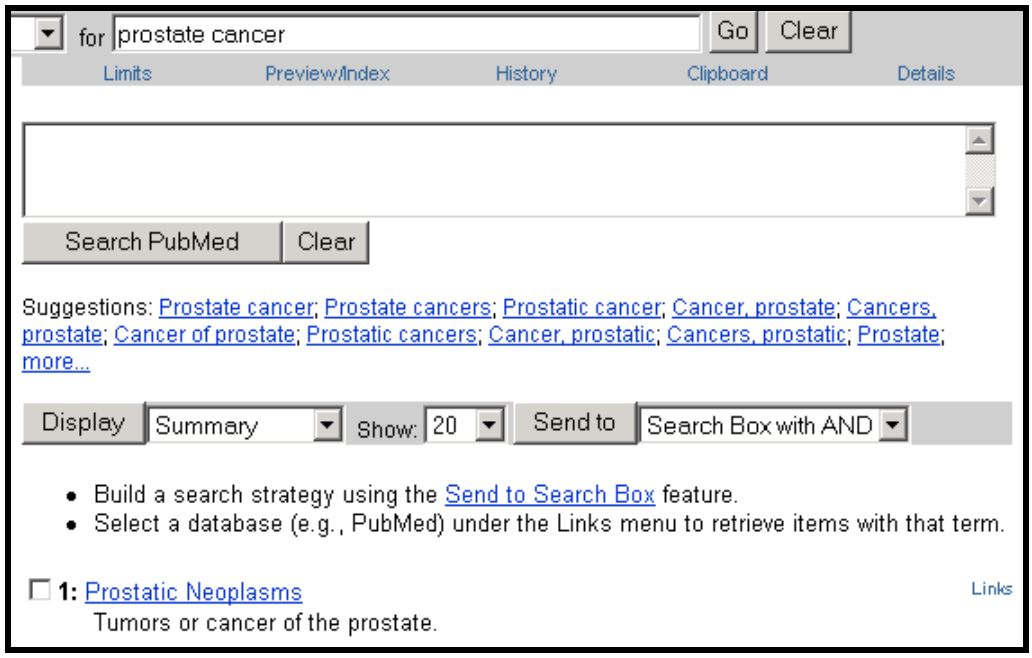
3. Find references discussing the economics of community-acquired pneumonia.

4. Using the MeSH database, find the proper term for mad cow disease. Use the Links menu to search the term in PubMed.

Suggested Answers:

1. Find articles discussing prostate cancer as the main focus of the article. Build this search in the MeSH Database. After searching this in PubMed, use the PubMed Limits to retrieve citations to articles entered in the last 2 years.

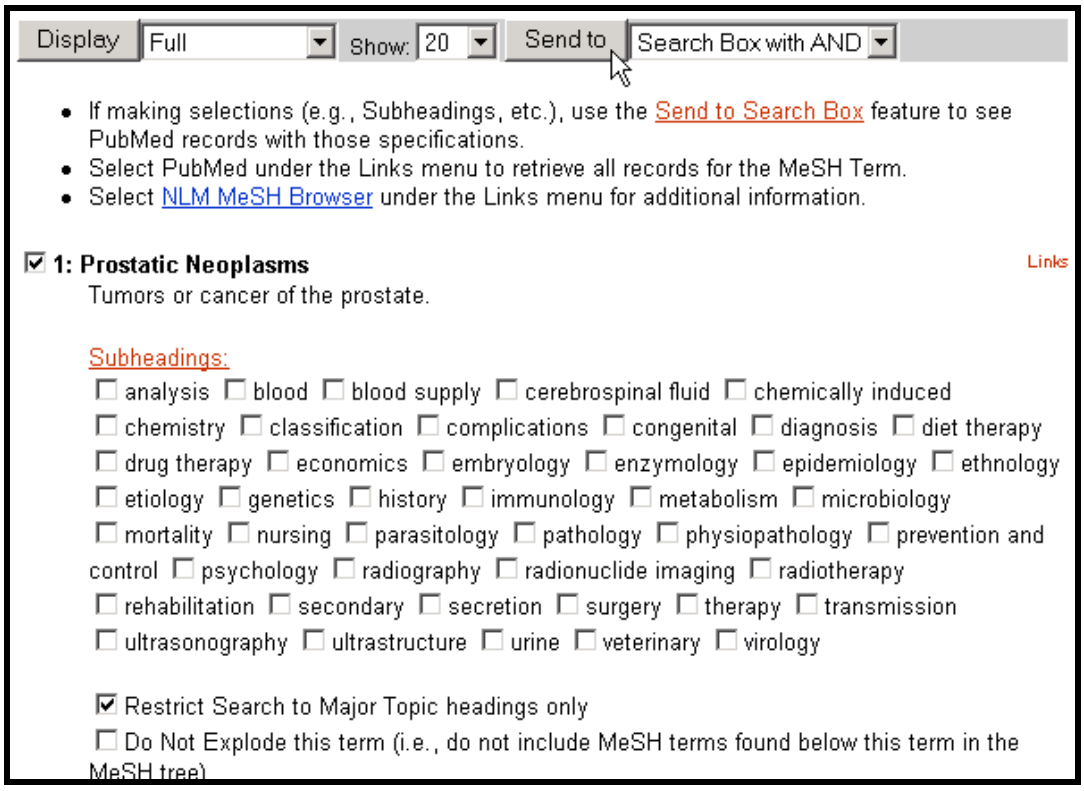
MeSH database Summary display:



Click term to reach Full display.

Restricting to Major Topic:

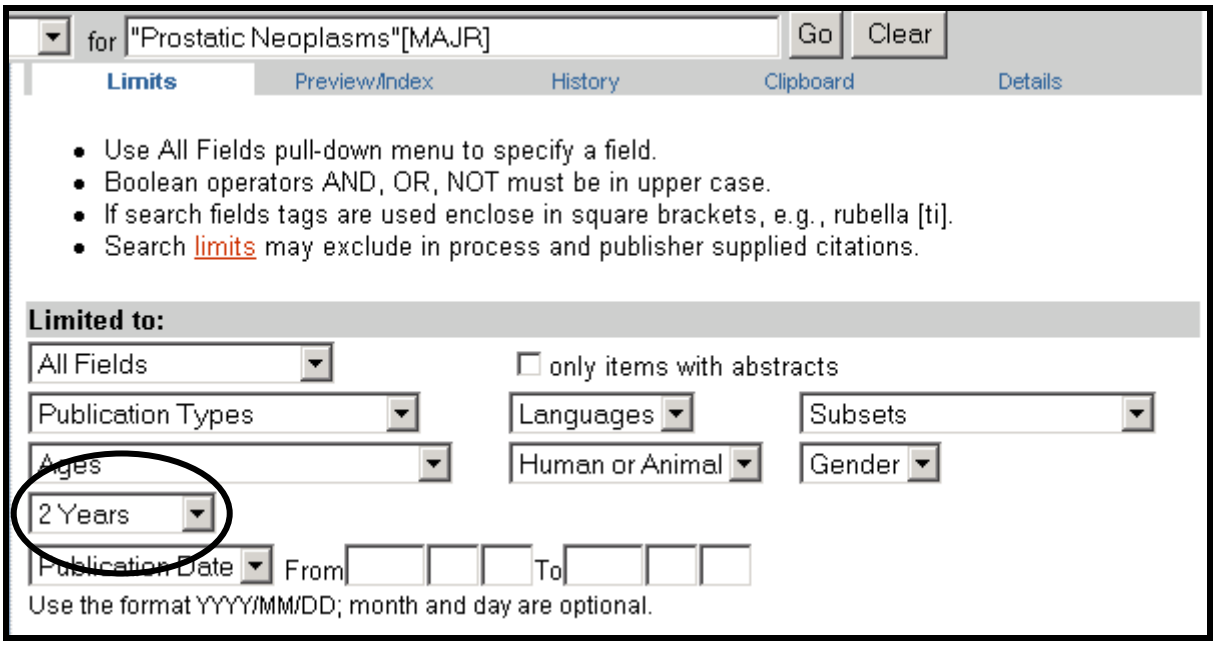
Once specifications are checked, click on "Search Box with AND" and click on the ***Send to*** *button.*



Check the Major Topic only selection.

To run search strategy in PubMed, click on the Search PubMed button below Search box:

Now, restrict to those citations entered into the database in the last 2 years using the Limits screen:

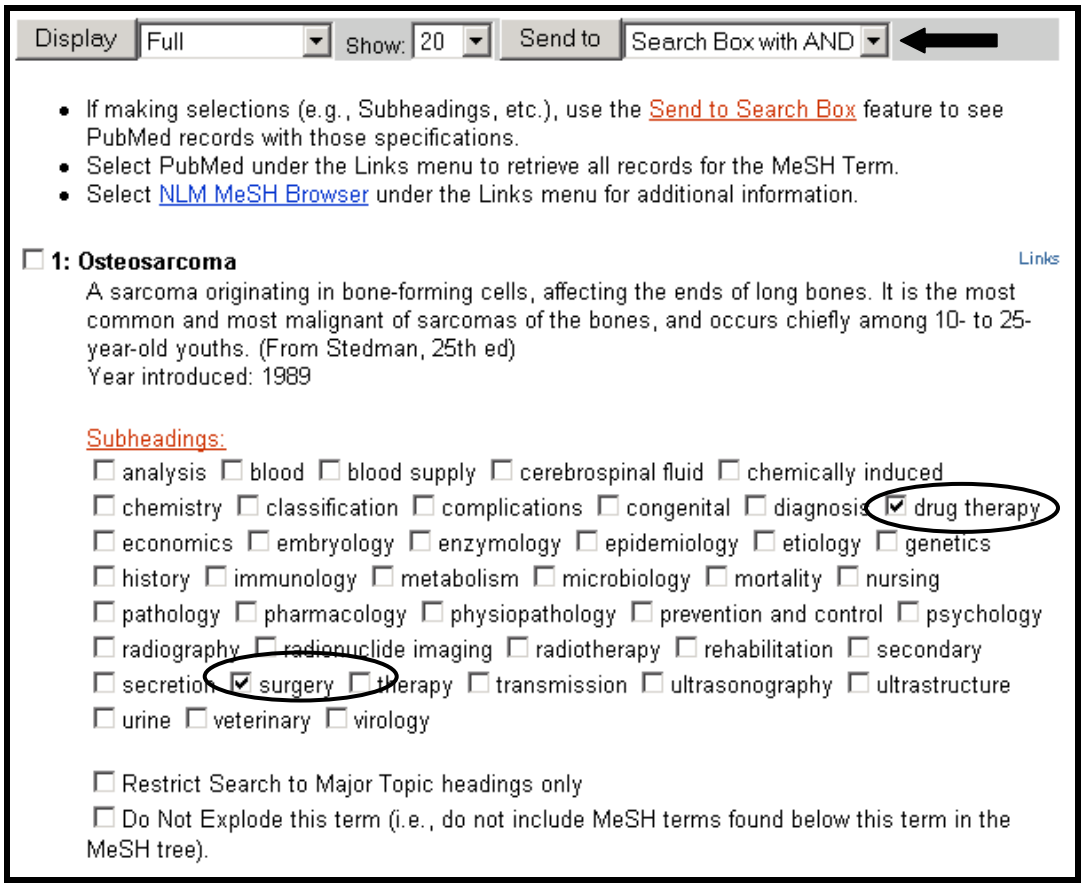


2. Find citations to articles discussing the surgical or drug treatment of osteosarcoma in children. (Hint: Use subheadings.) Limit to studies involving the drug, cisplatin. Also, limit to English language articles.

Choosing appropriate subheadings from the Full display for Osteosarcoma:

*Once specifications are checked, click on "Search Box with AND" and click on the **Send to** button.*

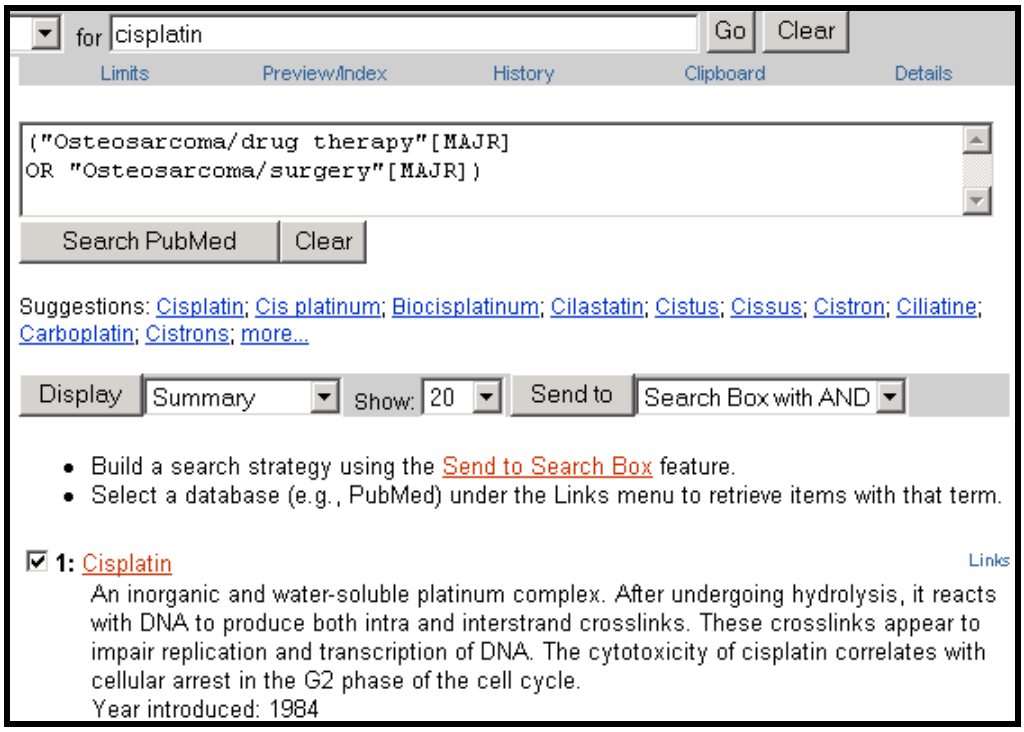
Check the two appropriate subheadings.



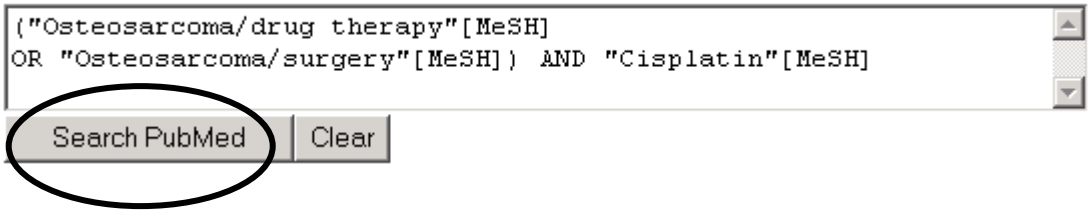
Searching Cisplatin and sending the term to the search box as you build your strategy:

*Once term is selected, click on **Send to** button.*

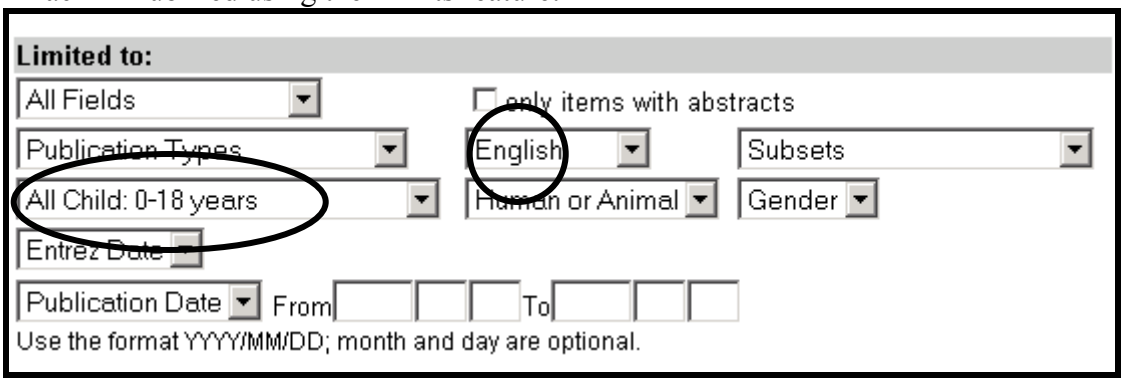
Check the term.



Now, let's take this strategy into PubMed and then continue our search from PubMed using the Limits feature.

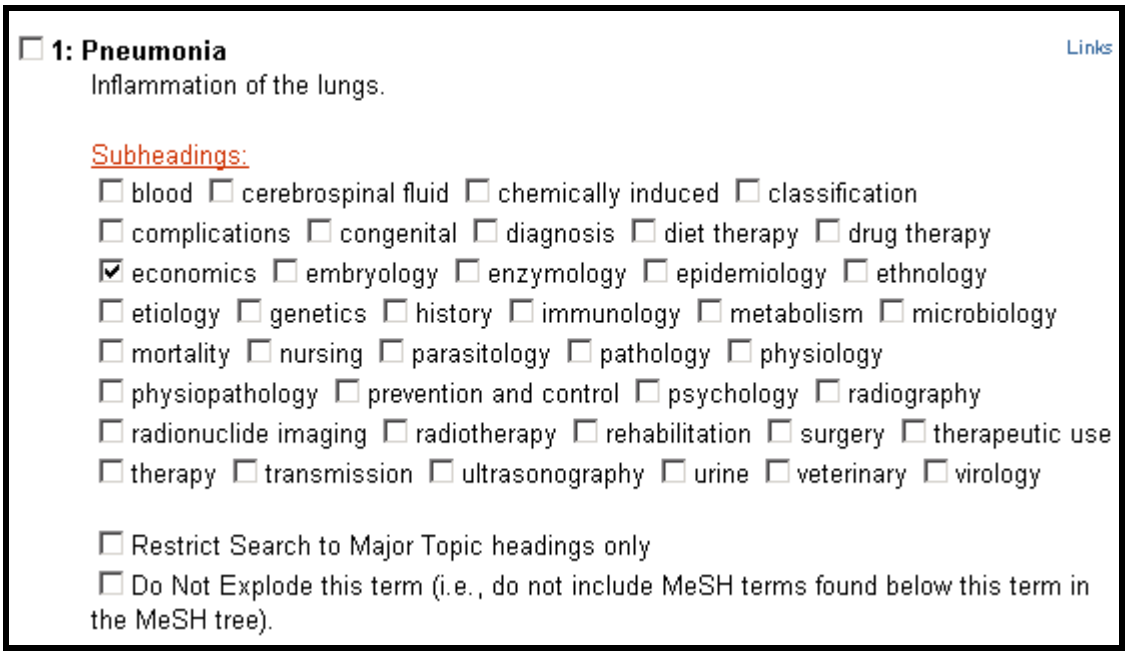


Back in PubMed using the Limits feature:

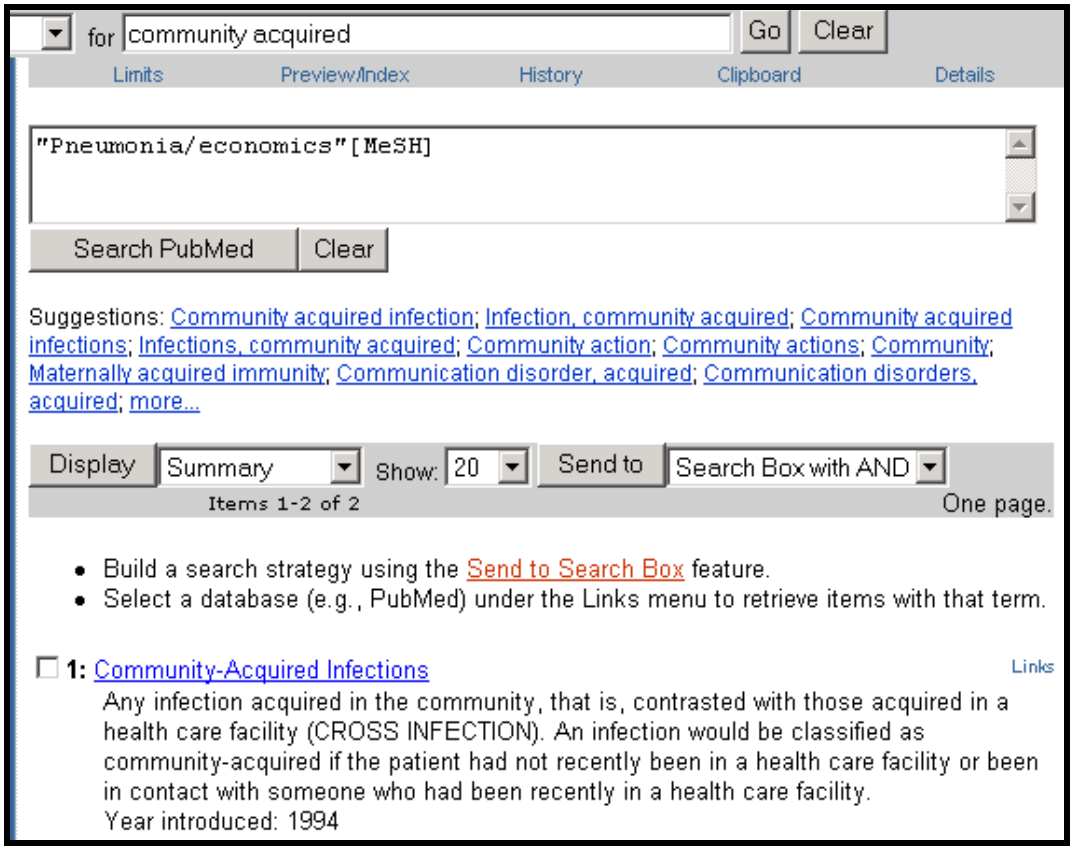


3. Find references discussing the economics of community-acquired pneumonia.

Selecting the subheading of economics to attach to the MeSH heading, pneumonia from the Full display in the MeSH database:

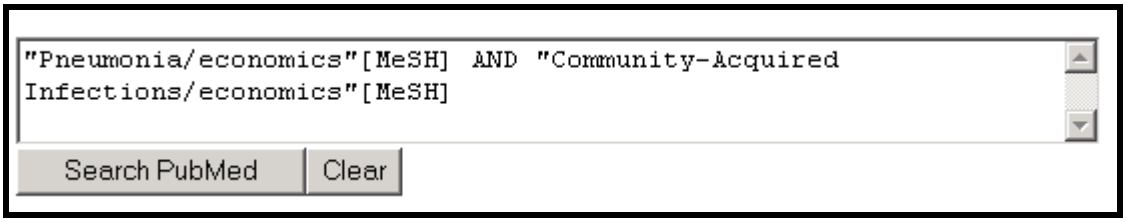


Searching for the next term:

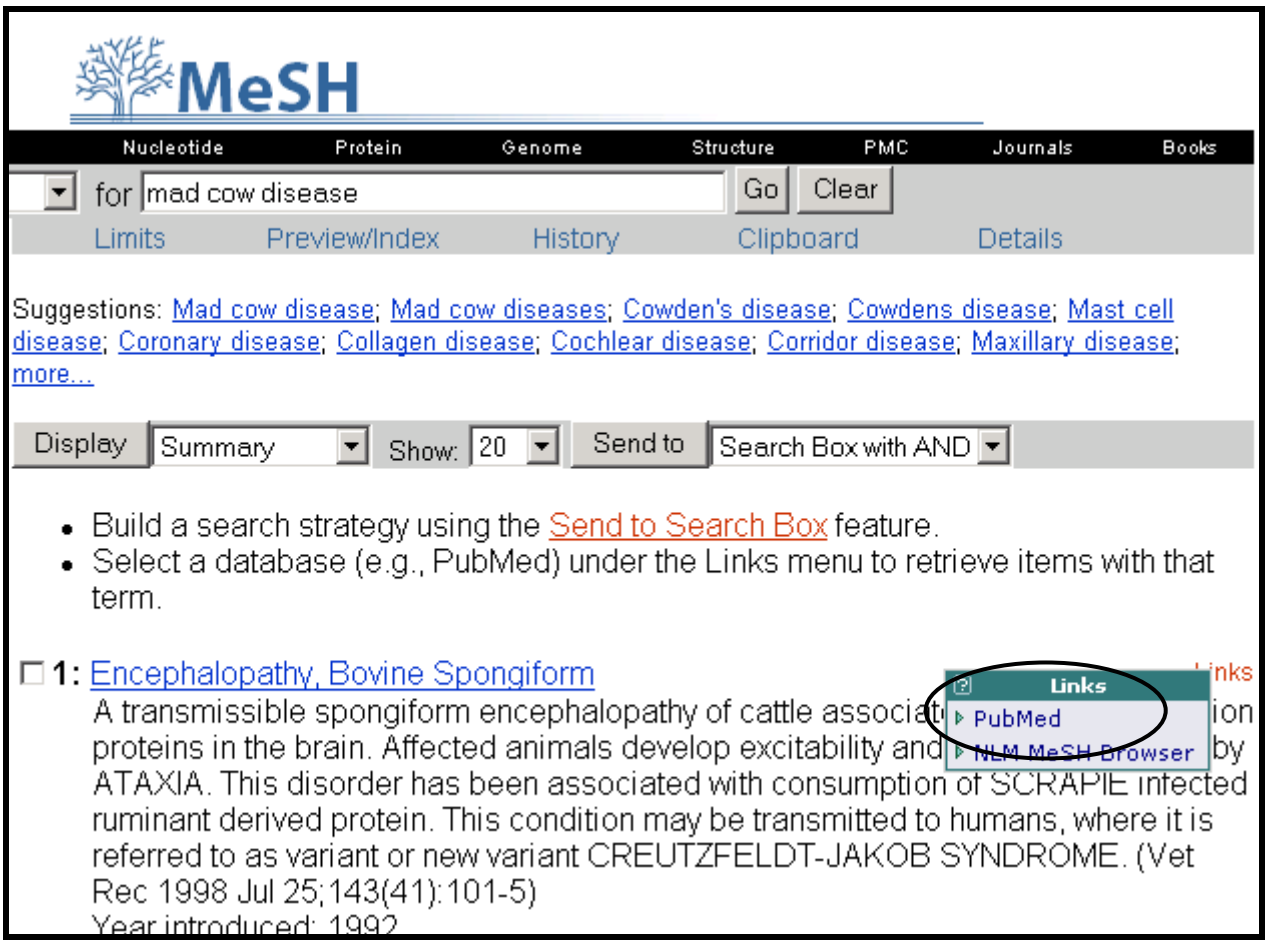


Read the Scope Note. If relevant, click on the term to see the Full Display for more information including subheadings.

Final strategy ready to send to PubMed:



4. Using the MeSH database, find the proper term for mad cow disease. Use the Links menu to search the term in PubMed.



N O T E S

Search Rules and Syntax

Boolean Operators

Boolean logic is a system of logic that symbolically represents relationships between entities.

- The Boolean operators AND, OR, NOT must be entered in uppercase letters.
- Boolean connectors are processed left to right.

Logical Operator **AND:**
- Used to retrieve a set in which each citation contains all search terms.
- Each term is combined with the others by the **AND** operator.
- Use **AND** when you want articles on the intersection of multiple terms.

Example: **salmonella AND hamburger**

Logical Operator **OR:**
- Used to retrieve a set in which each citation contains at least one of the search terms.
- Each term is combined with others by the **OR** operator.
- Use **OR** when you want to pull together articles on similar topics.

Example: **football OR hockey OR soccer**

Logical Operator **NOT**
- Retrieves a set from which citations to articles containing specified search terms following the **NOT** operator are eliminated.
- Use **NOT** when you want to exclude citations to articles about a certain topic.
- Use the **NOT** operator with caution; you might eliminate relevant articles.

Example: **arthritis NOT letter**

Nesting

- To change the order in which terms are processed, enclose the terms(s) in parentheses. The terms inside the set of parentheses will be processed as a unit and then incorporated into the overall strategy. **This is called nesting.**

Example: *shoulder joint [mh] AND (baseball [mh] OR hockey [mh]) AND arthroscopy [mh]*

Search Field Descriptions

- Search fields can be specified using PubMed's search field tags. A list of the available field names, abbreviations, and brief field descriptions may be found in PubMed Help under Search Field Descriptions and Tags.

- Each search term should be followed with the appropriate search field tag, which indicates which field will be searched. The search field tag must follow the term.

  Correct entry: aromatherapy [mh]
  Incorrect entry: [mh] aromatherapy

- Search field tags must be enclosed in **square brackets**.

- Case and spacing do not matter: ice [mh] = Ice [mh] = ICE [MH]

Not all searchable fields are included in this workbook section. See Search Field Tags under Search Field Qualification in PubMed's Help for a complete description.

MeSH headings [MH]

- MeSH headings can be qualified using two search field tags:
  [mh] to search a MeSH heading
  [majr] to search a MeSH heading that is a major topic of an article

- PubMed **automatically** searches the MeSH headings as well as the more specific terms beneath that heading in the MeSH hierarchy; i.e., **the term is exploded**.

- To turn off automatic explosion of MeSH headings, use one of the following tags:
  [mh:noexp] or [majr:noexp]

Example: *thromboembolism [majr:noexp]*

Alternatively, consider using the "Do not explode" selection from the Detailed Display in the MeSH Browser.

Searching with MeSH headings will exclude in process and publisher-supplied citations, as they are not indexed with MeSH.

Subheadings [SH]

- You can directly attach subheadings to MeSH headings using the format MeSH heading/subheading.

- Two letter abbreviations for subheadings or the full subheading name may be used.

Examples:

thromboembolism/pc [mh]
thromboembolism/prevention and control [mh]
toes/in [majr]
toes/injuries [majr]

- Only one subheading may be attached to a MeSH heading at a time. To attach multiple subheadings, combine each MeSH/subheading combination with the OR connector or use the MeSH Browser.

Example: *Thromboembolism/pc [majr] OR thromboembolism/di [majr]*

- For a MeSH/subheading combination, PubMed always explodes the MeSH term and also searches the subheading and its grouping if there is one.

In the example below, the subheading therapy or members of the therapy grouping (e.g., diet therapy) will be attached to the MeSH term (hypertension) or one of its indentions (e.g., hypertension, malignant).

Example: *hypertension/th*

Hypertension with its indentions:

Hypertension
- Hypertension, Malignant
  - Hypertensive Encephalopathy
- Hypertension, Portal
  - Esophageal and Gastric Varices
- Hypertension, Pulmonary
  - Persistent Fetal Circulation Syndrome
- Hypertension, Renal
  - Hypertension, Renovascular
  - Nephrosclerosis

Subheading grouping for therapy:

therapy
- diet therapy
- drug therapy
- nursing
- prevention and control
- radiotherapy
- rehabilitation
- surgery
  - transplantation

Sample of citation results showing a portion of the MeSH terms assigned to three citations:

Citation 1:
Platelet eicosanoids and the effect of captopril in blood pressure regulation.

- Fatty Acids, Unsaturated/metabolism
- Fatty Acids, Unsaturated/biosynthesis
- Hypertension/drug therapy
- Lipoxygenase/metabolism

Citation 2:
Hypertension in Pregnancy

- Hypertension/drug therapy*
- Hypertension/diagnosis*
- Pregnancy

Citation 3:
Salt: blood pressure, the kidney, and other harmful effects.

- Hypertension, Renal/metabolism
- Hypertension, Renal/etiology*
- Hypertension, Renal/diet therapy
- Rats
- Sodium Chloride/urine

A list of subheadings and subheading groupings appears in PubMed's Help.

To **turn off both** the MeSH heading explosion and subheading groupings, you would enter:

hypertension/th [mh:noexp]
hypertension/th [majr:noexp]

These search for **only** the subheading therapy attached to **only** the MeSH term hypertension (with "majr," only as the main point).

- You may also choose to "free-float" a subheading with a MeSH heading using the Boolean AND and the subheading field tag of [sh]. This is typically done when you want to search for a subheading that cannot be applied to the MeSH heading you are also searching.

Example:

child rearing [mh] AND complications [sh]

- To **turn off the subheading grouping**, use the tag [sh:noexp]. You may *only* do this when "free-floating" a subheading.

Pharmacologic Action [PA]

- Use of a term with the Pharmacologic Action [pa] field tag instructs PubMed to OR together terms from a list made up of a PA term and the drug/substance terms known to have that action.
- Any MeSH terms on the list are searched with the no explode specification, [mh:noexp], so as not to include possible indentions of the term that might not share the pharmacologic action.

Why?

- Use this search method when you want to include retrieval for all MeSH terms with a particular pharmacologic action.

Example:

neoplasms [mh] AND antioxidants [pa]

If you enter a MeSH term that happens to be a PA term, without using a field tag, PubMed will search the term as [mh], [pa], and [tw].

Truncation Symbol

- The asterisk (*) is PubMed's truncation symbol.

Text Words [TW]

- Terms or numbers that are searched with the Text Words [tw] field tag will be searched in the following fields:
    - Title
    - Abstract
    - MeSH headings and Subheading (includes single words and phrases)
    - Other Terms field
    - Chemical Names of Substances
    - Secondary Source Identifier (The SI field identifies other data sources, databanks and accession numbers of molecular sequences discussed in MEDLINE articles.)
    - Personal Name as Subject

Other Terms [OT]

- The Other Terms field contains largely non-MeSH subject terms.
- For OLDMEDLINE citations, this field contains the original index terms. These terms are not updated.
- The OT field is searchable with the Text Word and Other Term search tags.

Example:

tuberculin test [ot]

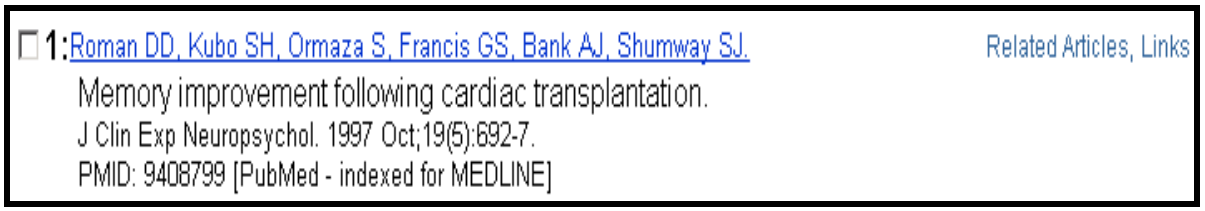
Title Word Searching [TI]

- Enter significant terms (numbers, too) from the title of an article.
- Each word must be followed by the [TI] search field tag.
- Words should be combined with the AND operator.

Example: *I'm looking for an article. The title is "Memory improvement following cardiac transplantation".*

Query box: memory [ti] AND improvement [ti] AND cardiac [ti] AND transplantation [ti]

Result:

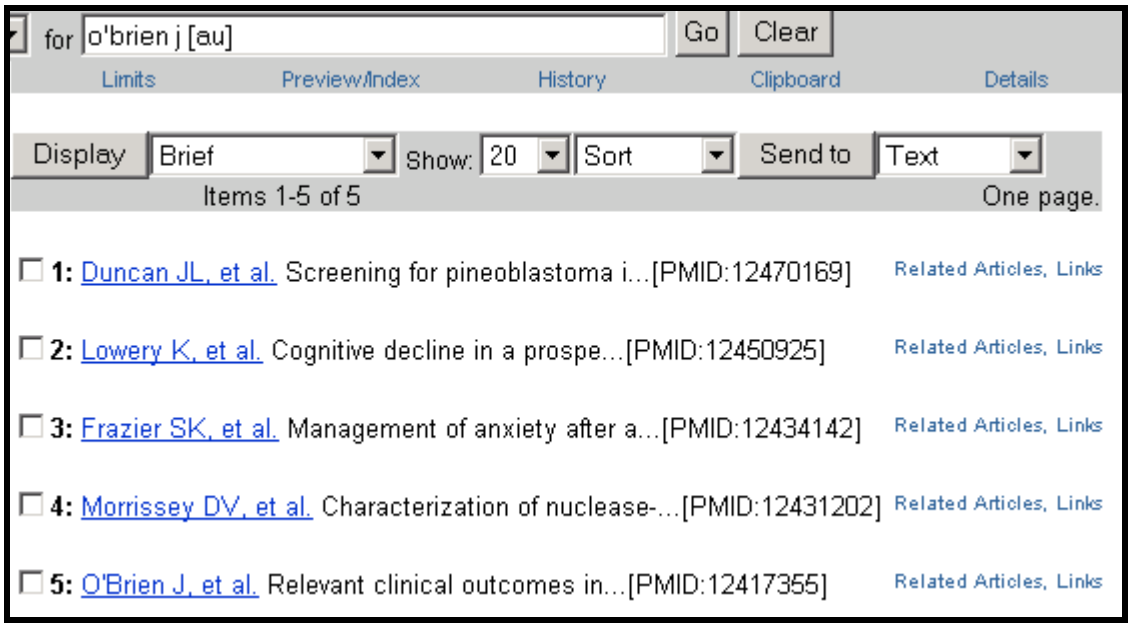


Consider using the Single Citation Matcher available from the sidebar. When using Single Citation Matcher, you do not have to tag each title word.

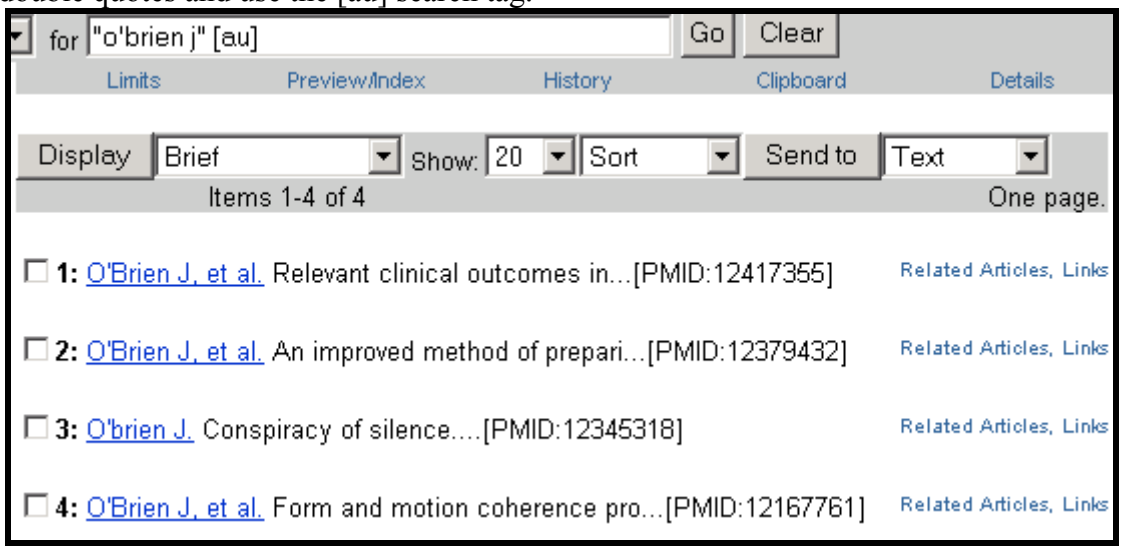
Author Searching [AU]

- Use the "Last Name Initials" format with the [au] tag. Example: o'brien j [au]
- If the first initial is included, PubMed automatically truncates the author's name to account for varying initials.

Example: *o'brien j [au]*



- To **turn off automatic truncation of an author's name,** surround the author's name with double quotes and use the [au] search tag.

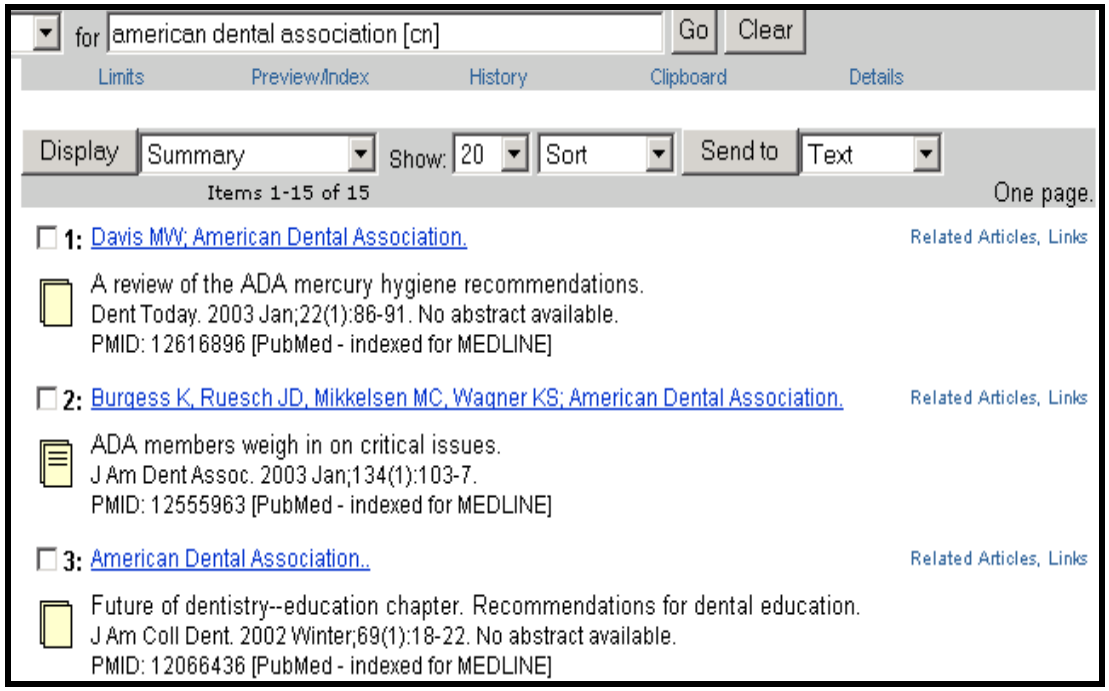


Corporate Author [CN]

- Use the [cn] tag to search for corporate authorship of an article. Search the whole name or individual words from the name.

Examples: *american dental association [cn]*
american [cn] AND dental [cn] AND association [cn]

Notice that the Corporate Author appears after a semi-colon following the author names, or, if there are no author names, in that part of the citation.



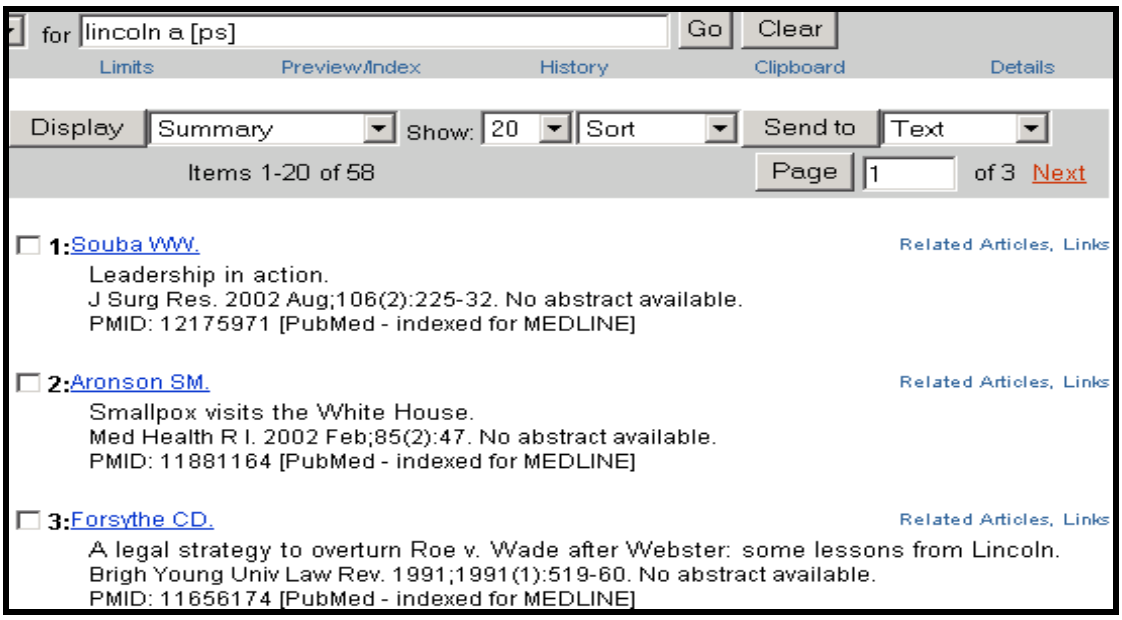
This field was added in 2001; however some earlier citations may include this field. Citations indexed pre-2000 and some citations indexed in 2000-2001 display corporate authors at the end of the title field. For comprehensive searches, consider including terms and/or words searched in the title field. Example:
american dental association [cn] OR american dental association [ti]

Personal Name as Subject [PS]

- Use the [ps] tag to search for citations to articles about a named individual. The name is searched in the same format as for authors.

The Personal Name as Subject field is *not* available from the Search Field pull-down menu in Limits.

Example: *lincoln a [ps]*



Journal Title [TA]

- Search for journals using the full journal title, or the MEDLINE abbreviation, or the ISSN.

Examples: journal of biological chemistry [ta]
j biol chem [ta]
0021-9258 [ta]

All single-word journal titles should be tagged with [ta].

Example: *cell [ta]*

Languages [LA]

- The language the article is written in.
- First three letters of the language may be used as an abbreviation when searching. (There are a few exceptions. Example: JPN for Japanese)
  Language values may also be spelled out.

Examples:
common cold [mh] AND chi [la]
common cold [mh] AND chinese [la]
common cold [mh] AND por [la]
common cold [mh] AND portuguese [la]

Commonly-searched **Languages** are available from the pull-down menu in Limits. The full list of **Languages** can be viewed and searched using the Preview/Index feature.

Entrez Date [EDAT]

- The Entrez Date field contains the date that the record was initially added to PubMed.
- Search this in the format yyyy/mm/dd [edat]

Example: *1999/07/10 [edat]*

- Month and day are optional:

Example: *1999 [edat]*
Example: *1999/07 [edat]*

Be aware that the Entrez Date will remain unchanged and is not updated to reflect the date a publisher-supplied record is elevated to in process, or when an in process record is elevated to MEDLINE status.

The Entrez Date pull-down menus in Limits make searching and ranging this date easy.

Publication Date [DP]

- The date that the article was published in the format of YYYY/MM/DD.
- Use the [dp] search tag.

Example: *1984/10/06 [dp]*

- Month and day are optional:

Example: *1984/10 [dp]*
Example: *1984 [dp]*

Date Ranging (EDAT and DP)

- The colon (:) is used between ranging values.
- To search on Publication Date from 1993 to 1997, enter:

  1993:1997 [dp]

- To search on a date, use the format YYYY/MM/DD

Example 1: *Search on citations entered into PubMed from Jan 16, 1998 to Feb 13, 1998*

1998/01/16:1998/02/13 [edat] where edat is the abbreviation for Entrez Date

Example 2: *Search on citations published in January or February 1998*

1998/01:1998/02 [dp]

The Publication Date fill-in-the-blank selection in Limits makes searching and ranging dates easy.

Publication Type [PT]

- Describes the type of material the citation represents
- Examples: Twin Study, News, Review, Clinical Trial, Retracted Publication, Letter
- Use the [pt] tag for searching

Example: *vascular diseases [majr] AND twin study [pt]*

PubMed's Help includes a listing of all available Publication Types.

Commonly-searched **Publication Types** are available from the pull-down menu in Limits. Use the Preview/Index feature to view and search Publication Types.

Place of Publication [PL]

- This field indicates the cited journal's country of publication.
- Use the [pl] tag.

Example: *aids AND nigeria [pl]*

Geographic Place of Publication regions are not searchable. In order to retrieve records for all countries in a region (e.g., North America), it is necessary to OR together the countries of interest.

Subset [SB]

- Allows you to limit your search to various PubMed subsets.
- Use the [sb] tag for searching
- Available values include:

Citation Status Subsets	Subject Subsets	PubMed Central	Full Text
medline [sb]	aids [sb]	pubmed pmc local [sb]	free full text [sb]
in process [sb]	bioethics [sb]		full text [sb]
publisher [sb]	cam [sb] (Complementary Medicine)		
oldmedline [sb]	cancer [sb]		
pubmednotmedline[sb]*	history [sb]		
	space [sb]		
	systematic [sb] (Systematic Reviews)		
	tox [sb] (Toxicology)		

*This retrieves citations with the status tag, [PubMed].

Example: *hospice care AND aids [sb]*

Each Subject Subset uses its own specialized search strategy to aid in the retrieval of citations on these topics. You may view these strategies at http://www.nlm.nih.gov/bsd/pubmed_subsets.html.

Limiting to published journal indexes

- The following values are available:

Core clinical journals	jsubsetaim
Dental journals	jsubsetd
Nursing journals	jsubsetn

Do **not** use a search tag; just use the search value.
Example: *baseball AND jsubsetaim*
You may select subsets (except in process, publisher, systematic, free full text, and full text) from the pull-down menu in Limits.

Secondary Source Identifier [SI]

- Identifies a secondary source that supplies information, e.g., other data sources, databanks and accession numbers of molecular sequences.
- Use the [si] search tag.

Example: GENBANK/AF113832 [si]

- The field is composed of a source followed by a slash followed by an accession number.

Unique Identifier Searching

- To search using the PubMed Unique Identifier (PMID), type in the number with or without the search field tag [uid].

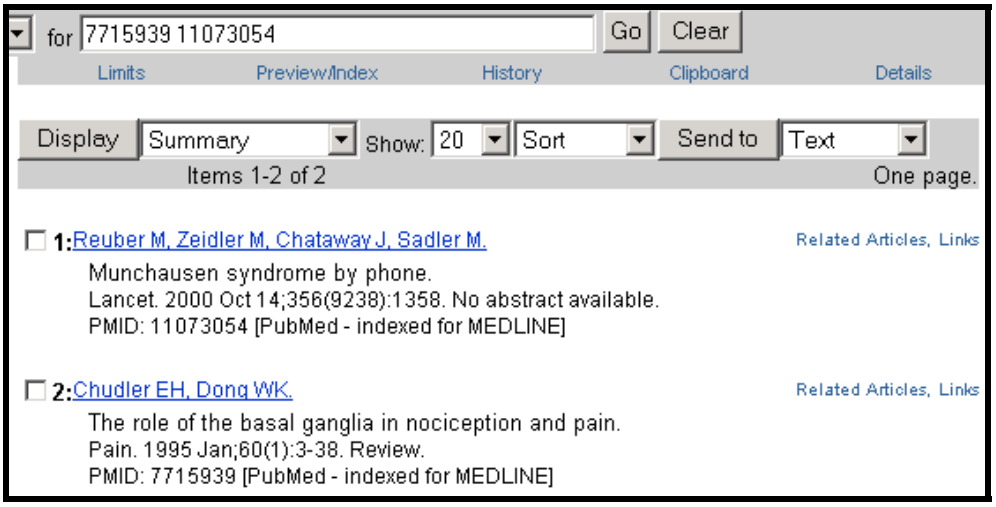
Example: *11073054*

- You can search for several Unique Identifier numbers by entering each number in the query box separated by a space, PubMed will OR them together. Do ***not*** enter the OR connector.

Example: *7715939 11073054*

Unique Identifiers as entered in the query box.

PubMed finds the 2 citations.



- To search a **Unique Identifier in combination with other terms** you ***must*** use the search field tag, [uid].

Example: *smith [au] AND (10403340 [uid] OR vaccines [mh])*

Affiliation [AD]

- May include the institutional affiliation and address (including email address) of the first author of the article as it appears in the journal.
- Use the [ad] search tag.
- This field can be used to search for work done at specific institutions.

Example: *cleveland [ad] AND clinic [ad]*

Grant Number [GR]

- Research grant numbers, contract numbers, or both that designates financial support by an agency of the US PHS (Public Health Service).
- Use the [gr] search tag.

Example: *LM05545/lm/nlm [gr]*

- The three pieces of the grant number (e.g., LM05545 – number; LM – acronym; and NLM – institute mnemonic) are each individually searchable using the [gr] tag.

Example: *nlm [gr]*

PubMed's online Help includes a table listing Institute Abbreviations and Acronyms.

Limiting to citations with abstracts

- Use the value: hasabstract

Do ***not*** use a field tag; just use the search value.

Example: *baseball AND hasabstract*

The "only items with abstracts" selection in Limits makes restricting to only items with abstracts easy.

N O T E S

Practice Exercises

[The practice exercises may be done outside of the monitored class time.]

Use search field tags when doing these exercises. Remember you can use the History feature to obtain search numbers to combine searches.

1. Find references to articles discussing decision-making by nurse practitioners. The phrase decision-making should be in the title.

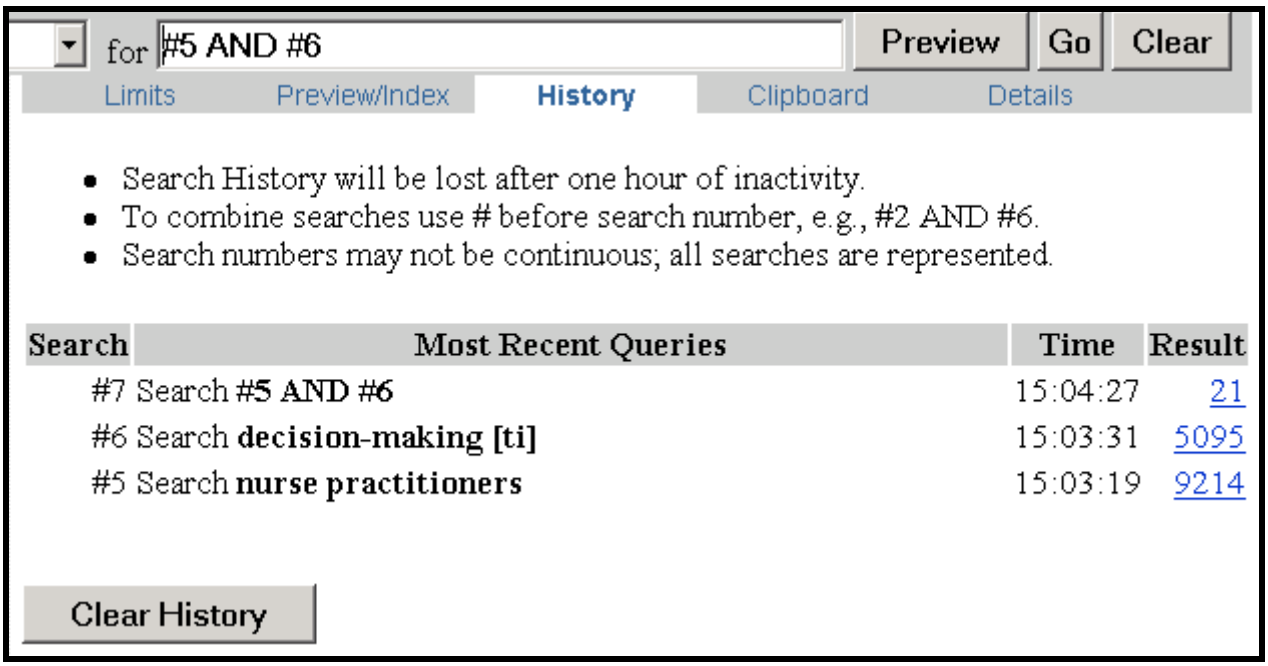
2. Find references to articles about Winston Churchill.

3. Find references to articles indexed with the MeSH headings for video display terminals and carpal tunnel syndrome. Use the Related Articles feature to find similar articles. Combine the list of Related Articles with the publication type, Review. (Hint: Use History.)

4. Using the MeSH database, find citations to articles about the prevention of chickenpox or measles during pregnancy. Combine these results to retrieve English language articles that have abstracts on the PubMed citation.

Suggested Answers

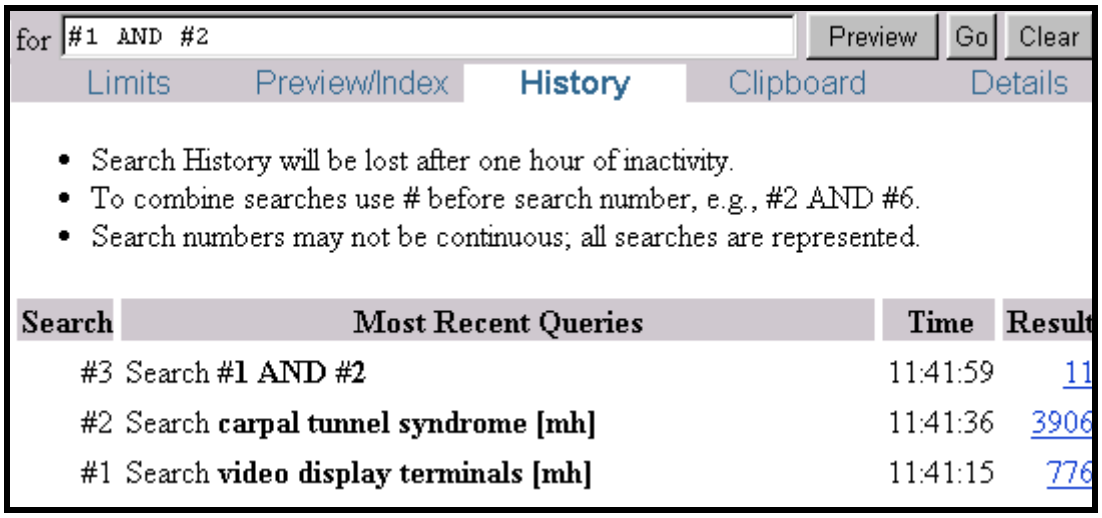
1. Find references to articles discussing decision-making by nurse practitioners. The phrase decision-making should be in the title.



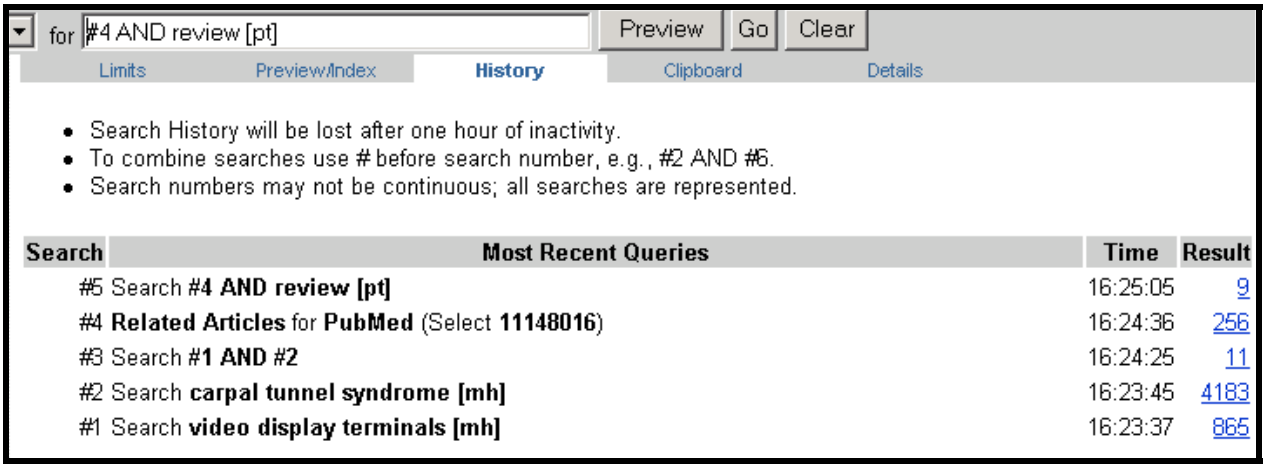
2. Find references to articles about Winston Churchill.

3. Find references to articles indexed with the MeSH headings for video display terminals and carpal tunnel syndrome. Use the Related Articles feature to find similar articles. Combine the list of Related Articles with the publication type, Review. (Hint: Use History.)

   History screen:



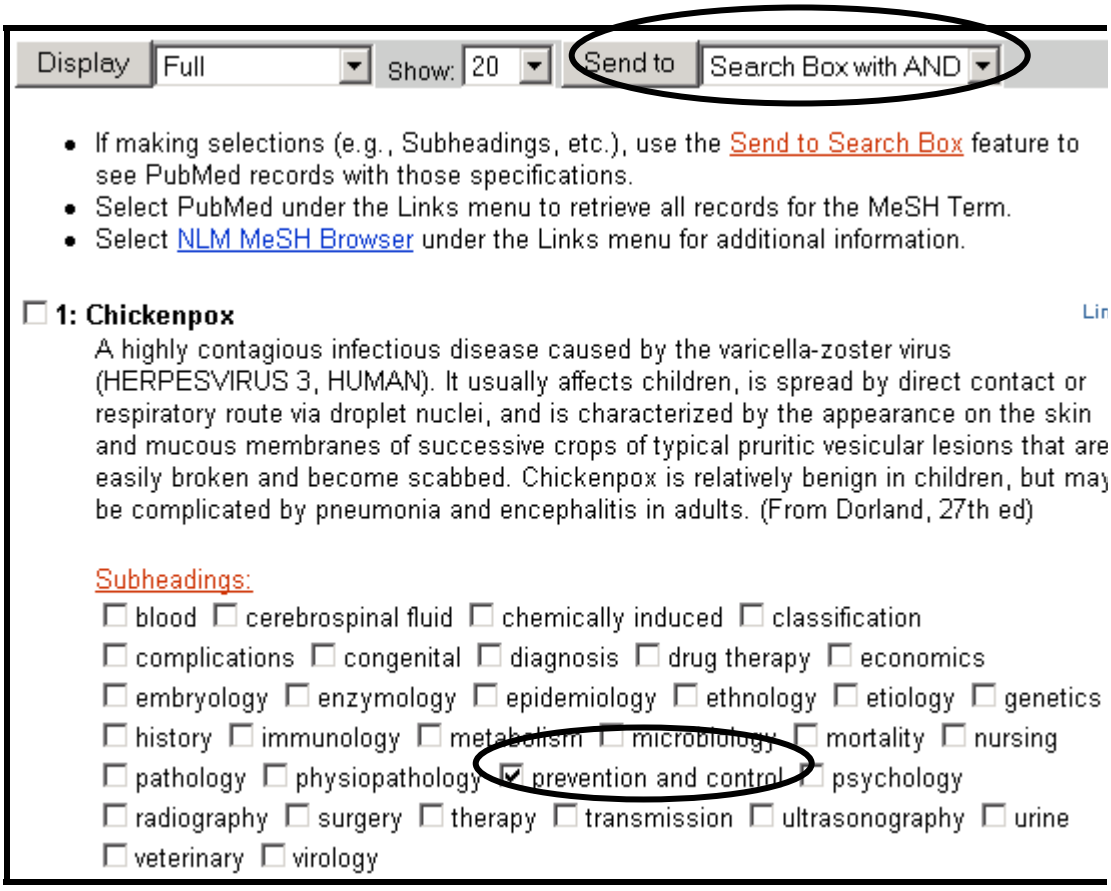
   Final History screen:



4. Using the MeSH database, find citations to articles about the prevention of chickenpox or measles during pregnancy. Combine these results to retrieve English language articles that have abstracts on the PubMed citation.

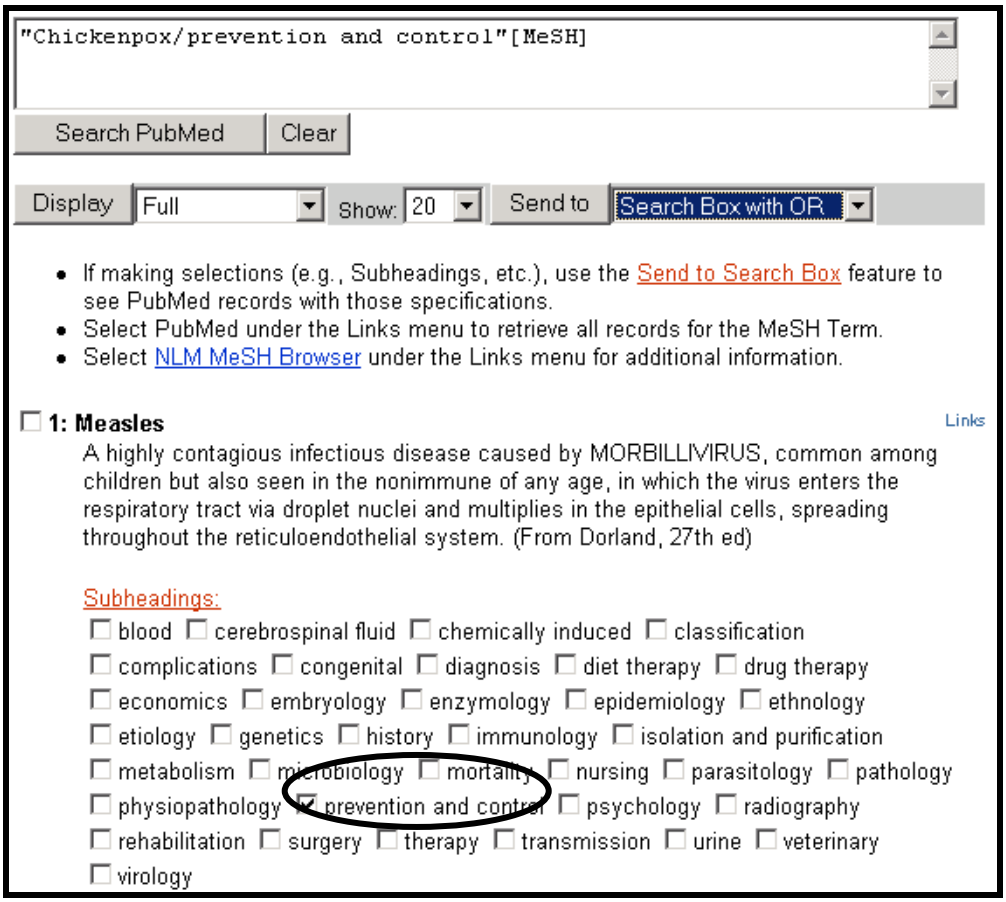
Full display for the MeSH term Chickenpox with the subheading prevention & control selected:

*Click **Send to** to begin to build your strategy .*



Next, search measles in the MeSH database and review the Full display. Select the prevention & control subheading:

*Select **Search Box with OR and click Send to**.*

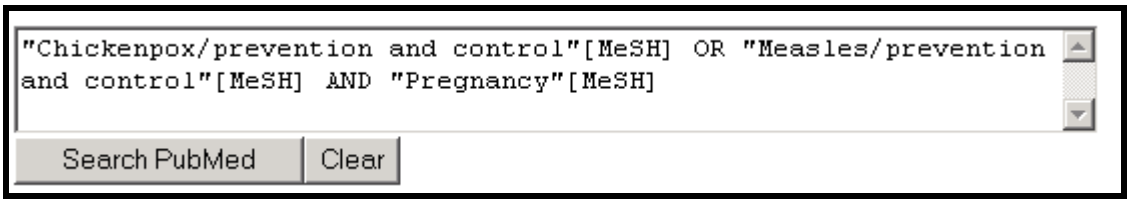


Next, enter pregnancy. No need to look at the Full display, check the term and click on the **Send to** button to AND this term into your strategy.

*After selections are made, click on the **Send to** button.*

Click in the checkbox to select the term.

Next, click on the **Search PubMed** button to run the strategy in PubMed.



From the Results screen, click on **Limits**, select English from the **Languages** pull-down menu, and select the box next to **only items with abstracts**. Click the **Go** button.

Alternatively, click on the **PubMed Search** button from the MeSH Browser screen to run the strategy in PubMed. From the Details screen, add - AND eng [la] AND hasabstract. Click the **Search** button.

Clinical Queries

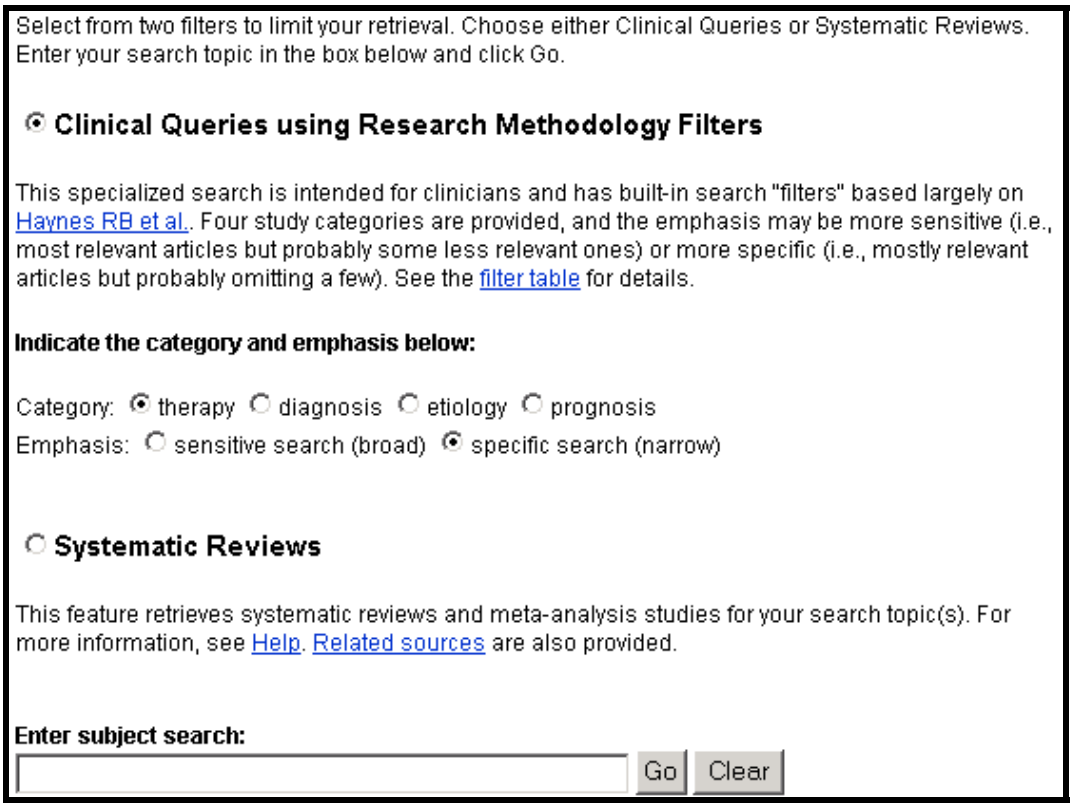
- Available on PubMed's sidebar
- There are two search filters available from this page:
  Clinical Queries
  Systematic Reviews

Clinical Queries
This specialized search query is intended for clinicians and has built-in search "filters" based on research done by R. Brian Haynes, M.D., Ph.D. at McMaster University in Canada.

Four study categories or filters are provided :
- therapy
- diagnosis
- etiology
- prognosis

Two emphasis categories or filters are provided:
- sensitivity (also referred to as " recall" -- includes relevant articles but probably some less relevant; will get more retrieval)
- specificity (also referred to as " precision" -- will get less retrieval)

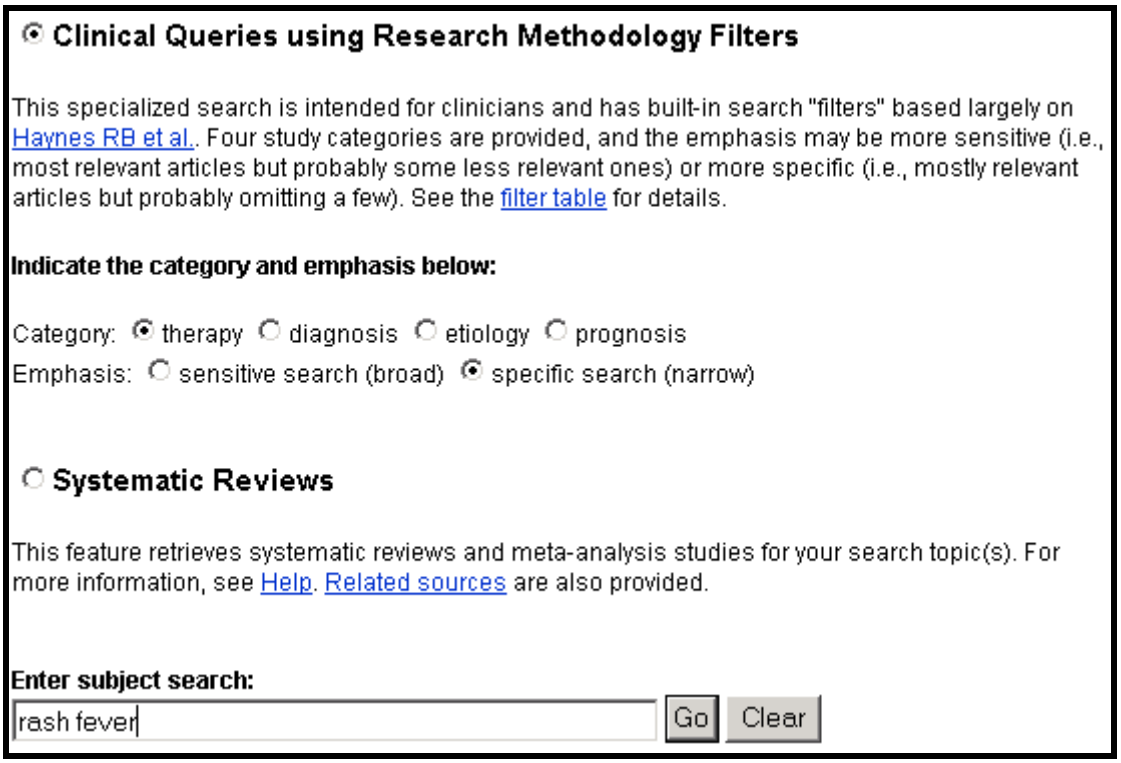
Clinical Queries Screen :



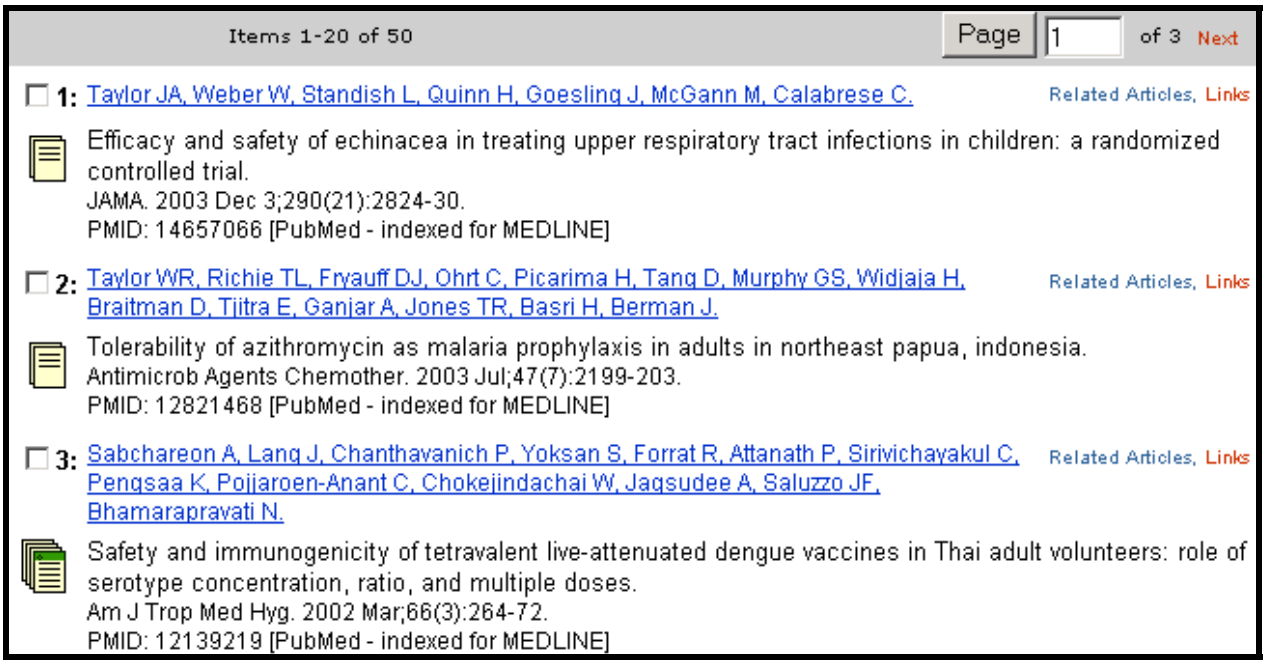
Links to Haynes citation and details about these filters.

The default filter category is **therapy**.
The default emphasis is **specific search (narrow)**.

Example: *Find citations on having a rash with a fever using the Clinical Queries defaults of therapy and specific search.*

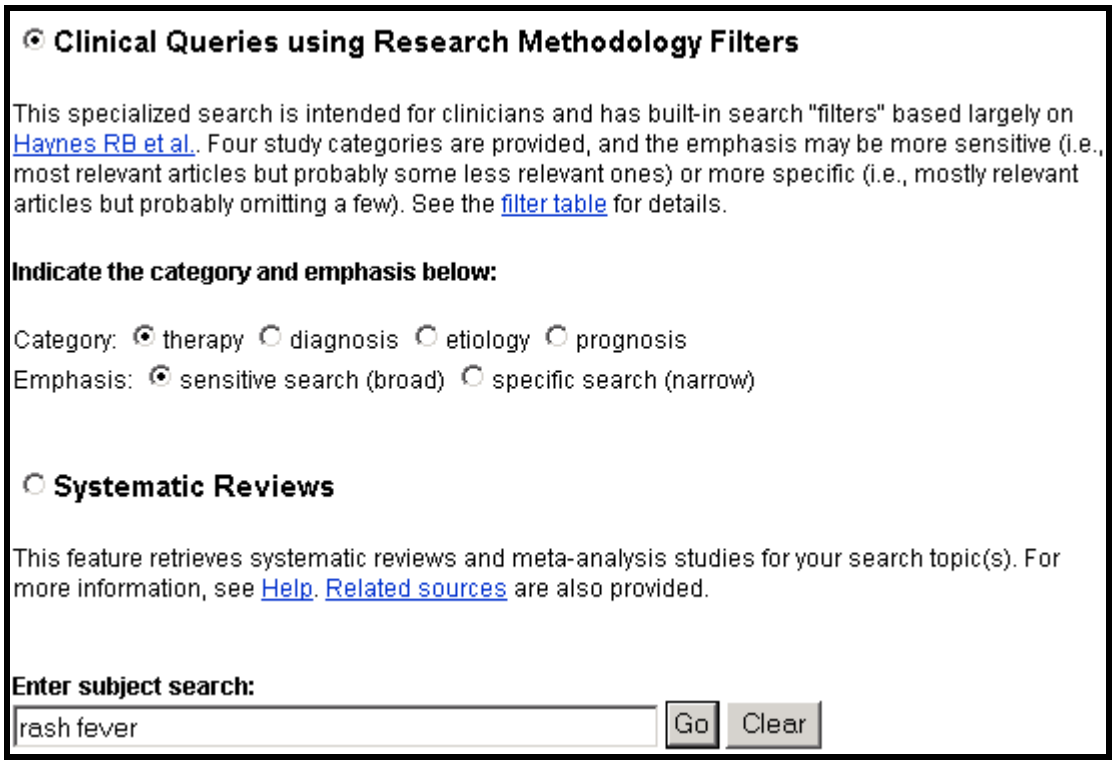


Search results using **therapy** category and **specific search** emphasis:

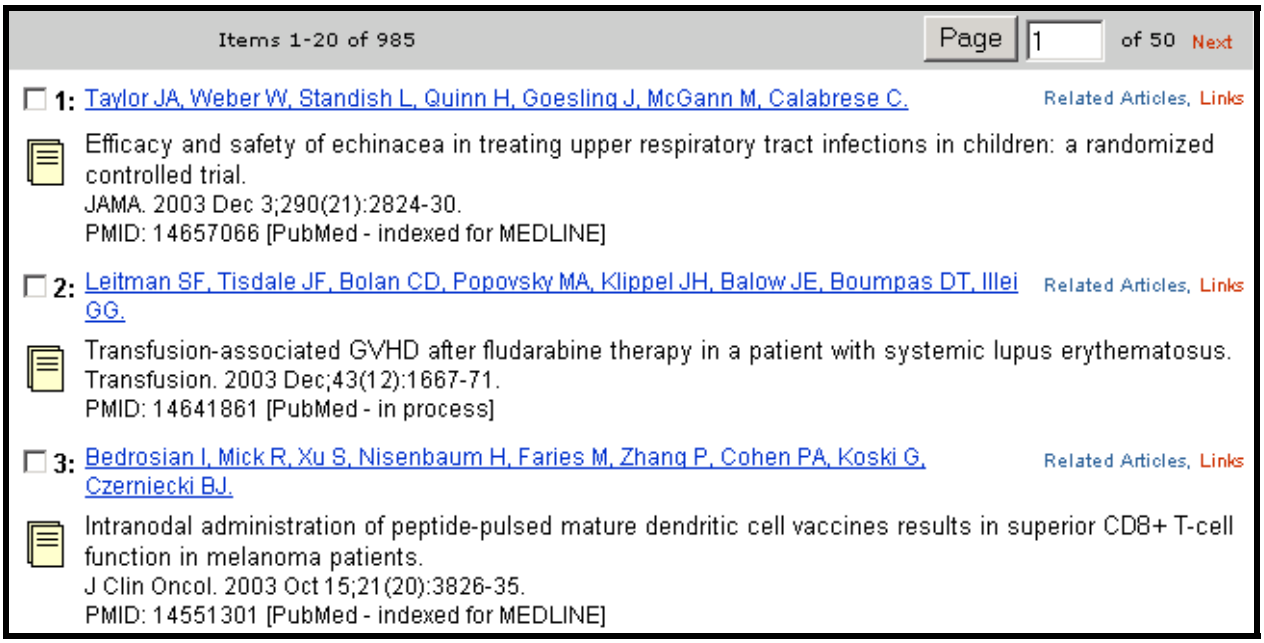


Repeat the search again using the category **therapy** and the emphasis **sensitive search**. We should see *higher* retrieval.

Select here.



Search results using therapy category and **sensitive search** emphasis:



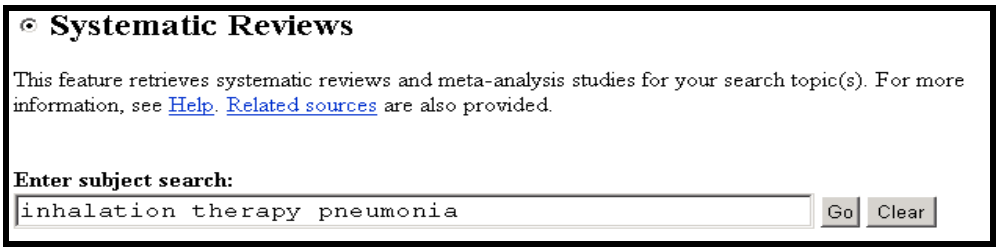
Systematic Reviews

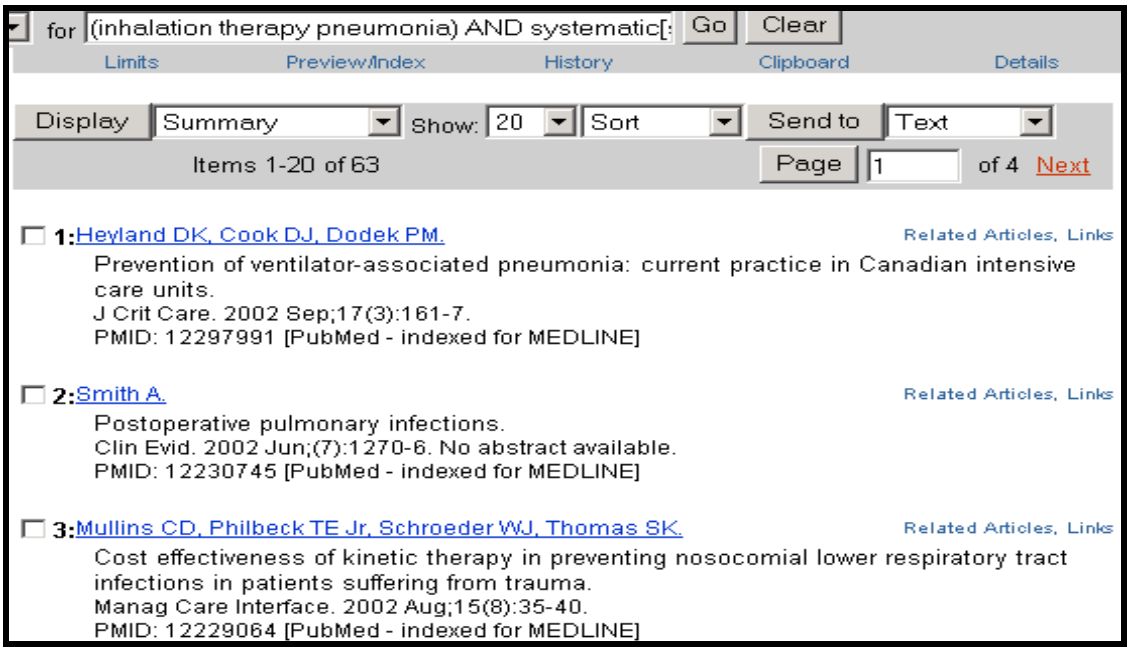
- This feature is provided to help clinicians locate systematic reviews and similar articles.
- It retrieves systematic reviews, meta-analyses, reviews of clinical trials, evidence-based medicine, consensus development conferences, and guidelines. Citations from journals specializing in clinical review studies are also included.

Example: *Find Systematic Reviews on inhalation therapy for pneumonia.*

Click on the radio button to search Systematic Reviews.

Enter search terms in the query box.





This subset can be combined directly with other search terms using AND systematic [sb]. For example, lyme disease AND systematic [sb].]

N O T E S

Single Citation Matcher

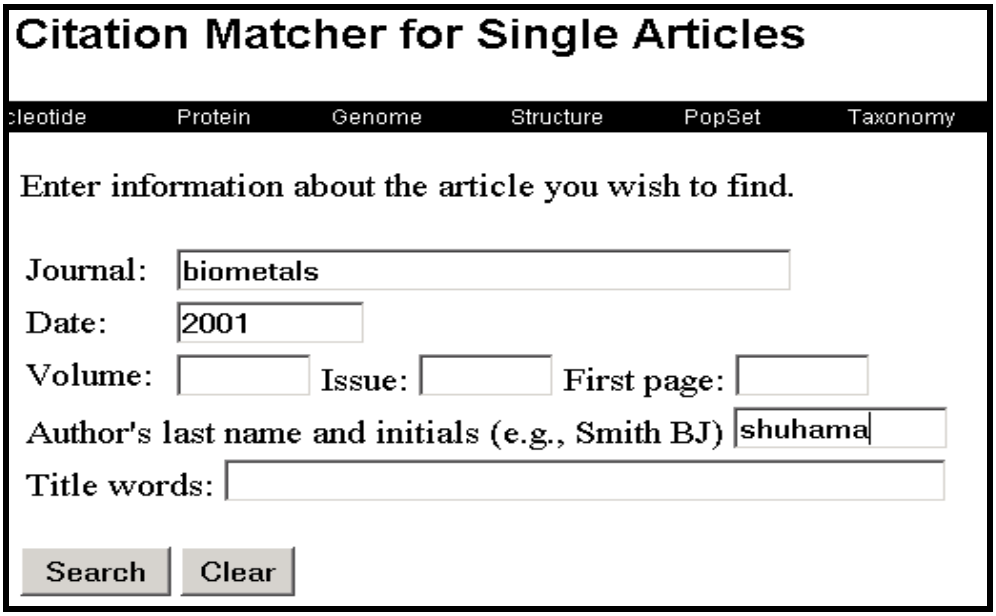
The **Single Citation Matcher** allows you to find a citation using information such as a journal name, volume, issue, page number, publication date, and title words.

How to Get There

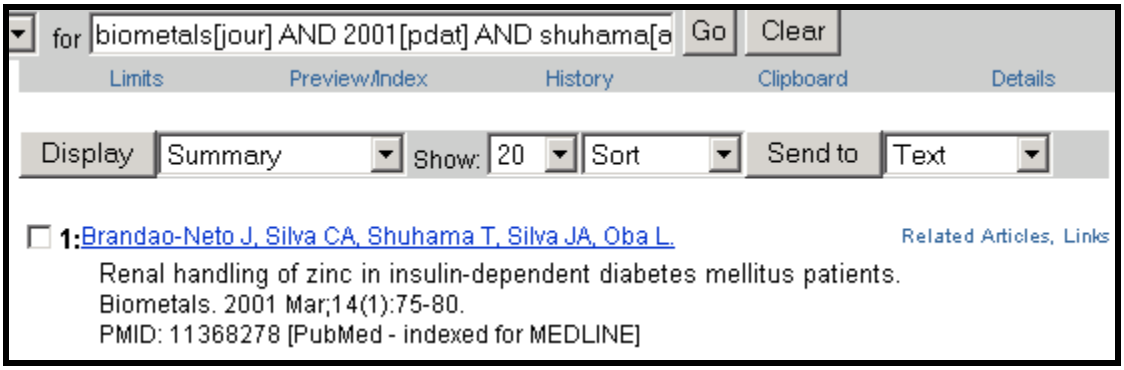
Click on **Single Citation Matcher** on the PubMed sidebar.

Example: *Biometals, 2001, one author is Shuhama*

- Enter as much information as you know, only one field is required.
- Click on the **Search** button



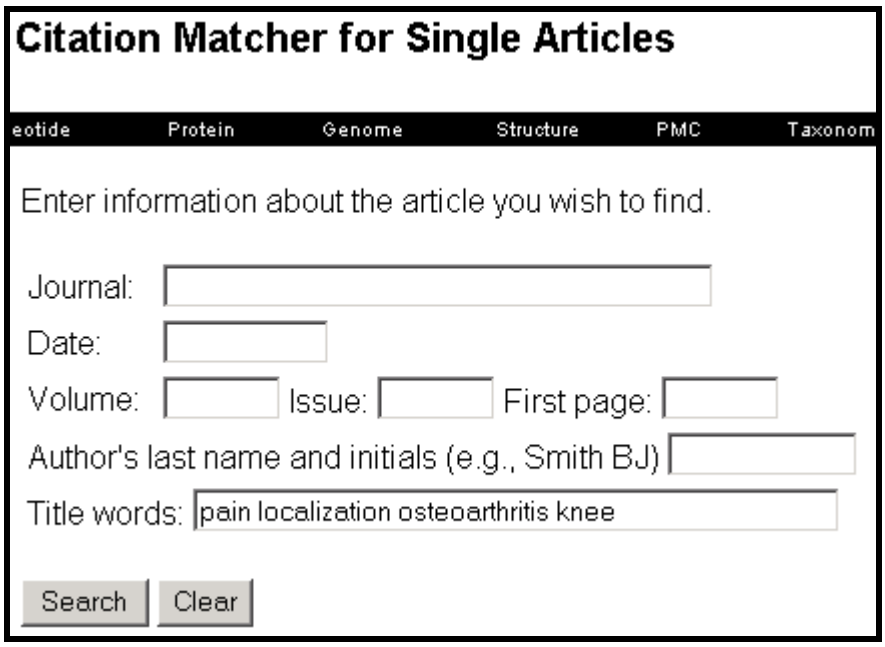
Result:



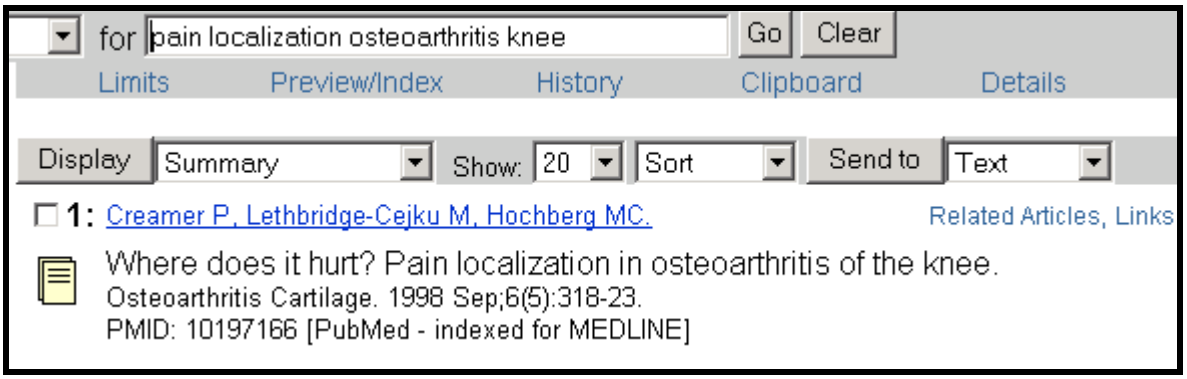
If you know four or more significant words from the title, that is often all that is needed to locate a reference.

Example: *You are looking for the citation for an article entitled, "Where does it hurt"? Pain localization in osteoarthritis in the knee."*

- Enter significant words from the title.
- Click on the **Search** button.



Result:



The **Single Citation Matcher** can also be used to get a "Table of Contents" listing of items from a particular issue of a journal in PubMed

The **Batch Citation Matcher** allows you to retrieve the PubMed IDs for many articles all at once. The feature requires that you enter the bibliographic information (journal, volume, page, etc.) in a specific format.

The Batch Citation Matcher is primarily a tool used by publishers to check their electronic submissions and links.

N O T E S

Practice Exercises

Try to find the references using the following information and PubMed's Single Citation Matcher:

1. Arthritis Rheum
1982
page 1271-7

2. R. G. Johnson
Journal of Thoracic and Cardiovascular Surgery
Jan 1998
Page 148

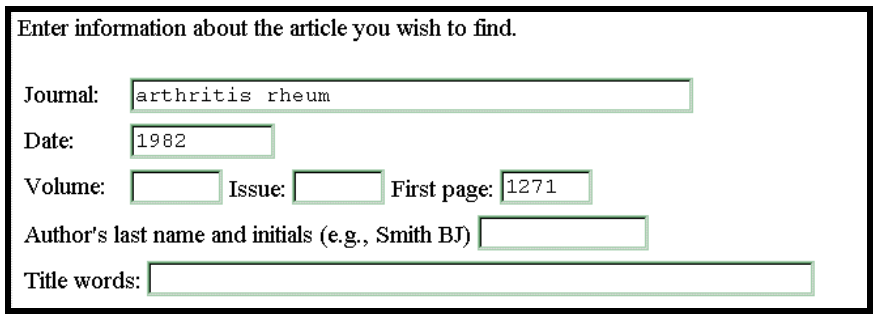
3. V. Lee
Biochemical Pharmacology
Vol. 29
Issue 14

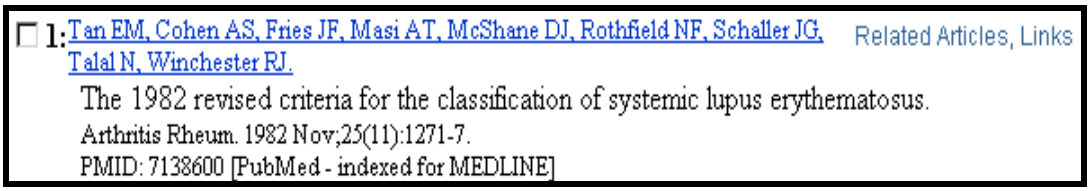
4. Vojvoda
Lancet
Jan. 6

Suggested Answers

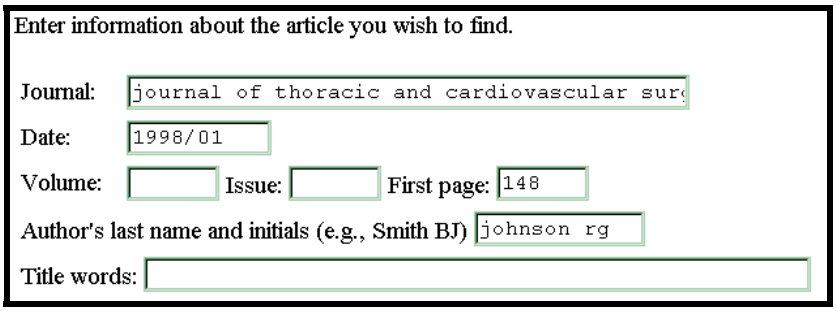
Try to find the following references using the following information and PubMed's Single Citation Matcher:

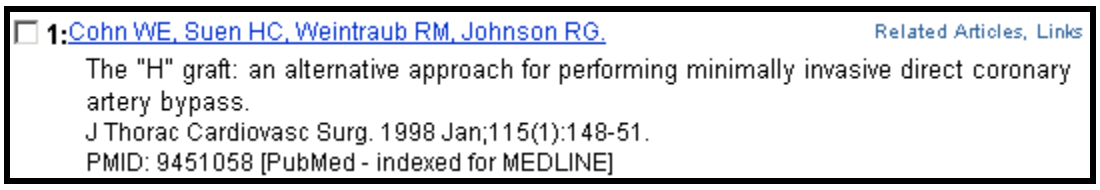
1. *Arthritis Rheum*
   1982
   page 1271-7



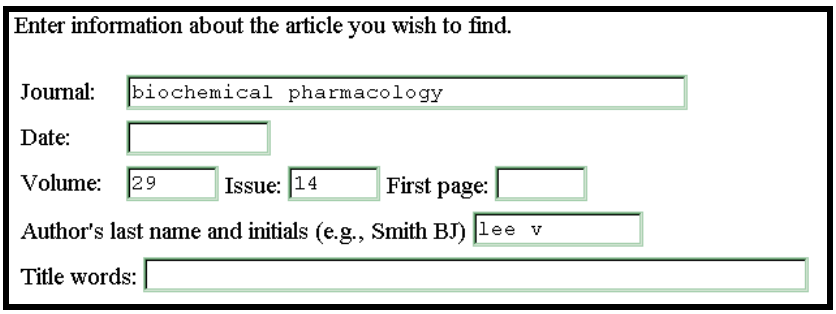


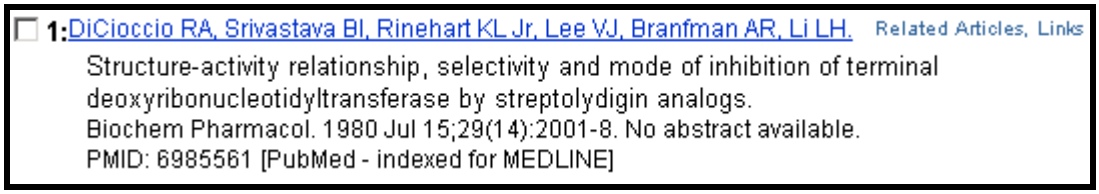
2. R. G. Johnson
   Journal of Thoracic and Cardiovascular Surgery
   Jan 1998
   Page 148





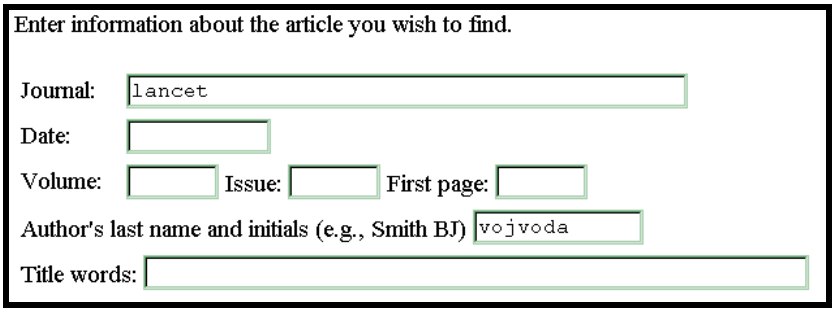
3. V. Lee
Biochemical Pharmacology
vol. 29
issue 14

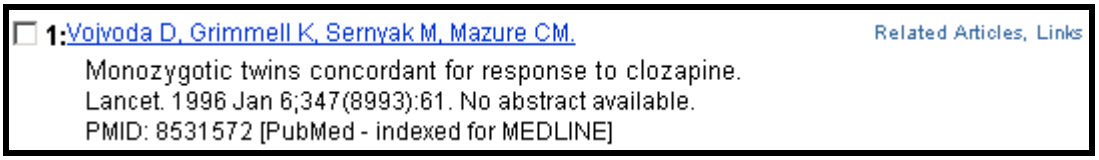




4. Vojvoda
Lancet
Jan. 6

Without the publication year, the month and day are not helpful. Fill in the form with the significant information you have.





N O T E S

Journals Database

The PubMed Journals database allows you to look up information about a PubMed journal in NLM's LOCATORplus and search for citations in PubMed from that journal. You can search for a journal using:

- journal title
- MEDLINE/PubMed title abbreviation
- NLM ID (NLM's unique journal identifier)
- ISO (International Organization for Standardization) abbreviation
- print and electronic International Standard Serial Numbers (pISSNs and eISSNs)

How to get there:

- Clicking on the Journals Database link from the PubMed sidebar takes you to Journals Database screen:

Search the Journals Database:

- Unqualified terms are searched in all fields.

- The database includes all journals in ***all*** Entrez databases (e.g., PubMed, Nucleotide, Protein).

- To limit Journal searches to PubMed journals use the "Only PubMed journals" selection in Limits or include the PubMed journal subset (i.e., journals pubmed [sb]) in your Journal search strategy).

- Available search tags include: [Title], [TA], [MEDLINE Abbr], [NLM ID], [ISO Abbr], and [ISSN].

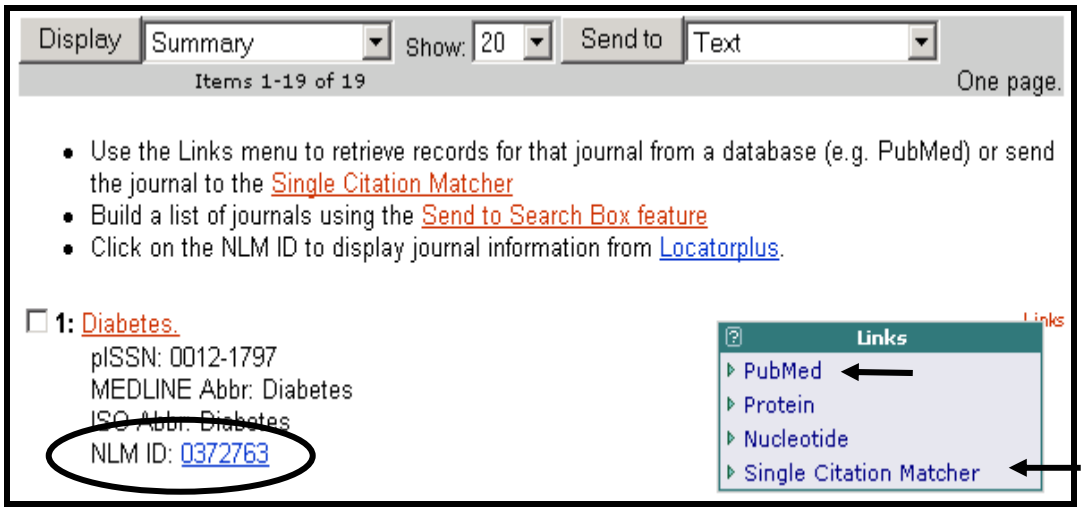
Search:

Result:

Use the ***NLM ID*** *to link to LocatorPlus, for further information.*

Use the ***PubMed*** *link from the Links pull-down to retrieve citations for an individual journal in PubMed.*

Use the ***Single Citation Matcher*** *link to place the journal title in the journal title box of the Single Citation Matcher.*



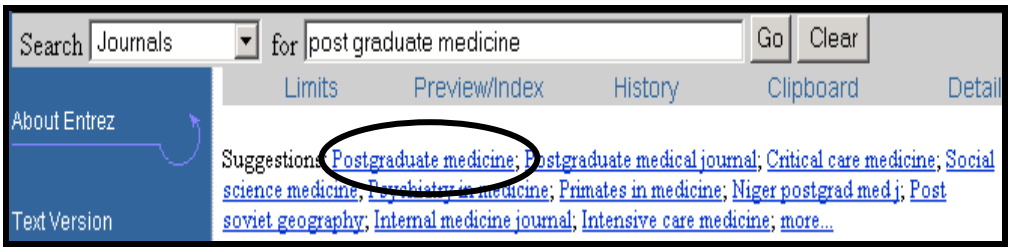
Retrieval display order is alphabetical, except if term has an exact match, which will display first.

Suggestions offered

- The Journals Database also suggests journals based on your search terms.
- The suggestions may include titles retrieved by the search but will likely include additional titles not retrieved.
- If you find a journal of interest in the list of suggested journals, you can use the link on the title to go directly to its record.

The first suggestion is the proper title.

Click on this link to go to the Journals database record for this title.



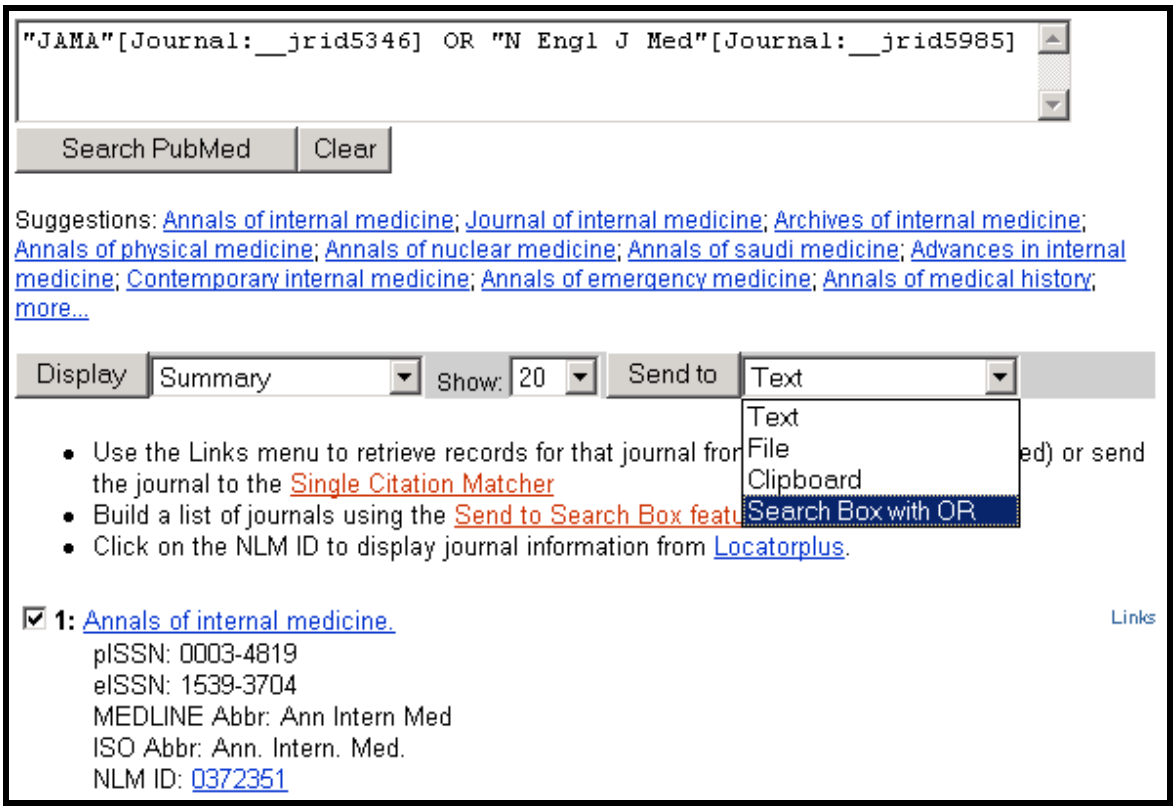
Building a PubMed query for multiple journals

*Click in the **checkbox** to the left of desired journal title.*

*Choose **Search Box with OR** from the Send to menu.*

*Click **Send to** button.*

*Once finished building your search, click **Search PubMed** button.*



This multiple journal search will, like all PubMed searches, become part of your PubMed History. You can then combine that History number with additional terms or other History search numbers for more customized queries.

This feature facilitates the task of limiting searches to a specific group of journals.

Journals Lists

- On the Journals database screen, click on **links to full-text web sites** for a list of full-text journals available on the Web to which PubMed is currently linked.

Some journals may require that you register, subscribe, or pay a fee in order to view the full-text of an article.

Contact the journal publishers as noted on their individual Web sites for specific access information.

- Click on **Entrez journals** to FTP a list of all journals that are included in PubMed in the GNU Zip, Uncompressed, UNIX Compress, or PKZIP format.