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Introduction and History

- The National Library of Medicine® (NLM®) has been indexing the biomedical literature, since 1879, to help provide health professionals access to information necessary for research, health care, and education.

- Beginning in the 1960s, NLM’s computer-based Medical Literature Analysis and Retrieval System (MEDLARS®) has allowed rapid access to a vast store of references to biomedical information.

MEDLINE® is the National Library of Medicine’s premier bibliographic database containing citations and author abstracts from approximately 4,800 biomedical journals published in the United States and in other countries.

- MEDLINE currently contains over 14 million references dating back to 1966.

- New material is added Tuesday through Saturday.

- Coverage is worldwide, but most records (88%) are from English-language sources or have English abstracts.

- Approximately 76% of the citations are included with the published abstract.

- The scope of MEDLINE includes such diverse topics as microbiology, delivery of health care, nutrition, pharmacology and environmental health. The categories covered in MEDLINE include everything from anatomy, organisms, diseases, psychiatry, psychology to the physical sciences.
One MEDLINE citation represents one journal article and is composed of fields that provide specific information (Title, Author, Language, etc.) about the journal article. The following information is generally provided:

- Title of the journal article
- Names of the Authors
- Abstract published with the article
- Controlled Vocabulary search terms (MeSH headings)
- Journal Source Information
- First Author Affiliation
- Language in which the article was published
- Publication Type (description of the type of article, e.g., Review, Letter, etc.)

A sample MEDLINE citation from PubMed follows.
Epilepsy surgery for children with tuberous sclerosis complex.

Weiner HL, Ferraris N, Lajole J, Miles D, Devinsky O.

Division of Pediatric Neurosurgery, Department of Neurosurgery, New York University Medical Center, New York, NY 10016, USA. howard.weiner@med.nyu.edu

Tuberous sclerosis complex is associated with medically refractory seizures and developmental delay in children. These epilepsies are often resistant to antiepileptic drugs, can be quite severe, and usually have a negative impact on the child's neurologic and cognitive development. It is believed that functional outcome is improved if seizures can be controlled at an early age. The surgical treatment of intractable epilepsy in children and adults with tuberous sclerosis complex has gained significant interest in recent years. Previously published studies have shown a potential benefit from resection of single tubers, with most of the results noted in relatively older children. All of these reports support the idea that if a single primary epileptogenic tuber or region can be identified, then a surgical approach is appropriate. However, most children with tuberous sclerosis complex have multiple potentially epileptogenic tubers, rendering localization challenging, and they are therefore rejected as possible surgical candidates. We have used a novel surgical approach using invasive intracranial monitoring, which is typically multistaged and bilateral. This multistage surgical approach has been useful in identifying both primary and secondary epileptogenic zones in patients with tuberous sclerosis complex with multiple tubers. Multiple or bilateral seizure foci are not necessarily a contraindication to surgery in selected patients. Long-term follow-up will determine whether this approach has durable effects. We await better methods for identifying the epileptogenic zone, both noninvasive and invasive.

Publication Types:
- Review

MeSH Terms:
- Age Factors
- Anticonvulsants/therapeutic use
- Child
- Child, Preschool
- Drug Resistance
- Electric Stimulation Therapy
- Electrodes, Implanted
- Electroencephalography
- Epilepsy/etiology*
- Epilepsy/surgery*
- Humans
- Infant
- Infant, Newborn
- Neurosurgical Procedures/methods*
- Research Support, U.S. Gov't, P.H.S.
- Severity of Illness Index
- Tuberous Sclerosis/complications*

Substances:
- Anticonvulsants

PMID: 15663015 [PubMed - indexed for MEDLINE]
Medical libraries throughout the United States are joined together in a network. The purpose of the National Network of Libraries of Medicine (NN/LM®) is to provide health science practitioners, investigators, educators, and administrators in the United States with timely, convenient access to biomedical and health care information resources.

- The network is administered by the National Library of Medicine.
- It consists of eight Regional Medical Libraries (major institutions under contract to NLM), more than 140 Resource Libraries (primarily at medical schools), and some 4,700 Primary Access Libraries (primarily at hospitals).
- The Regional Medical Libraries administer and coordinate services in the network's eight geographical regions.

Toll free phone number: 1-800-338-7657

Document Delivery

- Loansome Doc® offers full-text document ordering. This feature is part of PubMed and the NLM Gateway.
- DOCLINE® is the computerized interlibrary loan system that is the foundation for Loansome Doc.

More information on Loansome Doc and DOCLINE may be found on factsheets found at the NLM Web site:

**NLM Technical Bulletin**

- A bi-monthly newsletter published for NLM online searchers.
- The *NLM Technical Bulletin* keeps searchers apprised of:
  - changes and enhancements to NLM retrieval systems
  - changes to MeSH vocabulary
  - tips for searching
- The *Technical Bulletin* is published electronically on the NLM Web site. The URL is:


Sign up for an **RSS** feed to be notified each time an article is published. Alternatively, click on **E-mail Sign up** to subscribe to the NLM mailing list to receive a weekly e-mail listing newly added items to the NLM web site. See details on Page 9.
Consumer Information

- On October 22, 1998 NLM launched a consumer health home page called **MedlinePlus®**
- Designed to direct consumers to resources containing information that will assist in researching their health questions.
- The pages are designed for education use only and are not intended to replace advice from a health professional.
- These pages provide a carefully selected list of resources, not a comprehensive catalog.

Click on the MedlinePlus image on the right-hand side of the NLM home page:
NLM Customer Service

Contact NLM if you need assistance or have questions about NLM’s products or services.

E-mail: custserv@nlm.nih.gov
Toll-Free Phone: 1-888-FINDNLM (1-888-346-3656)

On the NLM home page, Contact NLM on black bar:

You will be taken to this screen:
Subscribe to NLM-Announces Mailing List

This mailing list will alert you when new information has been added to the NLM Web site. For example:

- When articles have been added to the *NLM Technical Bulletin* Web site
- When the training manuals have been revised
- Other important NLM announcements and events

Go to [http://list.nih.gov/cgi-bin/wa?SUBED1=nlm-announces&A=1](http://list.nih.gov/cgi-bin/wa?SUBED1=nlm-announces&A=1) or Click on About the National Library of Medicine from the NLM home page. Click on News and Events. Scroll down to New on this Site. Click on Subscribe to the NLM-Announces mailing list. Click on NLM-Announces. Click on Join or leave the list (or change settings).

![NLM-ANNOUNCES](image)

This screen allows you to join or leave the NLM-ANNOUNCES list. To confirm your identity and prevent third parties from subscribing you to the list against your will, an e-mail message with a confirmation code will be sent to the address you specify in the form. Simply wait for this message to arrive, then follow the instructions to confirm the operation.

Alternatively, you can [login with your LISTSERV password](#) (if you have one) and update your subscription interactively, without e-mail confirmation.

Your e-mail address: [Enter e-mail address]
Your FULL name: [Enter full name]

[Join the list] [Leave the list] [Leave all the lists]

Subscription type: [Regular]

Fill in this information. Click Join the list button.
Medical Subject Headings (MeSH® Vocabulary)


What is MeSH?

- Acronym for Medical Subject Headings
- Used for indexing journal articles for MEDLINE and also used for cataloging books and audiovisuals
- Used by searchers
- Revised annually
- Gives uniformity and consistency to the indexing of the biomedical literature and is a distinctive feature of MEDLINE.
- Similar to key words on other systems

MeSH Vocabulary includes four types of terms:

- Headings
- Publication Types
- Subheadings
- Supplementary Concept Records

MeSH Headings

- MeSH headings represent concepts found in the biomedical literature.
- MeSH headings and Publication Types are arranged in a hierarchical manner called the MeSH Tree Structure

Examples of MeSH Headings:

- Body Weight
- Kidney
- Dental Cavity Preparation
- Self Medication
- Radioactive Waste
- Brain Edema
MeSH Tree Structure

- MeSH vocabulary is organized by 16 main branches:

  A. Anatomy
  B. Organisms
  C. Diseases
  D. Chemical and Drugs
  E. Analytical, Diagnostic and Therapeutic Techniques and Equipment
  F. Psychiatry and Psychology
  G. Biological Sciences
  H. Physical Sciences
  I. Anthropology, Education, Sociology and Social Phenomena
  J. Technology and Food and Beverages
  K. Humanities
  L. Information Science
  M. Persons
  N. Health Care
  O. Publication Characteristics
  P. Geographic Locations

- Each Descriptor has a tree number that positions the term in the hierarchy.

  Eye [A01.456.505.420]
  Eyebrows [A01.456.505.420.338]
  Eyelids [A01.456.505.420.504]
  Eyelashes [A01.456.505.420.504.421]

- Some terms have multiple tree numbers because they appear in more than one place in the hierarchy.

- By having narrower terms indented under broader terms, a search of a broad term can automatically include the narrower terms. This is known as an EXPLODE.
MeSH Database

- MeSH is the name of an Entrez database that will assist PubMed users locate appropriate terms for searches. This database provides information about MeSH terms including:
  - Definitions
  - Synonyms for the concept
  - Related terms
  - The position of the headings in the MeSH hierarchy.

- We can use the MeSH database to look at the type of information associated with each MeSH term:

  *Click on MeSH Database on the sidebar:*

Enter **cell count** and click on **Go:**

In the retrieval, click on **Cell Count:**

- Insert: 1 of 5

  **Cell Count**

  The number of CELLS of a specific kind, usually measured per unit volume or area of sample. Year introduced: 1973(1969)
This displays the full record for **Cell Count**:

**MeSH Term, definition, and year**
- **Cell Count**: The number of CELLS of a specific kind, usually measured per unit volume or area of sample. 

**Subheadings**: This list includes those paired at least once with this heading in MEDLINE and may not reflect current rules for allowable combinations.
- classification
- drug effects
- economics
- history
- instrumentation
- methods
- radiation effects
- standards
- statistics and numerical data
- trends
- veterinary

- Restrict Search to Major Topic headings only
- Do Not Explode this term (i.e., do not include MeSH terms found below this term in the MeSH tree)

**Entry Terms**:
- Cell Counts
- Count, Cell
- Counts, Cell
- Cell Number
- Cell Numbers
- Number, Cell
- Numbers, Cell
- Cell Density
- Cell Densities
- Densities, Cell
- Density, Cell

**Previous Indexing**:
- Cytology (1955-1969)

**See Also**:
- Blood Cell Count
- Sperm Count

**Position of this term in the MeSH hierarchy**
- This term has been placed in 2 branches

**Related terms of possible interest**
- **Blood Cell Count**
  - Erythrocyte Count +
  - Leukocyte Count +
  - Platelet Count
- **Sperm Count**
Use the Links menu to go to the NLM MeSH Browser for additional information:

**Cell Count**
The number of CELLS of a specific kind, usually measured per sample.
Year introduced: 1973(1969)

*Subheadings*: This list includes those paired at least once with this heading in MEDLINE and may not reflect current rules for allowable combinations.

- classification
- drug effects
- economics
- history
- instrumentation
- methods

The NLM MeSH Browser is the tool used by MEDLINE indexers and catalogers.

### National Library of Medicine - Medical Subject Headings

#### 2005 MeSH

**MeSH Descriptor Data**

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<td>Scope Note</td>
<td>The number of CELLS of a specific kind, usually measured per unit volume or area of sample</td>
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<td>Entry Term</td>
<td>Cell Density</td>
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<td>Cell Number</td>
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<tr>
<td>See Also</td>
<td>Blood Cell Count</td>
</tr>
<tr>
<td>See Also</td>
<td>Sperm Count</td>
</tr>
<tr>
<td>Allowable Qualifiers</td>
<td>CEL EC ES HI IS MT SN ST TP UT VE</td>
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<td>Previous Indexing</td>
<td>Cytology (1966-1968)</td>
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<td>History Note</td>
<td>73(69); CELL NUMBER was heading 1978-79</td>
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<tr>
<td>Unique ID</td>
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Indexing with MeSH Headings

- NLM’s MEDLINE indexers examine articles and assign the most specific MeSH heading(s) appropriate to describe the main concepts discussed.
- When there is no single specific MeSH heading for a concept, the indexer will use the closest, more general MeSH heading available.
- The indexer will assign as many MeSH headings as appropriate to cover the topics of the article (generally 5 to 15).
- The MeSH terms that reflect the major points of the article are marked with an asterisk (*) by indexers.
- Information the indexer provides includes:
  - topic of article
  - age group of population studied
  - human vs. animal studies
  - male vs. female studies
  - type of article (e.g., review article)

---

**Article Title:**
American College of Preventive Medicine Practice Policy Statement. Screening for elevated blood lead levels in children.

**Abstract:**
Based on a review of the current literature and recommendations, the American College of Preventive Medicine presents a practice policy statement on screening for elevated blood lead levels in children.

**Publication Types:**
Guideline
Practice Guideline
Review

**MeSH Terms:**
Child
Child, Preschool
Female
Guidelines*
Humans
Lead/blood
Lead Poisoning/prevention & control*
Male
Mass Screening/standards*
Physician’s Practice Patterns
Policy Making
Preventive Medicine/standards*
Societies, Medical
United States

**Substances:**
Lead
Subheadings further describe a particular aspect of a MeSH heading.

The entire list of subheadings follows:

| MeSH Heading                  | AB  | AD  | AE  | AG  | AA  | AN  | AH  | AI  | BI  | BL  | CF  | CI  | CH  | CL  | CO  | CN  | CT  | CY  | DF  | DI  | DU  | DH  | DE  | DT  | EC  | ED  | EM  | EN  | EP  | ES  | EH  | ET  | GE  | GD  | HI  | IM  | IN  | IR  | IS  | MA  | ME  | MI  | MO  | NU  | OG  | PA  | PI  | PP  | PR  | PC  | PX  | RE  | RA  | RI  | RT  | RH  | SC  | SE  | ST  | SN  | SD  | SU  | TH  | TO  | TM  | TR  | TD  | US  | UL  | UR  | UT  | VE  | VI  |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
### Subheading Groupings

- Related subheadings have been grouped to allow for additional, relevant retrieval.
- Not all subheadings have been placed in these groupings – some do not logically fit.

#### Families of Subheading Explosions

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Pharmacologic Action Terms

Every drug and chemical MeSH heading has been assigned one or more headings that describe known pharmacological actions (PA).

- Indexers add the appropriate pharmacological action MeSH heading as well as the specific chemical MeSH heading to a citation when the action of the chemical is discussed in the article.

Example:

_The pharmacological actions established for the MeSH Heading, Aspirin:_

<table>
<thead>
<tr>
<th>Pharmacological Action</th>
<th>Anti-Inflammatory Agents, Non-Steroidal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacological Action</td>
<td>Cyclooxygenase Inhibitors</td>
</tr>
<tr>
<td>Pharmacological Action</td>
<td>Fibrinolytic Agents</td>
</tr>
<tr>
<td>Pharmacological Action</td>
<td>Platelet Aggregation Inhibitors</td>
</tr>
</tbody>
</table>

- A citation to an article that discusses _aspirin used as an anti-inflammatory agent_ will be assigned:

  Aspirin
  Anti-Inflammatory Agents, Non-Steroidal

- A citation to an article that discusses _aspirin used to inhibit blood clotting_ will be assigned:

  Aspirin
  Platelet Aggregation Inhibitors

If you search a pharmacological action term, you will retrieve citations indexed with terms known to have that action.

Example: _A search for Caustics as a pharmacological action will retrieve citations indexed to the following caustic agents:_

- Lye
- Podophyllin
- Potassium Dichromate
- Sodium Hydroxide
- Trichloroacetic Acid
Other Types of MeSH Vocabulary

Supplementary Concepts

- Over 100,000 terms.
- Display in RN field on MEDLINE record.

The data in a Supplemental Concept MeSH Database record may include:

- Name of substance: For example: cordycepin
- Registry Number: For example: 73-03-0.
- Related Number: A unique number assigned to chemicals by the Chemical Abstract Service, or a code for enzymes assigned by the Commission on Biological Nomenclature. Related number: registry Numbers for salts and/or stereoisomers as well as it’s relation to the “parent” chemical.
- Entry Term: Synonyms that can be used for searching this concept.
- Heading Mapped to: The MeSH term used for indexing this chemical in MEDLINE.
- Pharmacologic Action: An action of a drug or chemical as reported in the literature, e.g., Antifungal Agents or Antineoplastic Agents.
- Previous Indexing: MeSH terms used before the current term became available
- Date Introduced: The date the record was added to the vocabulary.

CAS Registry Number/EC Number

- Unique 5- to 9-digit number in hyphenated format representing either the Chemical Abstracts number or the E.C. number from the Enzyme Nomenclature.
- Displays in RN Field on MEDLINE record with Supplementary Concept term.
- May display as zero (0), generally for terms for a group or class of compounds.

Examples (as seen in MEDLINE):

\[ RN – 68373-14-8 \ (Subbactam) \]
\[ RN – 69-53-4 \ (Ampicillin) \]
Age Group MeSH Headings

These are MeSH headings which indicate the age of human subjects discussed in the article:

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Age Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant, Newborn</td>
<td>Birth to 1 month</td>
</tr>
<tr>
<td>Infant</td>
<td>1 to 23 months</td>
</tr>
<tr>
<td>Child, Preschool</td>
<td>2 to 5 years</td>
</tr>
<tr>
<td>Child</td>
<td>6 to 12 years</td>
</tr>
<tr>
<td>Adolescent</td>
<td>13 to 18 years</td>
</tr>
<tr>
<td>Adult</td>
<td>19 to 44 years</td>
</tr>
<tr>
<td>Middle aged</td>
<td>45 to 64 years</td>
</tr>
<tr>
<td>Aged</td>
<td>65 to 79 years</td>
</tr>
<tr>
<td>80 and over</td>
<td>80+</td>
</tr>
</tbody>
</table>

Publication Types

- Publication Types describe the type of material being indexed.
- The most common type is Journal Article. Other Publication Types include:

<table>
<thead>
<tr>
<th>Publication Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Trial</td>
</tr>
<tr>
<td>Retraction of Publication</td>
</tr>
<tr>
<td>Comment</td>
</tr>
<tr>
<td>Review</td>
</tr>
<tr>
<td>Practice Guideline</td>
</tr>
<tr>
<td>Twin Study</td>
</tr>
<tr>
<td>Retracted Publication</td>
</tr>
</tbody>
</table>

- Publication Types may be searched in the MeSH Database. Definitions are provided.
- They are part of the MeSH hierarchy (V category)
Practice Exercises

Use the MeSH Database to find the answers to these questions:

1. What terms are indented under Fever?

2. How far back can you search with the MeSH term, “Recombinant DNA?”

3. What ages are included by the term, “Child, Preschool?”

4. What is the preferred MeSH term for “drooling?”

5. What disease is associated with a deficiency of factor VIII?
Suggested Answers - MeSH Database

Use the MeSH Database to find the answers to these questions:

1. What terms are indented under Fever?
   - Fever of Unknown Origin
   - Sweating Sickness

2. How far back can you search with the MeSH term, “Recombinant DNA?”
   - 1977

3. What ages are included by the term, “Child, Preschool?”
   - A child between the ages of 2 and 5.

4. What is the preferred MeSH term for “drooling?”
   - Sialorrhea

5. What disease is associated with a deficiency of factor VIII?
   - Hemophilia A
PubMed (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 16 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 some of 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:


A powder formulation of measles vaccine for aerosol delivery.
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 In Process citation in PubMed:

Notice the [PubMed – in process] status tag

A powder formulation of measles vaccine for aerosol delivery.
PMID: 11257402 [PubMed - in process]
MEDLINE Citations

- 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 4,800 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 13 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:

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 over 1.7 million OLDMEDLINE citations, which do not include abstracts, were originally printed in hardcopy indexes published from 1950 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 some of 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.

Studies with measles virus. II. Isolation of virus and immunologic studies in persons who have had the natural disease.


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:

```
1: Fraschini LA, Crozier KC, Crayson RS, Brocher TM, Trahu AM.
Intraslab earthquakes: dehydration of the Cascadia slab.
PMMID: 14615535 [PubMed]
```

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

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

```
1: Ule J, Jonson KB, Ruggiu M, Mele A, Ule A, Darnell RB.
CLIP identifies Nova-regulated RNA networks in the brain.
PMMID: 14615540 [PubMed- indexed for MEDLINE]
```
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.


Total 1: Dobbs RM, Carr DH, Morris JC.
Evaluation and management of the driver with dementia.
PMD: 12603682 [PubMed]


Total 1: Becker D, Sadovskiy S, McFarland Jr.
Restoring function after spinal cord injury.
PMD: 12804127 [PubMed – indexed for MEDLINE]

Indexing information for a particular journal can be found in the “Indexed In” field in the NLM Catalog. Use PubMed’s Journals Database to link to this information.

3. Articles from non-MEDLINE journals

- Beginning in July 2005:
  - the citations have been reviewed for accurate bibliographic data
  - the status tag of [PubMed] appears

Total 1: Bucher P, Chassot G, Zufferey G, Ris F, Huber O, Morel P.
Surgical management of abdominal and retroperitoneal Castleman’s disease.
PMD: 15941478 [PubMed]

See next page for a Citation Status Tags Summary Table.
# PubMed Citation Status Tags Summary Table

<table>
<thead>
<tr>
<th>Citation Status Tag Value</th>
<th>Condition(s)</th>
<th>MeSH-indexed?</th>
<th>Bibliographic data checked?</th>
<th>How to search</th>
</tr>
</thead>
</table>
| [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 (records received prior to June 2005). | 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 1950 through 1965. | Yes (for 92%) | Yes                         | oldmedline [sb]             |
| [PubMed]                  | • Out-of-scope articles from selectively indexed MEDLINE journals.        | No            | Yes                         | pubmednotmedline [sb]      |
|                           | • Since late 2003, citations from issues of journals published prior to selection for MEDLINE indexing.  
• Since June 2005, citations from non-MEDLINE journals.  |               |                             |                     |
| [PubMed – author manuscript in PMC] | • Citations for articles in PMC that would not normally be in PubMed. | No            | No                          | pubstatusnihms              |
PubMed's Home Page

The Sidebar

About Entrez – Click here to find out more about NCBI’s Entrez databases.
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 Tutorials for links to Web-based, interactive training tutorials.
- New/Noteworthy provides information about PubMed system enhancements. An RSS feed is available for this feature.
- 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.
- The Special Queries link provides access to a directory of topic-specific PubMed queries.
- 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.
- My NCBI allows you to store search strategies to get updates including automatic e-mailed updates and create collections of citations. This feature also lets you set filters to group your retrieval by topics of interest to you.

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).
- NLM Mobile provides access to a directory of PubMed tools that are appropriate for mobile devices.
- Click on NLM Catalog to access NLM bibliographic data for journals, books, audiovisuals, computer software, electronic resources, and other materials.
- Click on the NLM Gateway to access NLM’s other Web-based service that also provides access to PubMed/MEDLINE and additional NLM databases.
- TOXNET has databases on toxicology, hazardous chemicals, and related areas.
- Consumer Health is a link to MedlinePlus, 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.
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 Privacy Statement to read NLM Privacy Policy

- Click on Freedom of Information Act (FOIA) to access the NIH FOIA Home Page.

- Click on Disclaimer to read copyright and disclaimer statement.
Click on “LOGIN” and enter the username and password provided for the HINARI registered institution. If you do not know the username and password, please contact the institute library. If you have any further questions, ask the instructor. Select the “HINARI” scheme. Click on “Sign On”. A security certificate is issued from “*.who.int”, select “Yes”. Then choose “hinari”. Note the new URL in the browser:


Click on “Search HINARI journal articles through PubMed (Medline)”.

- Find journals by title
  

- View complete list of journals

- Search HINARI journal articles through PubMed (Medline)

  ![Find journals by subject category](-- SELECT A SUBJECT --)

  ![Find journals by language of publication](-- SELECT A LANGUAGE --)

  ![Find journals by publisher](-- SELECT A PUBLISHER --)

A new browser should open to the PubMed website. If you have a pop-up blocker installed, disable it. Note, the new URL in the browser:

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.
- Click on Details to check PubMed’s translation.
- Use the Clear button to erase the contents of the query box.

Automatic Term Mapping (ATM)

Unqualified terms that are entered in the query box are matched against (in this order):
- MeSH (Medical Subject Headings) Translation Table
- Journals Translation Table
- Full Author Translation table
- 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
- the searcher’s term will be searched as a Text Word
- In the case of Entry Terms, a “mapped to” MeSH term will also be searched in the title and abstract fields in citations that have not yet been assigned MeSH terms

**Example:**

PubMed’s Translation:

("exanthema"[TIAB] NOT Medline[SB]) OR "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: the journal of cell biology


If a name of a journal also happens to be a MeSH term or a one-word title, 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. Full Author Translation Table includes:

- Full author names for articles published from 2002 forward and to journals that publish using the full names of authors.

- Full author searching can be entered in natural or inverted order:

  julia s wong
  wong julia s

- When searching a full name using the inverted order, a comma following the last name is generally optional, omit periods after initials, and put all suffixes, e.g., Jr, at the end. For example, to search for the author Bruce J. Herron, you may use any of the following formats:

  herron, bruce j
  herron bruce j
  bruce j herron

- For some names, however, it is necessary to distinguish which name is the last name by using the comma following the last name:

  ryan, james
  james, ryan

- Full author name searching allows for automatic truncation of the forename. If you don't know the middle initial, enter only the last and first names:

  herron bruce
4. Author Index

- If the phrase is not found in the MeSH or Journal Translation Tables and even if it is found in the Full Author Name Translation Table, PubMed checks the Author Index for a match.

- 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: 

The search retrieves citations to articles written by o’brien j, o’brien ja, o’brien jz, etc.

Take Note: 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 an initial. 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 automatic term mapping 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:**

<table>
<thead>
<tr>
<th>Search</th>
<th>Result</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>head lice shampoo</td>
<td>No match found</td>
<td>Removes term on right to re-run Automatic Term Mapping process.</td>
</tr>
</tbody>
</table>

**PubMed Translation:**

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

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

**Example:**

<table>
<thead>
<tr>
<th>Search</th>
<th>Result</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>head lice shampoo</td>
<td>No match found in Translation Tables</td>
<td>shampoo will be searched as shampoo[All Fields]</td>
</tr>
</tbody>
</table>

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

```
```
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:  

```
"pressure point"
```

**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.

**Take Note:**

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:

<table>
<thead>
<tr>
<th>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.</th>
</tr>
</thead>
</table>

**Stopword List**

- PubMed also compares each search 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.

**Spell Check Feature**

- Suggests alternative spellings for search terms that include misspellings.
- Terms entered with a search tag (e.g., [mh]; [majr]; [tw]) will not generate alternative spellings.

**Example:**

![Image](https://example.com/hemorrhage)

Click on the hyperlinked alternative spelling to generate that search.

- The alternative spellings are not based on a dictionary but rather the frequency with which a term appears in PubMed.
- The spell checking function will not display an alternative spelling for misspellings that have a high frequency of occurrence in PubMed or for terms with numbers or fewer than five characters.
Search Results Screen

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

- Run the search
- Retrieve and display citations
- Provides option to Save Search via My NCBI feature

Results screen returned by PubMed for rash fever search.

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.
- 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
Multiple PubMed citations are initially displayed in the Summary format.

<table>
<thead>
<tr>
<th>1:</th>
<th>Kastan MB, Bartek J.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cell-cycle checkpoints and cancer.</strong></td>
<td>Related Articles, Links</td>
</tr>
<tr>
<td>PMID: 15549093 [PubMed - indexed for MEDLINE]</td>
<td></td>
</tr>
</tbody>
</table>

The Summary format may include the following:

- **Author Name(s):** All authors from the record are displayed with search links.
- **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. Mouseover of journal title abbreviation displays full journal title.
- **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).
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 AbstractPlus display format.
- **All Citations**: Select the format.
- **Selected Citations**: Clicking on the box found to the left of the item number allows you to select one or multiple items. Select desired display format from the pull-down menu.

Other Display Formats

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

![Display Options](image)

Summary, Abstract, AbstractPlus, 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 - mouseover for full title and link for search options; date of publication; volume; issue; and pagination)
- Title
- On non-English language articles, [Article in language] tag
- Author(s) with author names displayed as "search links" to author searches.
- Corporate Author
- Affiliation (address) of first author
- Abstract (if present) from published article
- Publication Types (except for “Journal Article”) with search links
- Annotations to associated citations (e.g., errata)
- PMID
- Status tag
- Links

1: Nature. 2004 Nov 18;432(7015):316-23

Cell-cycle checkpoints and cancer.

Kasten MB, Bartek J.

Department of Hematology-Oncology, St Jude Children's Research Hospital, 332 North Lauderdale Street, Memphis, Tennessee 38105, USA. michael.kasten@stjude.org

All life on earth must cope with constant exposure to DNA-damaging agents such as the Sun's radiation. Highly conserved DNA-repair and cell-cycle checkpoint pathways allow cells to deal with both endogenous and exogenous sources of DNA damage. How much an individual is exposed to these agents and how their cells respond to DNA damage are critical determinants of whether that individual will develop cancer. These cellular responses are also important for determining toxities and responses to current cancer therapies, most of which target the DNA.

Publication Types:
- Review

PMID: 15646093 [PubMed - indexed for MEDLINE]
Navigating Your Results PubMed

AbstractPlus Format

May include the following information (√ indicates additional information displayed in AbstractPlus format):

- Source (journal title abbreviation - mouseover for full title and link for search options; date of publication; volume; issue; and pagination)
- Title
- On non-English language articles, [Article in language] tag
- Author(s) with author names displayed as "search links" to author searches.
- Corporate Author
- Affiliation (address) of first author
- Abstract (if present) from published article
- Annotations to associated citations (e.g., errata)
- PMID
- Status tag
- Links
- √ Related Links including the first 5 Related Articles
Navigating Your Results

Citation Format

May include the following information (√ indicates additional fields displayed in citation format):

- Source (journal title abbreviation - mouseover for full title and link for search options; date of publication; volume; issue; and pagination)
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- On non-English language articles, [Article in language] tag
- Author(s) with author names displayed as "search links" to author searches.
- Corporate Author
- Affiliation (address) of first author
- Publication Types (except for "Journal Article") with search links
- Annotations to associated citations (e.g., errata)

- PMID
- Status tag
- Links

√ MeSH Terms with search links
√ Personal Name as Subject (if present)
√ Chemical substances (if present) with search links
√ Grant numbers (if present) with search links
√ ClinicalTrials.gov identifier number with search links

Click on the journal title link for search options.
Click on the linked name to run a search for that author name.

Click on links for search options.


Cell-cycle checkpoints and cancer.

Kastan MB, Bartek J.

Department of Hematology-Oncology, St Jude Children's Research Hospital, 332 North Lauderdale Street, Memphis, Tennessee 38105, USA michael.kastan@stjude.org

All life on earth must cope with constant exposure to DNA-damaging agents such as the Sun's radiation. Highly conserved DNA-repair and cell-cycle checkpoint pathways allow cells to deal with both endogenous and exogenous sources of DNA damage. How much an individual is exposed to these agents and how their cells respond to DNA damage are critical determinants of whether that individual will develop cancer. These cellular responses are also important for determining toxicities and responses to current cancer therapies, most of which target the DNA.

Publication Types:
- Review

MeSH Terms:
- Animals
- Cell Cycle
- DNA Damage
- Humans
- Neoplasms/enzymology
- Neoplasms/metabolism
- Neoplasms/pathology
- Research Support, Non-U.S. Gov't
- Research Support, U.S. Gov't, P.H.S.
- Signal Transduction

PMID: 15543093 [PubMed - indexed for MEDLINE]
MEDLINE Format

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

**PMID** - 15546093
**DOAJ** - NLM
**STAT** - MEDLINE
**DA** - 20041119
**DCOM** - 20041221
**LR** - 20051116
**FMT** - Print
**IS** - 1476-4687 (Electronic)
**VS** - 432
**JP** - 7015
**DP** - 2004 Nov 18
**TI** - Cell-cycle checkpoints and cancer.
**FO** - 316-23

**AB** - All life on earth must cope with constant exposure to DNA-damaging agents such as the Sun's radiation. Highly conserved DNA-repair and cell-cycle checkpoint pathways allow cells to deal with both endogenous and exogenous sources of DNA damage. How much an individual is exposed to these agents and how their cells respond to DNA damage are critical determinants of whether that individual will develop cancer. These cellular responses are also important for determining toxicities and responses to current cancer therapies, most of which target the DNA.

**AD** - Department of Hematology-Oncology, St Jude Children's Research Hospital, 332 North Lauderdale Street, Memphis, Tennessee 38105, USA.

michael.kastan@stjude.org

**FAU** - Kastan, Michael E
**AU** - Kastan MB
**FAU** - Bartek, Jiri
**AU** - Bartek J
**LA** - eng
**PT** - Journal Article
**PT** - Review
**L2** - England
**TA** - Nature
**TT** - Nature.
**ID** - 0410462
**SN** - TN
**MH** - Animals
**MH** - *Cell Cycle
**MH** - DNA Damage
**MH** - Humans
**MH** - Neoplasms/enzymology/*metabolism/*pathology
**MH** - Research Support, Non-U.S. Gov't
**MH** - Research Support, U.S. Gov't, P.H.S.
**MH** - *Signal Transduction
**RF** - 96
**EDAT** - 2004/11/19 09:00
**RHDAT** - 2004/12/22 09:00
**ALD** - nature03097 [pii]
**ADB** - 10.1038/nature03097 [doi]
**BST** - published

Use this format for downloading records into bibliographic management software programs.
Navigating Your Results PubMed

Retrieval Summary

The retrieval summary line displays:
- Total number of citations retrieved by the search (All tab)
- Total number of citations from search results that have been assigned the Publication Type, Review (Review tab)
- Tool symbol (hammer and wrench) to the right of the filter tabs links you to My NCBI where users who are signed in can add or modify their Filter selections. (See My NCBI section of workbook for further information.)
- 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.
- PubMed redisplaysthe citations based on your selection.
Navigating Your Results

**Sort**

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

![Sort Menu]

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. Then select File from the Send to menu. 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. Then select File from the Send to menu.

**Send to Text**

- Use Text to redisplay citations omitting the Web or HTML components.
- 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 from the Send to pull-down menu. When finished with the Text display, use your Web browser’s Back button to return to your results in the regular format.
Send to Printer

- Use the Printer option under the Send to menu to print search results.
- Choose the items you want to print and the display format before using the Send to Printer option. If you do not make any selections, the "print page" that is created will include the items in the display format currently shown on the search results screen.
- The Send to Printer option creates a print page. Click Print this page button.
- Use the Print Dialog box of your operating system to choose your printer and print. Click Close this window button to return to your search results after printing.

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 and select Clipboard from the Send to menu.
- Once you have added a citation to the Clipboard, the item number color will change and an asterisk will appear on the Clipboard tab.
- Using the Clipboard is discussed in the Feature Tabs Section of this Workbook.
• Select E-mail from the Send to menu.
• You are brought to an options screen:

**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 My NCBI User Preferences.
RSS feeds bring content (like news items) from multiple online sources into one reader or Web page. The feeds are dynamically updated as new items are added from each source. An RSS reader is required and many are available to download free from the Web. Each RSS reader behaves and displays data differently.

Select RSS Feed from the Send to menu.

- You are brought to an options screen:

  Change these selections if needed.

  Click Create Feed button.

  Click the XML icon to display a screen of XML. You don't need the code, just the URL from the address line.

  Copy and paste the URL into the "subscribe" form in your RSS reader.
• Select **Order** from the Send to menu 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.nlm.nih.gov/pubs/factsheets/loansome_doc.html](http://www.nlm.nih.gov/pubs/factsheets/loansome_doc.html) to find out more about Loansome Doc.
To order articles, select the citations for the articles by clicking on the check-box to the left of each item.

- Select **Order** from the Send to menu.

- You are brought to the page shown below.

On this page you can:
- log into Loansome Doc using your Email address
- obtain a status report of your orders
- update your Loansome Doc account information
- sign up for a Loansome Doc account
- link to FAQs
- learn more about Loansome Doc
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 G. 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.

**Query Translation:**

```
```

**Result:**

343

**Translations:**

- facial paralysis: "facial paralysis"[MeSH Terms] OR facial paralysis[Text Word]

**Database:**

PubMed

**User query:**

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

**Diagnostic relevance of transcranial magnetic and electric stimulation of the facial nerve in the management of facial palsy.**

Nowak DA, Linder S, Topka H

Department of Psychiatry III, University of Ulm, Germany. dr.dennis.nowak@gmx.de

**OBJECTIVE:** Earlier investigations have suggested that isolated conduction block of the facial nerve to transcranial magnetic stimulation early in the disorder represents a very sensitive and potentially specific finding in Bell's palsy differentiating the disease from other aetiologies.

**METHODS:** Stimulation of the facial nerve was performed electrically at the stylomastoid foramen and magnetically at the labyrinthine segment of the Fallopian channel within 3 days from symptom onset in 65 patients with Bell's palsy, five patients with Zoster oticus, one patient with neuroborreliosis and one patient with nuclear facial nerve palsy due to multiple sclerosis.

**RESULTS:** Absence or decreased amplitudes of muscle responses to early transcranial magnetic stimulation was not specific for Bell's palsy, but also evident in all cases of Zoster oticus and in the case of neuroborreliosis. Amplitudes of electrically evoked muscle responses were more markedly reduced in Zoster oticus as compared to Bell's palsy, most likely due to a more severe degree of axonal degeneration. The degree of amplitude reduction of the muscle response to electrical stimulation reliably correlated with the severity of facial palsy.

**CONCLUSIONS:** Transcranial magnetic stimulation in the early diagnosis of Bell's palsy is less specific than previously thought. While not specific with respect to the etiology of facial palsy, transcranial magnetic stimulation seems capable of localizing the site of lesion within the Fallopian channel. SIGNIFICANCE: Combined with transcranial magnetic stimulation, early electrical stimulation of the facial nerve at the stylomastoid foramen may help to establish correct diagnosis and prognosis.

**Publication Types:**
- Clinical Trial

**MeSH Terms:**
- Adult
- Aged
- Bell Palsy/Diagnosis
- Bell Palsy/Physiopathology
- Bell Palsy/Therapy
- Electric Stimulation Therapy*
- Electromagnetic Fields*
- Evoked Potentials/Physiopathology
- Facial Nerve/Physiopathology
- Facial Nerve/Physiopathology*
- Facial Paralysis/Diagnosis
- Facial Paralysis/Physiopathology
- Facial Paralysis/Therapy
- Female
- Herpes Zoster/Oticus/Diagnosis
- Herpes Zoster/Oticus/Physiopathology
- Herpes Zoster/Oticus/Therapy
- Humans
- Immunoglobulin G/Metabolism
- Immunoglobulin M/Metabolism
- Lyme Disease/Diagnosis
- Lyme Disease/Physiopathology
- Lyme Disease/Therapy
- Male
- Middle Aged
- Nerve Degeneration/Physiopathology

**Substances:**
- Immunoglobulin G
- Immunoglobulin M

PMID: 16224262 [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:

Query Translation:

```
{"hypertension"[MeSH Terms] OR hypertension[Text Word]) AND
(('"epistaxis"[TIAB] NOT Medline[SB]) OR "epistaxis"[MeSH Terms] OR nosebleed[Text Word])
```

Result:

124

Translations:

- hypertension "hypertension"[MeSH Terms] OR hypertension[Text Word]
- nosebleed ("epistaxis"[TIAB] NOT Medline[SB]) OR "epistaxis"[MeSH Terms] OR nosebleed [Text Word]

Database:

PubMed

User query:

hypertension nosebleed

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.
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 or AbstractPlus display format to display the records with abstracts (if present) but not MeSH headings.
4. Are there articles by G. Barrera-Hernandez referenced in MEDLINE?

<table>
<thead>
<tr>
<th>PubMed Query:</th>
</tr>
</thead>
<tbody>
<tr>
<td>barrera-hernandez g[Author Name]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Database:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PubMed</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Query Translation:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Translations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>pain</td>
</tr>
<tr>
<td>wisdom tooth</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Database:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PubMed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>User query:</th>
</tr>
</thead>
<tbody>
<tr>
<td>wisdom tooth pain</td>
</tr>
</tbody>
</table>
The Feature tabs offer several additional functions.

**Limits**

- Click on **Limits** from the Feature tabs to bring up the Limits page.

- **Go** and **Clear All** Limits buttons are available at the bottom of the Limits page.

- **Go** button function at the top and bottom of the page is equivalent.
Limit by Author

- To search by author, click **Add Author**. An author search box will display.
- The author search box includes an autocomplete feature.
- As soon as you see the author name you are looking for, you may select that name.
- Click **Go** button.

**Adding Additional Authors**

*To add additional authors, click the **Add Another Author** link to open another author search box.*

*Click the **remove** link to delete an author search box.*

- The default author search is to include *all* author names in your search (Boolean AND).
- To change this to search for *any* authors (Boolean OR) click the radio button adjacent to *Any of these.*
Limit by Journal

- To limit your search to a journal, click Add Journal.
- A journal search box will display. The journal search box includes an autocomplete feature.
- To add additional journals, click the Add Another Journal link.

- Author names and Journals will automatically move to the PubMed search box when you click Go.
- Author and journal selections will only be included in subsequent searches if they are not cleared from the PubMed search box.

Limit to Full Text, Free Full Text, and Abstracts

Click the appropriate checkboxes.

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:
  - Published in the Last searches Publication Date, the date the article was published.
  - Added to PubMed in the Last searches Entrez Date, the date the citation was initially added to PubMed.
- When PubMed displays your search results, the citations are displayed in Entrez Date order – last in, first out.
**Limiting by Dates**

Limit your search to articles published or added to PubMed by a pre-set date range.

**OR**

Specify a date range using yyyy/mm/dd format. Month and days are optional.

**Limiting to Humans or Animals**

- Use to limit to a specific group.
- If both options are checked, they are ANDed together.

**Limiting to Gender**

- Use to limit to gender.
- If both options are checked, they are ANDed together.
Limiting to Languages

- Journals published in approximately forty languages are indexed.
- The selections at the top are frequently searched languages.
- Scroll down to find a complete alphabetic list of more languages.
- Multiple selections are allowed (ORed together).

Subset Limits

Allows you to limit your retrieval to 3 types of groupings of records:

1. Journal Groups:
   - Core clinical journals: 120 English-language journals from the formerly published *Abridged Index Medicus*
   - Dental
   - Nursing

2. Topics:
   - AIDS
   - Bioethics
   - Cancer
   - Complementary Medicine
   - History of Medicine
   - Space Life Sciences
   - Systematic Reviews
   - Toxicology

3. More Subsets:
   - 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 1950 through 1965
   - PubMed Central: citations for articles available free in NLM’s archive of life sciences journal literature

- Multiple selections are allowed (ORed together).
Limiting by Type of Article (Publication Type)

- Use to limit your retrieval based on the type of material the citation represents.
- The selections at the top are frequently searched publication types.
- Scroll down to find an alphabetic list of more publication types.
- Multiple selections are allowed (ORed together).

Limiting to Ages

- Use to search for a specific age group or multiple age groups (ORed together).
Tag Terms

- You may limit your search term(s) to a specific search 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.

Limits Indicator

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

  ![Limits Indicator](image)

  **Limits** All Infant: birth-23 months, Systematic Reviews

  To turn off all of the limits before you run your next search, click on the check box next to Limits on the Feature tabs to remove the check and turn off the limits OR click the Clear All Limits button at the bottom of the Limits page.
History

- History temporarily holds up to 100 searches and links to results.
- The History screen displays:
  - Your search query
  - The time of the search
  - The number of citations in your search results
  - Search statement numbers menu for combining searches

### Using History

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

#### Example:

```
#1 AND gallbladder
```

#### Search Tip:

Type Boolean operators in all caps as shown in the example above.

#### Other examples:

```
#8 AND #10
#7 OR #14
```
Search Statement Number Menu

- Click on the search statement number to open an Options menu:

<table>
<thead>
<tr>
<th>Search</th>
<th>Most Recent Queries</th>
<th>Time</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>#16</td>
<td>Search children tooth decay xylitol</td>
<td>13:59:40</td>
<td>101</td>
</tr>
<tr>
<td>#15</td>
<td>Search tooth decay xylitol</td>
<td>13:59:30</td>
<td>263</td>
</tr>
<tr>
<td>#14</td>
<td>Search xylitol</td>
<td>13:59:19</td>
<td>2042</td>
</tr>
<tr>
<td>#13</td>
<td>Search mercury exposure</td>
<td>13:59:00</td>
<td>3714</td>
</tr>
<tr>
<td>#12</td>
<td>Search chocolate</td>
<td>13:58:49</td>
<td>2269</td>
</tr>
<tr>
<td>#11</td>
<td>Search gallstones pain</td>
<td>13:58:42</td>
<td>1864</td>
</tr>
</tbody>
</table>

Options Menu includes:
- Boolean operators AND, OR or NOT to add the search to the query box
- Delete the individual search from History
- Re-run the search using the Go option
- Display the search details
- Save in My NCBI Collections

History Tips:

- Maximum number of searches that can be held in History is 100.
- The search history will be deleted after 8 hours of inactivity.
- PubMed will move a search statement number to the top of the History a 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.

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.

<table>
<thead>
<tr>
<th>Search</th>
<th>Most Recent Queries</th>
<th>Time</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2</td>
<td>Search tooth decay</td>
<td>15:02</td>
<td>249</td>
</tr>
<tr>
<td></td>
<td>xylitol</td>
<td>15:02</td>
<td></td>
</tr>
<tr>
<td>#1</td>
<td>Search xylitol</td>
<td>14:56</td>
<td>1911</td>
</tr>
</tbody>
</table>

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

Example: Use the Index function to find citations to articles about gene expression in Chinese.

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

![PubMed query box with gene expression entered]

- Select Language from the pull-down menu, type Chinese 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.
- Then click on Preview.

Query box shows the search term and the search field.

Result column 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 Ctrl-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 allows you to collect selected citations from one search or several searches.

- You can sort, print, save, order, or send to My NCBI collections 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 pull-down menu.

You get a confirmation message.

An asterisk appears on the Clipboard tab.

A mouseover of the Clipboard tab displays the number of items collected in the Clipboard.

• Once the citations are added to the Clipboard, the citation item 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 Feature tabs.
Deleting citations from the Clipboard

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

- To empty the Clipboard, select **Clip Remove** from the Send to menu.

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 (favorites) 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.

Current Awareness Searching

If you wish to run a search periodically to retrieve recent information since you last ran the search, you can use My NCBI. See **My NCBI section** of this workbook for detailed information on **My NCBI 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 the publication type, Clinical Trial. 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 - OLDMEDLINE).
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 the publication type, Clinical Trial. 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.
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

**Query Translation:**

```
```

**Result:**

32

**Translations:**

```
"injuries"[Subheading] OR "wounds and injuries"[TIAE] NOT Medline[SE]) OR "wounds and injuries"[MeSH Terms] OR injuries[Text Word]
```

**Database:**

PubMed

**User query:**

injuries backpack*

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.

Use Ctrl key to OR together both the singular and plural forms.

Click Preview.

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.

Once you send the items to Clipboard, a pink message tells you the items were added. In addition, an asterisk (*) appears on the Clipboard tab:

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 - OLDMEDLINE).
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.

  1: Schulte-Matthä WJ, Martinez-Castrillo JC.
  Botulunm toxin therapy of migraine and tension-type headache: comparing different botulunm toxin preparations.
  PMID: 16417598 [PubMed - indexed for MEDLINE]

• 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 (Search Related Articles; then click on “Finding articles related to a citation; then click on the “algorithm” link.

Example: Find citations to articles about wrestling and crash diets.

The first five Related Articles are displayed in the AbstractPlus format. Click here to display the complete set of Related Articles.
Related Articles set:


**Refining your Related Articles retrieval set:**

- Click History
- The Related Articles link is represented as: Related Articles for PubMed (Select 5947515), where 5947515 is the PMID in this example.

<table>
<thead>
<tr>
<th>Limits</th>
<th>Preview/Index</th>
<th>History</th>
<th>Clipboard</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Search History will be lost after eight hours of inactivity. To combine searches use # before search number, e.g., #2 AND #6. Search numbers may not be continuous, all searches are represented. Click on query # to add to strategy.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search</td>
<td>Most Recent Queries</td>
<td>Time</td>
<td>Result</td>
<td></td>
</tr>
<tr>
<td>#2 Related Articles for PubMed (Select 5947515)</td>
<td>15:29:21</td>
<td>102</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1 Search wrestling crash diets</td>
<td>15:19:43</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 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, AbstractPlus or Citation display formats. Free full-text icons are displayed on the Summary, Abstract, AbstractPlus or Citation display formats.

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

- 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:

References

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

Click on icon to view a legend of icon displays.

The following LinkOut resources are supplied by external providers. These providers are responsible for maintaining the links.

What does the icon mean?


- Full Text Sources
  - HighWire Press
  - Ovid Technologies, Inc.

- Other Literature Sources
  - Document Delivery - Infotrieve

- Libraries
  - A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
    - Jackson Laboratory Library, ME
      - Electronic Full-Text
    - James Madison University Libraries
      - Electronic Full-Text
    - Jersey City Medical Center Medical Library, NJ
      - Electronic Full-Text
    - Jichi Medical School, Japan
      - Electronic Full-Text
    - Johns Hopkins University - Welch Medical Library
      - Electronic Full-Text
    - Joint Library of the DRFZ and MPI for Infection Biology, Berlin Germany
      - Print Publication
    - Juntendo University Library, Japan
      - Electronic Full-Text

- Molecular Biology Databases
  - FlyBase
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.


**BRCA1 Induces Antioxidant Gene Expression and Resistance to Oxidative Stress.**


Department of Oncology, Lombardi Cancer Center, Georgetown University, Washington, DC.

Mutations of the breast cancer susceptibility gene 1 (BRCA1), a tumor suppressor, confer an increased risk for breast, ovarian, and prostate cancers. To investigate the function of the BRCA1 gene, we performed DNA microarray and confirmatory reverse transcription-PCR analyses to identify BRCA1-regulated gene expression changes. We found that BRCA1 up-regulates the expression of multiple genes involved in the cytoprotective antioxidant response, including glutathione S-transferases, oxidoreductases, and other antioxidant genes. Consistent with these findings, BRCA1 overexpression conferred resistance while BRCA1 deficiency conferred sensitivity to several different oxidizing agents (hydrogen peroxide and paraquat). In addition, in the setting of oxidative stress (due to hydrogen peroxide), BRCA1 shifted the cellular redox balance to a higher ratio of reduced to oxidized glutathione. Finally, BRCA1 stimulated antioxidant response element-driven transcriptional activity and enhanced the activity of the antioxidant response transcription factor nuclear factor erythroid-derived 2 like 2 (also called NRF2 (NFE2L2)). The ability of BRCA1 to stimulate antioxidant response element-dependent transcription and to protect cells against oxidative stress was attenuated by inhibition of nuclear factor erythroid-derived 2 like 2. These findings suggest a novel function for BRCA1, i.e., to protect cells against oxidative stress. This function would be consistent with the postulated role of BRCA1 as a caretaker gene in preserving genomic integrity.

PMID: 15520196 [PubMed - as supplied by publisher]

Clicking on a link (e.g., BRCA1) takes you to a list of books in which the phrase is found:

<table>
<thead>
<tr>
<th>Display</th>
<th>Books</th>
<th>Send to</th>
<th>Text</th>
</tr>
</thead>
</table>

- **44 items** in *Cancer Medicine*, 6th ed.  
  Kufe, Donald W.; Pollock, Raphael E.; Weichselbaum, Ralph R.; Bast, Robert C., Jr.; Gansler, Ted S.; Holland, James F.; Frei III, Emil, editors.  

- **39 items** in *Eurekah Bioscience Collection.*  
  Chapters taken from the Eurekah Bioscience database.  
  [Eurekah.com](http://www.eurekah.com) and [Landes Bioscience](http://www.landesbioscience.com); 2003.

- **38 items** in *Health Services/Technology Assessment Text (HSTAT)*  
  Bethesda (MD):  

- **13 items** in *Human Molecular Genetics 2*, 2nd ed.  
  Strachan, Toru and Read, Andrew P.  

- **5 items** in *Sequence - Evolution - Function Computational Approaches in Comparative Genomics.*  
  Koonin, Eugene V. and Galperin, Michael Y.  

Choose a section title to learn more about the BRCA1 gene.

- **5**: [BRCA1 and BRCA2](#)  
  *Cancer Medicine* → Section 30: Female Reproductive Organs → 113. Ovarian Cancer → Epithelial Ovarian Cancer.

- **6**: [BRCA1 and BRCA2: Gene Structure and Function](#)  

- **7**: [Genetic Determinants](#)  
My NCBI

My NCBI Features
- Saved Searches: save search strategies to get updates - including automatic e-mailed updates.
- Filters: group your retrieval by topics of interest to you.
- Collections: save search results.

If your Web browser is set to block pop-ups, you will need to allow pop-ups from NCBI Web pages to use My NCBI.

Getting to My NCBI
- PubMed's banner will display links to My NCBI.
- The My NCBI link goes to your list of saved searches.
- Sign In links to the Sign In page.
- Register links to the My NCBI registration page.

Registering for My NCBI
- To use My NCBI you need to register for an account.

Sign In: Session-Only or Automatic

The check box, "Keep me signed in unless I sign out" is unchecked as the default.

This means that My NCBI features will be available for your current session.

Check the box if you want My NCBI features to be available from that computer without signing in again. This is done by use of a permanent cookie which remains on the computer.

Click About automatic sign in for more information about this feature.
Important Facts about the E-mail for My NCBI Account

- Each My NCBI account can have only one e-mail address that will be used for all automatic e-mail updates saved in that account.
- If, at a later time, you change the e-mail address for your account, the new e-mail address will be used for all automatic updates following confirmation (see below).
- To change the e-mail address on an account, go to User Preferences on the My NCBI sidebar.

The address for PubMed’s Send to E-mail feature can be changed for individual e-mails on the Send to E-mail page without affecting the e-mail address used for the My NCBI account.

The Confirmation E-mail

- The first time an automatic e-mail update is created for an account, or if the e-mail is changed in User Preferences, a confirmation e-mail will be sent to that address.
- No automatic updates will be sent to an address until it has been confirmed.

Saving Searches

- Run your PubMed search.
- From the Results page, click on the Save Search link to the right of the query box.

PubMed uses the search as it is stored in the History, so it is necessary to run a search in order for it to appear in the History.
PubMed will open a separate window in your browser to start the saving process. (If you are not already signed into My NCBI, you will be prompted to do so).

You can edit the name of the search.

This name will be part of the Subject line of automatic e-mail updates.

- Next, indicate whether or not you want to have the updates automatically e-mailed.

- If you leave the setting as No, the search is saved and you can update it at your convenience.

- If you select the Yes button, the window will extend to display additional options for customizing the update:
Setting Up Automatic Updating

Searches saved for automatic updating require that additional details be supplied.

- If the e-mail box is blank, enter an **e-mail address** for the account. **All** automatic updates will be sent to that address following confirmation.
- Select **How often** you want to get updates - monthly, weekly, or daily.
- Select the **format** (Summary, Abstract, etc.), and either an HTML or text e-mail.
- Select the **maximum number of items to be sent** with each update. Don’t worry about picking a number that is too low. You can use a link in the e-mail that takes you to the total update results in PubMed.
- If you want to know when an update retrieved no citations, select, **Send e-mail when there are no new results**.
- The **Additional text** box will default to the search name. You can replace this text, keeping in mind that this text will display on each e-mail update as “Sender’s message” and the strategy is also displayed in the e-mail message. Many users will prefer not to include additional text.

---

```
This message contains My NCBI what's new results from the National Center for Biotechnology Information (NCBI) at the U.S. National Library of Medicine (NLM).
Do not reply directly to this message.

**Sender's message:** Search: child behavior disorders

Sent on Saturday, 2005 Feb 12
Search: child behavior disorders
Click **here** to view complete results in pubmed. (Results may change over time.)
To unsubscribe from these e-mail updates click **here**.

---

**Entrez pubmed Results**

Items 1 - 5 of 10

PMTID: 15665160 [PubMed - indexed for MEDLINE]

2: Den M, Toupin J, Paigo R, Votrian P. Frequency of mental health disorders in a sample of elementary school students receiving special educational services for behavioural difficulties.
PMTID: 15833855 [PubMed - indexed for MEDLINE]

---

Partial e-mail update results
```
Manually Updating Searches

- To manually update a search, go to your saved searches in My NCBI.
- Check the box to the left of the search to be updated and click What’s New for Selected at the bottom of the page.
- My NCBI will indicate if there are any new citations retrieved by the strategy since your last update.
- If you link to the results, i.e., complete the update, your saved search list will reflect the date and time of the update.

Additional Functions available from My Saved Searches page

<table>
<thead>
<tr>
<th>My Saved Searches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search PubMed</td>
</tr>
<tr>
<td>sunscreen hypersensitivity</td>
</tr>
<tr>
<td>vitamin k diet</td>
</tr>
<tr>
<td>chronic fatigue syndrome</td>
</tr>
<tr>
<td>Arthritis Pain</td>
</tr>
</tbody>
</table>

Saved searches can be run to retrieve total results, i.e., not limited to new citations. Click on the name of the search. (This will not affect future updates.)

In the Details column click on the frequency (Daily, Weekly, Monthly) to go to the Search Details page where you can make changes.

Hold your cursor over the data in the Last Updated column to show the date the next e-mail update will be sent, or in the case of No Schedule, you will see the date you last manually generated new citations.

Modifying a Strategy: Save a New One and Delete the Old

- Saved search strategies cannot be edited. To modify a strategy, re-save it with your changes.
- To delete a search, select the search using the check box and click on the Delete Selected button at the bottom of the page.

Changing the E-mail Address for an Account

- User Preferences is accessible via a link on the My NCBI sidebar. You can change the e-mail address for your My NCBI account here.
- Keep in mind, anytime you change the e-mail for an account, all automatic updates will be sent to that address following confirmation.
Search Statement Numbers in Saved Searches

- My NCBI allows you to save searches with search statement numbers (#2 OR #3) AND #1.

- Be aware that the default search name does not include any Boolean operators and search tags, if entered.

**Example:** (#1 OR #2) AND #4

<table>
<thead>
<tr>
<th>#1: wrist</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2: shoulder</td>
</tr>
<tr>
<td>#4: arthroscopy</td>
</tr>
</tbody>
</table>

- This name does not affect the strategy, so it is advisable to edit it to something short, yet meaningful.

- Be sure to run your search before saving it, in order for it to appear in the History and be successfully saved.

About the Updates

- The update strategies used for My NCBI are detailed in PubMed’s Help.

- New or modified searches can be generated no sooner than the next day. For example, this morning, you changed the frequency for an update from Monthly to Daily. The first update will be sent tomorrow.
Collections

- Use Collections to save search results within My NCBI.

Create a Collection

Step 1: Select search result items you wish to save and send to Clipboard.

Step 2: Click Clipboard tab. Check the items you want to save and choose Send to My NCBI Collections from the Clipboard Send to menu.

If you are not already signed into My NCBI, you will be prompted to do so.

If you do not select items, all items on the Clipboard will be saved to the collection you are creating.

Step 3: Choose to create a new collection.

Rename your collection.

You may wish to remove all the saved items from the Clipboard.

Click OK.
Append to a collection

- Choose **Append to an existing collection** from the Save Collection pop-up window.
- Choose the collection to which you want to add items and click **OK**.
- You may also wish to check off to remove these items from the Clipboard.

You can add up to a maximum of 1500 items to a collection.

From the My NCBI Collections page you may:

- Merge collection.
- Delete collections.
- Sort by column using the up and down arrows.
- View the collection in a PubMed results screen to print, save or e-mail.
- Edit collections.

Quick Tour

See the My NCBI Collections Quick Tour at:

Filters

• My NCBI includes a Filters feature which groups search results by areas of interest.
• You can have up to five active filters using My NCBI.

The Tabs
• “All” tab shows the total retrieval for the search. “Review” tab shows the total retrieval for review articles.

To the right of the “Review” tab, the hammer and wrench icon links you to My NCBI where you can add or modify your filter choices.

Adding Filters

• Use the icon to link to the Quick Pick list of commonly-requested filters:
Browse

• Click on Browse to see additional options for PubMed filters.
• On the Browse page there are three categories:
  LinkOut
  Links
  Properties
• Users interested in subject-related filters for their searches should look at Properties.

There are over 70 filter options under Properties.

Under Properties, use the links to see the available filters for each sub-category. Here’s the one for Publication Types:

Use the link for the desired filter to go to a page where you can select that filter.
LinkOut Filters

- Filters in this category group results by full text providers, libraries, and other outside resources.

Adding your library’s holdings as a filter

- From the LinkOut filters page:
This will bring up a page with all of the LinkOut-participating libraries.

- Use your browser’s Find feature to locate your library.
- Click on the desired library link.
- Then click on the checkboxes to add a result tab and/or display the library’s icon:

```
| Quick Pick | Browse | Search | My Selections |
```

Notice the use of “breadcumbs” on the Filters pages.

Each breadcrumb for a higher level is a link to that page.

Click in the checkboxes to add these selections.

- Results tabs for LinkOut providers display the LinkOut user name.
- Place your cursor over this ID to see the name of the provider.
- Users who connect to PubMed with a URL that includes a library’s holdings parameter will continue to see their library icon even if they do not select their library in My NCBI. Users should select their library filter if they want to see a filter tab for their library in the search results.

**My Selections**

- Click on My Selections at any time to check on the filters selected:

```
| Quick Pick | Browse | Search | My Selections |
```

Your selected filters and icons for this database

```
Configure > PubMed
```

**Result Tabs**

- [ ] English
- [ ] Randomized Controlled Trial
- [ ] University of California, Los Angeles (uclalib)

**Icons**

- [ ] University of California, Los Angeles (uclalib)
Using the Filter Tabs

- Click on a filter tab to go to the citations for a particular filter. Select any display format you wish.

- When you click on the filter name (tab) to see the results for a filter, a tack symbol will appear in the tab:

![Image of a search interface with filter tabs and results]

Clicking on the icon "tacks" that filter onto the search query.

- Filters added this way will display in the query box with the [Filter] tag.

- If you want to save this search, click on Save Search.

- Many filter topics can be added to the search via the Limits page. Either way will yield the same results.
User Preferences

- Available from My NCBI sidebar
- Change the display format for the Links menu on your search results screen.
- Save an e-mail address for Send to E-mail as well as automatic e-mail updates.
- Choose to highlight PubMed search words in retrieval when you are signed into My NCBI.

Activating Highlighting Feature:

Highlighting default is set to **Off**. Selecting a color and clicking **OK** activates this feature.

Several brief animated tutorials with audio called Quick Tours are available about using My NCBI with PubMed. Click on Quick Tours from the My NCBI home page or go directly to:

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:

```
Face
  Cheek
  Chin
  Eye
    Eyebrows
    Eyelids +
  Forehead
  Mouth
    Lip
  Nose
  Parotid Region
```

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.
The MeSH Database allows you to:

- Locate and select MeSH terms (Headings, Subheadings, & Publication Types); Supplementary Concept terms (Substance Names) and Pharmacological Action terms.
- 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.

Summary format:

- 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 use the term in a PubMed search, use it as a major topic, link to the MeSH Section MeSH Browser or Clinical Queries.
Let's search for the supplementary concept term: 1,4-bis(chloromethyl)benzene

Some substance names are long and "complicated." Please note also that when searching any Entrez database for a term with parentheses, e.g., 1,4-bis(chloromethyl)benzene, do not enter the parentheses.

Summary format:

[Image of search results]

These terms will display in search retrieval with the label [Substance Name].

Click on the term link to see the Full display that may include additional information:

[Image of full display]

To see additional information for any term, use the link to the NLM MeSH Browser from the Links menu.

The Feature tabs (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.

The single record retrieved is displayed in the Full format:

- **M1: Bursitis**
  - Inflammation of a bursa, occasionally accompanied by a calcific deposit in the underlying supraspinatus tendon. The most common site is the subdeltoid bursa. (Dorland, 27th ed)

  **Subheadings**: This list includes those paired at least once with this heading in MEDLINE and may not reflect current rules for allowable combinations.

  - blood
  - chemically induced
  - classification
  - complications
  - diagnosis
  - diet therapy
  - drug therapy
  - economics
  - enzymology
  - epidemiology
  - etiology
  - genetics
  - immunology
  - metabolism
  - microbiology
  - nursing
  - pathology
  - physiopathology
  - prevention and control
  - psychology
  - radiography
  - radionuclide imaging
  - radiotherapy
  - rehabilitation
  - surgery
  - therapy
  - ultrasonography
  - urinary
  - veterinary
  - virology

- **Restrict Search to Major Topic headings only**
- **Do Not Explode this term (i.e., do not include MeSH terms found below this term in the MeSH tree)**

**Entry Terms**
- Bursitis
- Adhesive Bursitis
- Adhesive Capsulitis
- Capsulitis, Adhesive
- Capsulitis, Adhesive

**MeSH hierarchy**
- All MeSH Categories
  - Diseases Category
    - Musculoskeletal Diseases
      - Joint Diseases
        - Bursitis
          - Penchant
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 from the Send to pull-down menu.

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.

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 from the **Send to** pull-down menu.

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

- If you misspell a term, the MeSH database will suggest terms for you:

  ![MeSH suggestion example]

  The term was not found and ignored: ergomity. Suggested terms:
  - Ergometry
  - Ergometet
  - Ergometin
  - Ergomar
  - Ergoline
  - Ergometrine
  - Ergosine
  - Ergostine
  - Ergolines
  - Ergometinics

 - Click on the correct term to go to that record.

  ![Ergometry search result]

  1. Ergometry

     Any method of measuring the amount of work done by an organism, usually during exertion. Ergometry also includes measures of power. Some instruments used in these determinations include the hand crank and the bicycle ergometer.

     Year introduced: 1992
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, select “Search Box with AND” from the Send to pull-down menu.

☑ 1: Prostatic Neoplasms
Tumors or cancer of the prostate.

Subheadings: This list includes those paired at least once with this heading in MEDLINE and may not reflect current rules for allowable combinations.

☐ analysis ☐ blood ☐ blood supply ☐ cerebrospinal fluid ☐ chemically induced ☐ chemistry ☐ classification ☐ complications ☐ congenital ☐ diagnosis ☐ diet therapy ☐ drug therapy ☐ economics ☐ embryology ☐ enzymology ☐ epidemiology ☐ ethology ☐ ecology ☐ genetics ☐ history ☐ histology ☐ immunology ☐ metabolism ☐ microbiology ☐ mortality ☐ nursing ☐ parasitology ☐ pathology ☐ physiopathology ☐ prevention and control ☐ psychology ☐ radiography ☐ radiodiagnostic imaging ☐ radiotherapy ☐ rehabilitation ☐ secondary ☐ secretion ☐ surgery ☐ therapy ☐ transmission ☐ ultrasonography ☐ ultrastructure ☐ urine ☐ veterinary ☐ zoology

☑ Restrict Search to Major Topic headings only
○ Do Not Include this term (i.e., do not include MeSH terms found below this term in the MeSH tree).
To run search strategy in PubMed, click on the **Search PubMed** button below Search box:

"Prostatic Neoplasms"[MAJR]

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, select “Search Box with AND” from the Send to pull-down menu.

Check the two appropriate subheadings.

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

Once term is selected, select “Search Box with And” from the Send to menu.

Check the term.

Now, let’s take this strategy into PubMed:
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:
Final strategy ready to send to PubMed:

"Pneumonia/economics"[MeSH] AND "Community-Acquired Infections/economics"[MeSH]
4. Using the MeSH database, find the proper term for mad cow disease. Use the Links menu to search the term in PubMed.

Two selections to search this term in PubMed.

1: Encephalopathy, Bovine Spongiform

A transmissible spongiform encephalopathy of cattle associated with prion proteins in the brain. Affected animals develop excitability followed by ataxia. This disorder has been associated with scrapie, infected ruminant derived protein. This condition is also known to humans, where it is referred to as variant or new variant Creutzfeldt-Jakob syndrome. (Vet Rec 1998 Jul 25;143(41):101-5)

Year introduced: 1992
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.

**Example:**  
\textit{salmonella AND hamburger}

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

**Example:**  
\textit{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 the NOT operator with caution; you might eliminate relevant articles.

**Example:**  
\textit{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:**  
\textit{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, brief field descriptions and searching information may be found in PubMed Help under Box 1. Search Field Descriptions and Tags (http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=helppubmed.box.pubmedhelp.Box_1_Search_Field_D). Not all searchable fields are included in this workbook section.

- For further information on the data found in the fields found on the MEDLINE display format, see MEDLINE®/PubMed® Data Element (Field) Descriptions (http://www.nlm.nih.gov/bsd/mms/medlineelements.html)

Rules

- 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]

Terms entered with a search tag (e.g., [mh]; [majr]; [tw]) will not generate alternative spellings (PubMed’s spell check feature).

MeSH headings [mh]

- MeSH headings can be searched 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 heading 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 Database.

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:

<table>
<thead>
<tr>
<th>Hypertension</th>
<th>Subheading grouping for therapy:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension, Malignant</td>
<td>therapy</td>
</tr>
<tr>
<td>Hypertension, Pregnancy-Induced</td>
<td>diet therapy</td>
</tr>
<tr>
<td>Hypertension, Renal</td>
<td>drug therapy</td>
</tr>
<tr>
<td>Hypertension, Renovascular</td>
<td>nursing</td>
</tr>
<tr>
<td></td>
<td>prevention and control</td>
</tr>
<tr>
<td></td>
<td>radiotherapy</td>
</tr>
<tr>
<td></td>
<td>rehabilitation</td>
</tr>
<tr>
<td></td>
<td>surgery</td>
</tr>
<tr>
<td></td>
<td>transplantation</td>
</tr>
</tbody>
</table>
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].

Search Tip:

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, Subheadings, Publication Types (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”.


Memory improvement following cardiac transplantation.

Roman DD, Kubo SH, Ormaza S, Francis GS, Bank AJ, Shumway SJ.

Department of Physical Medicine, University of Minnesota Hospital and Clinic, USA.

Seventeen patients with severe cardiomyopathy underwent neuropsychological evaluation prior to and at least 1 year after successful heart transplantation. Study candidates were screened, and individuals with a history of stroke, cardiac arrest, or medical and neurological conditions which might affect brain function were excluded. Pre-transplant testing revealed normal intelligence and normal attentional, language, and executive abilities but impaired recent memory. Following heart transplant, memory functioning improved significantly, reaching normal levels. Other cognitive abilities remained unchanged. Results suggest that cardiomyopathy is associated with mesial temporal dysfunction, possibly attributable to inadequate or reduced cerebral blood flow and related hypometabolism. This cerebral dysfunction is potentially reversible following successful transplantation, which restores cardiac output and cerebrovascular perfusion.

PMID: 9408799 [PubMed - indexed for MEDLINE]

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

Transliterated/Vernacular Title Word Searching [tt]

- This field contains the title of each item originally published in a non-English language, in that language.
- Non-Roman alphabet language titles were transliterated through 2004 publication date.
- Enter significant title words followed by the [TT] search field tag.
- Words should be combined with the AND operator.

Example: perfusion [tt] AND myocardique [tt]
Author Searching [au]

- Use the Last Name + Initial(s) format. The [au] tag is optional.
- If the first initial is included, PubMed automatically truncates the author’s name to account for varying initials.

Example:  o’brien j [au]

- Two situations where the [au] tag is required:

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

     ![Example of author searching with double quotes](image)

     Note only occurrences of O’Brien J.

  2. Use the [au] tag when entering only a last name. Example: woods [au]

     ![Example of author searching without double quotes](image)

Full Author Searching [fau]

Searching by full author name limits to citations to articles published from 2002 forward, and to journals that publish using the full names of authors. For comprehensive results, use conventional author searching, i.e., lastname + initial(s).

- Unlike conventional author searching (e.g., smith js), full author searching can be entered in natural or inverted order and you may optionally use the [fau] tag:
  
  julia s wong  
  wong julia s

- When searching a full name using the inverted order, a comma following the last name is generally optional, omit periods after initials, and put all suffixes, e.g., Jr, at the end.

For example, to search for the author Bruce J. Herron, you may use any of the following formats:

  herron, bruce j  
  herron bruce j  
  bruce j herron

- For some names, however, it is necessary to distinguish which name is the last name by using the comma following the last name:

  ryan, james  
  james, ryan

- Full author name searching allows for automatic truncation of the forename. If you don't know the middle initial, enter only the last and first names:

  herron bruce

- Names with multiple middle initials, e.g., Peter F H Schwab, have a space in between the initials. Use any of the following searching formats:

  peter schwab  
  peter f schwab  
  peter f h schwab
Some full author names occur in the database in more than one way. This is an entry where the name, Castro is part of the last name:

FAU - Castro Cabezas, Manuel

This is an entry from another citation for the same author, where Castro is part of the forename:

FAU - Cabezas, Manuel Castro

In order to retrieve both occurrences search this name as:

manuel castro cabezas

You can browse full author names in the **Full Author Name index** available on the **Preview/Index** screen. Select Full Author Name on the Fields pull-down menu, enter a last name in the box, and click on Index.

Author names display in the Summary, Abstract, AbstractPlus, and Citation formats using the data from the Author field, i.e., last name + initial(s). The full author names can be seen in the MEDLINE format.
First Author [1au] & Last Author [lastau] Searching

• Use [1au] to search an author as the first author.

• Use [lastau] to search for an author as the last author.

• First and last author searching uses data from the Author field, so use the lastname + initial(s) format to enter a name.

    Notice
    Fauci is the first author

Use this strategy to limit to articles where the author is the sole author:

fauci a [1au] AND fauci a [lastau]

• Alternatively, you can search by first and last authors using the Single Citation Matcher.
• You can browse the First and Last Author Indexes on the Preview/Index screen.
• This feature works with personal author names, not corporate author names.
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]

From May 2006 forward, corporate authors are displayed in the order found in the byline of the published article. From 2000 – April 2006, corporate authors are always displayed last in the list of authors.

This field was added in 2001; however this field may be added to some older records retrospectively. 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 conventional author searching format: lastname + initial(s)

Take Note:

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

\textbf{Example:} \textit{lincoln a \([ps]\)}

---

Journal Title \([TA]\)

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

\textbf{Examples:}

\textit{journal of biological chemistry \([ta]\)}

\textit{j biol chem \([ta]\)}

\textit{0021-9258 \([ta]\)}

Search Tip:

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

\textbf{Example:} \textit{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. e.g., JPN for Japanese)
- Language values may also be spelled out.

Examples:
- \textit{common cold [mh]} AND \textit{chi [la]}
- \textit{common cold [mh]} AND \textit{chinese [la]}
- \textit{common cold [mh]} AND \textit{por [la]}
- \textit{common cold [mh]} AND \textit{portuguese [la]}

Consider using the Limits page to search language(s).

Entrez Date [edat]

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

Example: \texttt{1999/07/10 [edat]}

- Month and day are optional:

Examples: \texttt{1999 [edat]}
\texttt{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 \textbf{Added to PubMed in the Last} Date pull-down menu in Limits make Entrez Date searching and ranging 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:

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

Date Ranging [edat] & [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 **Published in the Last** Date fill-in-the-blank selection on the Limits page makes searching and ranging the Publication Date 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. Publication Types are also included in the MeSH Database.

**Search Tip:**

Use the Limits page to easily search Publication Type(s).

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:

<table>
<thead>
<tr>
<th>Citation Status Subsets</th>
<th>Topics</th>
<th>PubMed Central</th>
<th>Full Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>medline [sb]</td>
<td></td>
<td></td>
<td>free full text [sb]</td>
</tr>
<tr>
<td>in process [sb]</td>
<td></td>
<td></td>
<td>full text [sb]</td>
</tr>
<tr>
<td>publisher [sb]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>oldmedline [sb]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pubmednotmedline[sb]*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aids [sb]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bioethics [sb]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cam [sb]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Complementary Medicine)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cancer [sb]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>history [sb]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>space [sb]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>systematic [sb]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Systematic Reviews)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tox [sb]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Toxicology)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*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](http://www.nlm.nih.gov/bsd/pubmed_subsets.html).

Secondary Source Identifier [si]

- Identifies a secondary source that supplies information, e.g., other data sources, databanks and accession numbers of molecular sequences.

**Examples of Data Sources:**

- GenBank
- GEO (NLM’s Gene Expression Omnibus) – beginning in February 2006
- ClinicalTrials.gov identifier numbers – beginning in July 2005
- International Standard Randomised Controlled Trial Number (ISRCTN) – beginning in mid-2006.

- Use the [si] search tag.

**Examples:**

```
genbank/af113832 [si]
clinicaltrials.gov/nct00000419 [si]
clinicaltrials.gov [si]
```

The field is composed of a source followed by a slash followed by an accession number.
Unique Identifier Searching [uid]

- 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

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 links to a table listing Institute Abbreviations and Acronyms.
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, Case Reports. (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.

   for #12 AND #13
   
   Search History will be lost after eight hours of inactivity.
   To combine searches use # before search number, e.g., #2 AND #6.
   Search numbers may not be continuous; all searches are represented.
   Click on query # to add to strategy

   Search | Most Recent Queries | Time    | Result
   #14 Search #12 AND #13 | 15:53:07 | 26
   #13 Search decision-making [ti] | 15:52:47 | 6263
   #12 Search nurse practitioners | 15:52:37 | 10787

2. Find references to articles about Winston Churchill.

   churchill w [ps]
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, Case Reports. (Hint: Use History.)

History screen:

![History Screen](image1.png)

Final History screen:

![Final History Screen](image2.png)
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:

Select "Search Box with AND" from the Send to menu to begin to build your strategy.
Next, search measles in the MeSH database and review the Full display. Select the prevention & control subheading:
Next, enter pregnancy. No need to look at the Full display, check the term and select **Search Box with AND** from the Send to menu to AND this term into your strategy.

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

From the Results screen, click on **Limits**, check the box next to Abstracts, and select English from the **Languages** pull-down menu. 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 3 search filters available from this page:
  - Search by Clinical Study Category
  - Find Systematic Reviews
  - Medical Genetics Searches

Search by Clinical Study Category
• 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.

Five study categories or filters are provided:
• etiology
• diagnosis
• therapy
• prognosis
• clinical prediction guidelines

Two emphasis categories or filters are provided:
• narrow, specific search -- will get more precise, relevant citations but less retrieval
• broad, sensitive search -- includes relevant citations but probably some less relevant; will get more retrieval

Example: Find citations on having a rash with a fever using the defaults of therapy and narrow, specific search.
Find 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.

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].

Alternatively, you may select Systematic Reviews from the Subset pull-down menu on the Limits page.

Medical Genetics Searches

- Finds citations related to various topics in medical genetics
- Default is to All topics. Click on All check box to deselect; then click on topic(s) of interest.
- Developed in conjunction with the staff of GeneReviews: Genetic Disease Online Reviews at GeneTests, University of Washington, Seattle.

Example: Find citations about sickle cell anemia using the Medical Genetics Searches categories: Genetic Counseling; Genetic Testing
Special Queries – Health Services Research (HSR) Queries

Why?
• Provides a search interface to find PubMed citations relating to health care quality and health care costs

Where?
• Click on Special Queries from PubMed’s sidebar
• Click on Health Services Research (HSR) Queries from the Special Queries page

PubMed Health Services Research (HSR) Queries

This page provides specialized PubMed searches on healthcare quality and costs.

After running one of these searches, you may further refine your results using PubMed’s Limits feature.

Results of searches on this page are limited to specific health services research areas (see definitions). For comprehensive searches, use PubMed directly.

Additional PubMed search filters are available, including a filter for Systematic Reviews.

Search by HSR Study Category

This search finds citations that correspond to a specific health services research study category. The search may be either broad and sensitive or narrow and specific. The search filters are based on the work of Haynes RB et al. See the filter table for details.

Search: asthma

Category
○ Appropriateness
○ Process assessment
○ Outcomes assessment
○ Costs
○ Economics
○ Qualitative research

Scope
○ Broad, sensitive search
○ Narrow, specific search
Single Citation Matcher

The Single Citation Matcher allows you to:

- find a citation or an issue of a journal using information such as a journal name, volume, issue, page number, publication date, title words, and author name
- search for the first or last author of an article

How to Get There

Click on Single Citation Matcher on the PubMed sidebar.

Example:  
Biometals, 2001, one author is Gaither

- Enter as much information as you know; only one field is required.
- Click on Go.

The Journal search box includes an autocomplete feature. This feature will suggest titles as you enter a title abbreviation or full title.

When you see the title you are looking for, you can stop entering and select the title.

Titles displayed by the autocomplete menu are in a ranked order based on the number of citations in PubMed.

PubMed Single Citation Matcher

- Use this tool to find PubMed citations. You may omit any field.
- Journal may be the full title or the title abbreviation.
- For first and last author searching, use smith jc format.

Journal:  
Biometals : an international journal on the role of metal io

Date:  
2001  (month and day are optional)

Volume:  
Issue:  First page:  

Author name {see help} Gaither

- Only as first author  - Only as last author

Title words:  

Go  Clear
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 Go.
First & Last Author Searching via the Single Citation Matcher

PubMed Single Citation Matcher

- Use this tool to find PubMed citations. You may omit any field.
- Journal may be the full title or the title abbreviation.
- For first and last author searching, use smth jc format.

Journal: 

Date: yyyy/mm/dd (month and day are optional)

Volume: Issue: First page: 

Author name (see help): FauciA

☑ Only as first author  ☐ Only as last author

Title words: 

Go  Clear
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 Batch Citation Matcher is primarily a tool used by publishers to check their electronic submissions and links.
Practice Exercises
[The practice exercises may be done outside of the monitored class time.]

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. Find the citations included in PubMed for the following journal issue:
   *Archives of Neurology*
   Vol. 62
   Issue 10

4. Vojvoda
   *Lancet*
   Jan. 6

5. A.M. Adelman as the first author
   Hint: See 3rd bullet on Single Citation Matcher page.
Try to find the following references using the following information and PubMed’s Single Citation Matcher:

1. *Arthritis Rheum*
   
   1982
   
   page 1271-7

   Journal: Arthritis and rheumatism
   
   Date: 1982
   
   Volume: ____________ Issue: ____________ First page: 1271
   
   Author name (see help)
   
   Title words:


   **The 1982 revised criteria for the classification of systemic lupus erythematosus.**

   Tan EM, Cohen AS, Fries JF, Masi AT, McShane DJ, Rothfield NF, Schaller JG, Talal N, Winchester RJ.

   The 1971 preliminary criteria for the classification of systemic lupus erythematosus (SLE) were revised and updated to incorporate new immunologic knowledge and improve disease classification. The 1982 revised criteria include fluorescence antinuclear antibody and antibody to native DNA and Sm antigen. Some criteria involving the same organ systems were aggregated into single criteria. Raynaud’s phenomenon and alopecia were not included in the 1982 revised criteria because of low sensitivity and specificity. The new criteria were 96% sensitive and 96% specific when tested with SLE and control patient data gathered from 18 participating clinics. When compared with the 1971 criteria, the 1982 revised criteria showed gains in sensitivity and specificity.

   PMID: 7138600 [PubMed - indexed for MEDLINE]

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

   Journal: The Journal of thoracic and cardiovascular surgery
   
   Date: 1998/01
   
   Volume: ____________ Issue: ____________ First page: 148
   
   Author name (see help) johnson rg
   
   Title words:
3. Find the citations in PubMed for the following journal issue:

*Archives of Neurology*

vol. 62

issue 10

26 citations retrieved from this specific journal issue.
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.

**Journal:** Lancet

**Date:** yyyy/mm/dd (month and day are optional)

**Volume:**

**Issue:**

**First page:**

**Author name (see help):** Vojvoda

**Title words:**

---

**Monozygotic twins concordant for response to clozapine.**

Vojvoda D, Grinnell K, Sernyak M, Mazure CM.

PMID: 8531572 [PubMed - indexed for MEDLINE]

---

5. A. M. Adelman as the first author. Hint: See 3rd bullet on Single Citation Matcher page.

**Journal:**

**Date:** yyyy/mm/dd (month and day are optional)

**Volume:**

**Issue:**

**First page:**

**Author name (see help):** Adelman AM

**Title words:**

---

**Integrating a health coach into primary care: reflections from the Penn state ambulatory research network.**


PMID: 16049078 [PubMed - indexed for MEDLINE]

---

**Initial evaluation of the patient with suspected dementia.**


PMID: 15637453 [PubMed - indexed for MEDLINE]

---

**Clinical inquiries. How often is coughing the presenting complaint in patients with gastroesophageal reflux disease?**


PMID: 11978228 [PubMed - indexed for MEDLINE]
Journals Database

The PubMed Journals database allows you to look up information about a PubMed journal and search for that title. 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)
- subject terms (see page 161 of this workbook)

How to get there:

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

  ![Journals Database Screen]

  Type your term(s) in the query box.

  - Use the Entrez Journals database to search for a journal and then link to records for that journal in the database.
  - The Journals database can be searched using the journal title, title abbreviation, NLM ID, ISO abbreviation, or ISSN.
  - The database includes the journals in all Entrez databases, e.g., PubMed, Nucleotide, Protein.
  - Lists of all Entrez journals and those with links to full-text web sites are available.

Result:

![Result Screen]

- Use the NLM ID to link to the NLM Catalog for further information about the journal.
- 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.
• Click on the hyperlinked journal title or choose the Full display format to see more information about the title:

| Title: Diabetes. |
| ISSN: 0012-1797 (Print) |
| Title Abbreviation: Diabetes |
| ISO Abbreviation: Diabetes |
| Publication Start Year: 1952 |
| Publisher: American Diabetes Association |
| Continuation Notes: Formed by the union of the Proceedings of the American Diabetes Association and Diabetes abstracts. |
| Language: English |
| Country: United States |
| Subject Term(s): Endocrinology |
| NLM ID: 0372763 |

Limit to currently indexed titles

Click on Limits tab.

Use the checkbox to limit your search to currently indexed MEDLINE journal titles.

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

Use the Only PubMed journals option on the Limits page to limit to journals in PubMed.
Subject Term [st]

- Subject terms are assigned by NLM to describe the overall scope of MEDLINE-indexed journals.
- Subject terms will display in the Full display format.
- The complete list of subject terms is available at: http://www.nlm.nih.gov/bsd/journals/subjects.html
- Use the [st] tag.

Example: pediatrics [st]

Searching for non-tagged terms, e.g., pediatrics in the Journals database, will now retrieve all journals that include the word pediatrics in the title as well as journals with the Subject Term, Pediatrics.

The complete list of terms is available at the Journal Subject Terms Web page (http://www.nlm.nih.gov/bsd/journals/subjects.html).

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.

Once finished building your search, click Search PubMed button.

Use Save Search and My NCBI to facilitate 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.