Using MESH in PubMed

September 2019
Outcomes for today’s class:

1. Define MeSH and review MeSH structure
2. Explain components of a MeSH record
3. Conduct searches using MeSH terms to find articles in PubMed
4. Define MEDLINE
What is MeSH?

• MeSH stands for Medical Subject Headings
• MeSH is a controlled vocabulary of terms assigned to articles in PubMed Medline
• National Library of Medicine created the MeSH terms index in the 1960’s.
MeSH displayed in record

Pain Management in Obstetrics.

Abstract
Critical care clinicians may be called on to care for a laboring woman. Comprehension of the anatomic changes associated with pregnancy, and labor and birth, is essential. A working knowledge of the current options for pain management in labor, both pharmacologic and nonpharmacologic, is necessary to facilitate patient-centered care. Pharmacologic options include intravenous or intramuscular agents, inhalational agents, and neuraxial anesthesia. Each modality has contraindications, risks, and benefits that must be considered when choosing the most appropriate method.

KEYWORDS: Nonpharmacologic pain management in labor; Pain in labor; Pharmacologic pain management in labor; Suffering in labor

PMID: 29407309 DOI: 10.1016/j.aml.2017.08.007

Publication type, MeSH terms, Substance

Publication type
Review

MeSH terms
Analgesics/therapeutic use
Female
Humans
Labor, Obstetric
Obstetrics
Pain Management/Methods
Pregnancy
Risk Assessment

Substance
Analgesics
Best matches for breast cancer:


Search results

Items: 1 to 20 of 367976

Breast Cancer Screening Using Tomosynthesis or Mammography: A Meta-analysis of Cancer

1. Detection and Recall

PMID: 30107542
Similar articles

2. Safety and Efficacy of Smooth Surface Tissue Expander Breast Reconstruction

PMID: 30107477
Similar articles

Search details

["breast neoplasms" [Mesh Terms]] OR ["breast" [All Fields]] AND "neoplasms" [All Fields] OR "breast neoplasms" [All Fields] OR ["breast" [All Fields]] AND "cancer" [All Fields]
The search details box shows the terms PubMed uses to locate articles and how terms are mapped to the MeSH vocabulary.
Location: Right side of search results
What is MeSH (continued)

• The main purpose is to provide a hierarchically-organized terminology for indexing and cataloging of biomedical information

• Terms updated annually.

• Organized in a “tree structure”
  • 16 main branches
Why use MeSH terms?

1. “Knowing how to use Medical Subject Headings improves the efficiency and quality of one’s literature searches” (Baumann, p. 171).

2. Using MeSH terms allows one to locate articles on a specific topic versus finding the term in anywhere in the article.
MeSH Term – Breast Neoplasm
Automatic Explosion

MeSH terms are "exploded" automatically to retrieve citations that carry the specified MeSH heading and also retrieve citations that carry any of the more specific MeSH headings indented beneath it in the Tree structure.

Most specific headings are assigned to an article by the indexers.
Major Topic -- headings

• Asterisks on MeSH headings and subheadings (e.g., Wound Healing/radiation effects*) designate that they are the major topics of the article, usually obtained from the title and/or statement of purpose
What do you call this?
What do you call this?

- Pop
- Soft drink
- Soda pop
- Coke
- Cola
- Sprite

MeSH term is the preferred term, but we do not need to know this term.
### 4 Types of MeSH Terms

#### 4 Types of MeSH Headings

<table>
<thead>
<tr>
<th>Name/Type</th>
<th>Description</th>
<th>Example</th>
<th>Number (2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heading</td>
<td>“main heading or descriptors”</td>
<td>Carbonated beverage, leg</td>
<td>28,900</td>
</tr>
<tr>
<td>Subheading</td>
<td>“qualifiers”</td>
<td>Analysis, therapy</td>
<td>79</td>
</tr>
<tr>
<td>Publication Type</td>
<td>“type of publication”</td>
<td>Review, Random Controlled Trial</td>
<td>162</td>
</tr>
<tr>
<td>Supplementary Concept Records</td>
<td>Separate thesaurus, primarily substance terms, but also include rare disease terms and some protocols</td>
<td>Coenzyme Q10</td>
<td>244,00</td>
</tr>
</tbody>
</table>
Triage
The sorting out and classification of patients or casualties to determine priority of need and proper place of treatment.
Year introduced: 1991 (1976)

PubMed search builder options
Subheadings:
- classification
- economics
- ethics
- history
- legislation and jurisprudence
- manpower
- methods
- organization and administration
- standards
- statistics and numerical data
- supply and distribution
- trends
- utilization

Restrict to MeSH Major Topic.
Do not include MeSH terms found below this term in the MeSH hierarchy.

Tree Number(s): N02.421.297.900
MeSH Unique ID: D014218
Entry Terms:
- Triage

Previous Indexing:
- Emergencies (1966-1975)
- Emergency Service, Hospital (1966-1975)
So what is MEDLINE?

- MEDLINE is a bibliographic database of journal articles in biomedicine & the life sciences
- MEDLINE has more than 30 million references
- Primary component of PubMed is MEDLINE
- MEDLINE is provided by NLM National Center for Biotechnology Information (NCBI).
- Records are indexed in MEDLINE using MeSH vocabulary
Source: National Library of Medicine, What is PubMed?
PubMed vs PubMed Central

**PubMed**
- Approximately 30 million records
- Free search engine accessing MEDLINE database
- NCBI Bookshelf
- PubMed Central citations
- Older references from Index Medicus
- Pre-Index Medline articles
  - Does not include full-text articles

**PubMed Central**
- Approximately 5.6 million articles (as of December 2018)
- Free digital archives of articles available to anyone
- Authors and publishers deposit their publications
- Research funded by NIH must made available free through PubMed Central within 12 months of publication
Practice
What type of MeSH term are these words?

1. anesthesia
2. comparative study
3. propofol stearate
4. education

Heading, subheading, publication type, supplementary concept record
Practice
Find this article – use – OneSearch, PubMed (Library), Google Scholar

• Is full-text available? What is the Publication Type in PubMed?

• Linked on Nurse Anesthesia Resource Guide
Practice

1. What is the preferred term /MESH for hand washing?
2. Can you apply the subheading education to this term?
3. How far back can you search with the term hand disinfection?
Practice

1. What year was the term Text Messaging introduced in the MeSH Index?

2. Is standards a subheading for this term?
Practice

Try locating some articles on these questions.

1. How does anesthesia effect red heads?
2. Articles on pain management after hip fracture surgery.
3. Anesthesia for an appendectomy on a young adult.
Review

1. Search Details Box --- This is your friend --- shows how PubMed interprets your search

2. Remember the most specific headings are assigned to an article

3. Asterisks on MeSH headings and subheadings (e.g., Wound Healing/radiation effects*) designate that they are the major topics of the article, usually obtained from the title and/or statement of purpose
4. Supplementary concept headings cannot be asterisked or carry subheadings. However, they are mapped to a MeSH heading that is automatically added to the citation.

5. MEDLINE has citations from more than 5,200 worldwide journals in about 40 languages.
PubMed Resource Guide

Overview

What is PubMed?

PubMed is a database that comprises more than 30 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher websites.

PubMed is a free resource that is developed and maintained by the National Center for Biotechnology Information (NCBI), at the U.S. National Library of Medicine (NLM), located at the National Institutes of Health (NIH).

- PubMed Homepage
- PubMed FAQs
- PubMed Simple Citation Matcher
- Use PubMed Advance Search Builder
- Medline Defined

Finding Literature in PubMed:

- How do I find systematic reviews or medical genetic searches?
- Finding the latest treatment for a disease (2 minutes, by PubMed)

PubMed -- Learning & Understanding: Overview

This guide shares information on using the wonderful medical & biomedical database PubMed.

Overview    MESH Subject Headings    Handouts

PubMed -- Learning searching

By NCBI (2011. 2.26), PubMed Advanced Search Builder

PubMed Literature Search: 
References


QUESTIONS?

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