MeSH Changes and PubMed Searching

January 25, 2024
National Library of Medicine
Before We Start

• Captions: Click “Show Captions” button
• Chat: send questions to EVERYONE
• Handout: link in chat
• Reactions: give me a thumbs up!
1. When a new, more specific MeSH heading is added to the vocabulary, it is applied to records that were indexed in previous years.
   a. True
   b. False

2. When a MeSH term is replaced, the term that was replaced is retained in MeSH as a(n):
   a. MeSH Term
   b. Entry Term
   c. Supplementary Concept

3. The PubMed search results for a new, more specific term (e.g., Blue Light) will be included in the results for the broader term above it (e.g., Light).
   a. True
   b. False

4. If my saved search suddenly retrieves many more or many fewer citations on a regular basis starting at the end of a calendar year, what is the most likely explanation? (Check the best answer)
   a. A changed MeSH term with the same meaning
   b. A new MeSH concept
   c. Hierarchy changes to MeSH
Agenda

• Pre-Test
• What happens when MeSH is updated?
• Examples of MeSH changes
• Post-Test
New MeSH Terms in the New Year

- New term with same meaning
- New term that is more specific
- Hierarchy changes
MeSH changes are documented:

- On the MeSH homepage
- In the NLM Technical Bulletin

**Annual MeSH Processing for 2024 MeSH**

The National Library of Medicine (NLM) is currently involved in Annual MeSH Processing (AMP) for 2024 Medical Subject Headings (MeSH). These include changing the MeSH main headings and subheadings as well as Supplementary Concept Records (SCRs) that standardize names and associated numbers for chemicals, protocols, diseases, and organisms that are not main headings. The MeSH edits include maintaining existing MEDLINE citations to conform with the 2024 version of MeSH, and other global changes.

This article collects the notable changes made to MeSH during the NLM annual maintenance for 2024:
- MeSH Vocabulary Updated for 2024.
- MeSH Update Reports.
- Updated MeSH in MEDLINE Citations.

**MeSH Vocabulary Updated for 2024**

The MeSH Browser points to the 2024 MeSH vocabulary with a link to the 2023 MeSH vocabulary. On December 1, the default switched to 2024 and the alternate link has been routed to 2023 MeSH. Searchers should consult the Browser to find MeSH headings of interest and their relationships to other headings. The Browser contains MeSH heading records that may include Scope Notes, Annotations, Entry Terms, History Notes, Allowable Qualifiers (Subheadings), Previous Indexing, and other information. It also includes Subheading records and SCRs for substances, diseases, and organisms that are not MeSH headings.

You can download 2024 MeSH from links on the NLM Data Distribution page for MeSH Data. For additional information see Release of 2024 MeSH XML Data.
Two Dates

Citations indexed as early as oldest date listed

MeSH Te with two dates
Year Indexed vs Year Published

Use Year Introduced to search for publications Indexed back to the old year listed.

This may be different than the year it was published.
Quiz 1

How far back can you search with the MeSH term \textbf{Mpox} (monkeypox)?

a) 1963  
b) 1997  
c) 2004  
d) 2023
Quiz 1 Answer

How far back can you search with the MeSH term **Mpox (monkeypox)**?

a) 1963  
b) 1997  
c) **2004**  
d) 2023
Quiz 2

How far back can you search with the MeSH term **Coping Skills**?

a) 1963
b) 1992
c) 2024
d) 2023
Quiz 2 Answer

How far back can you search with the MeSH term Coping Skills?

a) 1963
b) 1992

c) 2024
d) 2023
Questions-1?
New Term with Same Meaning
New Term with Same Meaning

• Existing PubMed records **ARE** changed
  • the old term is added as an entry term

• *Usually*, you need to do **nothing**
  • Consider adding the new preferred term to your searches
Which MeSH term does a search for **Russell’s Viper** map to?

a) Russell’s Viper  
b) Daboia  
c) It does not map  
d) Vipers
Quiz 3 Answer

Which MeSH term does a search for Russell’s Viper map to?

a) Russell’s Viper
b) Daboia

c) It does not map
d) Vipers
Questions-2?
New Term that is More Specific
New Term that is More Specific (cont.)

- Existing records are generally **NOT** changed
- Consider using the new, more specific term to retrieve newly indexed records
- Use Previous Indexing and/or the broader term with the `[mhda]` search tag to search previously-indexed records
Exercise 1: Question 1

1. How far back can I search with **Tibiofemoral Joint** (current MeSH term)?

**Answer:** 2024
Exercise 1: Question 2

2. Where do I look in the MeSH record for terms used prior to 2024?

**Answer:** Previous Indexing

**Previous Indexing:**

- Knee Joint (1986-2023)
Exercise 1: Question 3

3. What field tag do I use to limit to records indexed between 2005 and 2023?

Answer: [mhda]
Questions-3?
About Hierarchy Changes
Hierarchy Changes
Example 1: **Before** MeSH 2024
Hierarchy Changes
Example 1: After MeSH 2024
Hierarchy Changes Example 2: Before MeSH 2024

Vector Borne Diseases [C01.920] ➔
- Arbovirus Infections [C01.920.500] ➔
  - African Horse Sickness [C01.920.500.030]
  - Alphavirus Infections [C01.920.500.078] ➔
  - Bluetongue [C01.920.500.125]
  - Dengue [C01.920.500.270] ➔
  - Encephalitis, Arbovirus [C01.920.500.343] ➔
    - Encephalitis, California [C01.920.500.343.340]
    - Encephalitis, Japanese [C01.920.500.343.345]
    - Encephalitis, St. Louis [C01.920.500.343.350]
    - Encephalitis, Tick-Borne [C01.920.500.343.360]
    - Encephalomyelitis, Equine [C01.920.500.343.655] ➔
    - West Nile Fever [C01.920.500.343.950]
- Hemorrhagic Fever, Crimean [C01.920.500.528]
- Nairobi Sheep Disease [C01.920.500.614]
- Phlebotomus Fever [C01.920.500.700]
- Rift Valley Fever [C01.920.500.770]
- Yellow Fever [C01.920.500.980]
- Zika Virus Infection [C01.920.500.990]
Hierarchy Changes Example 2:

After MeSH 2024

Vector Borne Diseases [C01.920] ➔

Arbovirus Infections [C01.920.313] ➔

African Horse Sickness [C01.920.313.030]
Alphavirus Infections [C01.920.313.078] ➔
Bluetongue [C01.920.313.125]

Encephalitis, Arbovirus [C01.920.313.156] ➔

Encephalitis, California [C01.920.313.156.340]
Encephalitis, Japanese [C01.920.313.156.345]
Encephalitis, St. Louis [C01.920.313.156.350]
Encephalomyelitis, Equine [C01.920.313.156.655] ➔
West Nile Fever [C01.920.313.156.950]

Encephalitis, Tick-Borne [C01.920.313.187]
Hemorrhagic Fever, Crimean [C01.920.313.248]
Nairobi Sheep Disease [C01.920.313.614]
Phlebotomus Fever [C01.920.313.700]
Exercise 3

2023

Vector Borne Diseases [C01.920]

- Arbovirus Infections [C01.920.500]
  - African Horse Sickness [C01.920.500.030]
  - Alphavirus Infections [C01.920.500.078]
  - Bluetongue [C01.920.500.125]
  - Dengue [C01.920.500.270]
  - Encephalitis, Arbovirus [C01.920.500.343]
    - Encephalitis, California [C01.920.500.343.340]
    - Encephalitis, Japanese [C01.920.500.343.345]
    - Encephalitis, St. Louis [C01.920.500.343.350]
    - Encephalitis, Tick-Borne [C01.920.500.343.360]
    - Encephalomylitis, Equine [C01.920.500.343.655]
    - West Nile Fever [C01.920.500.343.950]
  - Hemorrhagic Fever, Crimean [C01.920.500.528]
  - Nairobi Sheep Disease [C01.920.500.614]
  - Phlebotomus Fever [C01.920.500.700]
  - Rift Valley Fever [C01.920.500.770]
  - Yellow Fever [C01.920.500.980]
  - Zika Virus Infection [C01.920.500.990]

2024

Vector Borne Diseases [C01.920]

- Arbovirus Infections [C01.920.313]
  - African Horse Sickness [C01.920.313.030]
  - Alphavirus Infections [C01.920.313.078]
  - Bluetongue [C01.920.313.125]
  - Encephalitis, Arbovirus [C01.920.313.156]
    - Encephalitis, California [C01.920.313.156.340]
    - Encephalitis, Japanese [C01.920.313.156.345]
    - Encephalitis, St. Louis [C01.920.313.156.350]
    - Encephalomyelitis, Equine [C01.920.313.156.655]
    - West Nile Fever [C01.920.313.156.950]
  - Encephalitis, Tick-Borne [C01.920.313.187]
  - Hemorrhagic Fever, Crimean [C01.920.313.248]
  - Nairobi Sheep Disease [C01.920.313.614]
  - Phlebotomus Fever [C01.920.313.700]
Hierarchy Changes

- Can result in dramatic retrieval changes
- Offer an improvement to your explosions
- Take a fresh look at the new hierarchy and reconsider your search
Questions-4?
Exercise 4

- You want to search PubMed as comprehensively as possible, back to 2010, for literature related to **Genetic Risk Score**. How would you do this?
Exercise 5

- You want to search PubMed as comprehensively as possible, back to 2019, for literature related to **Mass Shooting Events**. How would you do this?
Questions-5?
Post-Test

1. When a new, more specific MeSH heading is added to the vocabulary, it is applied to records that were indexed in previous years.
   a. True
   b. False

2. When a MeSH term is replaced, the term that was replaced is retained in MeSH as a(n):
   a. MeSH Term
   b. Entry Term
   c. Supplementary Concept

3. The PubMed search results for a new, more specific term (e.g., Blue Light) will be included in the results for the broader term above it (e.g., Light).
   a. True
   b. False

4. If my saved search suddenly retrieves many more or many fewer citations on a regular basis starting at the end of a calendar year, what is the most likely explanation? (Check the best answer)
   a. A changed MeSH term with the same meaning
   b. A new MeSH concept
   c. Hierarchy changes to MeSH
Summary

• To adjust to changes in MeSH,
  – Check MeSH mappings in your PubMed Search Details
  – Check automatic explosions in MeSH
• Craft searches for older records by using:
  – Year Introduced
  – Previous Indexing and/or broader terms with
  – [mhda]
• Read about the year-end MeSH changes in November and December in the NLM Technical Bulletin.
How to Get Your MLA CE

NNLM & MLA Training Session Evaluation

Thank You!

If you would like to obtain Continuing Education Credit from the Medical Library Association for participating in this class, please go to www.medlib-ed.org and follow the instructions below. (Learn more about MLA CE).
1. Login (If you do not have a current MLANET login, you will need to create one: Step-by-step instructions.)
2. Click My Learning on the blue bar near the top of the page.
3. Enter the enrollment code, click Redeem, and Claim credit.
4. If you have questions or run into problems with MEDLIB-ED, please email MEDLIB-ED@mail.mlahq.org.

Please note: The Medical Library Association has recently changed their procedures for obtaining CE credit, which includes registering for an account on MEDLIB-ED. While there are several steps, you may note that only a few fields are required. The NNLM no longer provides certificates for MLA CE.

Thank you for completing our evaluation form. Your responses will help the National Network of Libraries of Medicine continue to improve.

A code will appear in #3 on this screen.