

# MeSH Changes and PubMed Searching

January 25, 2024

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# Before We Start

- Captions: Click “Show Captions” button
- Chat: send questions to EVERYONE
- Handout: link in chat
- Reactions: give me a thumbs up!



# Pre-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



# Agenda

- Pre-Test
- What happens when MeSH is updated?
- Examples of MeSH changes
- Post-Test



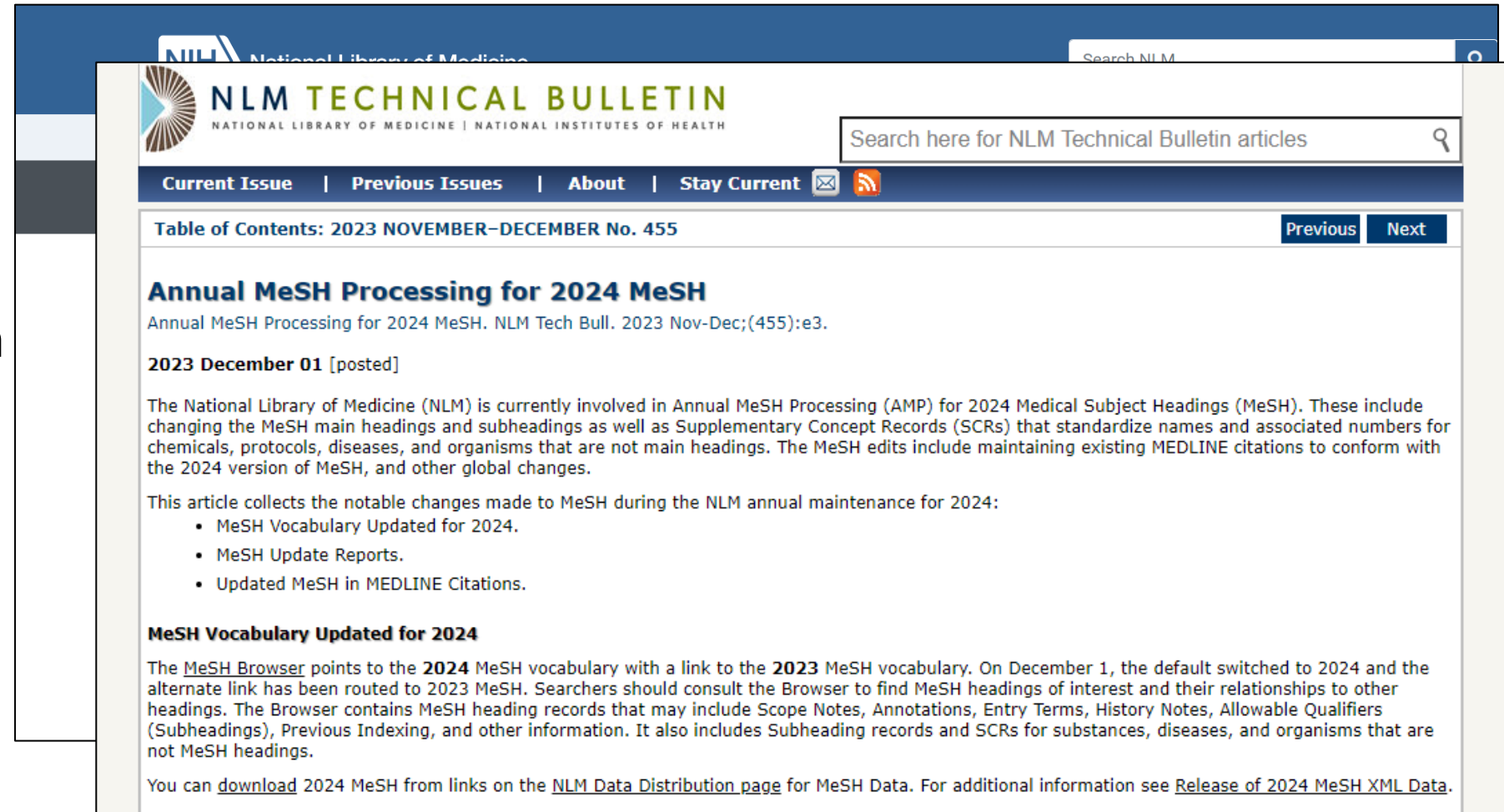
# New MeSH Terms in the New Year

- 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



The screenshot displays the NLM Technical Bulletin website. At the top, there is a search bar with the text "Search here for NLM Technical Bulletin articles". Below the search bar, there are navigation links: "Current Issue", "Previous Issues", "About", and "Stay Current". The main content area features the title "Annual MeSH Processing for 2024 MeSH" and a sub-headline "Annual MeSH Processing for 2024 MeSH. NLM Tech Bull. 2023 Nov-Dec;(455):e3." The article is dated "2023 December 01 [posted]". The text describes the National Library of Medicine's involvement in Annual MeSH Processing (AMP) for 2024 Medical Subject Headings (MeSH), including changes to main headings, subheadings, and Supplementary Concept Records (SCRs). A bulleted list highlights the notable changes: "MeSH Vocabulary Updated for 2024.", "MeSH Update Reports.", and "Updated MeSH in MEDLINE Citations." The article also mentions that the MeSH Browser now points to the 2024 MeSH vocabulary and provides a link to the 2023 MeSH vocabulary. Finally, it states that users can download 2024 MeSH data from the NLM Data Distribution page.





# Two Dates



Citations indexed as early as oldest date listed

MeSH Te  
with two  
dates



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# 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 **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?



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# New Term with Same Meaning



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# 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



# Quiz 3

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



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# 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**

## **Tibiofemoral Joint**

The articulation between the articular surfaces of the TIBIA and the FEMUR.

Year introduced: 2024



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# 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]

## PubMed Search Builder

```
"Tibiofemoral Joint"[Mesh] OR (Knee  
Joint [MeSH] AND 2005:2023[mhda])
```

Add to search builder

AND ▼

Search PubMed



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# Questions-3?



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# About Hierarchy Changes



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# Hierarchy Changes

## Example 1: Before

### MeSH 2024

Urinary Tract Infections [C01.915] +

Vaccine-Preventable Diseases [C01.918]

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] -

Severe Dengue [C01.920.500.270.200]

Encephalitis, Arbovirus [C01.920.500.343] +

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]

Chagas Disease [C01.920.625] +

Elephantiasis, Filarial [C01.920.750]

Leishmaniasis [C01.920.813] +

Malaria [C01.920.875] +

Onchocerciasis, Ocular [C01.920.891]

Plague [C01.920.906]

Rickettsiaceae Infections [C01.920.914] +

Schistosomiasis [C01.920.922] +

Tick-Borne Diseases [C01.920.930] +

Trypanosomiasis, African [C01.920.937]

Virus Diseases [C01.925] +

Waterborne Diseases [C01.936]

Wound Infection [C01.947] +

Zoonoses [C01.973] +

# Hierarchy Changes Example 1: After MeSH 2024

Urinary Tract Infections [C01.915] +

Vaccine-Preventable Diseases [C01.918]

**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, 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]

Chagas Disease [C01.920.625] +

Leishmaniasis [C01.920.813] +

**Mosquito-Borne Diseases [C01.920.852] -**

Alphavirus Infections [C01.920.852.032] +

Dengue [C01.920.852.157] +

Dirofilariasis [C01.920.852.188]

Elephantiasis, Filarial [C01.920.852.250]

Encephalitis, Arbovirus [C01.920.852.500] +

Malaria [C01.920.852.750] +

Rift Valley Fever [C01.920.852.813]

**Yellow Fever [C01.920.852.875]**

Zika Virus Infection [C01.920.852.937]

Onchocerciasis, Ocular [C01.920.891]

Plague [C01.920.906]

Rickettsiaceae Infections [C01.920.914] +

Schistosomiasis [C01.920.922] +

Tick-Borne Diseases [C01.920.930] +

Trypanosomiasis, African [C01.920.937]

Virus Diseases [C01.925] +

Waterborne Diseases [C01.936]

2023

# Exercise 2

2024

- Urinary Tract Infections [C01.915] +
- Vaccine-Preventable Diseases [C01.918]
- 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] -
      - Severe Dengue [C01.920.500.270.200]
    - Encephalitis, Arbovirus [C01.920.500.343] +
    - 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]
  - Chagas Disease [C01.920.625] +
  - Elephantiasis, Filarial [C01.920.750]
  - Leishmaniasis [C01.920.813] +
  - Malaria [C01.920.875] +
  - Onchocerciasis, Ocular [C01.920.891]
  - Plague [C01.920.906]
  - Rickettsiaceae Infections [C01.920.914] +



- Urinary Tract Infections [C01.915] +
- Vaccine-Preventable Diseases [C01.918]
- 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, 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]
  - Chagas Disease [C01.920.625] +
  - Leishmaniasis [C01.920.813] +
  - Mosquito-Borne Diseases [C01.920.852] -
    - Alphavirus Infections [C01.920.852.032] +
    - Dengue [C01.920.852.157] +
    - Dirofilariasis [C01.920.852.188]
    - Elephantiasis, Filarial [C01.920.852.250]
    - Encephalitis, Arbovirus [C01.920.852.500] +
    - Malaria [C01.920.852.750] +
    - Rift Valley Fever [C01.920.852.813]
    - Yellow Fever [C01.920.852.875]
    - Zika Virus Infection [C01.920.852.937]
  - Onchocerciasis, Ocular [C01.920.891]
  - Plague [C01.920.906]
  - Rickettsiaceae Infections [C01.920.914] +



# 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]
  - 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]
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- 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]
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- 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?



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# 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?



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# 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.



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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](mailto:MEDLIB-ED@mail.mlahq.org).

A code will appear in #3 on this screen.

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100%

