MeSH Changes and PubMed Searching

January 27, 2023
NLM, NNLM Training Office
Before We Start

- Captions: click “Closed Captions” button
- Chat: send questions to EVERYONE
- Handout: link in chat
- Reactions: give me a thumbs up!
MeSH Changes
and PubMed Searching Training

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Pre-Test
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
Example of Saved Search
Quiz 1

How far back can you search with the MeSH term Post-Acute COVID-19 Syndrome?

a) 1963
b) 1983
c) 2020
d) 2023
Quiz 2

How far back can you search with the MeSH term **Plastic Surgery Procedures**?

a) 1963
b) **1998**
c) 2022
d) 2023
Questions?
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

New Term with Same Meaning
Quiz 3

Which MeSH term does a search for Alien Hand Syndrome map to?

a) Alien Hand Syndrome
b) Alien Limb Phenomenon

c) It does not map
d) Alien Limb Syndrome
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

How far back can I search with Knee Fractures?

**Answer:** 2023
Exercise 1: Question 2

Where do I look in the MeSH record for terms used prior to 2023?

**Answer:** Previous Indexing

Previous Indexing:

- Fractures, Bone *(2006-2022)*
- Knee Injuries *(1963-2022)*
Exercise 1: Question 3

What field tag do I use to limit to records indexed between 2006 and 2022?

• **Answer**: [mhda]
Hierarchy Changes Examples
Hierarchy Changes: Example 1

MeSH 2022

Lactobacillaceae [B03.350.750.460]
Lactobacillus [B03.353.750.450.475]
Lactobacillus acidophilus [B03.353.750.450.475.100]
Lactobacillus brevis [B03.353.750.450.475.180]
Lactobacillus casei [B03.353.750.450.475.225]
Lactobacillus crispatus [B03.353.750.450.475.238]
Lactobacillus delbrueckii [B03.353.750.450.475.250]
Lactobacillus fermentum [B03.353.750.450.475.326]
Lactobacillus gasseri [B03.353.750.450.475.363]
Lactobacillus helveticus [B03.353.750.450.475.400]
Lactobacillus johnsonii [B03.353.750.450.475.453]
Lactobacillus leichmannii [B03.353.750.450.475.506]
Lactobacillus paracasei [B03.353.750.450.475.559]
Lactobacillus pentosus [B03.353.750.450.475.586]
Lactobacillus plantarum [B03.353.750.450.475.612]
Lactobacillus reuteri [B03.353.750.450.475.680]
Lactobacillus rhamnosus [B03.353.750.450.475.700]
Lactobacillus sakei [B03.353.750.450.475.775]
Lactobacillus salivarius [B03.353.750.450.475.850]
Hierarchy Changes: Example 1 (cont.)

Lactobacillaceae
- Lacticaseibacillus
  - Lacticaseibacillus casei
  - Lacticaseibacillus paracasei
  - Lacticaseibacillus rhamnosus
- Lactobacillus
  - Lactobacillus acidophilus
  - Lactobacillus crispatus
  - Lactobacillus delbrueckii
  - Lactobacillus gasseri
  - Lactobacillus helveticus
  - Lactobacillus johnsonii
  - Lactobacillus leichmannii
  - Lactobacillus pentosus
  - Lactobacillus plantarum
- Latilactobacillus sakei
- Levilactobacillus brevis
- Ligilactobacillus salivarius
- Limosilactobacillus fermentum
- Limosilactobacillus reuteri

MeSH 2023
Exercise 2

**MeSH 2022**

- Lactobacillaceae [B03.353.750.450]
  - Lactobacillus [B03.353.750.450.475]
    - Lactobacillus acidophilus [B03.353.750.450.475.100]
    - Lactobacillus brevis [B03.353.750.450.475.180]
    - Lactobacillus casei [B03.353.750.450.475.225]
    - Lactobacillus crispatus [B03.353.750.450.475.238]
    - Lactobacillus delbrueckii [B03.353.750.450.475.250]
    - Lactobacillus fermentum [B03.353.750.450.475.325]
    - Lactobacillus gasseri [B03.353.750.450.475.363]
    - Lactobacillus helveticus [B03.353.750.450.475.400]
    - Lactobacillus johnsonii [B03.353.750.450.475.453]
    - Lactobacillus leichmannii [B03.353.750.450.475.506]
    - Lactobacillus paracasei [B03.353.750.450.475.559]
    - Lactobacillus pentosus [B03.353.750.450.475.586]
    - Lactobacillus plantarum [B03.353.750.450.475.612]
    - Lactobacillus reuteri [B03.353.750.450.475.680]
    - Lactobacillus rhamnosus [B03.353.750.450.475.700]
    - Lactobacillus sakei [B03.353.750.450.475.775]
    - Lactobacillus salivarius [B03.353.750.450.475.850]

**MeSH 2023**

- Lactobacillaceae
  - Lactobacillus
    - Lactobacillus acidophilus
    - Lactobacillus crispatus
    - Lactobacillus delbrueckii
    - Lactobacillus gasseri
    - Lactobacillus helveticus
    - Lactobacillus johnsonii
    - Lactobacillus leichmannii
    - Lactobacillus paracasei
    - Lactobacillus pentosus
    - Lactobacillus plantarum
    - Lactobacillus sakei
    - Lactobacillus brevis
    - Lactobacillus salivarius
    - Lactobacillus fermentum
    - Lactobacillus reuteri
Hierarchy Changes: Example 2

MeSH 2022

Aneurysm [C14.907.055]
Aneurysm, Dissecting [C14.907.055.050]
Carotid Artery, Internal, Dissection [C14.907.055.050.150]
Loeys-Dietz Syndrome [C14.907.055.050.362]
Vertebral Artery Dissection [C14.907.055.050.575]
Hierarchy Changes: Example 2 (cont.)

MeSH 2023

- Aneurysm
- Dissection, Blood Vessel
  - Aortic Dissection
  - Dissection, Abdominal Aorta
  - Dissection, Thoracic Aorta +
  - Ehlers-Danlos Syndrome, Type IV
  - Carotid Artery, Internal, Dissection
  - Vertebral Artery Dissection
Exercise 3

MeSH 2022

- Aneurysm [C14.907.055]
- Aneurysm, Dissecting [C14.907.055.050]
  - Carotid Artery, Internal, Dissection [C14.907.055.050.150]
  - Loeys-Dietz Syndrome [C14.907.055.050.362]
  - Vertebral Artery Dissection [C14.907.055.050.575]

MeSH 2023

- Aneurysm
  - Dissection, Blood Vessel
    - Aortic Dissection
      - Dissection, Abdominal Aorta
      - Dissection, Thoracic Aorta
      - Ehlers-Danlos Syndrome, Type IV
    - Carotid Artery, Internal, Dissection
    - Vertebral Artery Dissection
• Can result in dramatic retrieval changes
• Offer an improvement to your explosions
• Take a fresh look at the new hierarchy and reconsider your search
Exercise 4

• You want to search PubMed as comprehensively as possible, back to 2010, for literature related to Paramedicine. How would you do this?
Exercise 5

• You want to search PubMed as comprehensively as possible, back to 2015, for literature related to Dust Mite Allergy. How would you do this?
Additional Questions?
Post-Test
Post-Test Questions

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., Systemic Racism) will be included in the results for the broader term above it (e.g., Racism).
   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
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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 MeSH changes in October and the year-end changes to MEDLINE in December in the NLM Technical Bulletin.
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3. Click My Learning on the blue bar near the top of the page
4. Enter the following enrollment code in the appropriate field:
   
   [redacted] (please copy)
   
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