The basics of searching biomedical databases

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Learning Outcomes

At the end of this workshop you will:

- Be familiar with the difference between using subject headings and keywords when searching

- Be familiar with the basics of searching databases like CINAHL and PubMed using subject headings and keywords.

- Be able to search these databases and locate evidence to answer PICO questions.

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Agenda

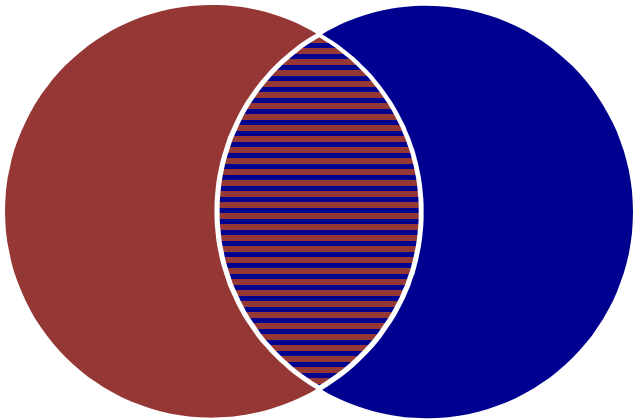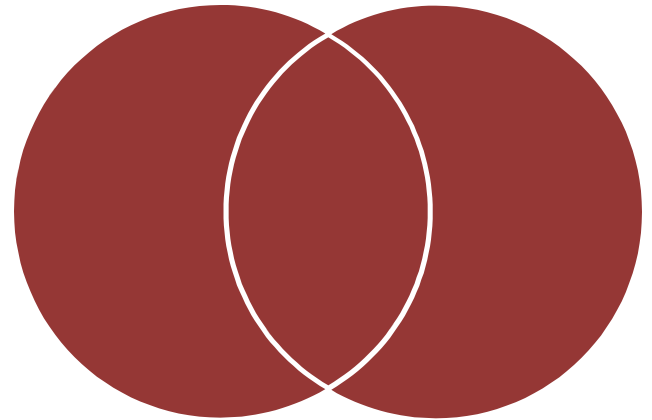| How to search Cinahl, Medline (Pubmed) and Pubmed Clinical queries |
|---|
| • Search tips |
| Demo & hands on |
| • Searching the databases: |

- Cinahl- Demo
- Cinahl- Hands on
- Pubmed - Demo
- Pubmed - Hands on
- Google Scholar – Hands on

Searching the Literature - Tips
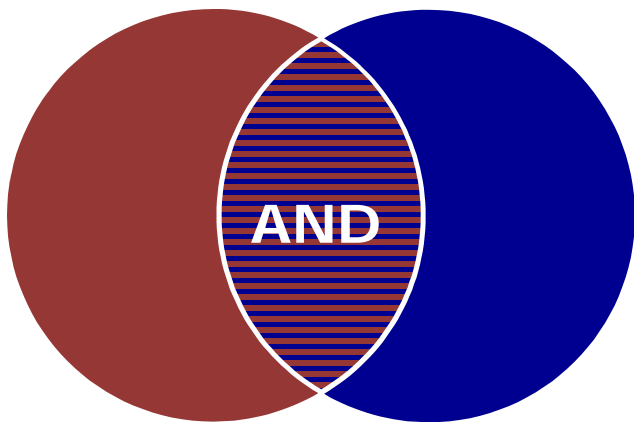
Boolean operators

AND = every reference contains **both (or all)** of the search terms specified (smallest no. of results)
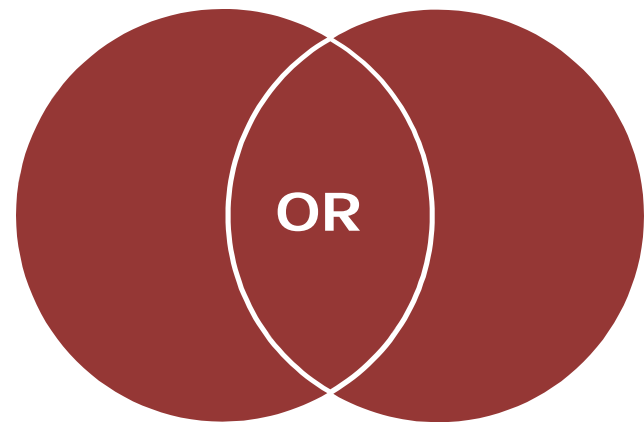
OR = every reference contains **at least one** of the search terms (largest no. of results)
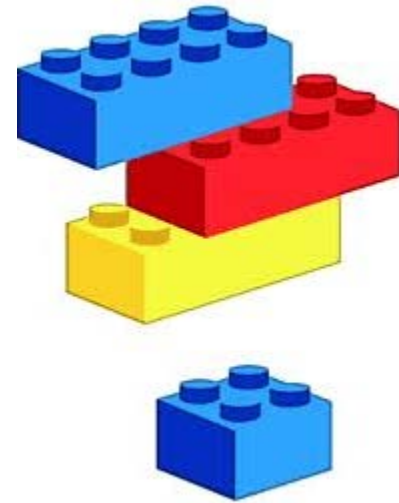
Documents discuss both Stress AND Anxiety

Documents discuss Stress OR Anxiety

Subject headings vs keywords:

- Subject headings work like building blocks: take one concept at a time and build your search

- Keywords work like the ingredients of a soup: throw in a bunch of concepts and see how it turns out

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Subject headings

- Subject headings are a controlled vocabulary used to index contents in different databases

  - **MeSH** – medical - Used in Medline (Pubmed and OVID)
  - **CINAHL** – nursing and allied health
  - **EMTREE** – Embase (pharma)
  - etc…

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Subject headings are organized in a hierarchical tree:

MeSH Tree Structures

Health Occupations [H02]
        Acupuncture [H02.004]
        Allied Health Occupations [H02.010] +
        Biomedical Engineering [H02.070]
        Chiropractic [H02.110]
        Dentistry [H02.163] +
        Environmental Health [H02.229] +
        Evidence-Based Practice [H02.249] +
        Health Services Administration [H02.269]
        Hospital Administration [H02.309]
        Medical Illustration [H02.385]
        Medicine [H02.403] +
        Mortuary Practice [H02.438]
      ► Nursing [H02.478]
                Evidence-Based Nursing [H02.478.197]
                Nursing Research [H02.478.395] +
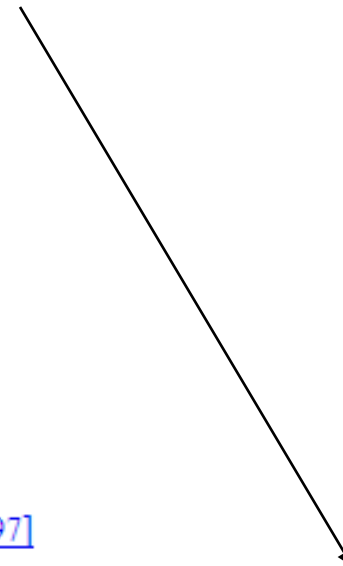   Nursing Theory [H02.478.408]
                Specialties, Nursing [H02.478.676] +
      Nursing, Practical [H02.495]
      Nutritional Sciences [H02.533] +

Broad (general)

Narrow (specific)

Subject headings cont…

- All synonyms included under one term so all articles about x are found using one subject heading i.e. what is the article about?

- Can usually have more control and limit search more effectively

- **Note: many concepts have not been given subject headings**

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Subject headings cont…

- Subject headings should not be confused with subheadings!

- Subheadings are assigned to each subject heading according to relevance and can be used to limit your search. For example in Cinahl:

Other ways to limit your search

- Add another concept to your search

- Use limits provided by the database such as:
  - Age
  - Date
  - Publication type
  - Language
  - Journal subset

- Use a filter such as Pubmed Clinical Queries
  - TIP: Copy and paste your Pubmed search into the search box

Keywords

- Keywords are words that appear in the text.
  - Does this word appear in the title, or abstract? (resources rarely search full text)

- Author's terminology - must search each synonym so all articles about x are found using x, y, z, etc.

- Can find concepts not indexed as subject headings i.e "72 hours"
  - **Important: Many concepts must be searched using keywords as they have not been given subject headings**

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Important Note:

- You will be using keywords to "map" to Subject headings in Cinahl and Pubmed (Medline)

- In other words...
  1. You type in your keyword: cancer
  2. Database suggests the best Subject Heading: neoplasms

Used For:
neoplasms
neoplasm
tumors
tumor
benign neoplasms
neoplasms, benign
benign neoplasm
neoplasm, benign
cancer

Tips for good searching

- Start broad and then narrow search using subheadings and limits if needed

- Save your search history – it can be used to inform a search in another resource
    - key words & synonyms
    - subject headings

- If you have too few results broaden your search by combining Subject Headings AND keywords

- Try search again with a fresh mind

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Remember!

- A JGH Librarian is available to provide one-on-one instruction
  - Francesca Frati, local 2438, ffrati@jgh.mcgill.ca
  - Jacynthe Touchette, local 2453, jtouchette@jgh.mcgill.ca
- Tutorials are available 24/7
  - JGH.ca/HSL > Subject Guides or
  - JGH.ca/HSL > Instruction > Workshop presentations & Handouts

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THANK YOU!