

# Research Tactics

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# Class objectives

- Describe general library services
- Explore components of a clinical question
- List techniques for responsible searching
- Choose online resources for research

# **CLINICAL QUESTION COMPONENTS**

# Creating a Clinical Question

Identify 4 components

1. Patient/population
2. Intervention
3. Comparison
4. Outcome

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# EXAMPLE: Physical Therapy

- Effect of Brisk Walking in 1 or 2 Daily Bouts and Moderate Resistance Training on Lower-Extremity Muscle Strength, Balance, and Walking Performance in Women Who Recently Went Through Menopause: A Randomized, Controlled Trial
  - Asikainen *et al.* (July 2006) *Phys Ther.* 86(7): 912.

# EXAMPLE: Physical Therapy

- Effect of Brisk Walking in *1 or 2 Daily Bouts* and Moderate Resistance Training on **LOWER-EXTREMITY MUSCLE STRENGTH, BALANCE, AND WALKING PERFORMANCE** in **WOMEN WHO RECENTLY WENT THROUGH MENOPAUSE**: A Randomized, Controlled Trial

**PATIENT  
POPULATION**

Intervention/Treatment

*Comparison Group*

**OUTCOME OF INTEREST**

# HOW TO SEARCH RESPONSIBLY



# 1. Identify your subjects

“I need articles about walking & moderate resistance training’s effect on balance, muscle strength & walking performance in post-menopausal women”



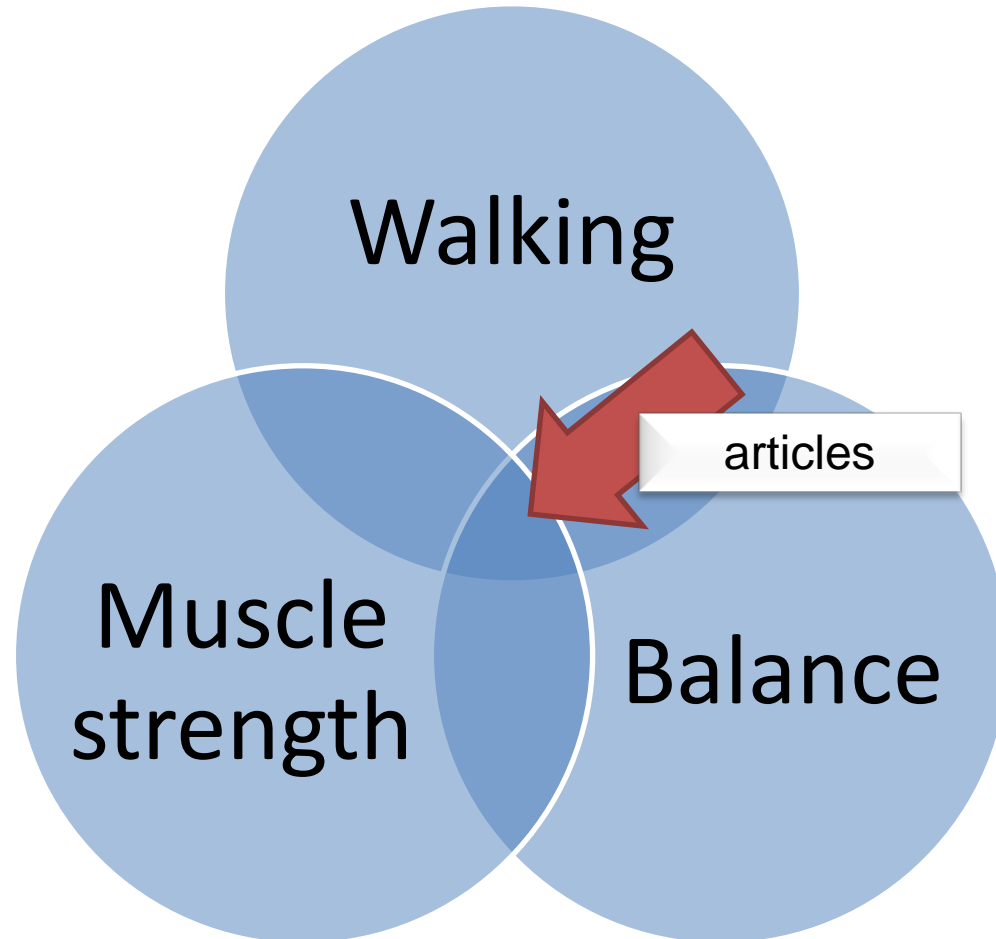
## 2. Break your search into simple phrases

Walking / resistance training /  
balance / muscle strength /  
walking performance

*Try this: brainstorm synonyms*

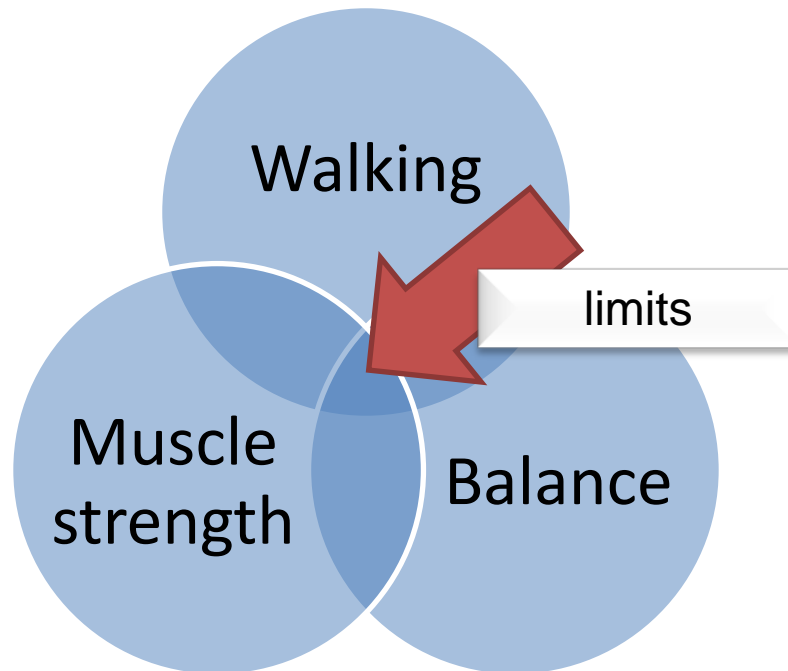
# 3. Connect phrases with Boolean Operators

<http://www.internettutorials.net/boolean.asp>



# 4. Apply limits

Age groups, language, dates, type of study, full text, study types etc.





# Subject Headings vs. Keywords

- Subject Heading

- A word or phrase from a controlled vocabulary which is used to describe the subject of a document.

- Example: MeSH, CINAHL Subject headings, EMTREE keywords

- Keyword

- Any word or phrase in the title, subject headings, notes, abstract, or text of a record in a database used as a search term in a free-text search to retrieve all the records containing it.

- Example: what you type when you use Google

# PubMed Subject Heading search



# More search tips

- Consider using TRUNCATION

- Shortens a keyword so that it will match with all terms starting with the same stem.

***therap\*** will match with therapy, therapist, therapeutic, etc.*

- Ebsco & PubMed truncator: \* (**asterisk**)
- Truncation handout:

[www.lsuhsu.edu/no/library/services/reference/handouts/truncation.pdf](http://www.lsuhsu.edu/no/library/services/reference/handouts/truncation.pdf)

- Keep away from sentences and prepositions!

- Databases don't like the words 'in, to, for, by' etc. – use at your own risk!

# **PRIMARY ONLINE SOURCES FOR RESEARCH**



**Access: library homepage**

<http://www.lsuhscl.edu/no/library/>

**Tip: Going through library gets more access to full text than pubmed.gov**



**CINAHL : research  
articles**

**Rehabilitation Resource  
Center: clinical  
summaries**

**Access: library homepage**

**<http://www.lsuhsu.edu/no/library/>**



**Access:**

**Library homepage → ONLINE RESOURCES**

<http://www.lsuhscc.edu/no/library/ss&d/default.htm>

# Group exercise

- Divide into 6 groups
- Search your question in assigned database as a group
- Share your search process with the class

# Primary sources: summary

- PubMed
  - Check abstract for LSU icon/full text
- Ebsco
  - CINAHL (articles) Rehabilitation Reference Center (clinical)
  - Direct export to RefWorks
  - My EBSCOhost – save searches & documents
- Embase
  - Biomedical and pharmacological journal articles
  - PubMed + 11 million Embase records
  - Direct export to RefWorks



# **APTA RESOURCES**

# *Hooked on* EVIDENCE

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- “Extractions” of research articles
- Designed to save time & keep current
- Summarizes study design, participants, methods, results, and outcomes
- Under Research at [www.apta.org](http://www.apta.org)



- Collection of member resources
- Designed to offer easy access to full text & evidence based databases
- Cochrane Library, CINAHL, Full text journals
- Under Research at [www.apta.org](http://www.apta.org)

# **EBM DATABASES**



# THE COCHRANE LIBRARY

Independent high-quality evidence for health care decision making

- Full text EBM & systematic reviews
- Indexed in PubMed
- Library Homepage -> Online Resources



- Physiotherapy EBM
- Free on the web
- International



# Evaluating the Literature

- Questions to consider
  - Was the study original?
  - Who is it about?
  - Was it well designed?
  - Was systematic bias avoided? (i.e., was the study adequately controlled)
  - Was it large enough & continued long enough to make the results credible?

FOR MORE TIPS, SEE: *How to read a paper*. Trisha Greenhalgh (2006)

Available in the library → [W 20.5 G83h 2006](#)

# Final Thoughts

- Clinical Questions: PICO!
- Search the literature
  - Use multiple databases
  - Brainstorm keywords
  - Utilize truncation, subject headings, limits
- Evaluate the literature
  - Was the outcome achieved? Did it help?

# Rule of Thumb

If you spend more than 20 minutes trying to find something relevant, contact a librarian.

<http://www.lsuhsu.edu/no/library/services/help.html>

“When looking for ‘best evidence,’ the literature may be inadequate, and experience and patient preferences may be the “best” guide available.”

# Further Reading

- Steves, R & Hootman, JM. “Evidence Based Medicine: what is it and how does it apply to athletic training?” *Journal of Athletic Training*. (2004) vol 39(1): 83-87.
  - Available in library: *Journal of Athletic Training*
- Greenhalgh, Trisha. *How to read a paper*. London: BMJ Publishing (2006).
  - available in the library: W 20.5 G83h 2006