Spring 2017
OT GE3301
Locating Evidence

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Elmer Holmes Bobst Library
70 Washington Square South
office hours by appointment
(How do I get from here to there?)
Learning objectives

Students will understand:

- **Why** do a literature search?
- Where to **START** a literature search for a PICO question?
- Why have a search **strategy**?
- **Searching** CINAHL, PubMed, PsycINFO, Cochrane, Proquest databases for content
  - **Limiting** results by research methodology
- **Citing** search results in a standard format (APA) and managing results (Zotero/Mendeley/Endnote/Refworks)
Why?

• A literature search using specialized databases ensures comprehensive retrieval of best published evidence to answer clinical questions.

• If you are randomly searching google or other meta-tools
  – you may miss best evidence
  – you lack filtering functionality
  – you may retrieve too much, yet *miss* the most relevant studies
  – you will not always access article full text

• Entering specialized databases via the NYU gateway ensures maximized links to full text subscribed by NYU.
http://guides.nyu.edu/ot

Q: Where do I start?
Books and E-Books (background information)

- disease overviews
- intervention summaries
- reference; encyclopedias
- anatomy/physiology
- evidence summaries/syntheses
- “point of care” tools
At Bobst Library...

Find books in Bobcat:
http://bobcat.library.nyu.edu

Reserve group study rooms:
https://library.nyu.edu/services/study-spaces/reservable-study-spaces/

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https://library.nyu.edu/services/study-spaces/graduate/

Students may have up to 200 items checked out at one time! Standard loan period 120 days for Master’s and PhD students.
(Subject to recall after 2 weeks).
Teaming with your therapy dog

Howie, Ann R., 1955- , author • 2015

Publisher: Purdue University Press
ISBN: 9781612493879

Online Access

- Project Muse
  NYU access only

An e-book (nyu.edu only)
Another example, an electronic version of a book linked from Bobcat.
An e-book (nyu.edu only)
There are electronic versions of many

- Books
- Encyclopedias
- Point-of-care tools

STAT!Ref is an example of an aggregated collection, good for background information...
Articles/databases (foreground information)
Specialized article databases e.g. PubMed, PsycInfo, CINAHL, and more are searchable by topic. They index articles from thousands of scholarly journals. (nyu.edu only)

http://guides.nyu.edu/databasesOT
Steps

– Formulate answerable PICO(T) question

– Select a specialized database

– Translate the terms of the question to the controlled vocabulary of the database, when possible; use keyword searching when necessary.
  • Use **AND** to combine terms and narrow a search.
  • Use **OR** to expand with synonyms, related terms.

– Apply **filters**: limits for publication type, year, age group, methodology!

– Critical appraisal
Steps

– Formulate answerable PICO(T) question

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• Use **OR** to expand with synonyms, related terms.

– Apply **filters**: limits for publication type, year, age group, methodology!

– Critical appraisal

Formulating the question, selecting a database, scoping the existent literature...you might do a lot of iterative searching and wrangling with $P$ and $I$ as you immerse yourself in the published literature.
How effective is constraint-induced movement therapy in stroke patients?

• **Patient/Problem/Population:**
  – Stroke patient

• **Intervention:**
  – Constraint-induced movement therapy

• **Comparison:**
  – no therapy; other therapy

• **Outcome:**
  – Improved function
How effective is constraint-induced movement therapy in stroke patients?

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- **Comparison:**
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- **Outcome:**
  - Improved function

**TIP:** For the scoping search, consider *Patient/Problem/Population* and *Intervention* first when planning your search strategy and selecting database search terms.

[look for the *Comparison*, *Outcome*, and optional *Time* element when you browse abstracts and review full text of articles]
• **Medline/PubMed**: the premier biomedical database; 1950 to present with some older refs; more than 26 million records

• **Web of Science** *(Social Science Citation Index, Science Citation Index, Arts and Humanities Citation Index)*

• **CINAHLPlus** *(Cumulative Index to Nursing and Allied Health Literature)*; indexes nursing and allied health literature for more than 3200 journals back to 1937.

• **PsycINFO**: International coverage of the professional and academic literature in psychology, medicine, psychiatry, nursing, sociology, education, pharmacology, physiology, linguistics, and other areas.

• **Proquest Central** multidisciplinary resource for research on contemporary topics or for the beginning stages of a research project. Includes Newspapers, *NYT/WSJ* and more.

• **Joanna Briggs Institute EBP Database** preappraised evidence summaries and systematic reviews, covering a wide range of medical, nursing, and health science specialties

• **COCHRANE Database of Systematic Reviews**: Collaboration’s systematic reviews in medicine, health, and economics, from other systematic reviews and economic evaluations and individual clinical trials. Includes Cochrane Database of Systematic Reviews (CDSR), Database of Abstracts of Reviews of Effects (DARE), Cochrane Central Register of Controlled Trials (CENTRAL), Cochrane Methodology Register (CMR), NHS Economic Evaluation Database (NHSEED), and Health Technology Assessment Database (HTA)

For many OT questions, search both CINAHL and Medline.

For questions with behavioral aspects, also search PsycINFO, Web of Science.
• **Medline/PubMed:** the premier biomedical database; 1950 to present with some older refs; more than 26 million records

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• **CINAHLPlus** (Cumulative Index to Nursing and Allied Health Literature); indexes nursing and allied health literature for more than 3200 journals back to 1937.

• **PsycINFO:** International coverage of the professional and academic literature in psychology, medicine, psychiatry, nursing, sociology, education, pharmacology, physiology, linguistics, and other areas.

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• **COCHRANE Database of Systematic Reviews:** Collaboration’s systematic reviews in addition to other sources of reliable information, from other systematic reviews, economic evaluations and individual clinical trials. Includes Cochrane Database of Systematic Reviews (CDSR), Database of Abstracts of Reviews of Effects (DARE), Cochrane Central Register of Controlled Trials (CENTRAL), Cochrane Methodology Register (CMR), NHS Economic Evaluation Database (NHSEED), and Health Technology Assessment Database (HTA).

For both scholarly and nonscholarly articles, recent information, newspapers and magazines, start with Proquest Central.

e.g.,
• epidemics
• current updates
• legislation, news
Sample Research Question: How effective is constraint-induced movement therapy in stroke patients?

Recommended databases:

- CINAHLPlus
- Medline (PubMed or Ovid)
- PsycINFO
- Cochrane Database of Systematic Reviews
- JBI (Joanna Briggs Institute) EBP Database
- Scopus
- Web of Science
- Embase
- Proquest Central
- Dissertation Abstracts
- Other

For a sample article search, we’ll start with CINAHLPlus
Translating a PICO question into a literature search:

How effective is constraint-induced movement therapy in stroke patients?

AND retrieves article citations with BOTH terms present
A larger OR’d set of MeSH/keywords/synonyms may be recombined with AND to narrow a search.
Efficacy of Constraint-Induced Movement Therapy in Early Stroke Rehabilitation.

Authors: Thran, Gyrd, Askim, Torunn, Stock, Roland; Indredavik, Bent; Gjøne, Ragna; Ericson, Anne; Anike, Audny

Affiliation: UIT The Arctic University of Norway, Tromsø, Norway, University Hospital of North Norway, Tromsø, Norway, Norwegian University of Science and Technology, Trondheim, Norway, Sam-Terndelag University College, Trondheim, Norway, Trondheim University Hospital, Norway, Vestfold Hospital Trust, Norway, Oslo University Hospital, Norway.

Source: Neurorehabilitation & Neural Repair (NEUROREHAB NEURAL REPAIR), Jul2015, 29(6): 517-525. (ip)

Publication Type: Journal Article - research, tables/Charts, randomized controlled trial

Language: English

Major Subjects: Stroke - rehabilitation, constraint-induced therapy

Minor Subjects: Human, Treatment Outcomes; Clinical Assessment Tools; Scales; Single-Blind Studies; Randomized Controlled Trials; Academic Medical Centers; Multicenter Studies; Norway; Videorecording; Power Analysis; Maximum Likelihood; Data Analysis Software; Analysis of Covariance; Male, Female; Middle Age; Aged; Descriptive Statistics; NIH Stroke Scale

Journal Subset: Allied Health, Biomedical, Editorial Board Reviewed, Expert Peer Reviewed, Peer Reviewed, USA

Special Interest: Physical Therapy

Instrumentation: Nine-Hole Peg Test (NHPT), Stroke Impact Scale (SIS), Wolf Motor Function Test (WMFT), NIH Stroke Scale, Instrumental Activities of Daily Living Scale (IADL), Fugl-Meyer Assessment (FMA), Modified Rankin Scale

ISSN: 1545-9683

EDLINE Info: PMID: 25308726 NLM UID: 100892086

Entrv Date: 20150624
The terms that describe a study provide "breadcrumbs" to similar studies... (like Amazon and Netflix)
A PubMed citation:
Notice metadata! The terms that describe a study provide “breadcrumbs” to similar studies... (like Amazon and Netflix)
Constraint-induced movement therapy for upper extremities in people with stroke.

Corbetta D1, Sirven J, Castelini G, Moia L, Calti R

BACKGROUND: In people who have had a stroke, upper limb paresis affects many activities of daily life. Reducing disability is therefore a major aim of rehabilitative interventions. Despite preserving or recovering movement ability after stroke, sometimes people do not fully realise this ability in their everyday activities. Constraint-induced movement therapy (CIMT) is an approach to stroke rehabilitation that involves the forced use and massed practice of the affected arm by restraining the unaffected arm. This has been proposed as a useful tool for recovering abilities in everyday activities.

OBJECTIVES: To assess the efficacy of CIMT after stroke.

SEARCH METHODS: We searched the Cochrane Controlled Trials (CENTRAL), The Cochrane Stroke Group's Trials Register, CINAHL (1982 to January 2015), and the PEDro database for relevant trials. There were no language or publication type restrictions. We also searched the Cochrane Database of Systematic Reviews, and Cochrane Database of Systematic Reviews (issue 3, 2015 and issue 4, 2015). We searched reference lists of included studies and other relevant systematic reviews.

SELECTION CRITERA: Randomised controlled trials, non-randomised controlled trials, and open-label trials of CIMT as an intervention and, as a comparison, usual care, no intervention, or minimal intervention. We excluded non-randomised controlled trials, and open-label trials, unless the results were presented in sufficient detail to allow us to compute a mean difference (MD) or standardised mean difference (SMD) and 95% confidence interval (CI). We excluded studies of CIMT with a combined upper and lower limb intervention, if the effects of CIMT on the upper limb were not clearly distinguishable from those of the lower limb.

DATA COLLECTION AND ANALYSIS: One author extracted data and assessed risk of bias. Disagreements were resolved by discussion. We used a random-effects model to calculate the MD and 95% CI of the primary outcome, arm motor function (28 studies, 1511 participants, SMD 0.29 [95% CI 0.24 to 0.35], I2 0%). We assessed heterogeneity using I2 and the Cochrane Q tests.

MAIN RESULT: We included 42 studies involving 2596 participants. The majority of studies were underpowered (mean 34 participants). In all studies, CIMT signifi cantly improved arm motor function compared with control (19 studies, 1068 participants, SMD 0.29 [95% CI 0.24 to 0.35], I2 0%). In studies using a modified upper limb approach, CIMT signifi cantly improved arm motor function compared with control (5 studies, 236 participants, SMD 0.30 [95% CI 0.14 to 0.46], I2 0%). CIMT also improved arm motor function compared with control in a study where patients were randomised to receive either CIMT or usual care (4 studies, 144 participants, SMD 0.30 [95% CI 0.19 to 0.41], I2 0%). We found no evidence of publication bias (Egger test P = 0.83 for all studies, and P = 0.48 for studies with a modified upper limb approach).

AUTHORS' CONCLUSION: CIMT is a highly effective intervention for improving arm motor function, but these benefits did not translate into improved function. One study suggested that CIMT might be superior to usual care in reducing post-stroke arm paresis.

Update of

Constraint-induced movement therapy for upper extremities in people with stroke.

PMID: 26445577 DOI: 10.1002/14651658.CD004432.pub3 [PubMed - indexed for MEDLINE]
A larger OR’ed set of MeSH/keywords/synonyms may be recombined with AND to narrow a search.
Why should you have a search strategy?

• Searching using standard terms ensures developing a consistent and repeatable strategy. Random keyword searching is frustrating, unproductive, overwhelming.

• Exploiting metadata* and the database structure using categorical limits maximizes retrieval of relevant and best evidence.

*metadata: “information about other information or information systems” (http://en.wikipedia.org/wiki/Metadata)
Filtering: raising the level of evidence

(In all databases, look for the feature that allows filtering)

Use LIMITS for:

**Age groups**, e.g., aged, child, young adult (rather than keywords such as “pediatric” or “elderly”)

**Article type** e.g., clinical trial, cohort study, case report.

In CINAHL, look for the limit to “Research”

**Publication date**

Help with database filters:  [http://guides.nyu.edu/ot/filters](http://guides.nyu.edu/ot/filters)
Article type: "research" [in CINAHLPlus]

stroke

constraint-induced movement therapy

AND
Article type: "clinical trial"

AND

stroke

constraint-induced movement therapy

AND
• **Bias:** a systematic tendency to produce an outcome that differs from the underlying truth

• More rigorous research methodologies minimize the incidence of bias
Take home message for ALL:

• Use Patient/Problem/Population AND Intervention first when planning your search strategy and selecting database search terms.
  (Look for the Comparison, Outcome, and optional Time element when you browse abstracts and review full text of articles)

• Use Filters (Limits) to narrow by research methodology, date, population, comparative or outcome terms if possible.
When an article is unavailable electronically or not in the library, order via Interlibrary Loan (there is no cost!)

https://ill.library.nyu.edu/
Q: I need help citing sources. My professor says to use APA format for a bibliography. (I don’t want to inadvertently plagiarize!)

http://guides.nyu.edu/ot/citing
Texting and receiving messages while driving has been shown to distract, impair performance, and lead to five times more accidents than driving without texting (Bendak, 2015).
Citing an article in APA style, in Reference list:

Reference List

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  - Claire claire.lemasters@nyu.edu

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Research question

Select database

Initial search with keywords

Translate terms

View initial results

Select relevant articles

Conduct revised search; view related records

Revise/expand search strategy

More results

Results