Plan

- Introductions
- Cochrane and Systematic reviews
- What is in the Cochrane Library?
- Ways to search Cochrane Library
- Constructing a search strategy
- Search tips
- Training resources
- Examples
The Cochrane Collaboration

- International organization
- Not for profit
- Registered as a charity in the U.K.
- Main activities are preparing, maintaining and promoting the accessibility of systematic reviews of the effects of healthcare interventions
Cochrane Collaboration's Vision

That healthcare decision-making around the world will be informed by high-quality, timely research evidence, and that The Cochrane Collaboration will play a pivotal role in the production and dissemination of this evidence across all areas of health care, including complementary medicine.
What is a Systematic Review?

- Identify an intervention for a specific disease or other problem in health care
- Ask whether or not this intervention works
- Locate, appraise and synthesize evidence from relevant scientific studies
- Summarize conclusions about effectiveness
What is the Cochrane Library?

- A collection of databases
- Main output of the Cochrane Collaboration
- Highest level of evidence on which to base clinical treatment decisions
What is in the Cochrane Library?

**Cochrane Database of Systematic Reviews (Cochrane Reviews)**
Regularly updated summaries of the best available evidence prepared by members of the Cochrane Collaboration.

**Database of Abstracts of Reviews of Effects (DARE)**
Other published reviews prepared by people outside of the Cochrane Collaboration.

**Cochrane Central Register of Controlled Trials (CENTRAL)**
Where to look if you want to track down the original studies (primary studies) – the largest single source of controlled trials.
More Cochrane Library Databases

**Cochrane Methodology Register (CMR)**
As exciting as it sounds! Where to find studies which look at the science of systematic reviewing.

**Health Technology Assessment Database (HTA)**
An international collection of health technology assessments.

**NHS Economic Evaluation Database (NHS EED)**
International economic evaluations of health care interventions.

**About the Cochrane Collaboration (About)**
Where to look for information about Cochrane review groups and other activities of the Cochrane Collaboration.
Cochrane Reviews (CDSR)
4400 complete reviews and 2500 protocols
Database of Abstracts of Reviews of Effects
8131 abstracts of assessed reviews
Clinical Trials (CENTRAL)
533,127 references to trials
Methods studies
10,648 references to methodology studies

See which reviews are getting the most attention from Cochrane Library users...

1. Interventions for preventing falls in elderly people
2. Interventions for preventing obesity in children
3. Beta-blockers for hypertension
4. Low glycaemic index or low glycaemic load diets for overweight and obesity
5. Nicotine receptor partial agonists for smoking cessation
6. Support surfaces for pressure ulcer prevention
7. Interventions to improve hand hygiene compliance in patient care
8. Vitamin C for preventing and treating the common cold
9. Rosiglitazone for type 2 diabetes mellitus
10. Exercise therapy for treatment of non-specific low back pain

http://www.cochrane.org/top10reviews.htm
Access to the Cochrane Library

www.TheCochraneLibrary.org

In Canada, accessible via provincial/territorial licenses
- Saskatchewan
- New Brunswick
- Nova Scotia
- three northern territories
- via some associations, e.g. Canadian Association of Occupational Therapists
Ways to search the Cochrane Library

- From The Cochrane Library homepage you can either choose to **browse** the content or use one of several **search** options:
  - Basic
  - Advanced
  - MeSH
Welcome to The Cochrane Library

The Cochrane Library contains high-quality, independent evidence to inform healthcare decision-making. It includes reliable evidence from Cochrane and other systematic reviews, clinical trials, and more. Cochrane reviews bring you the combined results of the world’s best medical research studies, and are recognised as the gold standard in evidence-based health care.

More About The Cochrane Library
What are Systematic Reviews & Protocols? | Product Descriptions | About the CD-ROM

What’s New in Issue 2, 2008?
Important changes to The Cochrane Library (PDF)
Highlights of new and updated Reviews (PDF)
Most Accessed Reviews 2007 (PDF)
Antioxidant supplements for prevention of mortality in healthy adults (PDF)

Access to The Cochrane Library
The Cochrane Library is available online through Wiley InterScience.

Help! New Users Start Here
As a new user we recommend you use the following resources to help you navigate through the evidence and get the most out of The Cochrane Library. 
More

For Clinicians
As a clinician you are under constant pressure to have high-quality, up-to-date evidence at your fingertips. 
More

For Researchers
The internet has given us instant access to a huge amount of research, but the large volume of available information is a problem in itself. 
More
You can also browse through the lists of the different Cochrane review groups. To do this click the Topics link and select the appropriate Cochrane review group from the drop-down list.
You can also browse through the topic lists. To do this click the **Topics** link and select the appropriate Cochrane review group from the drop-down list.
You can also browse through the topic lists. To do this click “By Topics” link.
Acute Respiratory Infections (145)
Airways (263)
Anasthesia (123)
Back (57)
- Cervical spine (17)
- Brachial Plexus (0)
  Cervico-brachial neuralgia (0)
Thoracic outlet syndrome (Liaison with Neuromuscular Disease Group) (0)
Thoracic spine (0)
- Lumbar spine (39)
- No specific localization (1)
- Bone, Joint and Muscle Trauma (179)
Searching the Cochrane Library

- Search using “basic”
- Searching using “advanced”
- Search using MeSH (Medical Subject Headings)
- Devise a complex search strategy
Basic Search

The most basic search can be done from The Cochrane Library homepage

When using this basic search option, searches are performed across all the databases

Select the database from the results page
Advanced Search

For greater flexibility choose the Cochrane Advanced Search

The Advanced Search screen allows you to build searches by combining several different concepts using Boolean operators (AND, OR or NOT) and lets you limit your search according to particular databases, types of record or year(s).
Boolean Logic

- **AND** retrieves results that include all the search terms; use **AND** to narrow results by combining concepts
- **OR** retrieves results that include at least one of the search terms; expanding possibilities of retrieval; use **OR** to group synonymous terms together
- **NOT** excludes the retrieval of terms from your search.
Boolean Logic

Osteoarthritis of the hip
OR
Osteoarthritis of the knee
AND
Aquatic exercise interventions
Advanced Search - Truncation

- Use * for wildcard and truncation
  - to search for multiple characters before, within, or after a search string.

- Examples
  - aquatic exercis*,
    - for exercise, exercises, or exercising
  - isch*mic stroke,
    - for ischaemic stroke, ischemic stroke
Advanced Search - Proximity

● Use **NEXT** to find adjacent words
  - aquatic NEXT exercise
  - Aquatic exercise for the treatment of knee and hip osteoarthritis.

● Use **NEAR** with a number to indicate proximity of terms either before or after each other (default is 6).
  - aquatic NEAR exercise*
  - Aquatic therapy exercise for treating rheumatoid arthritis.
Advanced Search – Phrase Search

- **Exact phrase search:** Insert a term within quotation marks to create an exact match.
- “water gymnastics”
- *The review found that specifically tailored strengthening exercise, sitting pelvic tilt exercise programs and water gymnastics all reported beneficial effects*
Advanced Search – Fields

- Title, Abstract and Keywords: pre-defined includes keyword field along with terms in the title and abstract
- Keywords: searches index terms, including MeSH headings and check tags
- MeSH option: allows you to explode subject headings
- All text: searches the full text of review
<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boolean operators</td>
<td>Use AND, OR, and NOT to create a more complex search.</td>
<td>magnesium sulfate AND (eclampsia OR perinatal asphyxia)</td>
</tr>
<tr>
<td>Proximity search using NEAR</td>
<td>Use NEAR/ with a number to indicate proximity of terms either before or after each other. The default proximity value for the operator when no number is entered is 6.</td>
<td>antidepressant NEAR/10 narcolepsy</td>
</tr>
<tr>
<td>Proximity search using NEXT</td>
<td>Use NEXT with a number to match terms that appear next to each other. Note that the apostrophe within a term is treated as a space, thus to search for adjacent words in a term such as Down's Syndrome, the best search parameter to use is: down* NEAR/2 syndrome</td>
<td>cholera NEXT treat'</td>
</tr>
<tr>
<td>Combined Boolean and proximity searches</td>
<td>Use combinations of Boolean operators and proximity operators to build a complex search.</td>
<td>breast NEAR (cancer OR carcinoma)</td>
</tr>
<tr>
<td>Wildcard truncation</td>
<td>Use an asterisk (*) to search for multiple characters before, within, or after a search string. A question mark can be used to search for a single character.</td>
<td>abdom* *ecampsia</td>
</tr>
<tr>
<td>Comma instead of OR operator</td>
<td>Use a comma in place of the OR operator</td>
<td>medical, health</td>
</tr>
<tr>
<td>Exact phrase search</td>
<td>Insert a term within quotation marks to create an exact match. Note that no search method is case sensitive, thus &quot;Ph&quot; matches the same results as &quot;ph&quot;, &quot;Ph&quot;, or &quot;ph&quot;.</td>
<td>&quot;mental health treatment&quot; matches the phrase in exactly that word sequence</td>
</tr>
<tr>
<td>Stemming</td>
<td>The stemming feature within the search allows words with small spelling variants to be matched. The term tumor will also match tumour.</td>
<td>tumor cell</td>
</tr>
<tr>
<td>Pluralization and singularization matches</td>
<td>Pluralized forms of words also match singular versions, and vice versa.</td>
<td>&quot;vaccine&quot;</td>
</tr>
<tr>
<td>Terms with multiple spellings</td>
<td>Use the wildcard character with the NEXT operator to match all variations of a term. Note: Use NEAR between a word ending in &quot;e&quot; and another following word.</td>
<td>st* NEXT john* NEAR wort</td>
</tr>
<tr>
<td>Diphthong characters</td>
<td>Terms with spelling variations that include diphthongs should be searched with a wildcard character to ensure that all forms of a term are matched. Some more common terms with diphthongs such as &quot;haemorrhage&quot; are automatically matched to their variant spellings through stemming.</td>
<td>isch'mc stroke</td>
</tr>
</tbody>
</table>
Search for a MeSH descriptor

Enter MeSH term: Enter search term

Go To MeSH Trees

Search by qualifier alone

SEARCH TIPS

Using the MeSH Search
Find records using the MeSH thesaurus search through the following methods.

Thesaurus Search Options
Use the thesaurus to find a term for a MeSH Tree Search. Enter word in text box and click on Thesaurus to display the complete index of all MeSH descriptors that include the word. Click on an index term to select it for a MeSH Tree Search (see below).

MeSH Tree Search Options
Enter a term in the text box
### Search The Cochrane Library content

**Search for a MeSH descriptor**

Enter MeSH term: **ostearthritis, knee**  
Go To MeSH Trees  
Thesaurus  
Definition

**Search The Cochrane Library content**

- Add qualifier restriction: **Qualifiers:**  
  - Explode
    - All
    - Tree Number 1
    - Tree Number 2

**Tree Number 1**
- Musculoskeletal Diseases [+12]
  - Joint Diseases [+24]
      - Osteoarthritis [+5]
      - Osteoarthritis, Hip
The Cochrane Library Help

We recommend you use the following resources to help you navigate through the evidence and get the most out of The Cochrane Library.

**Demos and brochure**

View a short PowerPoint Presentation or a PDF brochure explaining What is The Cochrane Library? What are the benefits and features?

There are also tutorial e-learning modules available, including introductions to The Cochrane Library in French and German (scroll down to the section on The Cochrane Library after following this link).

**User guides**

View our online help manual, or download, view or print the Quick Reference Guide, or the full User Guide in your preferred language. It provides a detailed overview of The Cochrane Library and easy step-by-step guidance on: How to Register; Logging-on; Browse; Performing Basic, Advanced and MeSH Searches; Using Search History; Citation Export; Linking; Navigating Reviews; Odds Ratio Diagrams and more.

- **Important Changes to The Cochrane Library from Issue 2, 2008 (PDF)** — April 2008
- **Preventing Duties Experienced (DA)** — April 2008
- Online help manual — see below — updated — April 2008
- Quick Reference Guide in English (PDF) — updated April 2008
- Quick Reference Guide in Russian (Powerpoint) — updated April 2008
- User Guide in English (PDF) — Version 2.2, updated 2008
- User Guide in French (PDF) — updated October 2007
The Cochrane Library - User training resources

New! Important changes to The Cochrane Library on Wiley Interscience - click here

The Cochrane Library on Wiley Interscience

- Wiley InterScience guides and demonstrations for The Cochrane Library
- NICE Guide to The Cochrane Library - by the Australasian Cochrane Centre
- Danish Guide to The Cochrane Library - by the Nordic Cochrane Centre
- Swedish Guide to The Cochrane Library - by SBU (The Swedish Council on Technology Assessment in Health Care)
- Italian Guide to The Cochrane Library - by the Italian Cochrane Centre
- French Guide to The Cochrane Library - by Wiley Interscience

Pre-2005 resources

Update, December 2005:
Older versions of The Cochrane Library and the current CD-Rom versions have a different interface. The Cochrane Web Team is attempting to ascertain whether resources relevant to this interface are still available online; if they are, links will be provided here.

Related:

The Cochrane Library Users' Group (CLUG) provides a forum for discussion of usability, readability, searchability and formatting issues related to the use of The Cochrane Library.

Further reading:

- About The Cochrane Library - what it offers, how it's produced
- The Cochrane Library on Wiley Interscience - learn what's changed in the new interface
- Impact of Cochrane evidence - learn how Cochrane Reviews are used worldwide
Organizing the search….

- **PICO** - A well-formulated question makes it easier to produce the strategy and find the evidence
- **Strategy** will be based on controlled vocabulary (Medical Subject Headings), and text words (develop list of key terms, synonyms)
Start with PICO

Patient/Population

Intervention

Comparison

Outcome
Framing the question

Are aquatic-exercise interventions in the treatment of knee and hip osteoarthritis effective and safe?

- In patients with knee or hip osteoarthritis (population)
- Are aquatic-exercise interventions (intervention)
- No comparator (comparison)
- Effective and safe? (outcome)?
<table>
<thead>
<tr>
<th>Patient group</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knee osteoarthritis</td>
<td>Aquatic exercise interventions</td>
</tr>
<tr>
<td>Hip osteoarthritis</td>
<td></td>
</tr>
</tbody>
</table>
PICO

Patient group
• osteoarthritis, knee (MeSH)
• osteoarthritis, hip (MeSH)
• (osteoarthritis OR osteoarthros*) AND (knee OR hip)

Intervention
• hydrotherapy (MeSH)
• balneology (MeSH)
• swimming (MeSH)
• balneotherap*
• aquatic NEXT exercis*
• (aquatic OR water) NEXT sport*
• pool NEXT therap*
• water NEXT aerobic*
• water NEXT exercis*
• water NEXT run*
• water NEXT training
• water NEXT gymnastic*
• (water* OR aquatic OR pool) AND physiotherapy
Speech and language example

- **Speech and language therapy for aphasia following stroke**

The objective of this review was to assess the effects of formal speech and language therapy and non-professional types of support from untrained providers for people with aphasia after stroke.
PICO

Patient group
- People with aphasia after stroke

Intervention
- Formal speech and language therapy

Comparator
- Non-professional types of support from untrained providers
Aphasia search

Patient/Population
aphasia (MeSH)
aphasi*:ti,ab,kw
dysphasi*:ti,ab,kw

Intervention
rehabilitation of speech and language disorders (MeSH)
speech NEAR therap*
language NEAR therap*
language therap*:ti,ab,kw
remedial NEAR therap*
therap* OR treatment* OR rehabilitat* OR remediation*
Occupational Therapy example

- Occupational therapy for patients with problems in activities of daily living after stroke
- To determine whether occupational therapy focused specifically on personal activities of daily living improves recovery for patients following stroke.
### Occupational Therapy example

<table>
<thead>
<tr>
<th>Patients/Population</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke patients</td>
<td>Occupational therapy</td>
</tr>
</tbody>
</table>
### Occupational Therapy example

#### Patient/Population
1. cerebrovascular disorders (MeSH)
2. stroke*
3. cva*
4. cerebrovascular*
5. cerebral vascular*
6. cerebral OR cerebellar OR brain* OR vertebrobasilar
7. infarct* OR isch*emi* OR thrombo* OR emboli* OR apoplexy
8. cerebral OR brain* OR subarachoid
9. h*emorrhage* OR h*ematoma* OR bleed*
10. #8 AND #9
11. hemiplegia (MeSH)
12. hemipleg* OR hemipar* OR post-stroke OR poststroke
13. #1 OR ...........

#### Intervention
14. occupational therapy (MeSH)
15. activities of daily living (MeSH)
16. rehabilitation (MeSH)
17. self care (MeSH)
18. automobile driving (MeSH)
19. task performance and analysis (MeSH)
20. time and motion studies (MeSH)
21. work simplification (MeSH)
22. leisure activities (MeSH)
23. recovery of function (MeSH)
24. Work (MeSH)
25. social adjustment (MeSH)
26. social support (MeSH)
27. counseling (MeSH)
28. goals (MeSH)
29. occupational NEAR therap*
Occupational Therapy example

Intervention

30. rehabilitat*
31. ((self OR personal) NEXT (care OR manage*))
32. dressing OR feeding OR eating OR toilet* OR bathing OR mobil* OR driving
33. public NEXT transport*
34. ((daily OR domestic OR house OR home) NEAR (activit* OR task* OR skill* OR chore*))
35. Leisure
36. recover* NEAR function*
Occupational Therapy example

**Intervention**

37. (social) NEAR (activit* OR function* OR support* OR skill* OR adjust* OR behavio*r OR facilitat*)
38. counsel*ing OR work OR employment
39. # 14 OR ..... 
40. #14 AND #39
Reading the Reviews

- Results screen defaults to the Cochrane Database of Systematic Reviews (CDSR)
- Reviews and Protocols (restrict to reviews)
- Layers of detail
  - The **Abstract** summarizes the objectives, methods, results and conclusions.
  - The **Synopsis** is a 100-word plain language summary found directly beneath the abstract, with pointers to sections of the full review.
  - Full review provides background, detailed methods, details of the individual trials, reviewers’ conclusion and maybe comments posted by readers, and the authors’ responses.
Lead-in Tools

- MeSH thesaurus (www.pubmed.org)
- Mayo Clinic
- Wikipedia
Accessibility

- Podcast summaries of certain topic

http://cochrane.org/podcasts/index.htm
Cochrane Library Tutorials

The Cochrane Library – An Introduction
(8 minutes)

Tips on Advanced and MESH searching
(7 minutes)

Setting up Saved Searches and e-mail Alerts
(7 minutes)
The Cochrane Library Help

We recommend you use the following resources to help you navigate through the evidence and get the most out of The Cochrane Library.

Demos and brochure

View a short PowerPoint Presentation or a PDF brochure explaining What is The Cochrane Library? What are the benefits and features? There are also tutorial e-learning modules available, including introductions to the Cochrane Database of Systematic Reviews (scroll down to the section on The Cochrane Library for following this link).

User guides

View our online help manual, or download, view or print the Quick Reference Guide, or the full User Guide in your preferred language. It provides a detailed overview of The Cochrane Library and easy step-by-step guidance on: How to Register; Logging-on; Browse; Performing Basic, Advanced and MeSH Searches; Using Search History; Citation Export; Linking; Navigating Reviews; Odds Ratio Diagrams and more.

- Important Changes to The Cochrane Library from Issue 2, 2008 (PDF) – April 2008
- Dates and Statuses explained (PDF) – April 2008
- Online help manual – see below – updated April 2007
- Quick Reference Guide in English (PDF) – updated April 2008
- Quick Reference Guide in Turkish (PDF) – updated October 2007
- User Guide in French (PDF) – updated October 2007
Public Libraries and Health Information

- From 6-20% of reference request in a public library are health related
- Even patrons with Internet access at home depend on public libraries to locate appropriate, understandable health and medical information

Barriers to Provision of Information

- Lack of expert knowledge
- Limitations in the library collection
- Concerns about providing what could be considered “health advice”.
Nadine Wather, A Comparative Analysis of Librarians and Health Professionals as “Health Info(r)mediators” CHLA-ABSC Conference, Halifax, 2008.
Evidence-Based Medicine

- Evidence
- Experience
- Needs and values
Sources of health information

1. Look on the Internet
2. Your GP
3. Books and magazines
4. Family and Friends
5. Public library
6. …other health professional, pharmacist, health food store….
Most trusted sources

1. Your GP
2. Public library
3. Other health professional
4. Family/ friends
5. Pharmacist
6. …
8. Online health information