The Cochrane Library

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What is the Cochrane Library?

The Cochrane Library is a collection of six databases that contain different types of high-quality, independent evidence to inform healthcare decision-making, and a seventh database that provides information about groups in The Cochrane Collaboration. It is a collection of information put together by the Cochrane Collaboration, the NHS Centre for Reviews and Dissemination and others. It is updated quarterly. It consists of several databases:

**Cochrane Database of Systematic Reviews (Cochrane Reviews)**
Full text of completed systematic reviews carried out by the Cochrane Collaboration, plus protocols for reviews currently in preparation. Cochrane Reviews are intended to help providers, practitioners and patients make informed decisions about health care, and are the most comprehensive, reliable and relevant source of evidence on which to base these decisions.

**Database of Abstracts of Reviews of Effects (Other Reviews)**
Abstracts of other systematic reviews

**Cochrane Central Register of Controlled Trials (Clinical Trials)**
References to randomised controlled trials (RCTs) identified through hand searching of journals and databases.

**Cochrane Methodology Register (Methods Studies)**
A bibliography of journal articles, books and conference proceedings about methods used in the conduct of controlled trials.

**Health Technology Assessment Database (Technology Assessments)**
This database brings together details of completed and ongoing health technology assessments (studies of the medical, social, ethical and economic implications of health care interventions) from around the world. The aim of the database is to improve the quality and cost-effectiveness of health care. It includes systematic reviews and primary research. The term “health technology” is used to mean any method used to promote health, prevent and treat disease and improve rehabilitation and long term care - it is not restricted to new drugs or sophisticated equipment.

**NHS Economic Evaluation Database (Economic Evaluations)**
Structured abstracts of economic evaluations of health care interventions. The evaluations include cost-benefit analysis, cost-utility analysis and cost-effectiveness analysis.

**About the Cochrane Collaboration (Cochrane Groups)**
The Cochrane Collaboration is an international, independent, not-for-profit organisation of over 28,000 contributors from more than 100 countries, dedicated to making up-to-date, accurate information about the effects of health care readily available worldwide. The contributors work together to produce systematic reviews of healthcare interventions, known as Cochrane reviews.
When to use the Cochrane Library
You should search the Cochrane Library when you are looking for information about the effectiveness of treatments and healthcare interventions. For example:

- What is the best treatment for epilepsy?
- Are stroke units effective?
- Is feather bedding better than non-feather bedding for asthma sufferers?

When not to use the Cochrane Library
The Cochrane Library is not so useful for general healthcare questions. For example:

- Primary research other than randomised controlled trials/controlled clinical trials
- Causal, prognosis, epidemiology, etc
- Statistics (prevalence and incidence)
- Current Research

What is a systematic review & meta-analysis?
A **systematic review** is a review that strives comprehensively to identify and synthesise all the literature on a given topic.

**Meta-analysis** is a statistical technique for assembling the results of several studies in a review into a single numerical estimate.

Systematic reviews are an increasingly important source of evidence about the effects of health care because:
- They help cut down the sheer volume of literature by summarising it
- They provide “new” information which may not be apparent from individual studies

The key characteristics of a systematic review are:
- Clearly stated title and objectives
- Comprehensive search strategy, including unpublished as well as published studies
- Explicit and justified criteria for the inclusion or exclusion of any study
- Comprehensive list of all studies identified
- Clear presentation of the characteristics of each study included and an analysis of methodological quality
- Clear list of all studies excluded and justification for exclusion
- Clear analysis of the results of the eligible studies, usually using statistical synthesis of data (meta-analysis)
- Structured report of the review clearly stating the aims, describing the methods and materials and reporting the results
The Cochrane Library Workbook

This workbook provides you with some basic searches to work through, using Cochrane. Hands-on practice is the best way to get to know your way round the system, so feel free to vary these examples or to try your own searches.

Go directly to the Cochrane Library website:
www.thecochranelibrary.com

The Cochrane Library Homepage

Some of the key features are shown below.
Browsing

The Cochrane Reviews can be browsed alphabetically or by topic. Topic is more likely to be useful.

Another way to browse is to look for a Review by the Review Group that carried it out.

**Example 1: Browse Cochrane reviews on treatments for smoking cessation**

Click Topics by Cochrane Review Group

[Note that you are only browsing Cochrane Reviews – not records from any of the other databases in the Cochrane Library]
Scroll down to "Tobacco Addiction" and click on it
Then find "Cessation" in the list below and click on it
Click on “Pharmacological agents” and then on "Nicotine replacement therapy"
Click on the underlined HTML or PDF link for the review Nicotine replacement therapy for smoking cessation with the HTML link

On the right hand side of the screen you will see a detailed and structured abstract of the review, followed by a plain language summary. On the left hand side there is a menu for the different sections of the full text version.

Click Full or use the left hand menu bar to jump to its different sections.

**Printing, emailing and saving reviews**

Printing, emailing and saving are carried out from the same screen. (NB: Whether emailing is available as an option depends on the version of Adobe Reader you have)
First you need to open the review as a pdf file

Click on the PDF option at the top of the left hand menu. The full review will appear in an Adobe Reader window (may take several seconds)
For all these options, a dialog box will appear - just follow instructions.

**Searching**

You have a choice of search methods:

**Simple** – for single words or phrases, either anywhere in the records or in a specific field, eg: title or author.

**Advanced** – to build up a more complex search, using AND, OR and NOT, in specific fields if required, and restricting the search to a particular Cochrane database, date range or record status.

**MeSH search** – to search using the Medline Subject Headings (MeSH), which facilitate a more comprehensive search.

**Search history** – to view the steps of your search (which may include any or all of the above search methods) and to combine different search steps.
Simple search

A simple search will be run against all databases in The Cochrane Library and you are then able to choose to view results from the database(s) you want.

Example 1: Search for the word "glucosamine"

Click the back arrow on the pdf window to return to the search/browse screen

Click into the SEARCH box at the top left hand side of the screen.
Type glucosamine. Notice that your search will retrieve records which contain the word glucosamine in the Title, Abstract or Keywords fields. Click on the “Go” button next to the box.

The Search Results screen appears.
Notice that the number of results are given for each database.
The results from the Cochrane Reviews are currently displayed.
Now click **Other Reviews** to see the results from that database

Note that each record shows whether it is a complete review or a protocol.

Click on **Cochrane Reviews** to return to the Reviews

Find and click the review "Glucosamine therapy for treating osteoarthritis"

To see the full text of this review, click **Full** on the left hand side menu

It is also possible to search for a phrase in Simple Search mode

**Type** "diet therapy" into the search box, with quotation marks

It is best to use quotation marks for all phrase searches, since this finds only records containing the exact phrase. A search without quotation marks would find records with both the individual words occurring anywhere.

**Repeat the search** using the term diet therapy without quotation marks

Note that many more records are found, but that many are irrelevant.
**Advanced search**

Is used when you want to carry out a more complex search, combining two or more concepts.

**Example 2:** Find whether there is evidence for the effectiveness of aversive therapy for smoking cessation

Click on **Advanced Search**

Type *aversion* or *aversive* in the first "Search for" box.

The "In" box alongside it should say "Search all text".

Type *smok* in the next "Search for" box. This will retrieve any of the terms *smoking*, *smoker*, *smokers*, *smoke*. 
(Leave the box saying "AND" on its left as it is, but note that you could have changed it to OR or NOT)

**Change** the "In" box alongside it from "Record Title" to "Search all text"

Note that this means you are searching for all records which contain the words (aversion or aversive) and the words (smoking or smoker or smokers or smoke).

Scroll down the screen and notice that it is possible to restrict your search to selected databases. You can also restrict the search record status and date. For this search we will not use any of these restrictions.

Click the **Search** button

The Search Results screen appears. How many “Cochrane Reviews” have been found? How many “Other Reviews”?

Scroll down to see the Cochrane Reviews

Find a relevant record and click on the title to see the abstract and full record

Look at the full text Authors’ Conclusions

Click on **Home** (towards the top of the screen), to return to the Cochrane home page

**MeSH search**

If you’ve used MeSH before to search Medline or other databases, then this will be straightforward. However, many people find MeSH quite complicated at first, so if you’ve not used it before, take time to explore this section and get to grips with it.

Keywords drawn from the MeSH (Medical Subject Headings) Thesaurus published by the U.S. National Library of Medicine have been attached to many, **but not all**, records in the Cochrane library. For this reason, it is necessary to do a combination of free-text searching, and MeSH searching to carry out a complete interrogation of the Cochrane library.

The MeSH Thesaurus is organised hierarchically in “trees”, with the smaller branches of the trees containing more specific terms. The MeSH search allows searching of the databases using the MeSH terms and tree structures.
Searching using MeSH enables you to retrieve records with a particular focus even if the text does not use a form of words you would have chosen for free text searching. For example, searching the MeSH term *Family Practice* means you don’t have to think of and enter all possible alternative terms, eg: general practice, community doctor, primary care, etc.

**Example 3.** Find reviews of effectiveness of drug therapies and diet therapy for rheumatoid arthritis.

Click on **Advanced Search**
Click on **MeSH Search**
Scroll through the Search Tips on the right hand side and read about the options for searching using MeSH
Return to the top of the screen and click into the “Enter MeSH term” box
Type *rheumatoid arthritis*
Click on the **Thesaurus** button immediately below
Scroll down the next screen and you will see a list of MeSH descriptors to choose from:

![MeSH Thesaurus](image)

Click on Arthritis, Rheumatoid which seems to be the appropriate MeSH term for this search
If you wish to see the definition of a Mesh term, you need to type it into the “Enter MeSH term” box, and click the **Definition** button
Scroll down the screen to see the MeSH trees which include the MeSH term Arthritis, rheumatoid
Notice that it is part of 4 different trees:

- Musculoskeletal diseases – joint diseases,
- Musculoskeletal diseases – rheumatic diseases,
- Skin and connective tissue diseases
- Immune System Diseases.

In other words, Arthritis, Rheumatoid falls under all 4 of these broader headings
Note also that the term Arthritis, Rheumatoid has a number of narrower terms listed underneath it
(At this point, if you wanted to change your search to one of these narrower terms or a broader term instead, you would click on it and the trees for that term would appear with it highlighted in red.)

Scroll up the screen to the section headed “Search the Cochrane Library content”
Leave the boxes for “Explode” and all 4 trees selected. This means that you will be searching for Arthritis, Rheumatoid and all 7 narrower terms.
(If you wanted to search only on the exact term, you would check the lower box instead.)

In the Qualifier box, click the drop-down arrow and select “Drug therapy” from the list
Notice that “DT”, the code for Drug therapy appears in the box alongside
Click on the View results button.
The search results screen appears.
Notice that the search you have done is summarised – “MeSH descriptor Arthritis, Rheumatoid explode all trees with qualifier: DT”

You should now be familiar with the Results screen, so look through the results in each database.
Now see if you can find reviews on diet therapy for rheumatoid arthritis.
You can either start from scratch, if you would like to reinforce your knowledge of the MeSH search process -
- or alternatively, click the back arrow to return to the previous screen, and this time select the diet therapy qualifier instead.

When you have carried out the search, you should have retrieved 3 results in the “Other Reviews” database.
Note that when you open the link to the title it only has a structured abstract.

Look at the second one by clicking on the link to the title. Compare the authors conclusions to the CRD commentary.

This is a good illustration of the value of a critically appraised review.

Search History

This allows you to view all the searches you have done in a session, which may include any or all of the above search methods. It also lets you combine different searches. This allows you to build up a more complex search and try different combinations if one does not work well.

You can add search steps while in Search History mode and thus continue searching. It is particularly useful if you want to combine a MeSH search with a free text search.

In many ways it provides a step-by-step alternative to Advanced Search mode.

Example 4. What is the effectiveness of nabumetone in the treatment of rheumatoid arthritis?
Click on **Search History** in the top right hand pane

Scroll down to see **“Current search history”**

Notice that all the searches you have done in this session are listed in order, each with its own statement number preceded by a #

You have already searched for drug therapy for Rheumatoid Arthritis as a MeSH search (statement #5, unless you have done other searches)

Now you need to add a search for nabumetone and combine the 2 searches together.

Assume you have found out elsewhere that alternative terms (brand names) for nabumetone are relifex and relafen. You will include these terms in your search.

Scroll up to the **“Search For”** box

Type **nabumetone or relifex or relafen** in the **“Search For”** box

Click on the Go button

Notice that this search appears as #7 in the Search History below

Type **#5 and #7** in the **“Search For”** box. Click the Go button.

*(Change these # numbers to the appropriate ones for your own search history, if necessary)*

This combined search appears as #8

Click on the underlined search (**#5 and #7**) to see the results
Saving searches and articles
You can save your searches or individual articles. To do so, you need to click on Log in, see far top right corner and click on Register Now (also top, right) and follow the instructions to register to use the facility.

Congratulations!
You have made it to the end of the Work Book!

If you have time left, you could:

- Try some searching of your own
- Explore other features of Cochrane
- Repeat any sections you feel unsure about

*The best way to become proficient at searching is more practice....*

Text adapted from:
1. L. Walton and C. Lobb, COCHRANE Workbook, East Lancashire PCTs Library
2. G. Mynott, An introduction to the Cochrane Library, Stockport NHS Trust
3. Sue Steele, The Cochrane Library, Pennine Acute Hospitals NHS Trust
Handy hints

Entering free-text search terms:

<table>
<thead>
<tr>
<th>Operator</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AND</strong></td>
<td>finds both terms</td>
<td>nausea and pregnancy</td>
</tr>
<tr>
<td><strong>OR</strong></td>
<td>finds either or both terms</td>
<td>kidney or renal</td>
</tr>
<tr>
<td><strong>NOT</strong></td>
<td>finds the first term but not the other</td>
<td>breast cancer not female</td>
</tr>
<tr>
<td><strong>NEAR</strong></td>
<td>acts like AND, but the words must be within 6 words of each other</td>
<td>cancer near liver</td>
</tr>
<tr>
<td><strong>Child</strong>*</td>
<td>finds child, children, childhood, etc</td>
<td></td>
</tr>
<tr>
<td>*<strong>natal</strong></td>
<td>finds prenatal, antenatal, postnatal, etc</td>
<td></td>
</tr>
</tbody>
</table>

Phrases: use inverted commas

Plurals: are found automatically, e.g. *hand* finds hand or hands

British/American spellings: some are found automatically, e.g. *tumour* finds tumour or tumor. To be on the safe side use an asterisk e.g. *tumo*r

Apostrophes: you need to search both ways: “parkinson’s disease” or “parkinsons disease”

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