Training Guide on

Searching the Cochrane Library- www.thecochranelibrary.com

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What is the Cochrane Library?

The Cochrane Library is a unique source of reliable and up-to-date information on the effects of interventions in health care and is designed to provide information and evidence to support decisions taken in health care and to inform those receiving care.

The Cochrane Library consists of a regularly updated collection of evidence-based medical databases. The Cochrane Database of systematic reviews (CDSR) is updated monthly and the rest of the databases are updated quarterly.

When to use the Cochrane Library

The whole of the Cochrane Library is concerned with the effectiveness of interventions for a given health care problem or in a particular health care situation.

The Cochrane Library **is useful** for answering the following types of queries:

- **What is the effectiveness of treatment X in condition Y?**
  What is the effectiveness of aspirin in vascular dementia?

- **Is treatment A better than treatment B?**
  Is there any evidence that clozapine is more effective in the treatment of schizophrenia than standard antipsychotics?

- **What is an effective intervention to achieve outcome Z?**
  What are the most effective strategies for stopping smoking?

The Cochrane Library **is not useful** for these types of questions:

- **General** health care information
  Are there any new drugs for manic depression?

- **Statistical information**
  What is the teenage pregnancy rate?

- **Cause, prognosis, epidemiology or risk factors for an illness**
  What are the health effects of unemployment?

- **Guidelines**

- **Current research** (apart from systematic reviews and randomised controlled trials)

Accessing the Cochrane Library

You can access the Cochrane Library at:

- **www.thecochranelibrary.com**
- **www.hilo.nhs.uk** (under Search for Evidence)
- **www.evidence.nhs.uk** (under Journals and Databases)

You do not need a password to access the site or to conduct one-off searches but if you want to save searches and set up email alerts, you should register. To do so, click on **Log In** at the bottom of the screen and then click on **Register** at the left hand side of the screen.

The Home Page

Search box for easy searches.

Further search methods.

Links for browsing each database.

Learn provides links to information about the library and how to use it, Cochrane Collaboration and systematic reviews


The Cochrane Library consists of several databases and all the databases are searched simultaneously.

- **Cochrane Reviews - Database of Systematic Reviews** - A systematic review identifies an intervention for a specific disease or other problem in health care, and determines whether or not this intervention works. To do this authors locate, appraise and synthesise evidence from as many relevant scientific studies as possible. Systematic reviews differ from other types of review in that they adhere to a strict design in order to make them more comprehensive, thus minimising the chance of bias, and ensuring their reliability. The reviews are full text.

- **Other Reviews - Database of Abstract of Reviews of Effects** – DARE includes structured abstracts of systematic reviews. Only reviews that meet minimum quality criteria are included. These reviews cover topics that have yet to be addressed by a Cochrane review. They do not contain the full text of the article.

- **Clinical Trials - Cochrane Central Register of Controlled Trials** – CENTRAL includes references to published articles taken from bibliographic databases (notably Medline and EMBASE) and other published and unpublished sources. They do not contain the full text of the article.

- **Methods Studies - Cochrane Methodology Register** – CMR, a bibliography of publications which report on methods used in the conduct of controlled trials.

- **Technology Assessments - Health Technology Assessment Database** – HTA contains details of ongoing projects and completed publications from health technology assessment organisations.

- **Economic Evaluations - NHS Economic Evaluation Database** – NHS EED contains structured abstracts of articles describing economic evaluations of health care interventions. Papers are included if they provide a comparison of treatments and examine both the costs and outcomes of the alternatives.

Searching the Cochrane Library

You can either browse or search to find the relevant material in the Cochrane Library. You can browse on the home page as shown on the screen shot above or click **Advanced Search** on the home page and on the following page click **Browse**. You will then see the page below.
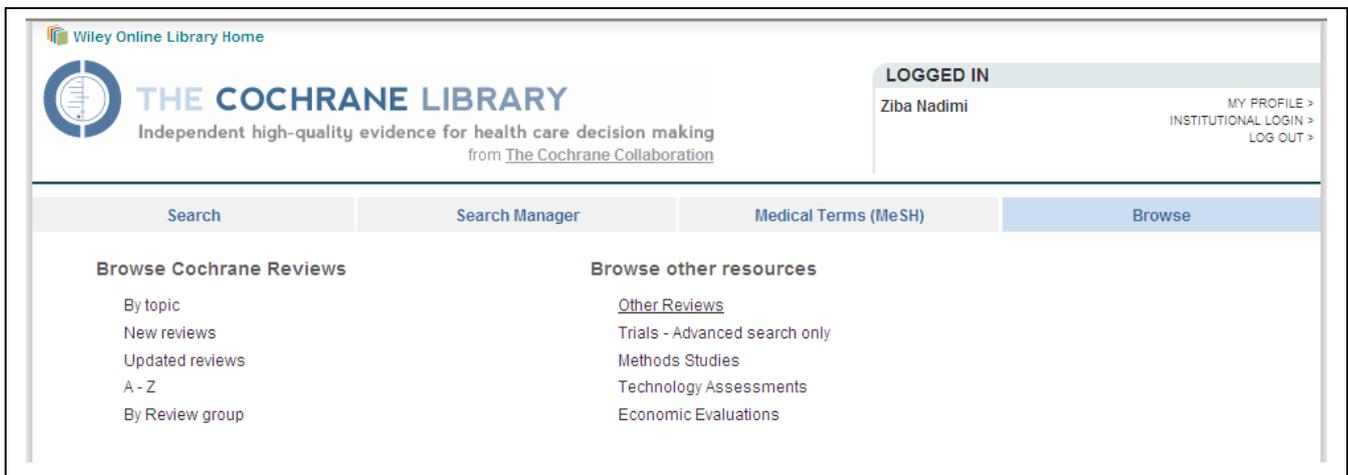
Simple search

You can conduct simple searches in the single search box on the Cochrane Library front page.

Key in your search terms and click **Go**.

As a default the Title, Abstract and Keywords fields are searched, but you can also assign your search to other fields of the database by using the drop down menu, e.g. just the record title Word variations are also searched (e.g. American vs English spelling)
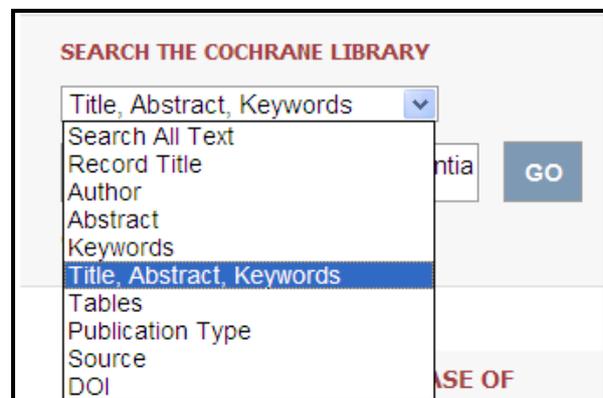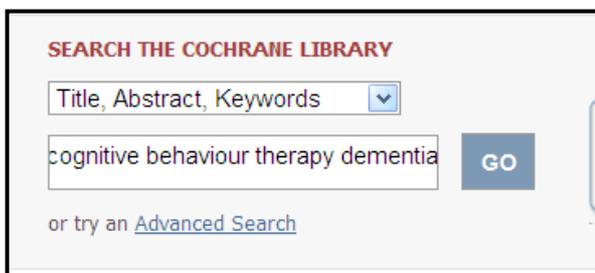
> **Hint**
>
> If you use simple search for a search containing several search terms, including synonyms, be sure to use brackets around terms to ensure that the search you want runs smoothly. For example:
>
> - ("cognitive behaviour therapy" or CBT) and (dementia or Alzheimer*) It is vital to put brackets around the two synonymous terms to ensure that they are OR'ed together. With complex databases such as the Cochrane Library, AND commands will always run first within a search string, so without the brackets the search would in effect be:
>
> "cognitive behaviour therapy" or (CBT and dementia) or Alzheimer*

Advanced Search

Click on **Cochrane Advanced Search** below the single search box on the home page.
Advanced Search (the Search Tab) allows more complex searches enabling you to enter several search concepts in up to five search boxes at one time.
Enter the terms and click **Go** as in Simple search.
Advanced search supports logical operators (AND OR etc), nesting and wildcards, and has field options in drop down menus.

1. Click **view search** tips for some useful hints. .
2. Clicking on the **+** beside the box will add another line to the search. Enter your terms in the box and choose a field from the drop down menu as in the simple search.
3. Click on **Search limits** to enable you to restrict your search by Document type, Status or Date. (see below)
4. Clicking on **Add to Search manager** after you complete the search will transfer the search strategy to the search manager page, Experienced searchers can build up a more complex search in Search Manager.
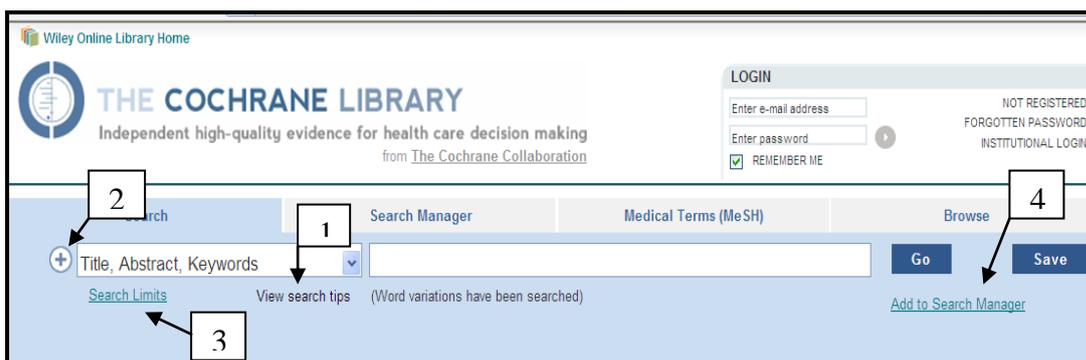
Be sure to incorporate all synonyms within a single search box and not split them up. You will have one line for each concept putting OR between each synonym/term. You could construct the search as follows:

1. "cognitive behaviour therapy" **OR** CBT **OR** "cognitive behavioural treatment"
 AND
2. Dementia* or Alzheimer*

This is shown in the screen below.

Do **not** construct a search statement such as:
1. "cognitive behaviour therapy"
2. **OR** CBT
3. **AND** Dementia

(See hints in Simple search)

Limits
You can also choose to:

1. Restrict your search to particular databases within the Cochrane Library
2. Select just new, updated, commented or withdrawn records (this applies to CDSR and CDMR only)
3. Select a date range for your search
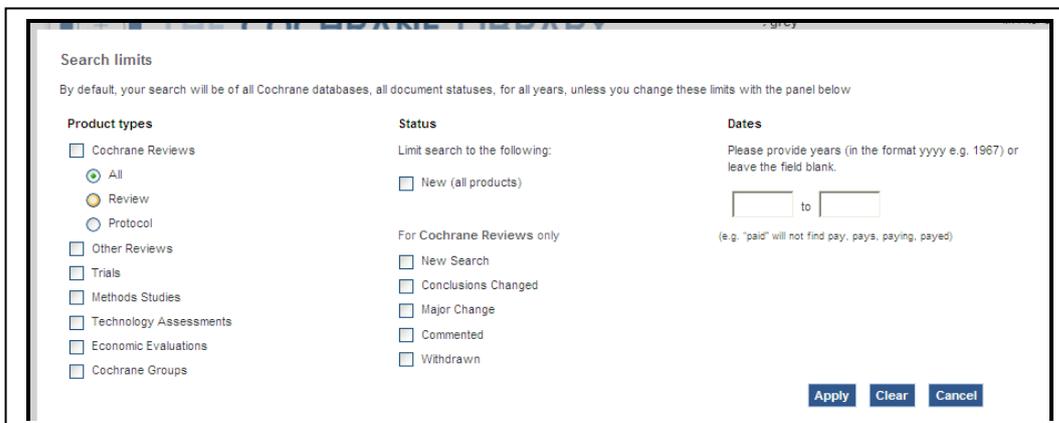
There is little value in restricting your search to individual databases because search results are split by database allowing you to choose which set of results to look at. (see below) Just click on one of the options in the menu at the left hand side of the search results screen to see the results in that product (e.g. trials).
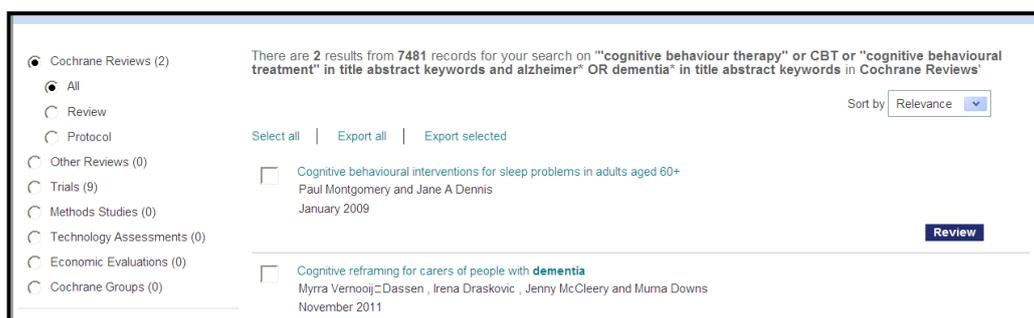
MeSH Search

Searching MeSH index terms is the most comprehensive way of finding relevant items. MeSH stands for Medical Subject Headings. It is a thesaurus of index terms used by Medline.

To do a MeSH search, click on **Medical Terms** (**MeSH)** . Enter a term in the search box, select the appropriate term from the drop down menu and click on **Lookup**.

One or more trees of terms will appear. If any of the trees have a sub-branch of narrower terms and you want to include them in your result as well as the broader term, tick the box for the tree of your choice to **explode** the term. If there is no narrower term or you only want to get the broader term in your result, select **Single Mesh term (unexploded)** box. You then click on **Add to Search Manager**.
You can also apply any number of qualifiers to your main concept to make it more specific.

In the screen below MeSH structure for dementia and other options on the search screen such as **Lookup** and **Add to Search Manager** are shown and single MeSH term (unexploded) is selected.

When you finish your free text and MeSH searches, you can then combine the results of free text searches with MeSH searches using **OR** and **AND** operators as explained before. This will add the total search result to the **Search Manager**.

To apply limit to your search total, click on ⊞ as shown in the screenshot below.

You will then see the **Search limits** screen as shown below. Select your limits and click **Apply** and in **Search Manager** click **Go**. You'll notice that your result is reduced from 692 to 137. In this example, the result is limited to review from 2005 – 2012.

Viewing, Printing and Saving Search Results

To view the result, click on total result which in this case is 137. You will then see the list of results as with Cochrane Reviews selected by default. You can change this to results in any of the other databases in Cochrane Library such as Other Reviews, Trials etc. These are shown in the screenshot below.

The default **Sort** option is Relevance, but you can choose to sort alphabetically or by date.

To save results, tick the boxes and click on **Export Selected** at the bottom of the screen. You can also select and export all. The result can then be saved to disc/ memory stick or printed.

To save the Search Strategy, click on **Save Strategy** as shown below, give it a name and save.

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Setting Alert

After saving your search strategy, go to Strategy Library and tick the Alerts box for your chosen strategy as shown in the screenshot below:

Sharing Search Result

You can share your saved searches via an-email link. To do so, go to 'Strategy Library' and click on ![share icon] and then 'Send link via email' as shown below:

Navigating and interpreting a systematic review

You can follow the link at the bottom of each review to view various sections such as figures, tables, references etc.

You can also use 'Articles Tools', on the right hand side of the review to save, export, email, submit comments etc. These are shown in the screenshot below:

Following up primary references

If you go to **References** and click on **Links** at the bottom of the article reference you may be taken to a further link providing you with title and abstract information (note, not full text) for that primary reference in **PubMed** (a freely available online version of the Medline database) and in other sources.

Interpreting graphs

A key component of the systematic review is the statistical method of combining the results of different primary studies that look at the same intervention. This is known as meta-analysis and the results of a meta-analysis are usually shown in one or more **odds ratio diagrams or Weighted Means Difference**.

At first glance they can be rather frightening but you do not need an in-depth understanding of statistics to be able to interpret them.

The **Weighted Means Difference** diagram below looks at the outcomes of well being and quality of life of people with dementia who have received cognitive stimulation to improve cognitive functioning and those who haven't received this intervention.

Analysis 1.6. Comparison 1 Cognitive stimulation versus no cognitive stimulation: post-treatment, Outcome 6 Well-being & Quality of Life.
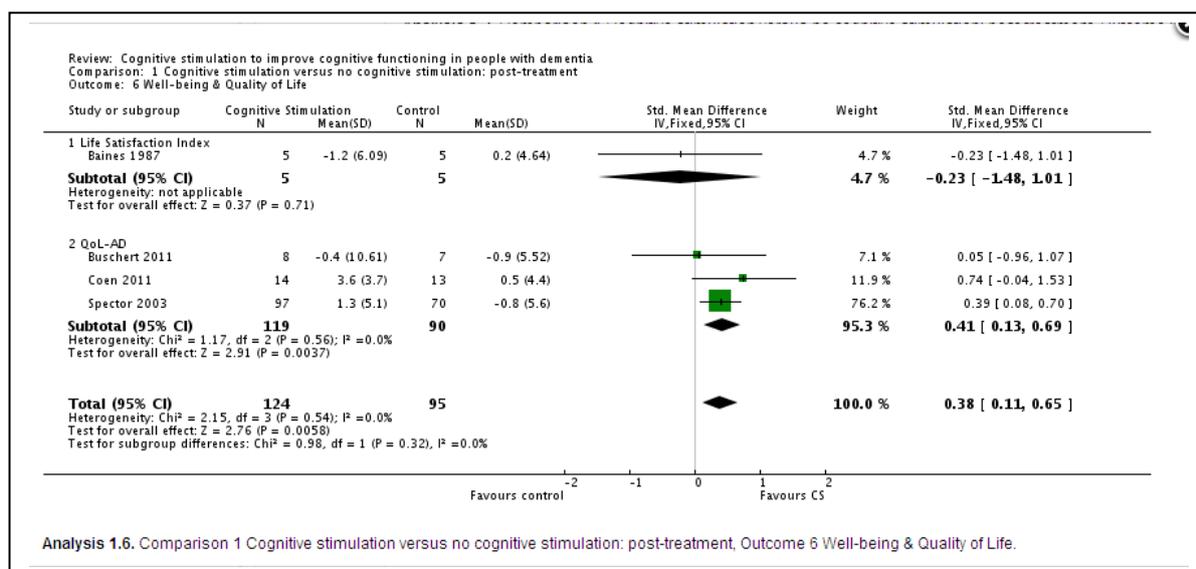
The weighted means for each individual trial is shown by a blue square. The horizontal line through it represents the **confidence interval** for that result.

The meta-analysis result is shown by the black diamond the width of which represents the confidence interval.

Confidence intervals are usually shown as 95%, representing the range in which we can be 95% confident that the real result of the study lies.

The vertical line through the diagram at the ratio of 0 - 1 is known as the **line of no effect**. Anything crossing this line cannot show whether the intervention is any better or worse than the control. But results that fall to the left of the line indicate **less** of the outcome in the experimental (treatment) group and results to the right of the line indicate **more** of the outcome in the treatment group. Just be aware that more of an outcome is not necessarily a good thing, i.e. when you are measuring mortality.