

The Cochrane Airways Group

Developing a search strategy for an Airways Group systematic review

1. Introduction

The search strategy is an important part of the systematic review process. Authors of a Cochrane Airways Group review are supported in this process by the Trials Search Coordinator (TSC), Liz Stovold.

When a title has been accepted by the Airway Group, the TSC will get in touch with the lead/contact author. The TSC can assist with developing the search strategy at the protocol stage and can offer advice on which databases and other sources to search. When the protocol has been approved for publication, the TSC will conduct the search.

2. Developing the search strategy

The Trials Search Coordinator will conduct a search of the Airways Group Specialised Register for all new reviews and review updates on the topics of asthma, COPD, bronchiectasis or sleep apnea. For topics outside of these the TSC will conduct searches of CENTRAL, MEDLINE and EMBASE. The Airways Group register is maintained in specialist software developed for the Cochrane Collaboration; the CRS (Cochrane Register of Studies - <http://www.metaxis.com/CRSWeb/>).

2.1 Search terms

The TSC will agree appropriate search terms with the author. The TSC will then construct the search strategy in the correct format for each database to be searched. For a Specialised Register search, the strategy will consist of text words and MeSH terms based on the intervention to be considered in the review. The following is an example of a search conducted on the Register in the CRS for the review 'Indacaterol for COPD':

<p>#1 MeSH DESCRIPTOR Pulmonary Disease, Chronic Obstructive Explode All</p> <p>#2 MeSH DESCRIPTOR Bronchitis, Chronic</p> <p>#3 (obstruct*) near3 (pulmonary or lung* or airway* or airflow* or bronch* or respirat*)</p> <p>#4 COPD:MISC1 ←</p> <p>#5 (COPD OR COAD OR COBD):TI,AB,KW</p> <p>#6 #1 OR #2 OR #3 OR #4 OR #5</p>	<p>The first part of this search contains terms for the condition ie. COPD</p> <p>MISC1 denotes the field in the CRS reference record where the record has been coded for condition, in this case, COPD</p>
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#7 indacaterol	This part of the search contains terms for the intervention i.e. indacaterol
#8 OnBrez	
#9 Breezhaler	
#10 Arcapta	
#11 ultra-long*	
#12 ultra NEAR2 long*	
#13 #7 or #8 or #9 or #10 or #11 or #12	
#14 #6 and #13 ←	The final line brings the two concepts together

For a search to be run outside of the Register (for example for reviews concerned with interstitial lung disease, pulmonary hypertension, or chronic cough) then the TSC will run searches on CENTRAL, MEDLINE and EMBASE. These searches will also consist of a combination of index terms and text words. The following is an example of a search of CENTRAL on *the Cochrane Library* for a review on 'Leukotriene receptor antagonist for prolonged non-specific cough in children':

#1	MeSH descriptor Cough explode all trees
#2	MeSH descriptor Bronchitis explode all trees
#3	cough*
#4	bronchiti*
#5	(#1 OR #2 OR #3 OR #4)
#6	MeSH descriptor Leukotriene Antagonists explode all trees
#7	leukotriene*
#8	leucotriene*
#9	montelukast*
#10	zafirlukast*
#11	ltra
#12	anti-leukotriene*
#13	"anti leukotriene*"
#14	pranlukast*
#15	(#6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14)
#16	(#5 AND #15)

2.2 Electronic sources

2.2.1 The Airways Group Specialised Register

The Register is derived from systematic searches of bibliographic databases including the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, EMBASE, CINAHL, AMED and PsycINFO, and handsearching of respiratory journals and meeting abstracts.

The TSC will supply a search of the Register for all reviews concerned with asthma, COPD, sleep apnea and bronchiectasis and many reviews will just use this search as multiple sources have already been searched to compile the Register. Authors may want to run additional searches of CENTRAL, MEDLINE etc. to supplement the Register search. In this case, you are welcome to discuss any additional search strategies with the TSC.

2.2.2 CENTRAL, MEDLINE, EMBASE

For reviews on interstitial lung disease, pulmonary hypertension, or chronic cough, or reviews on any other condition not specified in section 2.2.1 of this document, the TSC will automatically search CENTRAL, MEDLINE and EMBASE instead of the Register.

2.2.3 Other databases

Sometimes it may be appropriate to search other specialty databases, for example, if you are reviewing a complementary therapy then an additional search of AMED would be advisable. For a psychological intervention, then PSYCInfo could be searched.

2.3 Trials registries

It is now mandatory to search the trials registries Clinicaltrials.gov and the WHO ICTRP (<http://apps.who.int/trialsearch/>) for all new reviews. If you need assistance with searching these resources then please get in touch.

2.4 Searching other sources

Finally, authors should supplement the electronic search by checking the reference lists of retrieved papers, contacting drug companies/manufacturers (if applicable), and searching any specialist journals, conference abstracts and websites relevant to the review topic.

3. Running the search

3.1 Timing of the search

The TSC will run the electronic searches when the protocol has been accepted by the Airways Group for publication. This search will be repeated on an annual basis throughout the review development process. In the published review, the 'Date of Search' should be within six months of the 'Assessed as up-to-date' so it may be necessary to update the search before the final review is published, depending on how long it takes to complete the review. The TSC will normally

run a pre-publication search while the review is going through peer review. Authors can request an update search from the TSC at any time.

3.2 Search results

The search results will be emailed to the lead/contact author as a text file in RIS format, which is compatible with most reference management software packages e.g. Endnote. Details on how to import references into Endnote can be found on our website: <http://airways.cochrane.org/faqs-top-tips>

3.3 Full-text retrieval

Authors should try to obtain as many of the required full-text articles as possible through local sources. Our editorial assistant, Emma Jackson (ejackson@sgul.ac.uk) can assist with getting hold of papers that are not available to you locally.

3.4 Translations

Our editorial assistant can also assist with obtaining translations of reports of possible trials. Review articles and editorials cannot be translated through the Airways Group Translations Network.

4. Reporting the search

It is important that the search methods are reported clearly in the finished review. Some standard text will be put into your protocol outlining our usual search methods, which you are free to amend as you see fit.

The guidance in the Cochrane Handbook specifies that any searches you run must be copied and pasted in full, as run, into an appendix in the finished review. If you do conduct any extra searches of your own then please make sure that you keep an accurate record of all the searches you do, and the number of results you get, so they can be included in your write up.

5. Finally...

If you have any questions about the search methods of your review, please do get in touch with the TSC, Liz Stovold (estovold@sgul.ac.uk).