

Appendix SI. PRESS 2015 checklist for search strategies

1. Translation of the research question
- Does the search strategy match the research question/PICO?
 - Are the search concepts clear?
 - Are there too many or too few PICO elements included?
 - Are the search concepts too narrow or too broad?
 - Does the search retrieve too many or too few records?
 - Are unconventional or complex strategies explained?
- A – No revisions
- B – Revisions suggested
- C – Revisions required
- If B or C, please provide an explanation or example:
2. Boolean and proximity operators
- Are Boolean or proximity operators used correctly?
 - Is the use of nesting with brackets appropriate and effective for the search?
 - If NOT is used, is this likely to result in any unintended exclusions?
 - Could precision be improved by using proximity operators (e.g. adjacent, near, within) or phrase-searching instead of AND?
 - Is the width of proximity operators suitable (e.g. might adj5 pick up more variants than adj2)?
- A – No revisions
- B – Revisions suggested
- C – Revisions required
- If B or C, please provide an explanation or example:

Cochrane text words: Must put «virtual reality» in quotes.

3. Subject headings
- Are the subject headings relevant?
 - Are any relevant subject headings missing; e.g. previous index terms?
 - Are any subject headings too broad or too narrow?
 - Are subject headings exploded where necessary and vice versa?
 - Are major headings ("starring" or restrict to focus) used? If so, is there adequate justification?
 - Are subheadings missing?
 - Are subheadings attached to subject headings? (Floating subheadings may be preferred.)
 - Are floating subheadings relevant and used appropriately?
 - Are both subject headings and terms in free text (see below) used for each concept?
- A – No revisions
- B – Revisions suggested
- C – Revisions required
- If B or C, please provide an explanation or example:

Cochrane: Must explode upper extremity

Embase: exp upper limb/ (rather than: upper limb/ or exp arm/ or exp shoulder/) doesn't make any difference to the number of hits but it makes the search easier to read and similar to the Medline search.

Embase, Medline and Cochrane: Include the subject heading virtual reality/ CINAHL: Exploding (MH "Video Games+") makes (MH "Exergames") obsolete. (MH "Virtual Reality+") should probably not be exploded as Virtual Reality Exposure Therapy is not relevant in this case.

4. Text word searching
- Does the search include all spelling variants in free text (e.g. UK vs US spelling)?
 - Does the search include all synonyms or antonyms (e.g. opposites)?
 - Does the search capture relevant truncation (i.e. is truncation at the correct place)?
 - Is the truncation too broad or too narrow?
 - Are acronyms or abbreviations used appropriately? Do they capture irrelevant material? Are the full terms also included?
 - Are the keywords specific enough or too broad? Are too many or too few keywords used? Are stop words used?
 - Have the appropriate fields been searched; e.g. is the choice of the text word fields (.tw.) or all fields (.af.) appropriate? Are there any other fields to be included or excluded (database-specific)?
 - Should any long strings be broken into several shorter search statements?
- A – No revisions
- B – Revisions suggested
- C – Revisions required
- If B or C, please provide an explanation or example:

Inconsistencies in the use of quotes in the text words in CINAHL. Should be safe to search without quotes in CINAHL.

Tip: In CINAHL, the default fields for unqualified searches consist of the following: Title, Abstract and Subject headings. If you choose to do unqualified searches for the text words, you don't have to repeat them to search TI or AB. Subject headings should still be searched and exploded where appropriate.

5. Spelling, syntax and line numbers
- Are there any spelling errors?
 - Are there any errors in system syntax; e.g. the use of a truncation symbol from a different search interface?
 - Are there incorrect line combinations or orphan lines (i.e. lines that are not referred to in the final summation that could indicate an error in an AND or OR statement)?
- A – No revisions
- B – Revisions suggested
- C – Revisions required
- If B or C, please provide an explanation or example:

6. Limits and filters
- Are all limits and filters used appropriately and are they relevant given the research question?
 - Are all limits and filters used appropriately and are they relevant for the database?
 - Are any potentially helpful limits or filters missing? Are the limits or filters too broad or too narrow? Can any limits or filters be added or taken away?
 - Are sources cited for the filters used?
- A – No revisions
- B – Revisions suggested
- C – Revisions required
- If B or C, please provide an explanation or example:

Since only the Medline search is available from the last search, the date restriction can only be justified for the Medline search. I suggest no date restrictions at all, not even for the Medline search. The total amount of hits will be less than 500, which is quite manageable.

Overall evaluation
(If 1 or more "revision required" is noted above, the response below must be "revisions required")

A – No revisions

B – Revisions suggested

C – Revisions required

Additional comments

Consider doing a federated search in Medline and EMBASE and deduplicate. This will save time when removing duplicates in EndNote:
Database: Ovid MEDLINE(R) ALL <1,946 to May 03, 2019>, Embase Classic+Embase <1,947 to 2019 May 03>

Search Strategy:

1. cerebral palsy/ or (cerebral pals* or CP or cerebral paresis).tw,kw. (174221)
2. video game/ or computer interface/ or virtual reality/ or (exergame* or game* or gaming or videogam* or nintendo or playstation or xbox or virtual reality or computer play or neurogame* or wii or kinect).tw,kw. (176629)
3. exp upper limb/ or (upper limb* or hand* or finger* or wrist* or upper extrem* or arm* or forearm* or shoulder* or elbow*).tw,kw. (2564286)
4. (1 and 2 and 3) use emcxd (246)
5. Cerebral Palsy/ or (cerebral pals* or CP or cerebral paresis).tw,kf. (173597)
6. Video Games/ or user-computer interface/ or virtual reality/ or (exergame* or game* or gaming or videogam* or nintendo or playstation or xbox or virtual reality or computer play or neurogame* or wii or kinect).tw,kf. (199693)
7. exp Upper Extremity/ or (upper limb* or hand* or finger* or wrist* or upper extrem* or forearm* or arm* or shoulder* or elbow*).tw,kf. (2557098)
8. 5 and 6 and 7) use medall (151)
9. 4 or 8 (397)
10. remove duplicates from 9 (267)

Source: McGowan J, Sampson M, Salzwedel DM, Cogo E, Foerster V, Lefebvre C. PRESS Peer Review of Electronic Search Strategies: 2015 Guideline Statement. J Clin Epidemiol 2016; 75: 40-46.