



Is the built-in Medline RCT filter sufficient when translating evidence?

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Background and objectives

Search filters present search strategies designed to retrieve specific types of records. A range of search filters is available for locating randomised controlled trials (RCTs). We sought to evaluate the performance of different search filters for RCTs in Medline (OVID interface), when preparing systematic reviews or clinical guidelines. Medline has two search terms connected to RCTs: 1) Publication type: *Randomized controlled trial* which stands for genuine, original RCT studies and 2) Mesh: *Randomized controlled trials as topic*, which covers articles discussing RCT studies.

Methods

We used the MeSH term *Tennis elbow* and five different RCT filters to perform a Medline search of all RCTs published since 2006. All of the filters were first evaluated against a gold standard formed from the RCTs found in PEDro (Physiotherapy Evidence Database). Then, each of the filters was compared to *Medline built-in search filter, Clinical Query therapy, sensitive*.

The RCT filters used were as follows:

- *Clinical Evidence (produced by BMJ)*
- *Cochrane Highly Sensitive Strategy, sensitivity-maximizing version*
- *Cochrane Highly Sensitive Strategy, sensitivity-and precision-maximizing version*
- *Medline built-in search filter, Clinical Query therapy, sensitive*
- *Medline built-in search filter, Clinical Query therapy, specific*
- *SIGN (Scottish Intercollegiate Guideline Network)*

How did the filters perform compared to the Medline built-in search filter, Clinical Query therapy, sensitivity?

Clinical Evidence

Did not find new RCTs.

Filtered out irrelevant publication types efficiently (journal article, news, comment, editorial, letter).

Cochrane Highly Sensitive Strategy, sensitivity-maximizing version

Did not find new RCTs but missed four articles indexed "RCT as topic" and two clinical trials.

Filtered out irrelevant publication types efficiently.

Cochrane Highly Sensitive Strategy, sensitivity-and precision-maximizing version

Did not find new RCTs. Missed five articles indexed under "RCTs as topic", one systematic review, four clinical trials and two blinded studies.

Filtered out irrelevant publication types efficiently.

Medline built-in search filter, Clinical Query therapy, specific

Did not find new RCTs. Missed one reference indexed as an RCT, seven references indexed under MeSH "RCTs as topic", two blinded studies, six controlled clinical trials and four clinical studies.

Filtered out irrelevant publication types efficiently.

SIGN

Did not find new RCTs.

Filtered out irrelevant publication types efficiently.

Discussion

• All but one filter, *Medline built-in RCT filter Clinical Queries, therapy, specificity*, found all the RCTs in the gold standard.

• All of the filters found the original RCT studies indexed under publication type: *Randomized controlled trial*. SIGN, Clinical Evidence and Cochrane RCT filters removed less important material more efficiently than the built-in RCT filter (Clinical Query, therapy, sensitive). This efficient filtering property is particularly valuable when searching broad subjects such as hypertension or diabetes.

• The Cochrane filters seemed to miss many references which were indexed under MeSH: *Randomized controlled trials as topic*. Even if these are not original RCT studies, they are often of great interest since they discuss such studies. The same conclusion was drawn on the built-in RCT filter Clinical Queries, therapy, specificity.

• SIGN and Clinical Evidence RCT filters are excellent when preparing guidelines and systematic reviews: they filter out irrelevant material efficiently, without omitting any that is valuable.

• This is a narrow case study, based on which no generalisations can be made.

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