

Reading tips for the clinician

How to tell whether an article is worth reading

With more and more information becoming available to physical therapists, it is increasingly important that they are discerning in what they read. In the first in a series of three Keynotes, Joan Walker provides a step-by-step approach to assessing how useful an article will be to your practice.

This is the first of a series of three Keynotes on reading tips. The content is based on "Critical Evaluation of Research in Physical Rehabilitation" by A Helewa and JM Walker, and articles published in the *Canadian Medical Association Journal* and the *Journal of the American Medical Association (JAMA)*.

Information comes to physical therapists (PTs) in many forms and via several routes. More and more information is becoming available via the Internet or World Wide Web, and PTs anywhere can now view relevant journals online. Such ease of access means it is increasingly important that PTs are discerning in what they read and can sort the good from the bad. These keynote papers will give clinicians a framework to select papers and to expand their reading skills. This first paper looks at:

- how to select papers simply by reading the abstract
- the value of looking at review articles
- how to assess the quality of review articles.

You have a clinical problem

Your client comes to you following a "whiplash" injury in a car accident which aggravated a chronic low back problem. She wonders if her increasing fatigue and weakness are related to childhood poliomyelitis. You are unfamiliar with late effects of polio and whether these may influence your management of her primary problems. You are also considering whether to use cervical traction, but question whether this is beneficial and cost-effective, especially when given with other treatments.

You decide to consult the literature. But where do you start?

Starting point: find a review article

If you are looking for information quickly, turning to review articles can be helpful. These often collate a great deal of information on a subject in one place.

There are two types of review article. The older articles, especially those published in specific interest group newsletters or on web sites, tend to rely on qualitative (as opposed to quantitative) information. The newer review articles, especially those in reputable peer-reviewed journals, tend to be meta-analyses (or systematic reviews), which combine both qualitative and quantitative aspects. A meta-analysis is a type of structured review in which the results from a number of small studies are pooled and statistically combined.

Review articles vary tremendously in quality, bias and scientific rigour. The fact that the review has been published in an apparently reputable journal does not mean that the content is worth your time and attention. So how do you tell?

How to tell a good review article

Here are a series of questions you should pose when selecting review articles and assessing their rigour. For each question you should be able to respond with a "yes" or "no" – "maybe" or "not applicable" may occasionally be appropriate. The first six questions should enable you to sort abstracts into "potentially read" and "discard" groups on the abstract or summary alone.

Get into the habit of answering these questions for every article you locate. This will help you decide which ones to read. When in doubt, go to your next reference.

- Is the article directly relevant to your area of interest? Read the title and abstract or summary to assess. If "no", go immediately to the next article.
- Is the article written in a language you understand? If "no" put it aside, but remember you may wish to get a translation later if other relevant papers are difficult to locate.
- Is the purpose of the review clearly stated?
- Does it address a focused clinical question? If this is not clear within the abstract or first page, proceed to the next article.

- Are the criteria for selecting articles to be included in the review made explicit? Were they applied consistently throughout?
- Does the review report what methods were used to search for the articles?
- Will the conclusions, if valid, help you to manage your client? Can they be applied in your patient setting, and do the potential benefits outweigh the costs or potential harm?
- Was the search comprehensive? Could relevant articles have been omitted? For example, if the author only selected articles found at a local library, or on Medline, then the limited scope may introduce bias to the review.
- Does the review provide the criteria used to assess the validity of the studies included? Do these sound reliable and were they consistently used?
- Does the review address factors that might affect the results of different studies – for example, where they were carried out or how they were designed? Such differences can affect results and conclusions.
- Does the review include analysis of the differences in results from study to study? Be prepared to discard it if the authors seem to only report studies that support their own hypotheses.
- If the review combines the results of the studies reported, are the combination methods described? Do they seem appropriate, and are differences in study design taken into consideration in the synthesis?
- Does the review include comments on how precise its results are? It should acknowledge a measure of variability.
- Does the review state the limitations of the studies used and the review process? For example, if journals were only searched back to 1986, this should be acknowledged.

- Are the conclusions supported by the data used? Always check tables and figures, as well as the text.
- Is the overall scientific quality of the review adequate? Consistent use of this list of questions will help this assessment.

Why meta-analyses may be most useful.

Your search for information on late effects of polio and the efficacy of cervical traction may have generated a listing of over 300 references. Perhaps it will have revealed only 20. But in that number you will be lucky if one paper is a meta-analysis. Review articles described as meta-analyses or systematic, masked (blinded) reviews should be given more attention than other reviews because they are structured, unbiased, have comprehensive search strategies, and include more articles meeting pre-set criteria.

The main elements of a meta-analysis are:

- it has specific objectives and goals
- it includes a literature search of both published and unpublished papers, and provides inclusion and exclusion criteria
- it includes an assessment of the quality of the papers located and included
- it combines results by applying statistical pooling procedures
- it analyses the influence of variables which may have affected the results of individual studies
- it makes conclusions and recommendations

All these characteristics mean that the conclusions of meta-analyses have more weight – provided, of course, that affirmative answers are gained on the above set of questions!

Your time is valuable. Taking a structured approach to reading the literature will help you become a

more critical consumer of the literature – and of continuing education courses.

Further reading

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Keynotes is a series of occasional papers dealing with important professional, practice and policy issues relevant to physical therapists across the world, and to the development of physical therapy internationally.

Keynotes are written by independent authors and do not necessarily represent WCPT's opinion. For further information contact:

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