

## Finding Useful Research: Primer for the Knowledge-Hungry Professional

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In this new era of evidence-based decision-making, clinicians are faced with the never-ending task of keeping abreast and updated on the latest information in order to be clinically relevant and administratively competent. What is the best supported treatment for a specific condition? Which research articles are adequate and relevant to the recommended treatment? How can I discern an excellent manuscript from a dismal one?

With the wealth of new research publications and manuscripts added every year to the already-gigantic information credo that we can get lost in the search. Where do we start?

### The Decision Process

The first step in finding useful research is the *decision process*: what do you want to research? That step is based on your personal interests: a problem you encounter; a recent article you read; a decision by your state board or Medicare, and so forth. Regardless, it becomes your research interest,<sup>1</sup> which will determine your keyword search (*spinal manipulation, radiology, etc.*).

Once we have keywords, the next step is to decide where to look. For the purposes of this article, we will focus on PubMed, a site that presents and organizes the work produced by researchers, scholars and practitioners.

### PubMed Tactics

Using PubMed as our example Internet search, let's take a quick look at how the keywords are formed. PubMed keywords are established by using the National Library of Medicine's vocabulary thesaurus: Medical Subject Headings (MeSH), located online at [www.ncbi.nlm.nih.gov/mesh](http://www.ncbi.nlm.nih.gov/mesh). Once on that page, viewers can click on three MeSH database tutorials that explain searching with the MeSH database; combining MeSH terms; and applying subheadings and various other features of the MeSH database.

Next, you can go to the PubMed home page at [www.ncbi.nlm.nih.gov/pubmed](http://www.ncbi.nlm.nih.gov/pubmed) and review the following: 1) PubMed quick start guide; 2) PubMed FAQs; 3) PubMed tutorials. Then to do a specific search about chiropractic, move to the search box at the top of the page and type in that word.

After a few seconds, a page opens and at the top you see that you have 5,000-plus manuscripts. On the right-hand side, under "Filter Your Results," you can see that there are over 500 reviews and nearly 1,000 free full texts.

Narrow the search by increasing the number of keywords. A good way to do this is to combine keywords using "and," which will yield more specific results. For example, combine keywords such as *chiropractic and lumbar manipulation*. Continue narrowing: *chiropractic and lumbar manipulation and disc injury*, which will give you five manuscripts ranging from 1983 to 2010, with

one free full text and no review. In addition, you will notice that the fourth reference has to do with cervical radiculopathy. Now you have very specific manuscripts relevant to your search.

### Appraising Manuscripts

How do you appraise those manuscripts once you've found them? For this task, I suggest using a very well-written, well-documented text, *How to Appraise Research*, by Carol Hagino<sup>2</sup>. This guide is specifically designed for chiropractic students and practitioners. It presents a critical evaluation of different types of manuscripts, and the rationale behind the thought processes in the evaluation of manuscripts.

Be mindful that some of the articles may be available in full, but only for a fee. If that's the case, it's important to go through your college or university. There may be a way to get copies of the manuscripts free of charge if you have the rights to use the online library resources of the institution of your choice.

### References

1. Machi LA, McEnvoy BT. *The Literature Review: Six Steps to Success*. Thousand Oaks: SAGE Publications, 2009: 16-20.
2. Hagino C. *How to Appraise Research: A Guide for Chiropractic Students and Practitioners*. London: Churchill Livingstone, Elsevier Science Limited, 2003.