

AMERICAN COLLEGE OF CHIROPRACTIC CONSULTANTS

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JOURNAL ARTICLE COOKBOOK

Gleberzon BJ, Killinger LZ. The journal article cookbook. *J Manipulative Physiol Ther* 2004;27(7):481_92.

You've been meaning to write an article for a journal. Of course you have been meaning to do this for the past 20 years. Inertia can be the strongest force in the universe especially when the inertia is preventing you from writing anything. Gleberzon and Killinger do a wonderful job of discussing the writing process. They note that between the two of them they have a significant number of poster and platform presentations, peer reviewed papers, textbook chapters and textbooks edited, yet neither one of them have a degree in education, research or language arts. Thus, formal education in scientific publication is not a prerequisite for successful scholarly writing. One might not have even been good doing the basic writing required in high school or college. Go ask my teachers and not one would tell you that they anticipated that I would have written as much as I have in my professional career.

Not that writing is easy but the second paper is easier than the first and the third is easier than the second etc. So if you want to do more than mean to write a journal article, I suggest reading this one first. Then find a computer.



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SEARCHING THE LITERATURE

"To steal ideas from one person is plagiarism, to steal ideas from many is research." - Anonymous

To do research instead of plagiarism one needs to be able to search the literature. For the novice, an efficient search of the literature is an oxymoron. The ultimate act of frustration may be to try to find a paper that will answer a PICO-style clinical question such as was discussed in the last issue of the newsletter. However, searching like any skill is both teachable and gets easier as one does it more. But where to start?

The first question that one must ask is what level of information is one looking for: background or foreground information. Do you need the secondary literature (reviews and textbooks) or primary literature (original research).

Background

If one is looking for, what Sackett et al (1) call background information - basic information about the pathophysiology, diagnosis, treatment, etc. of a disorder, then the primary literature is probably not the best place to search. Some basic information for health professionals can be found at medscape.com. There are also a growing list of basic textbooks that are open access (that is the technospeak for free on-line usage). On PubMed's web site there is a link for the "bookshelf?". The bookshelf is a collection of open-access textbooks that can be searched via the Entrez search engine that one uses to search PubMed. Two basic resources that chiropractors might use are The Merck Manual and Wheelless' Textbook of Orthopaedics. For links to these and other open access medical textbooks please see my backflip page backflip.com/members/smperle. Then look for the folder labeled "Textbooks - Open Access".

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Two good sources of general health-related information, intended for consumers, are MEDLINE Plus medline-plus.gov or webmd.com. Although we know that there are probably more web sites with poor or misleading information than valid information one gauge is if a health related web site has the HONcode designation. This designation does not certify the veracity of everything on a web site but does say that the owner has agreed to certain ethical principles that HON enumerates. For more information please see www.hon.ch/HONcode.

Foreground

Foreground information are those details about a specific diagnostic test or condition or prognostic indicator. This is the place to use the PICO method described in the last newsletter. With a PICO question in hand one must decide which databases or search engines to search for this foreground information and that decision is made easier by determining whether one wants the primary literature or pre-evaluated literature.

Pre-evaluated literature

We all know that the vast majority of the approximately 10 thousand papers published in the biomedical literature weekly are so poorly written or the studies are so poorly conducted so as to be unworthy of having any impact upon how one practices. Future issues of the newsletter will discuss how to critically evaluate the literature. Until that time the use of pre-evaluated literature can be helpful. Pre-evaluated literature are papers where the authors have used appropriate methodology to both search the literature and to evaluate the quality of the papers that search discovers. The most common form of pre-evaluated literature is the systematic review or meta-analysis (a systematic review where the studies are statistically pooled together) but there are other forms such as Critically Appraised Topics (CATs) or Patient Oriented Evidence that Matters (POEMs). CATs are brief summaries of publications about etiology, diagnosis, treatment, prognosis, and harm. POEMs refer to medical research that emphasizes outcomes that are

important to patients. DOEs (Disease Oriented Evidence) emphasize intermediate outcomes. Various journals will label some of their articles as POEMs plus there are commercial sources for this type of data. Links to sources of CATs, POEMs and some systematic reviews can be found in the EBM folder of my Backflip web site.

The largest free searchable database for finding systematic reviews is PubMed and as astounding as it may be it is also one of the easiest to search for systematic reviews in. On the left side of PubMed's web site is a link "Clinical Queries". Clicking on that link will bring up a page with two main options. Either to perform "Systematic Reviews" or "Clinical Queries using Research Methodology Filters." Clicking on "Systematic Reviews" one need only put the topic in to the space below "Enter subject search:" and the click the "Go" button. Performing that search on the term chiropractic produces 155 "hits" in December, 2004. The other major option uses filters that find papers on therapy, diagnosis, etiology or prognosis with the choice to make the search more inclusive (sensitive) or more restrictive (specific).

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If one is searching CINAHL (Cumulative Index of Nursing and Allied Health Literature - CINAHL has a good mix of chiropractic literature) there should be a drop down menu of "Publication Type." Systematic Review is one of the options. With MANTIS (Manual Alternative and Natural Therapy Index System - originally a chiropractic only database, now broader in scope) one can search using the terms systematic reviews however there are no specific filters for this type of publication and there are no indexing keywords that fit this paper type.

To really get comfortable searching one needs to practice. So here's a project: find a systematic review that answers

the following PICO-style question. In patients with chronic lower back pain which is more efficacious adjusting or NSAID's in reducing the pain?

Next issue the answer and details on how to search the primary literature.

Sackett DL, Straus SE, Richardson WS, Rosenberg W, Haynes RB. Evidence-based medicine: How to practice and teach ebm. 2nd ed. New York: Churchill Livingstone; 2000. p.

Using the Evidence

Gabbay J, le May A. Evidence based guidelines or collectively constructed "mindlines?" ethnographic study of knowledge management in primary care. *BMJ* 2004;329(7473):1013.

The ACCC has encouraged the concept, more than most chiropractic organizations, that evidence based health care is not just a fad but a style of practice whose time has come and is needed. Many know that the driving force behind the evidence based health care movement has been the Centre for Evidence Based Medicine at Oxford University. The British National Health Service (NHS) has put considerable resources behind making the evidence readily available to the average doctor in practice.

The question then is, does this level of support result in changes in practice habits amongst the average doctor in practice? Gabbay and le May have tested this hypothesis. This study was an ethnographic study - a qualitative methodology used to learn about a person or group of people. Usually, ethnography studies a small group of subjects in their milieu. The ethnographic studies tries to get the gestalt of the circumstances of the subjects rather than just looking at a few variables.

Gabbay and le May observed 10 GP offices (surgeries), 4 nurse led surgeries, and observations and interviews. What they found might make the British government rethink their health policy. They never saw any of the health care

professionals used the explicit steps of evidence based health care. No one they observed used any guidelines that were available for their use even though the practices they observed had sophisticated computer systems capable of rapid access to the evidence. The main sources for new information were free popular doctors' and nurses' magazines or though their networks of other providers. Their sources for information were never queried to see if they used what the authors call "the linear rational process traditionally linked to evidence based health care." Thus, they accepted this information as authoritative based upon their trust in their network. They were more skeptical of information they received from drug company representatives and the NHS. Thus, the "clinicians rarely accessed, appraised and used explicit evidence directly from research or other formal sources." "Instead, they relied on what we have called "mindlines," collectively reinforced, internalized tacit guidelines, which were informed by brief reading, but mainly by their interactions with each other and with opinion leaders, patients, and pharmaceutical representatives and by other sources of largely tacit knowledge that built on their early training and their own and their colleagues' experience."

The implications of this research to chiropractic are distressing and should be energizing to ACCC doctors. If doctors trained and practicing in a culture of evidence based health care with the computer and health system resources to encourage evidence based practice do not use this model of care, how will the chiropractic profession implement this model of practice? The president of one state association has said to me that he thinks that the best thing to happen to the chiropractic profession is managed care. He says this because MCOs can impose upon the doctor the imperative to use the evidence in order to maximize the financial rewards in practice. If this paper is illustrative of what chiropractic practice is like in the U.S. (And my impression is that it is) then we have the responsibility to help our colleagues break out of this style of practice.

Discipline

Foreman SM, Stahl MJ. Chiropractors disciplined by a state chiropractic board and a comparison with disciplined medical physicians. *J Manipulative Physiol Ther* 2004;27(7):472_7.

In the early 90's I had a talk radio show in Bridgeport. In a year and a half of doing radio, there was only one question that I received from listeners repeatedly: "Why don't you chiropractors police yourselves?" Foreman and Stahl in a review and comparison of professional disciplinary cases from the California chiropractic and medical boards have shown that we do police ourselves. In fact, chiropractors were disciplined at approximately twice the rate as medical doctors in California (4.5/1000 DCs vs. 2.27/1000 MDs disciplined).

In the years this study covered there were 216 DCs disciplined. Approximately forty-four percent of the disciplinary actions resulted in revocation of licensure (99) and another 41.6% had renovation/stayed probations. Overall, 124 chiropractors had very severe disciplinary actions which is much higher than the rate for MDs of 35%. Of specific concern to consultants is that 44.4% of all disciplinary action was for fraud. Frightening was that the rate of discipline for fraud for DCs was almost 9 times higher than for MDs. The second most common reason was sexual misconduct (22.6%). One could view these statistics in two different ways. One could imply that consultants are needed more than ever or that in California they have been doing a good job helping to find the bad eggs in our profession.

Minimally Clinically Important Changes In Pain

Salaffi F, Stancati A, Silvestri CA, Ciapetti A, Grassi W. Minimal clinically important changes in chronic musculoskeletal pain intensity measured on a numerical rating scale. *Eur J Pain* 2004;8

(4):283_91.

For the longest time clinical researchers were only interested in beating alpha (the a priori cut off for statistically significant results). That is having a study whose probability of Type I error (in the vernacular the 'p' value) be below that every popular .05 level. One should understand that setting alpha at .05 while a convention is an arbitrary but conventional level. This led to one of my favorite lines in a letter to the editor: "This difference may be statistically significant but is clinically trivial." This comment came in response to Meade et al's study of chiropractic and physical therapy for low back pain. Greenough noted that the significant difference in Oswestry scores of 29% translated to a one and a half difference in responses on the questionnaire. Hardly a difference that would matter to a patient, a trivial difference.

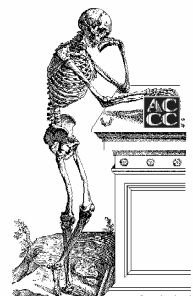
Salaffi et al investigated what is a clinically important change on a Numerical Rating Scale (NRS). You know the pain

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scale that most people call a Visual Analog Scale (VAS) where the patient is asked to rate their pain from 0 -10.

The funny part is the description of the NRS in this study is a proper description of a VAS. Thus their study is really about a VAS not a NRS.

What they found is it depends upon the starting point for the patient's pain. Those with an initial pain of 4cm need a change in .7cm for the patient to feel much better and 0.6 cm to feel slightly better. With initial NRS of >4cm to 7cm much better requires 2.1cm change and a 1.0 cm change for slightly better. Finally for NRS scores > 7 much better means a 2.8 cm change and slightly better a 1.6 cm change.



Thus, in the report where the doctor shows a patient with significant chronic pain improving at a rate of 1 cm every couple of months it is reasonable to suggest that the doctor's treatment was not of benefit to the patient.

Greenough CG. Comparing hospital and chiropractic treatment for back pain. Results were clinically trivial. *BMJ* 1995;311(7015):1302.

Meade TW, Dyer S, Browne W, Frank AO. Randomised comparison of chiropractic and hospital outpatient management for low back pain: Results from extended follow up. *BMJ* 1995;311(7001):349-51.

Is Chiropractic a Substitution Benefit or Add-on

Legorreta AP, Metz RD, Nelson CF, Ray S, Chernicoff HO, Dinubile NA. Comparative analysis of individuals with and without chiropractic coverage: Patient characteristics, utilization, and costs. *Arch Intern Med* 2004;164(18):1985_92.

Metz RD, Nelson CF, LaBrot T, Pelletier KR. Chiropractic care: Is it substitution care or add on care in corporate medical plans? *J Occup Environ Med* 2004;46(8):847_55.

Ness J, Nisly N. Cracking the problem of back pain: Is chiropractic the answer? *Arch Intern Med* 2004;164(18):1953_4.

This is the political chiropractic's mantra, that chiropractic coverage is a substitution benefit not an additional benefit. The basic idea is that patients seeking chiropractic care do not do so in addition to seeing other health care providers but see us instead for the same condition. But where's the evidence. Here it is. These two papers are first of a few papers on this topic to be published.

In this four year study conducted, in part, by American Specialty Health Plans it was found that in a large man-

aged care plan, that the inclusion of a chiropractic benefit dramatically reduced costs. The per-member-per-year cost of members without chiropractic coverage was \$208 more than the cost for members with chiropractic coverage, which cost \$1463. Thus the chiropractic coverage reduced the managed care organization's costs by 12%. Specifically for patients with neuromusculoskeletal conditions the annual cost reduction was 13% for the members with chiropractic coverage. As would be expected hospital costs for members with chiropractic coverage was significantly lower (15%) than for members without chiropractic benefit.

Costs just for members with back pain were reduced by 28% for the group with chiropractic coverage. There are a few explanations for the cost savings but of greatest import is that it appears from these data that chiropractic care in this managed care environment was a substitution benefit rather than an and-on. Ness and Nisly in their accompanying editorial praise Legorreta's paper and note that it is the largest economic study of chiropractic care. They suggest that this work holds promise of expanding chiropractic's role in health care given the relative effectiveness, safety and apparently cost effectiveness of our care.



Dr. Bronfort

American Specialty Health Plans ... found ... that the inclusion of a chiropractic benefit dramatically reduced costs.

Bronfort G, Haas M, Evans RL, Bouter LM. Efficacy of spinal manipulation and mobilization for low back pain and neck pain: A systematic review and best evidence synthesis. *Spine J* 2004;4(3):335-56.

Bronfort et al have completed another systematic review, this time on spinal manipulation or mobilization

for low back pain and neck pain. The simple take home message is that we still lack an adequate level of evidence to make definitive statements about the effectiveness of SMT. Here's the author's abstract

BACKGROUND CONTEXT: Despite the many published randomized clinical trials (RCTs), a substantial number of reviews and several national clinical guidelines, much controversy still remains regarding the evidence for or against efficacy of spinal manipulation for low back pain and neck pain. **PUR-**

POSE: To reassess the efficacy of spinal manipulative therapy (SMT) and mobilization (MOB) for the management of low back pain (LBP) and neck

pain (NP), with special attention to applying more stringent criteria for study admissibility into evidence and for isolating the effect of SMT and/or MOB. **STUDY DESIGN:** RCTs including 10 or more subjects per group receiving SMT or MOB and using patient-oriented primary outcome measures (eg, patient-rated pain, disability, global improvement and recovery time). **METHODS:** Articles in English, Danish, Swedish, Norwegian and Dutch reporting on randomized trials were identified by a comprehensive search of computerized and bibliographic literature databases up to the end of 2002. Two reviewers independently abstracted data and assessed study quality according to eight explicit criteria. A best evidence synthesis incorporating explicit, detailed information about outcome measures and interventions was used to evaluate treatment efficacy. The strength of evidence was assessed by a classification system that incorporated study validity and statistical significance of study results. Sixty-nine RCTs met the study selection criteria and were reviewed and assigned validity scores varying from 6 to 81 on a scale of 0 to 100. Forty-three RCTs met the admissibility criteria for evidence. **RESULTS:** Acute LBP: There is moderate evidence that SMT provides more short-term pain relief than MOB and detuned dia-

thermy, and limited evidence of faster recovery than a commonly used physical therapy treatment strategy. Chronic LBP: There is moderate evidence that SMT has an effect similar to an efficacious prescription nonsteroidal anti-inflammatory drug; SMT/MOB is effective in the short term when compared with placebo and general practitioner care, and in the long term compared to physical therapy. There is limited to moderate evidence that SMT is better than physical therapy and home back exercise in both the short and long term. There is limited evidence that SMT is superior to sham SMT in the short term and superior to chemonucleolysis for disc herniation in the short term. However, there is also limited evidence that MOB is inferior to back exercise after disc herniation surgery. Mix of acute and chronic LBP: SMT/MOB provides either similar or better pain outcomes in the short and long term when compared with placebo and with other treatments, such as McKenzie therapy, medical care, management by physical therapists, soft tissue treatment and back school. Acute NP: There are few studies, and the evidence is currently inconclusive. Chronic NP: There is moderate evidence that SMT/MOB is superior to general practitioner management for short-term pain reduction but that SMT offers at most similar pain relief to high-technology rehabilitative exercise in the short and long term. Mix of acute and chronic NP: The overall evidence is not clear. There is moderate evidence that MOB is superior to physical therapy and family physician care, and similar to SMT in both the short and long term. There is limited evidence that SMT, in both the short and long term, is inferior to physical therapy. CONCLUSIONS: Our data synthesis suggests that recommendations can be made with some confidence regarding the use of SMT and/or MOB as a viable option for the treatment of both low back pain and NP. There have been few high-quality trials distinguishing between acute and chronic patients, and most are limited to shorter-term follow-up. Future trials should examine well-defined subgroups of patients, further address the value of SMT and MOB for acute patients, es-

tablish optimal number of treatment visits and consider the cost-effectiveness of care.

Maintenance Care

Descarreux M, Blouin JS, Drolet M, Papadimitriou S, Teasdale N. Efficacy of preventive spinal manipulation for chronic low-back pain and related disabilities: A preliminary study. *J Manipulative Physiol Ther* 2004;27(8):509-14.

One of the biggest debates within the profession has been the utility of so-called maintenance care. A constant refrain from the pro maintenance crowd is "it works". From the evidence based side, where's the evidence and lacking any, if you think it works do the research. Well here is the first attempt I am aware of to test the hypothesis that chiropractic care might prevent recurrences of low back pain.

This study was rather small with only 30 subjects enrolled. Both VAS (the real kind) and Oswestry Disability Index were used as outcome measures. The only intervention used in both groups were side posture lumbar or sacroiliac manipulation. Both groups responded to treatment 3 times per week for 4 weeks. The maintenance group were given SMT every 3 weeks. No other treatment or patient education were provided. The maintenance care only had an effect upon Oswestry scores, there was no difference over the 10 months of the study in pain (VAS) scores. In fact, the control group's disability scores returned to pre-treatment levels even though the pain scores did not change. The authors provide a few explanation for why there exists a difference between both groups during the follow up period. One difference that the authors do not discuss is the effect upon disability of seeing the chiropractor rather than what the chiropractor specifically did to the patient. Thus in the follow-up period there was no attention control provided. The take home message from this study is that it is the first attempt to determine if maintenance care is beneficial and should at this time have no impact upon

the management of patients.

Author's abstract:

OBJECTIVE: To document the potential role of maintenance chiropractic spinal manipulation to reduce overall pain and disability levels associated with chronic low-back conditions after an initial phase of intensive chiropractic treatments. **METHODS:** Thirty patients with chronic nonspecific low-back pain were separated into 2 groups. The first group received 12 treatments in an intensive 1-month period but received no treatment in a subsequent 9-month period. For this group, a 4-week period preceding the initial phase of treatment was used as a control period to examine the sole effect of time on pain and disability levels. The second group received 12 treatments in an intensive 1-month period and also received maintenance spinal manipulation every 3 weeks for a 9-month follow-up period. Pain and disability levels were evaluated with a visual analog scale and a modified Oswestry questionnaire, respectively. **RESULTS:** The 1-month control period did not modify the pain and disability levels. For both groups, the pain and disability levels decreased after the intensive phase of treatments. Both groups maintained their pain scores at levels similar to the postintensive treatments throughout the follow-up period. For the disability scores, however, only the group that was given spinal manipulations during the follow-up period maintained their postintensive treatment scores. The disability scores of the other group went back to their pretreatment levels. **CONCLUSIONS:** Intensive spinal manipulation is effective for the treatment of chronic low back pain. This experiment suggests that maintenance spinal manipulations after intensive manipulative care may be beneficial to patients to maintain subjective post-intensive treatment disability levels. Future studies, however, are needed to confirm the finding in a larger group of patients with chronic low-back pain.





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Message From the President

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Application of Valid Guidelines and Best Practice Documents

As you know, the Council on Chiropractic Guidelines and Practice Parameters (CCGPP) is currently working on a new best practice document for the chiropractic profession. Some of the best minds in our profession are working hard to provide the profession with a fair and valid best practice guide that is representative of the current scientific literature. Obviously, evidence and literature is also used by insurance companies and other healthcare brokers to assess medical necessity. While it is reasonable and appropriate for healthcare brokers to assess quality and medical necessity, they can misuse the process for cost containment purposes. The purpose of guidelines and best practice documents is to assist the physician in choosing the best treatment options for their patients. It is the ACCC's position that, while it may be appropriate to utilize the same data and information to assess quality and necessity of care as that contained in a guideline or best practice document, it is not the document itself that establishes the standards of care, but the underlying scientific data. The ACCC has long fought for training and certification requirement for those that do quality assurance and utilization review (QA/UR). It is time that our national and state organizations demand standardization and certification for those that do QA/UR to help assure that these procedures are done fairly. Please make your state organization aware of this issue.

We're on the Web at
<http://www.ACCC-chiro.com>

As the top chiropractors and academics in the country work with the CCGPP to produce a best practice document, they have continuously applied the principles of good guideline construction and considered the process recommended by the AGREE instrument. With a clear, well written best practice document and fair QA/UR, chiropractors should feel secure in knowing that health care brokers can be held to the standards we chiropractors have set and not arbitrary or unfair rules they have established.

I encourage you to go to <http://www.ccgpp.org> to learn more about the CCGPP and the new best practice document and how you can support and donate to this project.