

AMERICAN COLLEGE OF CHIROPRACTIC CONSULTANTS

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OFFICIAL NEWSLETTER

Summer 2005

Neck Manipulation in Emergency Department

McReynolds TM, Sheridan BJ. Intramuscular ketorolac versus osteopathic manipulative treatment in the management of acute neck pain in the emergency department: a randomized clinical trial. *J Am Osteopath Assoc* 2005; 105(2):57-68.

It is not uncommon for chiropractors to see patients within a day or two of a motor vehicle accident. It is, however, uncommon for DCs to see patients within a few hours of an accident as would be typical in an emergency department of a hospital. This study did just that except instead of DCs seeing the patient it was osteopaths who perform "osteopathic manipulative techniques," OMT. OMT in this paper is defined as "HVLA thrust, muscle energy and soft tissue techniques." I am not sure that I would have described muscle energy and soft tissue techniques as manipulation. The authors make the point of saying that OMT is a manipulative treatment that is provided by an osteopath. This reminds me of a flyer I

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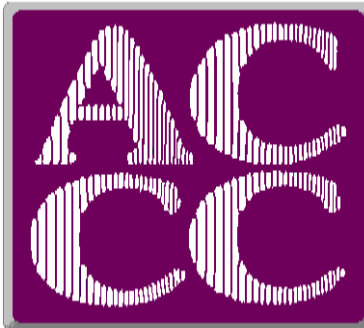
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Bibliographic Searches

The last issue of the newsletter the editor's column was about searching for pre-evaluated literature such as systematic reviews. I gave readers a project to find a systematic review that answers this PICO-style question: "In patients with chronic lower back pain which is more efficacious adjusting or NSAIDs in reducing pain."

The answer to the question is...it depends. It depends on how one does the search. If one uses the "Clinical Queries" the outcome depends on what which terms one puts in the window. The obvious choices are chronic low back pain, manipulation and NSAID. Using those terms I believe is a failing strategy that looks like success. This yields one clinical trial and two reviews which are a year older than another one I know of. After playing around with various combinations it appears that the best strategy is to search for chronic low back and manipulation and then search for chronic low back pain and Nonsteroidal anti-inflammatory. This will lead to the maximum number of studies that are appropriate. This is because systematic reviews, while comparing one treatment to another often are about a single treatment and thus are easier to search using that one treatment. From doing this search in many ways I think that the two studies that one would like to read are Bronfort et al (1)

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which is about manipulation and Schnitzer et al (2) which is about drug use. Now to the primary literature.

At one time doing bibliographic searches was exceedingly time consuming because one had to thumb through each yearly issue of Index Medicus. When electronic searching started in 1971, one needed special knowledge of the search language, thus, one had to pay a librarian to do a search. My first computerized search cost me \$90 in 1982. In the late 1980s one could use GratefulMed (someone at the National Library of Medicine (NLM) has a sense of humor) to call NLM's computers and do the searches yourself for about \$24/hr. Finally, with the advent of the internet NLM introduced free searching using the PubMed interface in 1997. Now there are approximately 800 million searches done every year.

The choice of database depends upon what type of literature one is interested in. If one only wants chiropractic literature then the Index to Chiropractic Literature (which is free) or MANTIS (Manual Alternative Natural Therapeutic Information System - which charges for use) and CINAHL (Cumulative Index to Nursing and Allied Health Literature which charges for use). Currently there are only three chiropractic journals that are indexed by MEDLINE. They are Journal of Manipulative and Physiological Therapeutics, Journal of Chiro-

practic History and the newest, Chiropractic and Osteopathy. These journals are indexed in the all of the databases mentioned here.

Talking about using each of these databases is beyond the space allotted so I'll only deal with MEDLINE. The PubMed is the search engine for MEDLINE. PubMed offers other features beyond just searching MEDLINE for example: Clinical query filter discussed in the last issue; Links to other Entrez databases; "LinkOuts" to external, publishers' websites for full articles; sources of related biological or sequence data and related articles. For more information I suggest the help system located at the top of the side menu on any PubMed screen.

**... someone at the National
Library of Medicine (NLM)
has a sense of humor ...**

When searching, one can use free text or search by special fields in the database. Some common field descriptors are in Table 1. The most common field one will search is MeSH. (**M**edical **S**ubject **H**eadings). MeSH is the world's largest controlled term list with over 22,000 terms. This is important because one would not want to be able to continuously coin a new term at will. Thus pathophysiology might be a term we all know but MeSH uses physiopathology and that is it. It has a thesaurus,

synonyms, spelling, singular, and plural forms and even another 24,000 see references. There are subheadings and most important it is searchable and is annotated. Thus when searching MeSH by using the MeSH Database (on the left hand menu in PubMed) one can find this definition of chiropractic: "An occupational discipline founded by D.D. Palmer in the 1890's based on the relationship of the spine to health and disease. The spine is analyzed by X-rays and palpation, and vertebrae are adjusted manually to relieve pressures on the spinal cord. **OSTEOPATHIC MEDICINE** was originally similar but has become more like **FAMILY PRACTICE**."

The problem with MeSH isn't really a problem with MeSH it is with the people who choose a MeSH term to apply to a particular article. For example if one searches in PubMed for everything published in JMPT one finds 2004 articles. Now if one subtracts from that list all the articles that have chiropractic in their MeSH keywords one is left with 882 articles. However, the 5th of these remaining articles is entitled "Distraction manipulation of the lumbar spine: a review of the literature". I think we all know that this is basically about Cox distraction manipulation technique yet the MeSH term chiropractic is not associated with this paper. Why? In this case the paper is too new in the system and no MeSH terms are yet applied. One can recognize this by seeing [PubMed _ in process] at the end of the Pub-

Med record. Going past the “in process” citations the second citation #91 is a letter to the editor commenting on a paper entitled “Adverse reactions to chiropractic treatment and their effects on satisfaction and clinical outcomes among patients enrolled in the UCLA Neck Pain Study.” This does not have chiropractic as a MeSH term but has manipulation, chiropractic. Eliminating manipulation, chiropractic from the search leaves 807 papers in JMPT without either MeSH term. There is left a study done by physical therapists entitled “Immediate improvements in side-to-side weight bearing and iliac crest symmetry after manipulation in patients with low back pain.” This one is indexed with the MeSH term Spinal manipulation. Eliminating that from our search we are left with 689 citations. Again looking though those for one that looks like what we might want if we were searching for something about chiropractic or our treatment methods. We find a paper titled “Clinical and cost outcomes of an integrative medicine IPA.” which is about chiropractors working as gatekeepers. The point of this example is that

using a chiropractic journal such as JMPT does not guarantee that we can find the literature we want about chiropractic thus searching requires practice, imagination (what other word would someone index this type of paper under), patience and lots of practice.

In:

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.

Schnitzer TJ, Ferraro A, Hunsche E, Kong SX. A comprehensive review of clinical trials on the efficacy and safety of drugs for the treatment of low back pain. *J Pain Symptom Manage* 2004; 28(1):72-95.

Index to Chiropractic Literature:
<http://www.chiroindex.org/>

MANTIS
<http://www.healthindex.com/>

CINAHL
<http://www.cinahl.com/>

PubMed
<http://www.pubmed.gov/>

(Continued from page 1)
 saw at University of Bridgeport from students from our College of Naturopathic Medicine. (UBCNM) The flyer listed procedures the students performed. One of those was naturopathic manipulation. The irony was that naturopathic manipulation was taught to the N.D. students by a DC.

There were, in my opinion, major statistical flaws (improper and repeated use of the T-test) so that this study cannot be considered high quality, however, it is worthy of replication. Their findings, questionable as they are, were that OMT was as efficacious as IM ketorolac tromethamine (TORADOL^{IV/IM}). The most significant finding was that there were many more complications from the TORADOL (8 of 29 patients) than from manipulation (1 of 29). The only patient with an adverse reaction from manipulation complained that her arm felt “funny” after the manipulation but had a normal neurological evaluation (muscle strength, sensation and DTRs).



The American College of Chiropractic Consultants has an exciting conference arranged for you this fall (October 7 and 8, 2005). There are 18 CME credits available to all 50 states. The conference schedule and an online registration form are available at our website:
<http://www.accc-chiro.com>

Field Type	Example of Usage
Authors	Triano JJ [AU]
Titles	Unskilled TI]
Journals	J Manipulative Physiol Ther [SO]
Address	Palmer [AD]
Abstract	“chiropractic manipulation” [AB]
MeSH	“spinal manipulation” [MH]
MeSH major heading	"Manipulation, Chiropractic/ methods"[M]

Table 1 - selected field name abbreviations and usage

Stabilization and more stabilization

In 1996 Teasell and Harth in Spine questioned whether exercise therapy for low back pain was a revolution or a fad. Finding a lack of high quality prospective studies the later would be most people's conclusion. However, recently there has been a boom in published clinical trials of various exercise regimens for LBP.

One of the newest, Koumantakis et al found that general endurance exercise was superior to general endurance exercise and specific spinal stabilization exercises. Another study by Marshall and Murphy has found that

Swiss ball exercises actually do simulate greater activity from some of the muscles needed for

... Swiss ball exercises actually do simulate greater activity from some of the muscles needed for core stability ...

core stability although they contend that the Swiss ball activates the rectus abdominus too much. They believe that rectus abdominus should not be activated when doing core stabilization exercises. This might be seen as current difference of opinion in the literature between Stuart McGill and the Carolyn Richardson et al

Finally, the *piece d' resistance* are two papers from Jill Hayden, DC of the Institute for Work & Health in Toronto. Hayden et al have published both a systematic review and separately a meta-

analysis of exercise for low back pain. The systematic review which was about chronic low back pain found that individually designed programs may reduce pain and improve function. The meta-analysis also found that in subacute low back pain exercise can reduce absenteeism. The shocking finding was that exercise is as effective as no treatment at all or other conservative treatments. Conservative treatments was undefined although looking at these studies they could include manipulation. Both studies lament the lack of high quality studies which is a constant problem when reviewing the literatures. Obviously, there is still a long way to go to

have the definitive answer on the importance of exercise.

Koumantakis GA, Watson PJ, Oldham JA.

Supplementation of general endurance exercise with stabilisation training versus general exercise only. Physiological and functional outcomes of a randomized controlled trial of patients with recurrent low back pain. Clin Biomech (Bristol, Avon) 2005; 20(5):474-82.

Marshall PW, Murphy BA. Core stability exercises on and off a Swiss ball. Arch Phys Med Rehabil 2005; 86(2):242-9.

McGill S. Low Back Disorders: Evidence-Based Prevention and Rehabilitation. Champaign, IL: Human Kinetics; 2002. McGill SM. Ultimate Back Fitness

and Performance. Waterloo, Canada: Wabuno Publishers; 2004.

Richardson CA, Jull G, Hides JA, Hodges PW. Therapeutic Exercise for Spinal Segmental Stabilisation in Low Back Pain. New York: Churchill Livingstone; 1999.

Hayden JA, van Tulder MW, Tomlinson G. Systematic review: strategies for using exercise therapy to improve outcomes in chronic low back pain. Ann Intern Med 2005; 142(9):776-85.

Hayden JA, van Tulder MW, Malmivaara AV, Koes BW. Meta-analysis: exercise therapy for non-specific low back pain. Ann Intern Med 2005; 142(9):765-75.

Maine Lumbar Spine Study - Long Term Outcomes

Atlas et al have published two studies that report on long term outcomes from the Maine Lumbar Spine Study. To make a long story short these two studies were not RCTs. In both studies patients with their doctors choose their intervention and were free to change that choice in the future. Generally those whose condition was worse at baseline opted for surgical management. Conservative management in these studies included chiropractic care but there was no breakdown in these papers

For the stenosis patients there was a significant improvement after surgical management regarding back pain, their predominant symptom and satisfaction that was presented at 1 and 4 year follow-up but disappeared at

the 8 to 10 year follow-up. However, those who initially chose surgical management had a significant improvement in leg pain and back specific function. The authors attempted statistically to find what baseline factors predicted better outcome in this study but there was not adequate power to do this.

In the herniated disk patients' conservative management had comparable outcome to surgical management for the predominant symptom, work and disability outcomes. Surgical management resulted in more complete relief of leg pain, better function and satisfaction compared with those treated conservatively initially. In this study there was adequate power to determine predictors of good outcome. As one might expect, those receiving Worker's Compensation had worse outcomes. Those with greater severity of symptoms at baseline were more likely to have a poor outcome. Finally, those with better general health status as measured with SF-36 had a better outcome. Satisfaction was positively correlated with better mental status on the SF-36.

Atlas SJ, Keller RB, Wu YA, Deyo RA, Singer DE. Long term outcomes of surgical and nonsurgical management of sciatica secondary to a lumbar disc herniation: 10 year results from the Maine Lumbar Spine Study. *Spine* 2005; 30(8):927-35.

Atlas SJ, Keller RB, Wu YA, Deyo RA, Singer DE. Long term outcomes of surgical and nonsurgical management of lumbar spinal stenosis: 8 to 10 year results from the Maine Lumbar Spine Study.

Spine 2005; 30(8):936-43.

Fear Avoidance Beliefs and Outcomes in Chronic LBP Patients Not Receiving Worker's Compensation

Al-Obaidi SM, Beattie P, Al-Zoabi B, Al-Wekeel S. The relationship of anticipated pain and fear avoidance beliefs to outcome in patients with chronic low back pain who are not receiving workers' compensation. *Spine* 2005; 30(9):1051-7.

Abstract:

STUDY DESIGN: A prospective, interventional case series design.

OBJECTIVES: To determine the degree to which preintervention measures of anticipated pain and fear avoidance beliefs predict outcome after intervention for patients with delayed recovery from low back pain (LBP) for which they are not

receiving workers' compensation. **SUMMARY OF BACKGROUND DATA:** Anticipated pain and fear avoidance

beliefs have been suggested as important factors for the classification and treatment of patients with LBP. However, the degree to which they are associated with outcome after intervention is uncertain. **METHODS:** There were 42 subjects with activity limiting LBP for more than 2 months enrolled in an exercise based, physical therapy program. A multidimensional test battery was com-

pleted before and after a 10 week program of lumbar extensor muscle strengthening. Correlation analyses, independent t tests, and validity indexes were used to determine relationships of pre-intervention measures of anticipated pain and the fear avoidance beliefs to clinically meaningful improvements in the Roland-Morris score. Intention-to-treat strategies were used to account for study dropouts. **RESULTS:** A total of 36 subjects completed the 10 week intervention. The lack of clinically meaningful outcome, as determined by a failure-to-report a minimum of 16% decrease in the Roland-Morris score, was associated with high pre-intervention scores on the physical activity subscale of the Fear Avoidance Beliefs Questionnaire (FABQP). Subjects with a pre-intervention score ≥ 29 on the FABQP had a likelihood ratio of 3.78 (95%

confidence interval [CI] 2.4_5.16) for an increased probability of negative outcome after initial testing when compared to those subjects with low (<20) scores. The

sensitivity and specificity of low scores to predict clinically meaningful outcomes compared to those with high scores were moderate (sensitivity = 0.87 and specificity 0.77); however, the likelihood ratio was inconclusive. Anticipated pain was significantly correlated with but was higher than the reported pain during activity both before and after intervention but not predictive of

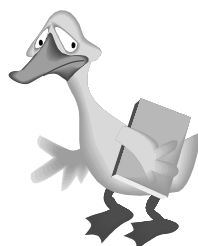
... Surgical management resulted in more complete relief of leg pain, better function and satisfaction compared with those treated conservatively initially. ...

outcome. **CONCLUSIONS:** In a sample of people from a Middle Eastern culture undergoing exercise intervention for LBP for which they are not receiving workers' compensation, the pre-intervention physical activity subscale of the FABQ is predictive of negative outcome when the observed scores are $>$ or $=29$. Despite significant improvements in all variables after intervention, anticipated pain remained significantly higher than reported pain during physical performance testing but did not predict outcome.

Surface EMG Still Not Clinically Useful

This study from Kramer et al has made what is a shocking finding: those with chronic LBP have less signs of fatigue (decrease in median frequency in the power spectrum) in the lower back musculature than in health controls. This contradicts a significant amount of the literature. The authors do present a rational explanation of this finding. They posit that an increase in the relative proportion of Type I muscle fibers, which does occur from disuse atrophy, would cause this finding. While this is a reasonable explanation when the state of knowledge is in such flux obviously SEMG is still an experimental di-

... SEMG is still an experimental diagnostic test awaiting a compelling body of literature to validate its interpretation.



agnostic test awaiting a compelling body of literature to validate its interpretation.

Kramer M, Ebert V, Kinzl L, Dehner C, Elbel M, Hartwig E. Surface electromyography of the paravertebral muscles in patients with chronic low back pain. Arch Phys Med Rehabil 2005; 86(1):31-6.

Cost of Analgesic Usage for LBP

During one year Vogt et al examined all individual insurance claims for LBP from one insurance plan. Not surprising medication costs were very high (\$1,401,789, \$147.30 per patient, 55% of patients received Rx) and in fact exceeded chiropractic (\$486,886) benefits (18.8% of the sample seeking chiropractic care). They found that those who were prescribed

opioids were half as likely to have seen a DC. They note that physical therapy and chiropractic are equally beneficial but the use of PT was increased by 50% among opioid users. They say that this is the first study that has found that LBP opioid users are less likely to use chiropractic care. This might be due to MDs who would prescribe opioids being less likely to refer to DCs.

Vogt MT, Kwok CK, Cope DK, Osial TA, Culyba M, Starz TW. Analgesic usage for low back pain:

impact on health care costs and service use. Spine 2005; 30(9):1075-81.

Clinical Prediction Rules (CPR) Diagnosis of CTS

It might be dawning on people that clinical prediction rules are the new trend in research. This paper presents the development of such a rule for the diagnosis of carpal tunnel syndrome conducted by the same team that created the manipulation for LBP CPR. The rule has five components that do not require sophisticated diagnostic equipment. Rather than detail these now I am just suggesting people watch for this rule to be validated, which given the clinical epidemiological statistics of these tests I foresee in the near future.

Wainner RS, Fritz JM, Irrgang JJ, Delitto A, Allison S, Boninger ML. Development of a clinical prediction rule for the diagnosis of carpal tunnel syndrome. Arch Phys Med Rehabil 2005;86(4):609-18.

Return to work

Dionne et al report on their work on a CPR for return to work for patients with LBP. The rule has 7 baseline variable and all are based upon questioning the patient. This paper and its companion commentary by Maher are a must read and available free full text on-line at <http://www.cmaj.ca>

Dionne CE, Bourbonnais R, Fremont O, Rossignol M, Stock SR, Larocque I. A clinical return-to-work rule for patients with back pain. CMAJ 2005; 172(12):1559-67

Maher C. Clinical prediction after back pain. *CMAJ* 2005; 172 (12):1575-6

Muscle Injuries

I'd love to summarize this paper but that is an impossibility. Given how often we treat muscle injuries this review of what an injury is, how it repairs and how treatments affect that repair is too meaty to give a summary. Below is the abstract which does not do it justice.

Jarvinen TA, Jarvinen TL, Kaariainen M, Kalimo H, Jarvinen M. Muscle injuries: biology and treatment. *Am J Sports Med* 2005; 33 (5):745-64.

Muscle injuries are one of the most common traumas occurring in sports. Despite their clinical importance, few clinical studies exist on the treatment of these traumas. Thus, the current treatment principles of muscle injuries have either been derived from experimental studies or been tested only empirically. Although non-operative treatment results in good functional outcomes in the majority of athletes with muscle injuries, the consequences of failed treatment can be very dramatic, possibly postponing an athlete's return to sports for weeks or even months. Moreover, the recognition of some basic principles of skeletal muscle regeneration and healing processes can considerably help in both avoiding the imminent dangers and accelerating the return to competition. Accordingly, in this review, the authors have summarized the prevailing understanding on the

biology of muscle regeneration. Furthermore, they have reviewed the existing data on the different treatment modalities (such as medication, therapeutic ultrasound, physical therapy) thought to influence the healing of injured skeletal muscle. In the end, they extend these findings to clinical practice in an attempt to propose an evidence-based approach for the diagnosis and optimal treatment of skeletal muscle injuries.

What's in a Name?

The Chiropractic Compass

The Council on Chiropractic Guidelines and Practice Parameters (CCGPP) is currently in the process of developing a new Best Practices document for the chiropractic profession. The document has been named the "*Chiropractic Compass*" as it is designed to direct the doctor of chiropractic toward evidence based treatment options rather than providing ridged cookbook-like recommendations. In addition to reporting the best evidence, the document also recommends incorporating the doctor's experience, and the patient's preferences.

It is this balanced approach that drew the CCGPP to the Best Practices format as "Guidelines" tend to be used by some reviewers to establish ridged care end points rather than as suggestions for typical cases. Best practices documents like the *Compass* recognize the individuality of the

patient, his or her physician and the circumstances of care. The best practice format enhances the idea that treatment plans should be custom tailored to a patient's needs and should include consideration of complications, co-morbidities and patient wishes. These ideals are also supported by the ACCC and consultants should incorporate them into their daily claim review work.

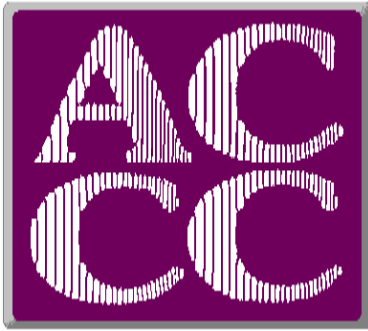
The CCGPP's mission is to oversee the best practices development project, procure funding and support and work on the Distribution, Implementation, Evaluation and Revision (DIER) process. The DIER process initially began in 2000 with a baseline survey to assess the chiropractic profession. As the document sections are released, hopefully, in early 2006, there will be a 60-day comment period on each one open to the profession at large.



The actual document is being developed by the CCGPP Research Commission. This commission is composed of a group of well-known scientists and academicians within our profession. This body is gathering, rating, and summarizing the research and producing the final Best Practice

document. Currently, over 50 scientists and academicians are working on this massive project.

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The ACCC's website membership directory will be updated soon. All non-members will be deleted from the directory.

Renew your membership today!

Send \$250.00 to:
Dr. Scott Becker - ACCC treasurer
3419 N. Woodford St.
Decatur, IL 62526

Call for Nominations

The ACCC is calling for the nomination of members to server on the ACCC board of directors.

Please forward nominations to:

Dr. Dave Cox
2741 Ridge Rd.
Lansing, IL 60438
Or - E-mail: DCox152565@aol.com

The Best Practices document has been divided up into the following areas:

- Low Back and related lower extremity conditions
- Neck and related upper extremity conditions
- Thoracic and costovertebral disorders
- Upper Extremity condition, not related to neck
- Lower Extremity conditions, not related to low back
- Myofascial and soft tissue disorders
- Non-musculoskeletal, prevention, wellness and special populations

Look for these sections to be released early next year. The CCGPP asks that you review them carefully and provide the Council with your feedback and comments at the CCGPP web site, www.ccgpp.org. You can show your support by sending contributions to the CCGPP at:
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