

ANJC CCGPP COMMENTS

The Association of New Jersey Chiropractors (ANJC) has carefully reviewed the CCGPP document on “Best Practices for the Low Back”, and respectfully offers the following comments and conclusions. These are presented in 3 sections:

- A. General Overview
- B. Conclusions
- C. References and Specific Comments

A. GENERAL OVERVIEW:

1. The ANJC comments that it is impossible to adequately review this document in the 60 days allotted. The CCGPP document took years to produce yet contains serious flaws and omissions. The ANJC opines that it would be irresponsible to release the document prematurely as it will set precedent with insurers and regulators.
2. The ANJC comments that the practice of chiropractic focuses on the unique needs and characteristics of individual patients and acknowledges the diversity of chiropractic techniques. Randomized Controlled Trials (RCTs) look at groups of patients with some common characteristics. RCTs can not predict how a given treatment will affect an individual patient. The RCT outcomes reported in this document are presented as fact alluding to its bias. No disclaimer is made to recognize the limitations of generalizations, and that the majority of RCTs are inadequate in their utility to assist the chiropractor in the outcomes applicable to their practice. The document therefore does not represent Best Practices. The draft document also looks at different interventions as isolated events rather than representing actual practices that may utilize multiple interventions. Studies representative of actual practice are conspicuously absent or minimally represented in this document. Furthermore, there is little written on how different treatment strategies work together.
3. The ANJC comments that the document excludes "Case Studies" in the literature review, but includes "Expert Opinion" and/or "Consensus" to form recommendations. The United States Department of Health and Human Services, Agency for Healthcare Research and Quality rates Case Studies as a higher form of evidence than either Expert Opinion or Consensus. The exclusion of case studies is particularly notable and problematic because of the available wealth of such studies that support various diagnostic and treatment methods utilized in the practice of chiropractic.
4. The ANJC observes that the document relies heavily on the Guidelines for Chiropractic Quality Assurance and Practice Parameters (Mercy Guidelines). The Mercy Guidelines is a flawed 13 year old document that has been de-listed from the National Guideline Clearinghouse and has been generally rejected by the chiropractic practitioner community.

5. The ANJC comments that all manipulative procedures are lumped together despite the fact that adjusting techniques vary widely. To suggest that Diversified, Logan Basic, Activator, CMRT, SOT blocking, etc., can be homogenized under the term "manipulation" demonstrates the inherent flaws in this document. Any review purporting to assess manipulative treatment must carefully describe in detail each specific type of adjusting technique and/or other treatment utilized in the study in order to be of value to the treating chiropractor. Different chiropractic techniques utilized in the treatment of various cases may result in different outcomes.
6. The ANJC comments that Traction is specifically singled out as "Not Supported by Fair Evidence from Relevant Studies." No distinction is made between the various forms of traction such as Flexion-Distraction, Axial/Longitudinal Traction and Extension Traction. ANJC is concerned that the draft document's conclusion will therefore be utilized by third party payers as a basis to justify non-payment of all traction services including decompression procedures (DRX 9000, etc.), intersegmental traction procedures (Anatomors, etc.), manual distraction flexion/extension procedures (Cox, etc.), and various traction devices (Posture Pumps, etc.).
7. The ANJC comments that the section on diagnostics is incomplete, dated, and biased. In one subject where a detailed review was undertaken, Surface EMG (SEMG), CCGPP erroneously claimed that there was no new research of consequence since 1993. Our review showed this statement to be grossly in error. Similarly, the section on x-ray is incomplete, flawed, and biased based upon our committee review. Therefore, the conclusions and recommendations are likewise incorrect. Insurers and government agencies will translate this information to form guidelines that are similarly biased and incorrect thereby significantly impacting chiropractic diagnostic procedures, chiropractic reimbursement and, most importantly, chiropractic patients.
8. The ANJC comments that the procedures such as Manipulation under Anesthesia and others that are used in a significant number of chiropractic practices are omitted. These omissions will likely result in lack of insurance reimbursement for these services.
9. The ANJC comments that the document uses the term subluxation, but includes no operational definition.
10. The ANJC comments that the document fails to adequately consider causes of the subluxation and attendant low back problems, and how etiology may affect treatment choices. The referencing of only RCTs, fails to recognize the effectiveness of chiropractic treatment of complex cases such as those involving radiculopathy.

11. The ANJC questions the wisdom of allowing input from third party payers in developing this document. The ANJC opines that such input raises grave conflict-of-interest concerns that may be detrimental to the chiropractic profession and its future.

12. The ANJC does not support the distribution of the low back document for use by third party payers or government entities including regulatory agencies for all the reasons presented. The ANJC opines that such distribution could significantly limit the type of patient treated by chiropractors to only those with uncomplicated low back strain, and eventually prohibit and place wrongful liability on the chiropractor for treating more complex cases outside the confines of the CCGPP Best Practice document. This could result in a detriment to the patient as well as the practice, income, and the very culture of the chiropractic profession.

B. CONCLUSIONS:

BASED ON THE ABOVE COMMENTS AND CONCERNS, THE ANJC REJECTS THE DRAFT CCGPP DOCUMENT ON BEST PRACTICES FOR LOW BACK AS PRESENTED.

THE ANJC WELCOMES THE OPPORTUNITY TO REVIEW REVISIONS TO THIS DOCUMENT PROVIDED IT IS ADEQUATELY UPDATED, AND ALL THE CONCERNS LISTED IN THIS REPORT ARE ADDRESSED.

**ANJC Recommendations
CCGPP “Agreement/Disagreement” Survey
www.surveymk.com/s.asp?u=617621934097.**

Question #	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1							X
2							X
3							X
4							X
5							X
6							X
7							X
8							X
9							X
10							X

C. REFERENCES AND SPECIFIC COMMENTS:

The following comments and references are excerpts from the reports submitted by members of the ANJC Literature Search Committee charged with reviewing the CCGPP document. Due to the extreme time constraints of the comment period these comments are presented in only partially edited form. They are included here to provide CCGPP with the rationale and references utilized for the opinions expressed above.

1. Pages 72-79:

a. Low Back Pain

The section on the natural and treatment history was brief, but accurate in pointing out that follow up studies do not support that often cited statistics that 90% of low back pain (LBP) patients recover in 3 months on their own.

1. In the section on, "What are the relevant benchmarks for evaluating process of care?"

A. The lack of including any type of manual palpation was a glaring omission. Palpation as a diagnostic indicator and method has given conflicting results on reliability. However, more current research and commentary has shown that there is relevance to this method:

- 1. Reliability of spinal palpation for diagnosis of back and neck pain: a systematic review of the literature. Seffinger MA, Najm WI, Mishra, SI, Adams A, Dickerson VM, Murphy LS, Reinsch S, Spine 2004 Oct 1;29(19):E413-E425.**

Found acceptable reliability with pain provocation & motion testing, fair reliability with landmark identification, and poor with soft tissue. Intra-examiner reliability was greater than inter-examiner reliability (expanded on further below).

- 2. Interobserver Reliability of Osteopathic Palpatory Diagnostic Tests of the Lumbar Spine: Improvements From Consensus Training. Degenhardt, BF , et al JAOA • Vol 105 • No 10 • October 2005 • 465-473**

Although initially unsuccessful with eight commonly used osteopathic palpatory tests, three examiners residency-trained in neuromusculoskeletal medicine improved with consensus training the interobserver reliability values of osteopathic palpatory diagnostic tests assessing tissue texture changes, tenderness, and positional and motion asymmetry in the transverse plane. This success demonstrated that consensus training can be effective in significantly improving the interobserver reliability of palpatory tests.

- 3. Intraexaminer reliability is greater than interexaminer reliability.**

There are several viewpoints on this:

The Sacral Leg Check: Destructive Orthopedic Test Par Excellence, Cooperstein, R, JACA 39(8):20, 2002

The process of palpation and other types of manual examination may itself alter the mobility of the joint(s) tested. This acts as a "destructive" orthopedic test, it alters and fixes the dysfunction while it tests it, so that subsequent manual examination often will yield different results.

Also, from JAOA article:

"... the test that induced vertebral motion in the transverse plane did not significantly improve in reliability even after 12 sessions of training. The examiners noted that motion characteristics routinely changed between one examiner's evaluation and the next. This experience supports the hypothesis that motion testing, which stimulates the sensory nervous system, may cause neuromotor reflexes to adapt to the stimuli—especially in young individuals like this study's subjects—causing findings to change after repetitive stimuli."

b. Leg Length Inequality (pg. 78) – This section relied on only one reference from 1985 for it's review. I present the following references that are post –1985 for consideration:

Andersson EA, Oddsson LI, Grundstrom H, Nilsson J, Thorstensson A: EMG activities of the quadratus lumborum and erector spinae muscles during flexion-relaxation and other motor tasks.
Clin Biomech 1996, 11(7):392-400.

Aspegren DD, Cox JM, Trier KK: Short leg correction: A clinical trial of radiographic vs non-radiographic procedures.
J Manipulative Physiol Ther 1987, 10(5):232-238.

Cooperstein R, Morschhauser E, Lisi A, Nick TG: Validity of compressive leg checking in measuring artificial leg-length inequality.
J Manipulative Physiol Ther 2003, 26(9):557-66.

Cooperstein R, Lisi A: Pelvic torsion: anatomic considerations, construct validity, and chiropractic examination procedures.
Top Clin Chiro 2000, 7(3):38-49.

Danbert RJ: Clinical assessment and treatment of leg length inequalities.
J Manipulative Physiol Ther 1988, 11(4):290-295.

Hanada E, Kirby RL, Mitchell M, Swuste JM: Measuring leg-length discrepancy by the "iliac crest palpation and book correction" method: Reliability and validity.
Arch Phys Med Rehabil 2001, 82(7):938-42.

Hinson R, Brown SH: Supine leg length differential estimation: an inter- and intra-examiner reliability study.
Chiropr Res J 1998, 5:17-22.

Knutson G: Incidence of foot rotation, pelvic crest unleveling, and supine leg length alignment asymmetry, and their relationship to self-reported back pain.

J Manipulative Physiol Ther 2002, 24:e1.

Knutson G, Owens E: Leg length Alignment Asymmetry in a Non-clinical Population and its Correlation to a Decrease in General Health as Measured by the SF-12: A Pilot Study. Journal of Vertebral Subluxation Research 2004, 1:1-5.

Knutson, G: Anatomic and functional leg-length inequality: A review and recommendation for clinical decision-making. Part I, anatomic leg-length inequality: prevalence, magnitude, effects and clinical significance
Chiropractic & Osteopathy 2005, 13:11

Knutson, G: Anatomic and functional leg-length inequality: A review and recommendation for clinical decision-making. Part II, the functional or unloaded leg-length asymmetry
Chiropractic & Osteopathy 2005, 13:12

Kondziella W: Clinical and functional diagnosis and treatment of low-back pain from pelvic malposition.
Schmerz 1996, 10(4):204-10.

Mannello DM: Leg Length Inequality.
J Manipulative Physiol Ther 1992, 15(9):576-590.

Murrell P, Cornwall MW, Doucet SK: Leg-length discrepancy: effect on the amplitude of postural sway.
Arch Phys Med Rehabil 1991, 72(9):646-8.

Nguyen HT, Resnick DN, Caldwell SG, Elston EW, Bishop BB, Steinhouser JB, Gimmillaro TJ, Keating JC: Inter-examiner reliability of Activator methods relative to leg length evaluation in the prone, extended position.
J Manipulative Physiol Ther 1999, 22:565-9.

Petrone MR, Guinn J, Reddin A, Sutlive TG, Flynn TW, Garber WP: The accuracy of the palpation meter (PALM) for measuring pelvic crest height difference and leg length discrepancy.
J Orthop Sports Phys Ther 2003, 33:319-25.

Rhodes DW, Mansfield ER, Bishop PA, Smith JF: Comparison of leg length inequality measurement methods as estimators of the femur head height difference in standing x-ray.
J Manipulative Physiol Ther 1995, 18(7):448-452

Young RS, Andrew PD, Cummings GS: Effect of simulating leg length inequality on pelvic torsion and trunk mobility.
Gait Posture 2000, 11(3):217-23.

These are not the only references, just some of the ones that I found that have some relevance.

c. Radiography Section (pg. 78):

1. None of the references were past 1991. Below are 2 relevant studies that are more recent:

Harrison DE, Harrison DD, Troyanovich SJ. Reliability of spinal displacement analysis of plain X-rays: a review of commonly accepted facts and fallacies with implications for chiropractic education and technique. *J Manipulative Physiol Ther.* 1998 May;21(4):252-66.

Harrison DE, Harrison DD, Colloca CJ, Betz J, Janik TJ, Holland B. Repeatability over time of posture, radiograph positioning, and radiograph line drawing: an analysis of six control groups. *J Manipulative Physiol Ther.* 2003 Feb;26(2):87-98.

2. There was no mention of other imaging modalities such as MRI and CT scans for assessment.

2. Manipulation For Patients with Low Back Pain, Leg Pain, Sciatica, or Radiculopathy (pgs. 57-58):

a. This was given a "C" rating on page 28, and an AB rating on page 57 (?). This latest study should boost this rating to an "A":

Santilli V, Beghi, E Finucci S. Chiropractic manipulation in the treatment of acute back pain and sciatica with disc protrusion: a randomized double-blind clinical trial of active and simulated spinal manipulations. *Spine J.* 2006 Mar-Apr;6(2):131-7. Epub 2006 Feb 3

b. A study demonstrated greater positive results obtained from more manipulations for chronic back pain patients, as opposed to trials of a single treatment or just a few manipulations:

Haas M, Gropp E, Kraemer DF. Dose-response for chiropractic care of chronic low-back pain. *Spine* 2004 Sep-Oct;4(5):83.

c. The studies demonstrating effectiveness of manipulation only address effectiveness within a timeframe. Most do not show the effects of longer periods of treatment, or treatment to resolution. That fact needs to be emphasized so as interpretation of these "best practices" does not limit care to the treatment timeline of the study as the only demonstrated evidence.

3. Review Pages 58-59:

I was disappointed as to the date of the references used in the preparation of this material. For that reason, I inquired to the organization as to the reason why some of the references were so dated. The criteria used to put together the material for this guideline was extensive and extreme (Cochrane standards etc). For the research to be used it had to scale very high. With that being said the limitation to the research used gives this document its greatest accomplishment and its greatest limitation. However, in reviewing the recent literature in my short sections, I found most of their information to be right on target. We may not completely agree with it no matter how we practice, but this is a guide based on current literature.

MESSAGE:

In summary, the authors found massage to be a viable treatment for subacute and chronic cases based on the references used. Acute low back pain however, while having a positive effect, did not have as great an effect as manipulation (once again, massage was used as a control). In this case, it did not state that soft tissue was useless in the treatment of acute low back pain, but that it was not as effective as manipulation. This topic has already been beaten to death by studies such as the Rand study on acute low back pain. (I performed a PubMed/Medline search on this topic. I initially came up with 119 articles....of that 119 there were 8 dealing with actual soft tissue treatment for low back pain. Of the 8 almost none were of clear "conclusive" results.) This matches what has been presented by the author's. I was also informed that there would be a completely separate chapter on soft tissue in itself.

Jones TA.

Related Articles,

Links



Rolfing.

Phys Med Rehabil Clin N Am. 2004 Nov;15(4):799-809, vi. Review.
PMID: 15458753 [PubMed - indexed for MEDLINE]



2: Melancon B, Miller LH.

Related Articles,

Links



Massage therapy versus traditional therapy for low back pain relief: implications for holistic nursing practice.

Holist Nurs Pract. 2005 May-Jun;19(3):116-21.
PMID: 15923937 [PubMed - indexed for MEDLINE]



3: van Tulder MW, Furlan AD, Gagnier JJ.

Related Articles,

Links



Complementary and alternative therapies for low back pain.

Best Pract Res Clin Rheumatol. 2005 Aug;19(4):639-54. Review.
PMID: 15949781 [PubMed - indexed for MEDLINE]



4: Michalsen A, Buhring M.

Related Articles,

Links



[Connective tissue massage]

Wien Klin Wochenschr. 1993;105(8):220-7. Review. German.
PMID: 8506683 [PubMed - indexed for MEDLINE]



5: Braverman DL, Schulman RA.

Related Articles,

Links



Massage techniques in rehabilitation medicine.

Phys Med Rehabil Clin N Am. 1999 Aug;10(3):631-49, ix. Review.
PMID: 10516982 [PubMed - indexed for MEDLINE]



6: Wiffen PJ.

Related Articles,

Links



Evidence-based pain management and palliative care in issue two for 2004 of the Cochrane Library.

J Pain Palliat Care Pharmacother. 2004;18(4):89-94.
PMID: 15760813 [PubMed - indexed for MEDLINE]



7: Goats GC, Keir KA.


Related Articles,

Links



Connective tissue massage.

Br J Sports Med. 1991 Sep;25(3):131-3. Review.
PMID: 1777777 [PubMed - indexed for MEDLINE]

 **8:** [Ernst E.](#)

[Related Articles,](#) [Links](#)



Massage treatment for back pain.

BMJ. 2003 Mar 15;326(7389):562-3. No abstract available.

PMID: 12637375 [PubMed - indexed for MEDLINE]

BACK SCHOOL:

The section on Back School was supportive in patients for acute and chronic low back injuries. This type of education/rehabilitation can be useful when used in short time frames of patients in need of rehabilitation and activity avoidance issues focused at returning a patient back to their activity as quickly as possible.

Literature in recent years is supportive of this as well. Quicker return to activity is more beneficial than prolonged rest or disability. Once again, I found a number of articles on Medline/Pubmed, 200+ to start. After reading the summaries, I was able to narrow down the articles to the 49 below. The majority of these have positive outcomes regarding this topic matter, but it varies from minimal to great benefit with several showing no benefit. Once again, what I could find on these search engines tends to support the information given.



1: [Heymans MW, de Vet HC, Bongers PM, Knol DL, Koes BW, van Mechelen W.](#)

[Related Articles,](#)

[Links](#)



The effectiveness of high-intensity versus low-intensity back schools in an occupational setting: a pragmatic randomized controlled trial.

[Spine](#). 2006 May 1;31(10):1075-82.

PMID: 16648740 [PubMed - indexed for MEDLINE]



2: [van Tulder MW, Koes B, Malmivaara A.](#)

[Related Articles,](#)

[Links](#)



Outcome of non-invasive treatment modalities on back pain: an evidence-based review.

[Eur Spine J](#). 2006 Jan;15 Suppl 1:S64-81. Epub 2005 Dec 1.

PMID: 16320031 [PubMed - in process]



3: [Heymans MW, van Tulder MW, Esmail R, Bombardier C, Koes BW.](#)

[Related Articles,](#)

[Links](#)



Back schools for nonspecific low back pain: a systematic review within the framework of the Cochrane Collaboration Back Review Group.

[Spine](#). 2005 Oct 1;30(19):2153-63. Review.

PMID: 16205340 [PubMed - indexed for MEDLINE]



4: [Shirado O, Ito T, Kikumoto T, Takeda N, Minami A, Strax TE.](#)

[Related Articles,](#)

[Links](#)



A novel back school using a multidisciplinary team approach featuring quantitative functional evaluation and therapeutic exercises for patients with chronic low back pain: the Japanese experience in the general setting.

[Spine](#). 2005 May 15;30(10):1219-25.

PMID: 15897839 [PubMed - indexed for MEDLINE]



5: [Kool JP, Oesch PR, Bachmann S, Knuesel O, Dierkes JG, Russo M, de Bie RA, van den Brandt PA.](#)

[Related Articles,](#)
















[Links](#)























Increasing days at work using function-centered rehabilitation in nonacute nonspecific low back pain: a randomized controlled trial.




















[Arch Phys Med Rehabil](#). 2005 May;86(5):857-64.


















PMID: 15895328 [PubMed - indexed for MEDLINE]

-  **6:** [Akinpelu AO, Odebiyi DO.](#) Related Articles, Links
 Nigerian back school model: development and effect on industrial workers' knowledge of back pain and back care.
Afr J Med Med Sci. 2004 Sep;33(3):201-5.
PMID: 15819464 [PubMed - indexed for MEDLINE]
-  **7:** [van der Hulst M, Vollenbroek-Hutten MM, Ijzerman MJ.](#) Related Articles, Links
 A systematic review of sociodemographic, physical, and psychological predictors of multidisciplinary rehabilitation-or, back school treatment outcome in patients with chronic low back pain.
Spine. 2005 Apr 1;30(7):813-25. Review.
PMID: 15803086 [PubMed - indexed for MEDLINE]
-  **8:** [Shirado O, Watanabe Y, Kawase M.](#) Related Articles, Links
 [Rehabilitation for the patients with low-back pain]
Clin Calcium. 2005 Mar;15(3):103-8. Japanese.
PMID: 15741687 [PubMed - indexed for MEDLINE]
-  **9:** [Cardon G, Balague F.](#) Related Articles, Links
 Low back pain prevention's effects in schoolchildren. What is the evidence?
Eur **Spine** J. 2004 Dec;13(8):663-79. Epub 2004 Jun 15. Review.
PMID: 15662541 [PubMed - indexed for MEDLINE]
-  **10:** [van der Roer N, van Tulder MW, Barendse JM, van Mechelen W, Franken WK, Ooms AC, de Vet HC.](#) Related Articles, Links
 Cost-effectiveness of an intensive group training protocol compared to physiotherapy guideline care for sub-acute and chronic low back pain: design of a randomised controlled trial with an economic evaluation. [ISRCTN45641649].
BMC Musculoskelet Disord. 2004 Nov 23;5:45.
PMID: 15560843 [PubMed - indexed for MEDLINE]
-  **11:** [Heymans MW, van Tulder MW, Esmail R, Bombardier C, Koes BW.](#) Related Articles, Links
 Back schools for non-specific low-back pain.
Cochrane Database Syst Rev. 2004 Oct 18;(4):CD000261. Review.
PMID: 15494995 [PubMed - indexed for MEDLINE]
-  **12:** [Heymans MW, de Vet HC, Bongers PM, Koes BW, van Mechelen W.](#) Related Articles, Links
 Back schools in occupational health care: design of a randomized controlled trial and cost-effectiveness study.
J Manipulative Physiol Ther. 2004 Sep;27(7):457-65.
PMID: 15389177 [PubMed - indexed for MEDLINE]
-  **13:** [Moseley GL, Nicholas MK, Hodges PW.](#) Related Articles, Links
 A randomized controlled trial of intensive neurophysiology education in chronic low back pain.
Clin J Pain. 2004 Sep-Oct;20(5):324-30.
PMID: 15322439 [PubMed - indexed for MEDLINE]

-  **14:** [Ferreira PH, Ferreira ML, Maher CG, Refshauge K, Herbert RD, Latimer J.](#) Related Articles, Links
 Effect of applying different "levels of evidence" criteria on conclusions of Cochrane reviews of interventions for low back pain.
 J Clin Epidemiol. 2002 Nov;55(11):1126-9.
 PMID: 12507677 [PubMed - indexed for MEDLINE]
-  **15:** [Roques CF, Felez A, Marque P, Maupas E, Chatain M, Lazorthes Y.](#) Related Articles, Links
 [Feasability of a back school assessment programme]
 Ann Readapt Med Phys. 2002 Jun;45(6):257-64. French.
 PMID: 12076852 [PubMed - indexed for MEDLINE]
-  **16:** [Hsieh CY, Adams AH, Tobis J, Hong CZ, Danielson C, Platt K, Hoehler F, Reinsch S, Rubel A.](#) Related Articles, Links
 Effectiveness of four conservative treatments for subacute low back pain: a randomized clinical trial.
 Spine. 2002 Jun 1;27(11):1142-8.
 PMID: 12045509 [PubMed - indexed for MEDLINE]
-  **17:** [Penttinen J, Nevala-Puranen N, Airaksinen O, Jaaskelainen M, Sintonen H, Takala J.](#) Related Articles, Links
 Randomized controlled trial of back school with and without peer support.
 J Occup Rehabil. 2002 Mar;12(1):21-9.
 PMID: 11837056 [PubMed - indexed for MEDLINE]
-  **18:** [Hodselmans AP, Jaegers SM, Goeken LN.](#) Related Articles, Links
 Short-term outcomes of a back school program for chronic low back pain.
 Arch Phys Med Rehabil. 2001 Aug;82(8):1099-105.
 PMID: 11494190 [PubMed - indexed for MEDLINE]
-  **19:** [Glomsrod B, Lonn JH, Soukup MG, Bo K, Larsen S.](#) Related Articles, Links
 "Active back school", prophylactic management for low back pain: three-year follow-up of a randomized, controlled trial.
 J Rehabil Med. 2001 Jan;33(1):26-30.
 PMID: 11480466 [PubMed - indexed for MEDLINE]
-  **20:** [van Tulder MW, Esmail R, Bombardier C, Koes BW.](#) Related Articles, Links
 Back schools for non-specific low back pain.
 Cochrane Database Syst Rev. 2000;(2):CD000261. Review. Update in: [Cochrane Database Syst Rev. 2004;\(4\):CD000261.](#)
 PMID: 10796335 [PubMed - indexed for MEDLINE]
- [Nentwig CG.](#) Related Articles, Links
 [Evidence-based evaluation of the back school. Wide distribution with minimal effectiveness?]
 Z Orthop Ihre Grenzgeb. 1999 Nov-Dec;137(6):Oa1-3. Review. German. No abstract available.
 PMID: 10666847 [PubMed - indexed for MEDLINE]
-  **22:** [Nentwig CG.](#) Related Articles, Links
 [Effectiveness of the back school. A review of the results of evidence-based evaluation]
 Orthopade. 1999 Nov;28(11):958-65. Review. German.
 PMID: 10602832 [PubMed - indexed for MEDLINE]














-  **23:** [Porteau-Cassard L, Zabraniecki L, Dromer C, Fournie B.](#) Related Articles, [Links](#)
 A back school program at the Toulouse-Purpan teaching hospital. Evaluation of 144 patients. Rev Rhum Engl Ed. 1999 Oct;66(10):477-83. PMID: 10567976 [PubMed - indexed for MEDLINE]
-  **24:** [Luhmann D, Kohlmann T, Raspe H.](#) Related Articles, [Links](#)
 [Effectiveness of back-school programs in controlled trials. A review of the literature] Z Arztl Fortbild Qualitatssich. 1999 Jul;93(5):341-8. Review. German. PMID: 10478431 [PubMed - indexed for MEDLINE]
-  **25:** [Lonn JH, Glomsrod B, Soukup MG, Bo K, Larsen S.](#) Related Articles, [Links](#)
 Active back school: prophylactic management for low back pain. A randomized, controlled, 1-year follow-up study. **Spine**. 1999 May 1;24(9):865-71. PMID: 10327507 [PubMed - indexed for MEDLINE]
-  **26:** [Daltroy LH, Iversen MD, Larson MG, Lew R, Wright E, Ryan J, Zwering C, Fossel AH, Liang MH.](#) Related Articles, [Links](#)
 A controlled trial of an educational program to prevent low back injuries. N Engl J Med. 1997 Jul 31;337(5):322-8. PMID: 9233870 [PubMed - indexed for MEDLINE]
-  **27:** [Keller S, Ehrhardt-Schmelzer S, Herda C, Schmid S, Basler HD.](#) Related Articles, [Links](#)
 Multidisciplinary rehabilitation for chronic back pain in an outpatient setting: a controlled randomized trial. Eur J Pain. 1997;1(4):279-92. PMID: 15102393 [PubMed]
-  **28:** [Pfungsten M, Franz C, Hildebrandt J, Saur P, Seeger D.](#) Related Articles, [Links](#)
 [Multidisciplinary treatment program on chronic low back pain, part 3. Psychosocial aspects] Schmerz. 1996 Dec 16;10(6):326-44. German. PMID: 12799844 [PubMed]
-  **29:** [Turner JA.](#) Related Articles, [Links](#)
 Educational and behavioral interventions for back pain in primary care. **Spine**. 1996 Dec 15;21(24):2851-7; discussion 2858-9. Review. PMID: 9112709 [PubMed - indexed for MEDLINE]
-  **30:** [Bonaiuti D, Fontanella G.](#) Related Articles, [Links](#)
 The affective dimension of low-back pain: its influence on the outcome of back school. Arch Phys Med Rehabil. 1996 Dec;77(12):1239-42. PMID: 8976305 [PubMed - indexed for MEDLINE]
-  **31:** [Leclaire R, Esdaile JM, Suissa S, Rossignol M, Proulx R, Dupuis M.](#) Related Articles, [Links](#)
 Back school in a first episode of compensated acute low back pain: a clinical trial to assess efficacy and prevent relapse. Arch Phys Med Rehabil. 1996 Jul;77(7):673-9. PMID: 8669994 [PubMed - indexed for MEDLINE]


















-  **32:** [Deutsch FE.](#) Related Articles, [Links](#)
 Isolated lumbar strengthening in the rehabilitation of chronic low back pain.
 J Manipulative Physiol Ther. 1996 Feb;19(2):124-33. Review.
 PMID: 9064307 [PubMed - indexed for MEDLINE]
-  **33:** [Weber M, Cedraschi C, Roux E, Kissling RO, Von Kanel S, Dalvit G.](#) Related Articles, [Links](#)
 A prospective controlled study of low back school in the general population.
 Br J Rheumatol. 1996 Feb;35(2):178-83.
 PMID: 8612032 [PubMed - indexed for MEDLINE]
-  **34:** [Di Fabio RP.](#) Related Articles, [Links](#)
 Efficacy of comprehensive rehabilitation programs and back school for patients with low back pain: a meta-analysis.
 Phys Ther. 1995 Oct;75(10):865-78.
 PMID: 7568386 [PubMed - indexed for MEDLINE]
-  **35:** [Hall H, Hadler NM.](#) Related Articles, [Links](#)
 Controversy. Low back school. Education or exercise?
[Spine](#). 1995 May 1;20(9):1097-8.
 PMID: 7631242 [PubMed - indexed for MEDLINE]
-  **36:** [Koes BW, van Tulder MW, van der Windt WM, Bouter LM.](#) Related Articles, [Links](#)
 The efficacy of back schools: a review of randomized clinical trials.
 J Clin Epidemiol. 1994 Aug;47(8):851-62.
 PMID: 7730888 [PubMed - indexed for MEDLINE]
-  **37:** [Nordin M, Cedraschi C, Balague F, Roux EB.](#) Related Articles, [Links](#)
 Back schools in prevention of chronicity.
 Baillieres Clin Rheumatol. 1992 Oct;6(3):685-703. Review.
 PMID: 1477897 [PubMed - indexed for MEDLINE]
-  **38:** [Manniche C.](#) Related Articles, [Links](#)
 [Back exercises for patients with chronic low back pain]
 Ugeskr Laeger. 1989 Aug 7;151(32):2009-12. Review. Danish.
 PMID: 2528229 [PubMed - indexed for MEDLINE]
-  **39:** [Keijsers JF, Groenman NH, Gerards FM, van Oudheusden E, Steenbakkens M.](#) Related Articles, [Links](#)
 A back school in The Netherlands: evaluating the results.
 Patient Educ Couns. 1989 Aug;14(1):31-44.
 PMID: 10313784 [PubMed - indexed for MEDLINE]
-  **40:** [Berwick DM, Budman S, Feldstein M.](#) Related Articles, [Links](#)
 No clinical effect of back schools in an HMO. A randomized prospective trial.
[Spine](#). 1989 Mar;14(3):338-44.
 PMID: 2523581 [PubMed - indexed for MEDLINE]
-  **41:** [Hurri H.](#) Related Articles, [Links](#)



















-  The Swedish back school in chronic low back pain. Part II. Factors predicting the outcome.
Scand J Rehabil Med. 1989;21(1):41-4.
PMID: 2523559 [PubMed - indexed for MEDLINE]
-  **42:** [Hurri H.](#) Related Articles, Links
-  The Swedish back school in chronic low back pain. Part I. Benefits.
Scand J Rehabil Med. 1989;21(1):33-40.
PMID: 2523558 [PubMed - indexed for MEDLINE]
-  **43:** [Klaber Moffett JA, Chase SM, Portek I, Ennis JR.](#) Related Articles, Links
-  A controlled, prospective study to evaluate the effectiveness of a back school in the relief of chronic low back pain.
Spine. 1986 Mar;11(2):120-2.
PMID: 2939571 [PubMed - indexed for MEDLINE]
-  **44:** [Hall H, Icceton JA.](#) Related Articles, Links
-  Back school. An overview with specific reference to the Canadian Back Education Units.
Clin Orthop Relat Res. 1983 Oct;(179):10-7.
PMID: 6225591 [PubMed - indexed for MEDLINE]
-  **45:** [Lankhorst GJ, Van de Stadt RJ, Vogelaar TW, Van der Korst JK, Prevo AJ.](#) Related Articles, Links
-  The effect of the Swedish Back School in chronic idiopathic low back pain. A prospective controlled study.
Scand J Rehabil Med. 1983;15(3):141-5.
PMID: 6195731 [PubMed - indexed for MEDLINE]
-  **46:** [Pawlicki RE, Gil KM, Jopling CA, Bettinger R, Stevenson JM.](#) Related Articles, Links
-  The low back school: a new palliative approach to low back pain.
W V Med J. 1982 Oct;78(10):249-51. No abstract available.
PMID: 6183835 [PubMed - indexed for MEDLINE]
-  **47:** [Attix EA, Nichols J.](#) Related Articles, Links
-  Establishing a low back school.
South Med J. 1981 Mar;74(3):327-31.
PMID: 6452694 [PubMed - indexed for MEDLINE]
-  **48:** [Forssell MZ.](#) Related Articles, Links
-  The back school.
Spine. 1981 Jan-Feb;6(1):104-6.
PMID: 6451935 [PubMed - indexed for MEDLINE]
-  **49:** [Attix EA, Tate MA.](#) Related Articles, Links
-  Low Back School: a conservative method for the treatment of low back pain.
J Miss State Med Assoc. 1979 Jan;20(1):4-9. No abstract available.
PMID: 153977 [PubMed - indexed for MEDLINE]

LUMBAR SUPPORTS:

The section on lumbar corsets/braces revealed a mixed result within their literature search. As with current thoughts prolonged use of bracing will eventually lead to a weakening of the splinted structures without proper rehabilitative training. Once again, the literature in these guidelines used bracing as the control against other therapies. Manipulation again was found to be more advantageous than bracing in low back injuries. This information resulted in the authors' determination that there was not enough evidence supporting the use of lumbar braces. With yet another search I found about 70 articles on the topic and the 24 below actually involve lumbar spine. Most positive results were when bracing was used *in conjunction* with other therapies. Little to no evidence was available that was positive (1-3 articles) on bracing.

-  **1:** [Celestini M, Marchese A, Serenelli A, Graziani G.](#) Related Articles, [Links](#)
 A randomized controlled trial on the efficacy of physical exercise in patients braced for instability of the lumbar spine.
 Eura Medicophys. 2005 Sep;41(3):223-31.
 PMID: 16249780 [PubMed - indexed for MEDLINE]
-  **2:** [Resnick DK, Choudhri TF, Dailey AT, Groff MW, Khoo L, Matz PG, Mummaneni P, Watters WC 3rd, Wang J, Walters BC, Hadley MN; American Association of Neurological Surgeons/Congress of Neurological Surgeons.](#) Related Articles, [Links](#)
 Guidelines for the performance of fusion procedures for degenerative disease of the lumbar spine. Part 14: brace therapy as an adjunct to or substitute for lumbar fusion.
 J Neurosurg Spine. 2005 Jun;2(6):716-24.
 PMID: 16028742 [PubMed - indexed for MEDLINE]
-  **3:** [Iwamoto J, Takeda T, Wakano K.](#) Related Articles, [Links](#)
 Returning athletes with severe low back pain and spondylolysis to original sporting activities with conservative treatment.
 Scand J Med Sci Sports. 2004 Dec;14(6):346-51.
 PMID: 15546329 [PubMed - indexed for MEDLINE]
-  **4:** [van Poppel MN, Hooftman WE, Koes BW.](#) Related Articles, [Links](#)
 An update of a systematic review of controlled clinical trials on the primary prevention of back pain at the workplace.
 Occup Med (Lond). 2004 Aug;54(5):345-52. Review.
 PMID: 15289592 [PubMed - indexed for MEDLINE]
-  **5:** [Jellema P, Bierma-Zeinstra SM, Van Poppel MN, Bernsen RM, Koes BW.](#) Related Articles, [Links](#)
 Feasibility of lumbar supports for home care workers with low back pain.
 Occup Med (Lond). 2002 Sep;52(6):317-23.
 PMID: 12361993 [PubMed - indexed for MEDLINE]
-  **6:** [Prateepavanich P, Thanapipatsiri S, Santisatisakul P, Somshevita P, Charoensak T.](#) Related Articles, [Links](#)
 The effectiveness of lumbosacral corset in symptomatic degenerative lumbar spinal stenosis.
 J Med Assoc Thai. 2001 Apr;84(4):572-6.
 PMID: 11460971 [PubMed - indexed for MEDLINE]
-  **7:** [Newcomer K, Laskowski ER, Yu B, Johnson JC, An KN.](#) Related Articles, [Links](#)

-  The effects of a lumbar support on repositioning error in subjects with low back pain. Arch Phys Med Rehabil. 2001 Jul;82(7):906-10. PMID: 11441376 [PubMed - indexed for MEDLINE]
-  **8:** Jellema P, van Tulder MW, van Poppel MN, Nachemson AL, Bouter LM. [Related Articles](#), [Links](#)
-  Lumbar supports for prevention and treatment of low back pain: a systematic review within the framework of the Cochrane Back Review Group. **Spine**. 2001 Feb 15;26(4):377-86. PMID: 11224885 [PubMed - indexed for MEDLINE]
-  **9:** van Poppel MN, de Looze MP, Koes BW, Smid T, Bouter LM. [Related Articles](#), [Links](#)
-  Mechanisms of action of lumbar supports: a systematic review. **Spine**. 2000 Aug 15;25(16):2103-13. PMID: 10954643 [PubMed - indexed for MEDLINE]
-  **10:** Van Tulder MW, Jellema P, van Poppel MN, Nachemson AL, Bouter LM. [Related Articles](#), [Links](#)
-  Lumbar supports for prevention and treatment of low back pain. Cochrane Database Syst Rev. 2000;(3):CD001823. Review. PMID: 10908512 [PubMed - indexed for MEDLINE]
-  **11:** Marras WS, Jorgensen MJ, Davis KG. [Related Articles](#), [Links](#)
-  Effect of foot movement and an elastic lumbar back support on spinal loading during free-dynamic symmetric and asymmetric lifting exertions. Ergonomics. 2000 May;43(5):653-68. PMID: 10877482 [PubMed - indexed for MEDLINE]
-  **12:** Lavender SA, Shakeel K, Andersson GB, Thomas JS. [Related Articles](#), [Links](#)
-  Effects of a lifting belt on **spine** moments and muscle recruitments after unexpected sudden loading. **Spine**. 2000 Jun 15;25(12):1569-78. PMID: 10851108 [PubMed - indexed for MEDLINE]
-  **13:** Dalichau S, Scheele K. [Related Articles](#), [Links](#)
-  [Effects of elastic lumbar belts on the effect of a muscle training program for patients with chronic back pain] Z Orthop Ihre Grenzgeb. 2000 Jan-Feb;138(1):8-16. German. PMID: 10730357 [PubMed - indexed for MEDLINE]
-  **14:** Kamerbeek-Buisman A, Kippersluis S. [Related Articles](#), [Links](#)
-  [No measurable effect of belts and back clinics on prevention of low back pain in the workplace: a randomized controlled trial] Ned Tijdschr Geneeskd. 1999 Dec 4;143(49):2490-1. Dutch. No abstract available. PMID: 10608994 [PubMed - indexed for MEDLINE]
-  **15:** Dillingham TR. [Related Articles](#), [Links](#)
-  Lumbar supports for prevention of low back pain in the workplace. JAMA. 1998 Jun 10;279(22):1826-8. No abstract available. PMID: 9628716 [PubMed - indexed for MEDLINE]

-  **16:** [van Poppel MN, Koes BW, van der Ploeg T, Smid T, Bouter LM.](#) Related Articles, [Links](#)
 Lumbar supports and education for the prevention of low back pain in industry: a randomized controlled trial.
 JAMA. 1998 Jun 10;279(22):1789-94.
 PMID: 9628709 [PubMed - indexed for MEDLINE]
-  **17:** [Minor SD.](#) Related Articles, [Links](#)
 Use of back belts in occupational settings.
 Phys Ther. 1996 Apr;76(4):403-8. Review.
 PMID: 8606903 [PubMed - indexed for MEDLINE]
-  **18:** [Alaranta H, Hurri H.](#) Related Articles, [Links](#)
 Compliance and subjective relief by corset treatment in chronic low back pain.
 Scand J Rehabil Med. 1988;20(3):133-6.
 PMID: 2973123 [PubMed - indexed for MEDLINE]
-  **19:** [Willner S.](#) Related Articles, [Links](#)
 Effect of a rigid brace on back pain.
 Acta Orthop Scand. 1985 Feb;56(1):40-2.
 PMID: 3157290 [PubMed - indexed for MEDLINE]
-  **20:** [White AH.](#) Related Articles, [Links](#)
 A model for conservative care of low back pain: back school, epidural blocks, mobilization.
 Instr Course Lect. 1985;34:78-84.
 PMID: 2939148 [PubMed - indexed for MEDLINE]
-  **21:** [Levine AM.](#) Related Articles, [Links](#)
 Spinal orthoses.
 Am Fam Physician. 1984 Mar;29(3):277-80.
 PMID: 6230906 [PubMed - indexed for MEDLINE]
-  **22:** [Schroeder S, Rossler H, Ziehe P, Higuchi F.](#) Related Articles, [Links](#)
 Bracing and supporting of the lumbar spine.
 Prosthet Orthot Int. 1982 Dec;6(3):139-46.
 PMID: 6218477 [PubMed - indexed for MEDLINE]
-  **23:** [Grew ND, Deane G.](#) Related Articles, [Links](#)
 The physical effect of lumbar spinal supports.
 Prosthet Orthot Int. 1982 Aug;6(2):79-87.
 PMID: 6213930 [PubMed - indexed for MEDLINE]
-  **24:** [Breck LW.](#) Related Articles, [Links](#)
 Flexion braces in low back pain.
 Clin Orthop Relat Res. 1974;(103):65. No abstract available.
 PMID: 4278100 [PubMed - indexed for MEDLINE]

I have only one large criticism on this document and that was the availability of more recent high scoring meta-analysis studies to determine the effectiveness of the above treatment topics. The other challenge in research and eventually in any document brought forward is in its inability to look at treatments in conjunction with each other. The more variables the less valid the study will eventually become. Based on more current research, manipulation is a more favorable treatment option for acute low back pain than massage or bracing.

it is of vital importance that this document be amended as new high quality studies become available that meet this boards standards. While case studies are of great use in this area, we all realize that case studies are what eventually lead to these larger more scrutinized studies.

I would also like an extension. It is impossible for me to review all relevant literature (if only from the point at doing the lit search and acquiring the articles on the use of soft tissue, back school/rehab, and bracing on low back injuries.

4. PLAIN FILM X-RAY:

In reviewing CCGPP proposed guidelines for the use of ionizing radiation in the form of plain film x-ray it should be noted there is no discussion whatsoever of a risk-benefit analysis for the levels of ionizing radiation exposure in these diagnostic studies as compared to risk assessment of not using x-ray as a screening and diagnostic tool. Since risk to a human being should be of paramount concern in consideration of the potential health benefit of any kind of ionizing radiation use, the statements made by the CCGPP authors regarding ionizing radiation use must be rejected based on the fact that their logic and citation usage make their recommendations opinion. There is no author in the CCGPP document qualified as an expert on the risks of ionizing radiation.

It should be further noted that in their discussion entitled, “*Radiography*”, (CCGPP draft p. 78) the authors point out whether spinal landmark measurements had changed after a course of treatment. The authors omitted the vast majority of research published on this subject matter in the indexed biomedical literature. Since the chiropractic community at large has not been savvy at attaining large money government or corporate grants to fund top rated research programs on radiographic changes from chiropractic care, the bulk of available information on this subject matter rests largely in case studies. The CCGPP authors have left case studies out of their considerations and make no inference as to the need for more comprehensive research to investigate potential for spinal change from chiropractic intervention in a more powerful manner. Leaving case studies out of their analysis leaves their ability to discuss potential health benefit anemic and without foundation. They simply reference 4 studies conducted from 1978 to 1990 and make no reference to anything published in the past 16 years. As academic information currently doubles every 5 years or so according the United States Department of Education, this seems strange and irresponsible.

The authors vaguely and non-specifically reference the Mercy document from 1993 in relation to evaluation of the low back and then state what appears to be the draft author’s opinion that, “Full spine films may be used for evaluating scoliosis... but should not be used as a routine screening or diagnostic analysis” (CCGPP draft p. 68). This statement is not only contradictory to itself but omits any information on the effects of ionizing radiation on human health. The contradiction comes in that scoliosis can only be reliably evaluated by taking an x-ray to evaluate it.

Without a screening x-ray a doctor may not know a scoliosis exists in the first place. This would leave the doctor unable to gage the severity of a scoliosis with any accuracy. The authors go on to cite simply a concise review of the American College of Radiology (Table L5) showing indications for the use of ionizing radiation. It is unclear whether the authors of this table made considerations for the possible use of spinal manipulation (SMT) on conditions which plain film sectional or full spine x-ray may demonstrate. A brief list of these conditions worthy of a benefit-risk analysis for x-ray screening should not be limited to evidence of asymptomatic fracture, asymptomatic infection compromising joint or bone integrity, asymptomatic congenital deformity, the presence of asymptomatic cystic formation, effects of old trauma not discovered in the patient record, possible scoliosis, etc.

As far as a source for ionizing radiation risk analysis, the federal government of the United States of America chooses to have the National Council on Radiation Protection (NCRP) set standards.

The NCRP is comprised of a group of world class scientists who are charged with the objective of meeting every 5 years to review the most recent data on ionizing radiation and set standards for diagnostic as well as therapeutic radiation use in the United States. These guidelines are often adopted by the International Commission on Radiation Protection (ICRP). Nuclear physicists and nuclear engineers as well as scientific researchers working with radiation data comprise a large portion of NCRP/ICRP members. Medical and chiropractic radiologists are experts in reading and administering diagnostic studies and therapeutic interventions involving ionizing radiation but are not experts in the physics or in the biological interactions of this ionizing radiation.

NCRP report 102 which supersedes NCRP Report 33 states that safe industrial radiation exposure for non-radiation workers before consideration of medical or radiation worker radiation exposure is 5 REM annually¹.

The Environmental Protection Agency of the United States designates one medical x-ray as having an average exposure of 0.04 REM². Bernard Cohen, Ph.D. from the University of Pittsburgh Department of Physics who has been intimately involved with NCRP policy, in a 2006 manuscript accepted for publication by a major indexed physics journal makes several scientific observations about ionizing radiation. Dr. Cohen was kind enough to make his extremely comprehensive work available to us for reference.

Dr. Cohen's observations of scientific fact indicate that low levels of ionizing radiation (as in diagnostic x-ray) may even have health benefit and not be a health detriment³. In qualifying the relevance of this statement it is important to understand the limitations of current science on this subject matter. Dr. Cohen points out that risk analysis regarding ionizing radiation has typically used a system which makes a linear correlation of radiation exposure over a lifetime to the likelihood of developing health detriment; ie. Cancer. This thought process is based on something called the Linear No Threshold Theory of Radiation Carcinogenesis (LNT) which was developed after atomic bomb data began to be available in the mid 20th century, may not be extremely accurate.

In 1996, "the 6000 member Health Physics Society, the principal organization for radiation protection scientists, issued a position paper stating, 'Below 10 rad... risks of health effects are either too small to be observed or are non-existent'.³ The science of ionizing radiation exposure risk examines cellular changes based on actual measured DNA double strand breaks (DSB) and DSB caused by reactive oxygen species (ROS) which form when particles of ionizing radiation course through a cell. The science of measuring these effects is currently able to observe the consequences to a strand of DNA from a particle of radiation.

Cohen cites multiple sources showing the human body synthesizes DNA repair enzymes in the presence of ionizing radiation and that in certain circumstances facilitate, "Apoptosis, a process by which damaged cells, 'commit suicide', to avoid extending effects of their own damage..."³.

Cohen also discusses studies showing the immune system is stimulated by low levels of ionizing radiation though high levels (outside of the diagnostic realm) are known to depress it³. Cohen goes on to show many studies where humans were exposed to low levels of ionizing radiation and in some instances were shown to have less incidence of cancer than that of the general population³.

It is apparent the scientific community is still working on understanding the specific effects of ionizing radiation well. There appears to be no direct evidence to date to conclude the risk of not taking x-rays as a screening when spinal manipulation or spinal diagnosis may be involved outweighs the benefit of gaining diagnostic insight from the use of full spine and sectional diagnostic radiographs.

1. National Council on Radiation Protection and Measurements, "*NCRP Report No. 102: Medical X-Ray, Electron Beam and Gamma-Ray Protection for Energies up to 50MeV (Equipment Design, Performance and Use)*" 7910 Woodmont Ave., Bethesda, MD 20814; Third Reprinting February 28, 1997. ISBN: 0-92600-03-7. Superseding Report No. 33 (NCRP 1968).

2. <http://www.epa.gov/radiation/students/calculate.html> : Student's and Teacher's Resource of the US Environmental Protection Agency; "Calculate Your Radiation Dose". Average Annual Radiation Dose Calculator in mrem.

3. Cohen, Bernaed L. The Cancer Risk from Low Level Radiation. Accepted for publication in May 2006. Department of Physics, University of Pittsburgh; Pittsburgh, PA 15260. 412-624-9245; fax. 412-624-9163; email: blc@pitt.edu

5. Surface Electromyography:

Section 1--CCGPP References and Ratings

The CCGPP Low Back Draft references Surface Electromyography (SEMG) in three locations:

Page 30. “B: Not supported by fair evidence from relevant studies.” No references are cited to support this recommendation because this is merely a summary table. “B” refers to the evidence rating given by CCGPP to support this conclusion.

Page 70. “The team review of the literature found no new evidence to support clinical utility of surface EMG as a diagnostic technology beyond that observed by Haldeman et al and Henderson et al.” Insufficient evidence is available to recommend its use.”

The two references cited are Mercy (Haldeman et al, published in 1993) and the Canadian Glennerin Guidelines (Henderson et al, published in 1994).

Page 79. “EMG provides a means by which one can measure actual muscular activity. There are two ways to do so, one involving the use of needle placement and one using surface means alone. With regard to the latter, while this is a procedure that has a certain level of popularity in the chiropractic profession, its use is not supported by a significant body of literature or research. One of the problems it faces is that it cannot be very muscle specific, assessing all electric signals at play in the body at any given time. Further, in terms of managed care, many organizations will not pay for the procedure, nor will they credential people who use it.”

The balance of the paragraph addresses needle EMG. No references are cited in the paragraph to support any of these statements.

Problems with the Claims Made Above

Claim: “The team review of the literature found no new evidence to support clinical utility of surface EMG as a diagnostic technology beyond that observed by Haldeman et al and Henderson et al. Insufficient evidence is available to recommend its use.”

Response: The claim of “no new evidence” is not supported by the facts. Between 1993 and 2006, PubMed lists 3,239 references using “surface electromyography,” and 87 references using “paraspinal surface electromyography.” MANTIS lists 182 SEMG references in the 1993-2006 date range. Furthermore, the Mercy literature review, including SEMG, has been criticized as being biased and incomplete.¹

Claim: “... its use is not supported by a significant body of literature or research.”

¹ Kent C: Evaluating the quality of clinical practice guidelines (letter). J Manipulative Physiol Therap 2001;24(9):612.

Response: See review of literature regarding reliability, validity, discriminability, and clinical utility, below.

Claim: “One of the problems it faces is that it cannot be very muscle specific, assessing all electric signals at play in the body at any given time.”

Response: SEMG measures the electrical activity produced by groups of muscles working together. Specificity is determined, in part, by electrode placement. It does not assess “all electric signals at play in the body at any given time.”²

Claim: “...in terms of managed care, many organizations will not pay for the procedure, nor will they credential people who use it.”

Response: This is a non-clinical issue. It does not address scientific literature. It has no place in such a document. Furthermore, it is unreferenced. To our knowledge, the only managed care organization which will not credential SEMG users is American Specialty Health (ASH). The potential conflicts of interest with the CCGPP developers and ASH has been discussed and referenced elsewhere.³

Section 2—Review of SEMG Literature

Reliability

Reliability is a measure of the ability to reproduce a measurement, which is expressed as a coefficient ranging from 0.00 to 1.00. Perfect reliability results in a coefficient of 1.00, while chance agreement would be 0.0. As an example, Haas and Panzer⁴ noted that the inter-examiner reliability of palpation for muscle tension is poor, with coefficients ranging from 0.07 to 0.20. As presented below, research data indicates that the reliability of SEMG is clearly superior to palpation for muscle tension. Decades of research demonstrates that surface electrode electromyography exhibits very good to excellent test-retest reliability.

² Kent C: Surface electromyography in the assessment of changes in paraspinal muscle activity associated with vertebral subluxation: a review. *Journal of Vertebral Subluxation Research* 1997;1(3):1.

³ Kent C: Strange bedfellows. *The Chiropractic Journal*. October 2005.
<http://www.worldchiropracticalliance.org/tcj/2005/oct/kent.htm>

⁴ Haas M, Panzer DM. Palpatory diagnosis of subluxation. In: Gatterman M, ed. *Foundations of Chiropractic Subluxation*. St. Louis, MO: Mosby, 1995.

Spector⁵ conducted a study which yielded correlation coefficients ranging from 0.73 and 0.97. Komi and Buskirk⁶ compared the test-retest reliability of surface electrodes vs. needle electrodes in the deltoid muscle. The average test-retest reliability for surface electrodes was 0.88 compared to 0.62 for inserted electrodes. Giroux and Lamontagne⁷ compared the reliability of surface vs. intramuscular wire EMG of the trapezius and deltoid muscles during isometric and dynamic contractions. The statistical analysis on the integrated EMG was a factorial analysis model with repeated measures. They found that surface EMG was more reliable than inserted wire EMG on day-to-day investigations. Andersson et al⁸ compared the electrical activity in lumbar erector spinae muscles using inserted electrodes and surface electrodes. They found that the standard deviations and coefficients of variation for wire electrodes was greater than those for surface electrodes. The authors concluded, "Wire electrodes are more sensitive to electrode location and give estimates with less precision than surface electrodes."

Other investigators have evaluated the reliability of surface electrode techniques using hand-held electrodes. This method is referred to as surface EMG scanning. Thompson et al⁹ found that the scanning electrode technique correlated well with the "gold standard" of attached electrode technique. Cram et al¹⁰ evaluated the reliability of surface EMG scanning in 102 subjects in the sitting and standing positions. SEMG scans were performed on three occasions approximately one hour apart on the same day. The median correlation between hand-held and patch electrodes was high, with a correlation coefficient of 0.64. The authors concluded, "With adequate attention given to skin preparation, EMG sensors held in place by hand with a light pressure provide reliable results."

While the preponderance of evidence clearly supports the reliability of SEMG, one negative study has been published. Boline et al¹¹ investigated the reliability of eight evaluative dimensions of lumbar segmental abnormality. One of the procedures included in the evaluation was surface EMG. The authors concluded that the interexaminer agreement of

⁵ Spector B. Surface electromyography as a model for the development of standardized procedures and reliability testing.). *J Manipulative Physiol Therap* 1979; 2(4):214.

⁶ Komi P, Buskirk E. Reproducibility of electromyographic measurements with inserted wire electrodes and surface electrodes. *Electromyography* 1970; 10:357.

⁷ Giroux B, Lamontagne M. Comparisons between surface electrodes and intramuscular wire electrodes in isometric and dynamic conditions. *Electromyogr Clin Neurophysiol* 1990; 30:397.

⁸ Andersson G, Jonsson B, Ortengren R. Myoelectric activity in individual lumbar erector spinae muscles in sitting. A study with surface and wire electrodes. *Scand J Rehab Med* 1974 Suppl; 3:91.

⁹ Thompson J, Erickson R, Offord K. EMG muscle scanning: stability of hand-held electrodes. *Biofeedback Self Regul* 1989; 14(1):55.

¹⁰ Cram JR, Lloyd J, Cahn TS. The reliability of EMG muscle scanning. *Int J Psychosomatics* 1994; 41:41.

¹¹ Boline PD, Haas M, Meyer JJ, et al: Interexaminer reliability of eight evaluative dimensions of lumbar segmental abnormality: part II.). *J Manipulative Physiol Therap* 1993; 16(6):363.

surface EMG scans was poor. However, the EMG portion of the study has been criticized,¹²¹³ as the authors used a device with an LED readout, rather than a computer based system such as commonly used in chiropractic practice. Furthermore, the protocol used was at variance with standard methodology. Finally, inappropriate statistical analyses were employed where arbitrary cut-off points were selected for determination of abnormality. These cut-off points were not based on any published normative data study, and no normative data study was provided to support the criteria used. SEMG equipment provides interval data (EMG activity is measured in microvolts). However, the authors chose to use the Kappa statistic for nominal data rather than conventional amplitude measures. Consequently, by using the arbitrary cut-off points, the results were deemed normal or abnormal. As a result of using substandard equipment, atypical protocols, unsubstantiated criteria for abnormality, and inappropriate statistical analyses, the authors failed to support their conclusion.

Construct Validity—Controlled Studies

The clinical utility of a procedure may be evaluated by determining the ability of the test to perform up to the standards predicted by a theoretical model or construct.¹⁴ In the case of SEMG, the assumption is made that significant changes in SEMG activity will occur following chiropractic adjustment, and that significant changes will not be observed with repeated assessment of controls.

Shambaugh¹⁵ conducted a pilot controlled study where surface electrodes were used to record paraspinal EMG activity pre- and post-chiropractic adjustment. Shambaugh concluded, “Results of this study show that significant changes in muscle electrical activity occur as a consequence of adjusting.” In the osteopathic literature, Ellestad et al¹⁶ conducted a controlled study which found that paraspinal EMG activity decreased in patients following osteopathic manipulation. Such changes were not observed in controls in either study. These studies support the construct validity of paraspinal SEMG as an outcome assessment for chiropractic adjustment.

Other Manipulation Studies

¹² Cram JR: Letter to the editor regarding Interexaminer reliability of eight evaluative dimensions of lumbar segmental abnormality: part II.). J Manipulative Physiol Therap 1994; 17(4):263.

¹³ Kent C, Gentempo P: Letter to the editor regarding Interexaminer reliability of eight evaluative dimensions of lumbar segmental abnormality: part II.). J Manipulative Physiol Therap 1994; 17(7):495.

¹⁴ Patrick DL, Deyo RA. Generic and disease-specific measures in assessing health status and quality of life. Med Care 1989; 27(3 Suppl):S217.

¹⁵ Shambaugh P. Changes in electrical activity in muscles resulting from chiropractic adjustment: a pilot study. J Manipulative Physiol Therap 1987; 10(6):300.

¹⁶ Ellestad S, Nagle R, Boesler D, Kilmore M. Electromyographic and skin resistance responses to osteopathic manipulative treatment for low-back pain. JAOA 1988; 88(8):991.

Keller and Colloca¹⁷ compared the SEMG recordings during isometric trunk extension in 40 subjects with low back to those of 20 age and sex matched sham-SMT/control LBP subjects. 19 of the 20 patients receiving Spinal Manipulative Therapy (SMT) showed a positive increase in SEMG output during maximum voluntary contraction (MVC). The results demonstrated that SMT results in a significant increase in SEMG erector spinae isometric MVC muscle output.

Colloca and Keller¹⁸ evaluated the surface electromyographic responses associated with mechanical force, manually assisted (MFMA) spinal manipulative therapy of 20 consecutive patients with low back pain. The mechanical stimulation from the MFMA produced consistent, generally localized SEMG responses.

The Flexion Relaxation Phenomenon (FRP)

Allen¹⁹ observed that when the trunk is flexed, the lumbar paraspinal muscles exhibit EMG activity as eccentric contraction controls trunk lowering. However, when the limit of lumbar flexion is reached, the lumbar paraspinal muscles exhibit electrical silence. It appears that the paraspinal group contracts to support the spine in flexion, but it is believed, at flexion limits, that this support is provided by posterior ligamentous structures rather than active muscles. As might be expected, Floyd and Silver^{20 21} and Pauley²² suggested that the erector spinae muscles are more active in extension than in flexion. These investigators noted the phenomenon of electrical silence in the erector spinae muscles during full trunk flexion. Wolf et al²³ observed EMG silence might occur when trunk flexion exceeded 70 degrees and reported that such relaxation occurred most commonly between 80-90 degrees. EMG activity usually resumed after 20 degrees of extension from the fully flexed trunk position, but occurred anywhere from 90 degrees of flexion, where the trunk was perpendicular to the legs, to the point where the angle formed by the trunk and the legs was 30 degrees.

¹⁷ Keller TS, Colloca CJ: Mechanical force spinal manipulation increases trunk muscle strength assessed by electromyography: a comparative clinical trial.

¹⁸ Colloca CJ, Keller TS: Electromyographic reflex responses to mechanical force, manually assisted spinal manipulative therapy. *Spine* 2001;26(10):1117.

¹⁹ Allen C. Muscle action potentials used in the study of dynamic anatomy. *Br J Phys Med* 1948; 11:66.

²⁰ Floyd WF, Silver P. The function of the erector spinae muscles in certain movements and postures in man. *J Physiol (Lond)* 1955; 129:184.

²¹ Floyd WF, Silver P. Function of the erector spinae in flexion of trunk. *Lancet* 1951; 1:133.

²² Pauly J. An electromyographic analysis of certain movements and exercises I. Some deep muscles of the back. *Anat Rec* 1966; 155:223.

²³ Wolf SL, Basmajian JV, Russe TC, Kutner M. Normative data on low back mobility and activity levels. *Am J Phys Med* 1979; 58(5):217.

Floyd and Silver reported that in patients experiencing “back-ache,” the flexion relaxation phenomenon was absent. In addition, Triano and Schultz²⁴ found that presence or absence of the flexion relaxation phenomenon was related to scores on the Oswestry low back pain questionnaire. They concluded, “These findings imply that myoelectric signal levels, trunk strength ratios, and ranges of trunk motion may be used as objective indicators of low-back pain disability.” Ahern et al²⁵ investigated the reliability of lumbar paravertebral surface EMG in a sample of 70 patients with chronic low back pain. Patients were evaluated in the standing and seated positions. SEMG was also performed during flexion/extension, rotation, walking, and stooping. These authors calculated a flexion extension index (i.e., range) by subtracting the minimum from the maximum EMG values occurring at maximum flexion. Rotation indices, representing the difference between right and left EMG at maximal rotation were also determined. Within session reliability was calculated using Pearson’s r. Coefficients ranged from 0.66 to 0.97. In another study, Ahern et al²⁶ compared the lumbar paravertebral SEMG patterns in chronic low back pain patients with those of non-patient controls. They found significant differences between groups on low back muscle activity during dynamic movements. Such differences were not observed using static postures.

Colloca and Hinrichs²⁷ conducted a literature review to determine the biomechanical and clinical significance of the FRP. The authors concluded that the studies reviewed suggest that assessment of the FRP is a valuable objective tool to aid in the diagnosis and treatment of patients with low back pain.

Kuriyama and Ito²⁸ examined 22 patients with low back pain and 22 healthy controls using static and dynamic SEMG. No muscular activity was observed in full trunk flexion in the control group. In contrast, continuous muscle activity was observed in the low back pain group. Watson et al²⁹ developed a flexion relaxation ratio observing standing and forward flexion SEMG activity. Repeated measurements demonstrated between session reliability of between 0.81 and 0.98. The combined discriminant validity for the flexion relaxation ratio for four sites resulted in 93% sensitivity and 75% specificity. The authors concluded that dynamic SEMG activity of the paraspinal muscles is useful in differentiating CLBP patients from normal controls.

²⁴ Triano JJ, Schultz AB. Correlation of objective measure of trunk motion and muscle function with low-back disability ratings. *Spine* 1987; 12(6):561.

²⁵ Ahern DK, Follick MJ, Council JR, Laser-Wolston N. Reliability of lumbar paravertebral EMG assessment in chronic low back pain. *Arch Phys Med Rehabil* 1986; 67:762.

²⁶ Ahern DK, Follick MJ, Council JR, Laser-Wolston N, Litchman H. Comparison of lumbar paravertebral EMG patterns in chronic low back pain patients and non-patient controls. *Pain* 1988; 34:153.

²⁷ Colloca CJ, Hinrichs RN: The biomechanical and clinical significance of the lumbar erector spinae flexion-relaxation phenomenon: a review of the literature. *J Manipulative Physiol Therap* 2005;28(8):623.

²⁸ Kuriyama N, Iot H: Electromyographic functional analysis of the lumbar spinal muscles with low back pain. *J Nippon Med Sch* 2005;72(3):165.

²⁹ Watson PJ, Booker CK, Main CJ, Chen AC: Surface electromyography in the identification of chronic low back pain patients: the development of the flexion relaxation ratio. *Clin Biomech (Bristol, Avon)* 1997;12(3):165.

SEMG and Back Pain—Discriminability and Clinical Utility

Surface electrode paraspinal electromyography has been employed since 1948 to investigate the relationship between back pain and muscular activity.³⁰ Cobb et al³¹ reported that pain was more likely to demonstrate change in surface electrode EMG activity than needle EMG potentials. They concluded that "...muscle spasm (even when mild) is accompanied by muscular hyperactivity which can be evaluated by suitable electromyographic techniques. Our data suggest that surface electrodes allow better sampling than teflon coated needles..." and that "...integration procedures (surface EMG) allow better quantification than does the visual evaluation of a (needle) EMG..."

Ambroz et al³² compared SEMG signals from 30 chronic low back pain (CLBP) patients with 30 non-pain control subjects. Patients and controls were matched for age, gender, and body mass index. The muscle activity mean values were threefold higher in the CLBP patients than in controls in the static testing, and twofold higher in CLBP patients than in controls in the dynamic testing.

Humphrey et al³³ compared the surface electromyographic spectrum of 145 persons with CLBP, 30 with a past history of CLBP, and 175 persons classified by their history as "normal." The variables which were significantly different between the chronic group and the normal group included RMS voltage, initial median frequency, peak amplitude, and half-width (spectral width at half peak amplitude). Half-width classified the subjects with a sensitivity of 0.65 and a specificity of 0.75.

A meta-analysis of 44 articles was published by Geisser et al³⁴ reviewing surface electromyography among persons with low back pain and normal, healthy controls. The authors concluded that SEMG has utility in distinguishing between persons with low back pain and controls.

Section 3—Rating

Using CCGPP's criteria on page 12, surface electromyography should be rated A. Supported for routine clinical use in patients with low back problems, by good evidence from relevant studies and reviews.

³⁰ Price JP, Clare MH, Ewerhardt RH. Studies in low backache with persistent muscle spasm. *Journal Phys Med Rehabil* 1948; 19:703.

³¹ Cobb CR, DeVries HA, Urban RT, et al. Electrical activity in muscle pain.. *Am J Phys Med* 1975; 54(2):80.

³² Ambroz C, Scott A, Ambroz A, Talbott EO: Chronic low back pain assessment using surface electromyography. *Journal of Occupational and Environmental Medicine* 2000;42:6.

³³ Humphrey AR, Nargol AVF, Jones APC, et al: The value of electromyography of the lumbar paraspinal muscles in discriminating between chronic-low-back-pain sufferers and normal subjects. *European Spine Journal* 2005;14(2):175.

³⁴ Geisser ME, Ranavaya M, Haig AJ, et al: A meta-analytic review of surface electromyography among persons with low back pain and normal, healthy controls. *J Pain* 2005;6(11):711.

6. MEDICATION COMPARISONS:

With regard to the CCGPP document, there was little evidence presented that related to the significant side effects of ESIs and NSAIDS as compared to chiropractic care, and this would be a major factor in clinical and patient determination to undergo this type medical treatment. There is conflicting data on the efficacy of EDI, and some information is included in this review.

There is new evidence regarding herbal remedies v. NSAIDS that would be more appropriate in the chiropractic setting. I have included that reference from the Cochrane review.

Pg. 49. Contrasting manipulation with medication use in the Acute patient. Coyer (109) reports 50% of patients were symptom free in 1 week and 87% were discharged in 3 weeks. Conversely, only 27% of the control group (bedrest and analgesic) were symptom free in 1 week, and 60% in 3 weeks.

In the CCGPP document, this “paper” does not indicate if the 60% from the control group were just symptom free or discharged as currently written. This paper has been used exhaustively (paper was done in 1955) to support CMT for ONLY the first month of acute care. This is one of the documents used by Medicare (CMS) to question any visit beyond 12 sessions. I have no access to the full article despite being referenced by every known MCO and guideline regarding chiropractic care. There is no indication of the type of patient seen, i.e., simple, uncomplicated acute low back strain, or the size of this study from the material presented. I request this be better defined, and to specify that the Coyer, et al, paper should contain a statement that there is insufficient evidence from this study to make recommendations regarding treatment frequency. The intent of the study was to examine whether manipulation was more effective than analgesics during the first month of care in acute patients. That is the only information that can be agreed upon from this paper.

Pg, 50. No comment.

Reference not able to obtain for review...Waterworth RF, Hunter IA. An open study of diflunisal, conservative and manipulative therapy in the management of acute mechanical low back pain. *NZ Med J.* 1985;98:372–375.

Pg. 51. Hoiris (94) Relative efficacy of chiropractic manipulation to muscle relaxants for subacute LBP. No comment.

ADDITIONAL RELEVANT STUDIES:

Health Technol Assess.2005 Aug;9(33):1-58, iii.

Cost-effectiveness and safety of epidural steroids in the management of sciatica.

- Price C, Arden N, Cogle L, Rogers P
- Pain Clinic, Royal South Hants Hospital, Southampton, UK.

CONCLUSIONS: Although ESIs appear relatively safe, it was found that they confer only transient benefit in symptoms and self-reported function in a small group of patients with sciatica at substantial costs. ESIs do not provide good value for money if NICE recommendations are followed. Additional research is suggested into the epidemiology of radicular pain, producing a register of all ESIs, possible subgroups who may benefit from ESIs, the use of radiological imaging, optimal early interventions, analgesic agents and nerve root injections, the use of cognitive behavioural therapy in rehabilitation, improved methods of assessment, a comparative cost-utility analysis between various treatment strategies, and methods to reduce the effect of scarring and inflammation.

PMID: 16095548 [PubMed - indexed for MEDLINE]

RHEUMATOLOGY (OXFORD). 2005 Nov;44(11):1399-406. EPUB 2005 JUL 1

A multicentre randomized controlled trial of epidural corticosteroid injections for sciatica: the WEST study.

- Arden NK, Price C, Reading I, Stubbing J, Hazelgrove J, Dunne C, Michel M, Rogers P, Cooper C, WEST Study Group

Medical Research Council Epidemiology Resource Centre, University of Southampton, Southampton General Hospital, Southampton SO16 6YD, UK. nka@mrc.soton.ac.uk

CONCLUSIONS: In this pragmatic study, ESIs offered transient benefit in symptoms at 3 weeks in patients with sciatica, but no sustained benefits in terms of pain, function or need for surgery. Sciatica is a chronic condition requiring a multidisciplinary approach. To fully investigate the value of ESIs, they need to be evaluated as part of a multidisciplinary approach.

PMID: 16030082 [PubMed - indexed for MEDLINE]

J Manipulative Physiol Ther. 2000 May;23(4):297-8.

Also published in Spine. 2003 Jul 15;28(14):1490-502; discussion 1502-3

Chronic spinal pain syndromes: a clinical pilot trial comparing acupuncture, a nonsteroidal anti-inflammatory drug, and spinal manipulation.

- Giles LG, Muller R

National Unit for Multidisciplinary Studies of Spinal Pain, Townsville General Hospital, Queensland, Australia.

CONCLUSIONS: The consistency of the results provides, in spite of several discussed shortcomings of this pilot study, evidence that in patients with chronic spinal pain

syndromes spinal manipulation, if not contraindicated, results in greater improvement than acupuncture and medicine.

PMID: 10478769 [PubMed - indexed for MEDLINE]

J MANIPULATIVE PHYSIOL THER. 2005 JAN;28(1):3-11

Long-term follow-up of a randomized clinical trial assessing the efficacy of medication, acupuncture, and spinal manipulation for chronic mechanical spinal pain syndromes.

· Muller R, Giles LG

School of Public Health and Tropical Medicine, James Cook University, Townsville, Queensland, Australia.

CONCLUSIONS: In patients with chronic spinal pain syndromes, spinal manipulation, if not contraindicated, may be the only treatment modality of the assessed regimens that provides broad and significant long-term benefit.

PMID: 15726029 [PubMed - indexed for MEDLINE]

Skeletal Radiol.2006 May 20;

Recurrent acute low back pain secondary to lumbar epidural calcification.

Ziade M, Zufferey P, So AK

Service de Rhumatologie, Centre Hospitalier Vaudois, Avenue Pierre Decker, CH 1011, Lausanne, Switzerland, aso@chuv.hospvd.ch.

INTRODUCTION: Epidural calcification is a rare cause of back pain, and spontaneous epidural calcification has not been reported previously. CASE REPORT: We describe a patient with acute low back pain and signs of lumbar nerve root compression due to epidural calcification, as demonstrated by CT-scan and MRI. Radiological signs of spondylodiscitis led to a search for an infectious cause, which was negative, and her symptoms responded rapidly to NSAID treatment alone. Her symptoms recurred 18 months later, and further imaging studies again revealed epidural calcification, but with a changed distribution. Her symptoms were relieved once more by NSAID treatment alone. DISCUSSION: We propose that epidural calcification secondary to aseptic spondylodiscitis is the main cause of acute back pain in this patient. A possible mechanism may be the pro-inflammatory effects of calcium pyrophosphate or hydroxyapatite crystal deposition within the epidural space.

PMID: 16715241 [PubMed - as supplied by publisher]

Injection therapy for subacute and chronic benign low-back pain

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· <http://www.cochrane.org/reviews/en/ab004504.html> (text/html) Thu, 20 Apr 2006 01:58:58 MET, 10556 bytes

7. TRACTION (pg. 57):

The guideline evaluated “traditional traction” and not specifically the types found in many Chiropractic practices. These include:

- a. Manual.
- b. Manual assisted (ie flexion-distraction).
- c. Manual motorized assisted .
- d. Motorized mechanical.
- e. Ambulatory.
- f. Static positioning (ie. CBP type).
- g. Axial Decompression Units.

8. Modalities Pgs. 59-66:

Electrical Stimulation:

They are looking at long term outcomes. Electrical stimulation does not improve long term outcomes significantly; however, it will reduce pain in the short term. Most of us can concur on this. Few studies were cited

Diathermy:

Did not affect outcome but did provide relief.

Ultrasound:

Shows evidence for pain relief in acute and sub acute but none in chronic. My previous experience had chronic pain patients getting temporary relief. Few studies cited.

Exercise:

Evidence shows it was effective with chronic back pain but not acute. Actually, I would disagree because patients with acute back episodes do find walking is helpful and this is

exercise. I also give some other exercises such as lumbar hyperextensions and gluteal kicks that do help relieve some but not all cases of acute lumbar pain. Apparently, there are many studies for chronic back pain cited, and few good studies with acute back pain, which leaves the data wanting. Their conclusions are only as good as the studies that are of good quality and there are few good quality studies for exercises beyond chronic.

9. GENERAL COMMENTS ABOUT THE CCGPP DOCUMENT:

~**Reference # 148:** Cites the New Jersey Chiropractic Association's (NJCA) Standards of practice. There is no NJCA, and the NJCS never had a standard of practice that I am aware of. Do they mean the Forum guidelines?

~Why the rush to finalize? 60 days is too little time for a proper evaluation and comment of a document that has taken a few years to produce. This gives a limited amount of time for DC stakeholders to respond as fully as possible. 6 months would be more realistic. I personally would like to review more of this document in detail, but time constraints prevent this.

~Although the authors went to great lengths in the first several pages to explain the purpose, limitations, future development, usefulness and the difference between Best Practice and guidelines, this will be ignored by many stakeholders including insurers, IME providers and other providers as they seek to apply this for their own best interest. I suggest that a disclaimer be placed on the first or second page that is simple (KISS) and simply states that *this document should not be used to determine treatment for any individual patient.*

~What is back pain and what is leg pain? These are symptoms only and are no more different than abdominal pain or chest pain. These terms do not indicate any specific disease, injury or mechanical dysfunction. Depending on whether the pain generator is the facet, the disc, the nerve or the muscle the treatment will be varied for that problem and while some forms of manipulation or modalities will be inappropriate or have poorer outcomes others will work well. In fact some combinations of modalities and treatment may work well while others do not. Is the disc compressive or chemical in its effect on the nerve? Each will respond to different variations of treatment. A severely inflamed and fixated SI joint may not respond to manipulation until after it is injected with a steroid and the manipulation can occur without guarding. Is a Piriformis syndrome treated with the same tools and techniques as a true radiculopathy? This is the limitation of the researchers. For the most part they haven't truly identified what they are researching. So how accurate is the research.

~The conscientious use of current best evidence is generically presented and summarized for homogenous groups of individuals. The research as presented in the CCGPP document, by virtue of it generic, homogenous quality, is not necessarily characteristic of individual patients seen. Therefore, the chiropractor should always render decisions utilizing options that may- if available - incorporate the best available research applicable to the patient, as well as the chiropractic doctors clinical expertise and patient preference in the final choice of care rendered each individual patient. The distinction between groups and individuals cannot be omitted and in that regard, and the term "best practice", can become misleading.

Chiropractic autonomy in the treatment of the individual patient must always be maintained; otherwise care becomes “cookbook chiropractic”, and will fail both the profession and the chiropractic patient. In many areas, there is insufficient evidence and decisions regarding summations in the CCGPP document were based on a consensus of expert opinions. If there is insufficient evidence, the primary decision-making should always be given to the treating doctor because a “consensus of opinion” is again generic and not applicable to individual care.

~ Guidelines utilized by insurers are the insurers opinions. No document developed by this profession for the care of chiropractic patients should be developed with input or influence from or by outside insurers. A panel utilizing other professional groups without any insurer involvement for the purpose of creating a generic template for practice is an acceptable practice and should not be confused with panels created for the purpose of creating documents for the insurance industry. To confuse this issue is clearly a conflict of interest.

~Manipulation is more effective than ESI during first month of care for low back pain without radiculopathy. Manipulation has equal or greater evidence for support in treating chronic (greater than 3 months) patients with low back pain, than for acute or subacute (from 2nd to 3rd month) conditions.

~The ANJC committee, the majority of practicing chiropractors, and the representative chiropractic organizations nationally, was not given sufficient time to do the type of analysis required in reviewing the various studies and conclusions presented in the CCGPP document. It can be equally time intensive to review this *document*, as it can be to synthesize and evaluate the material contained in these 163 pages. The articles referenced were not freely available for our review, and some date back to 1955 adding to our difficulty.

~ Chiropractors use individualized approaches or combinations of treatment methods that can't always be assessed as the trials referenced related to group outcomes or comparison studies.

~ In many of these studies, the various diagnosis, complexities, and pre-existent disorders or conditions of patients within the RCT groups are ill defined. In addition, arthritis, congenital disorders, poor posture, obesity, psychological problems due to stress, etc., can complicate recovery. No studies appear to identify how these conditions may complicate chiropractic care (specifically), and therefore are not representative of many patients treated in our offices. Further, evaluating modalities and comparing their use to manipulation outcomes, it not the same as used in the chiropractic office. Modalities - if used - with manipulation are almost always used together, yet no significant studies appear to evaluate modalities in conjunction with chiropractic care. Therefore, there is *insufficient evidence* to suggest that in conjunction with CMT, modalities show little benefit.

~ The conservative management of patients with LBP is a complex issue and not appropriately addressed in any single study or systematic review at this point. Most chiropractic practitioners use adjunctive modalities or methods in their everyday treatment and diagnosis of patients, or during various times in the treatment of patients, while others will co-manage with other health care practitioners. Isolating a single of specific treatment and doing comparisons with CMT is contrary and not always reflective of everyday practice,

therefore, decisions based strictly on this document will hamstrings the chiropractor when caring for patients and making clinical decisions.

~ Evidence for this document should not be limited to Level 1 RTCs, as peer reviewed case studies, and quality level II nonrandomized studies also have merit in the chiropractic care of patients. I would like a more detailed reason why the selection process is so limited.

~The inclusion of third party payers automatically renders this document biased.

Insurers and other MCO, etc., organizations or their representatives, shouldn't be involved in any way with the formation or production of this document. This is a document for the chiropractic profession and not a manual for insurers.

The insurance industry should never be allowed to influence this document as it renders objectivity null and void, and confidence in its validity questionable for the practicing chiropractor.

Participants in the formation of this document should reflect various chiropractic societies, public and government funded entities that involve chiropractors, various chiropractic faculty and researchers. There appears to be NO Medical documents or guidelines that involve insurance companies or their representatives. Even the government agencies utilized by MDs, are "physician directed". There should be full disclosure of all associated individuals, directly and indirectly, that were involved with this document. That should have been included when this document was released, and until full disclosure is made, no support should be given other than "informational".

~ Much emphasis was given to the fact that this was not a guideline, however, table A7 on pg.142, specifically states: AGREE score rating of guidelines. The entire questionnaire relates to guidelines...Very confusing and confliction information with regard to intent.

AGREE stands for "Appraisal of Guidelines Research and Evaluation". It originates from an international collaboration of researchers and policy makers who work together to improve the quality and effectiveness of clinical practice guidelines by establishing a shared framework for their development, reporting and assessment. www.agreecollaboration.org

We have been repeatedly told that this document was not a guideline. Dr. Farabaugh stated that, there is a major difference between "Best Practice" and "Guideline". We were told that the WCA position on NMS conditions was for the purpose of advertising, so please explain the information obtained below, and hopefully have the CCGPP committee respond.

~ Comment on the following as it relates to what Dr. Farabaugh indicated:

WEDI:

"Work Loss Data Institute has also recently been chosen by the Council on Chiropractic Guidelines and Practice Parameters (CCGPP) to lead research and development for an evidence-based guideline for chiropractic professional care, which is scheduled for completion and publication by Work Loss Data Institute in conjunction with CCGPP in 2005."

Charles W. Kennedy, MD, Senior Medical Editor, (WEDI) has been extensively involved in the workers' compensation process and involved with the development of guidelines by the American Academy of Orthopaedic Surgeons (AAOS) for the spine and lower extremities. He was on the Guidelines Development Committee for the American Academy of Orthopaedic Surgeons and also the Task Force for Disability Testing Phase 1 of the Spine Treatment Guidelines for the American Academy of Orthopaedic Surgery. He is a founding member of the Evidence Analysis Committee for AAOS. He was past Board of Counselor member of the American Academy of Orthopaedic Surgery and is a current member of the Complementary and Alternative medicine Committee of the American Academy of Orthopaedic Surgery.

ASH Company: "Professional Initiatives Collaboration"

HB 2020 acknowledges that other positive and proactive professional development initiatives are underway that support the goals of HB 2020 (e.g. CCGPP guideline development; WFC professional identity collaboration.) Collaborative efforts in concert with these professional initiatives will be assessed and implemented within the common ground of professional advancement.

1. Host or participate in biennial conference of collaborators in the effort to advance the spine care initiative within the chiropractic and other professions that address aspects of spinal health.

Participate in industry initiatives supporting the promotion of evidence-based chiropractic.