The Chiropractic Report

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Best Treatments for Neck Pain

"For neck pain, chiropractic and exercise are better than drugs"
New York Times, January 3, 2012

IT IS NOT EVERY DAY THAT CHIropractors awake to find a headline such as that above from the New York Times. It was the result of the publication of startling new research in a highly influential medical journal – the Annals of Internal Medicine, official journal of the American College of Physicians.

This was a trial funded by the US National Institutes of Health in which 272 patients with acute or subacute neck pain were treated using either medication, exercises or chiropractic care, and:

- After 12 weeks patients using chiropractic care or exercises were more than twice as likely to be pain free as those relying on medicine and usual medical care.
- These differences remained after 6 and 12 months, even though the patients receiving medication during the 12 week treatment period of the trial continued making higher use of medication.

Asked for comment by ABC News Dr Lee Green, Professor of Family Medicine at the University of Michigan, said "It doesn't surprise me a bit. Neck pain is a mechanical problem, and it makes sense that mechanical treatment works better than a chemical one."

Authors of the new study are Gert Bronfort DC, PhD, Roni Evans DC, MS, Alfred Anderson DC, MD et al., a chiropractic and medical team of leading spinal pain researchers from Northwestern Health Sciences University in Bloomington, Minnesota.

2. Other reasons this trial is important are:

- Neck pain is one of the most common patient complaints in primary health care, resulting in huge and increasing health care costs.[2,3]
- To this time there has been no adequate evidence on the effectiveness of medications or home exercise programs for patients with acute neck pain,[4,5] and only limited evidence supporting spinal manipulation.[6]
- This trial provides the first strong research evidence of effectiveness for spinal manipulation and home exercises.
- As in all previous trials on cervical spine manipulation for neck pain, headache and associated disorders, there was no case of a serious adverse event or harm.

Accordingly, this issue of The Chiropractic Report reviews this new trial in some detail. First, however, we comment on best current knowledge concerning the overall classification and management of neck pain.

Courtesy: Life West College

Chiropractic students leaning cervical spine adjustment or manipulation.

Professional Notes

Maintenance Care Prevents Future Disability

A new study into work-related low-back pain (LBP) by health economists in the US and the UK concludes that health maintenance care as "explicitly recommended by chiropractors" is associated with fewer recurrences of LBP and disability than ongoing care provided by physical therapists or physicians.

Authors of the study, published in the Journal of Occupational and Environmental Medicine, are Manuel Cifuentes MD, PhD and Joanna Willetts MS of the University of Massachusetts and Liberty Mutual Research Institute, Massachusetts, and Radoslaw Wasiak PhD, Centre for Health Economics and Science Policy, United BioSource Corporation, London.

Data studied are from a large and representative database – the 2006 claims records of Liberty Mutual, an insurance company with approximately 10% of US workers' compensation coverage, coverage that is across "a broad array of states, industries and company sizes." There was

continued on page 4

Main Article *continued from page 1*

B. Background

3. Neck pain and its management were redefined by the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders in a 220 page report published as a special supplement to *Spine*[7] and the European Spine Journal[8] in February 2008. This report represented seven years work from more than 50 researchers from 9 countries and 19 different clinical and scientific disciplines including chiropractic.

In his commentary on the BJD Task Force Report as it was published Bjorn Rydevik MD, PhD, Deputy Editor of *Spine*, explained that the Task Force "represented a unique gathering of international expertise" and observed:

"Considering the huge impact of neck pain on individuals, health care systems and society at large, and the lack of systematic knowledge in this field, the work by the Task Force represents a milestone achievement which will be of major significance and importance for patients, the medical profession, the health care system, researchers, research funding agencies, and insurance companies."[9]

4. The goals of the Task Force were:

• To complete a systematic search and critical review of the scientific literature on neck pain and its associated disorders, including the epidemiology, diagnosis, prognosis, economic costs, and treatment of neck pain and its associated disorders.

To complete original research on the risks associated with the treatment of neck pain.

• To examine cost-effectiveness and patient preferences for various treatment options.

• To collate the evidence, using best-evidence synthesis, to inform clinical practice for the management neck pain and its associated disorders.

• To indicate areas where further research should be required.

5. In its report the Task Force presented a new conceptual model for neck pain which:

• Put patients and their preferences at the centre of successful management and outcomes, rather than healthcare providers.

• Presented neck pain as a multifactorial and episodic or recurring problem, with variable rates of recovery between episodes of pain.

• Noted that patients had many different personal factors underlying their problems, and that best management requires informing/educating patients on their options and respecting their preferences. Those averse to taking medication are likely to have better outcomes with manual treatments and/or exercise, those preferring medication to physical treatments should start with medication.

6. Other key findings, taken from the Task Force 's Executive Summary, its Summary of Key Findings and the prefaces published in Spine, were:

a. Epidemiology of Neck Pain

i. Neck-related pain has become a major cause of disability around the world and workers' compensation data studied by the Task Force significantly underestimate the burden of neck pain in workers.

ii. In North America about 5% of the general population is disabled because of neck pain. In any given 6 month period another 10% report experiencing low-level disability along with high-intensity neck pain.

iii. In Europe surveys show that chronic or persistent neck pain affects between 10% and 20% of the population. Studies in other countries confirm these statistics.

b. Risk Factors for Neck Pain

i. Non-modifiable risk factors include age, gender and genetics. There is no evidence that common degenerative changes in the cervical spine are a risk factor for neck pain.

ii. Modifiable risk factors for neck pain include smoking, exposure to environmental tobacco and degree of physical activity/inactivity. In the workplace "high quantitative job demands, low social support at work, sedentary work position, repetitive work and precision work increase the risk of neck pain".

c. Course and Prognosis

i. Neck pain is a persistent or recurrent condition. Most people do not experience a complete resolution of symptoms – "between 50% and 80% . . . will report neck pain again one to five years later". This appears to be true in the general population, in workers, and after motor vehicle crashes.

ii. Prognosis, like neck pain itself, "appears to be multifactorial". Younger age is associated with better prognosis; poor health and prior neck pain are associated with poorer prognosis. So are poor psychological health, and worrying and frustration or anger in response to neck pain.

d. Classification of Neck Pain

i. All neck pain, including whiplash-associated disorders (WAD), should be classified into a common system with four grades as shown in Table 1. The great majority of patients have Grade 1 or Grade 2 neck pain. This new classification is designed to "help people with neck pain, researchers, clinicians and policy-makers in framing their questions and decisions."

e. Patient Assessment

i. Most assessment tools, including electrophysiology, imaging, injections, discography, functional tests and blood tests, have no good evidence of validity and utility/value.

ii. All health care providers should

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Table 1 **BJD Task Force Classification of Neck Pain**

Grade 1 *Neck pain with little or no interference with daily activities.* No signs or symptoms suggestive of major structural pathology and no or minor interference with activities of daily living; will likely respond to minimal intervention such as reassurance and pain control; does not require intensive investigations or ongoing treatment.

Grade 2 *Neck pain that limits daily activities.* No signs or symptoms of major structural pathology, but major interference with activities of daily living; requires pain relief and early activation/intervention aimed at preventing long-term disability.

Grade 3 *Neck pain accompanied by radiculopathy.* No signs or symptoms of major structural pathology, but presence of neurologic signs such as decreased deep tendon reflexes, weakness, and/or sensory deficits; might require investigation and, occasionally, more invasive treatments.

Grade 4 *Neck pain with serious pathology.* Signs or symptoms of major structural pathology, such as fracture, myelopathy, neoplasm, or systemic disease; requires prompt investigation and treatment.

Dr Gert Bronfort

conduct a thorough patient history and physical examination to rule out Grades 3 or 4 neck pain.

iii. Proven patient self-assessment questionnaires provide valuable information for management and prognosis.

f. **Treatments for Neck Pain**

i. Treatments chosen should be based on grades of neck pain. Most patients have Grades 1 and 2 neck pain and when choosing treatments "patients and their clinicians should consider the potential side effects and personal preferences."

ii. For Grades 1 and 2 neck pain, treatments with similar evidence of safety and effectiveness and "that are worth considering" are: education, exercise, mobilization, manipulation, acupuncture, analgesics, massage, low-level laser therapy.

The most effective interventions are those that "focus on regaining function".

Treatments "unlikely to help" and not supported by evidence for Grades 1 and 2 neck pain are: surgery, collars, ultrasound, electrical muscle stimulation, transcutaneous electrical nerve stimulation (TENS), most injection therapies, including corticosteroid injections in cervical facet joints, and radio-frequency neurotoxins (overheating of small nerves in the neck to suppress pain).

iii. Whiplash-associated disorders (WAD) may fall into any of the four grades of neck pain – and should be assessed and treated according to grade.

iv. There is no "best" treatment for neck pain that is effective for everyone and "trying a variety of therapies or combination of therapies may be needed to find relief."

7. The Task Force gave specific advice to patients and third party players including:

a. Advice to Those with Neck Pain

i. If you need treatments "talk to your health care provider about the range of effective treatment options that make sense to you – you may need to try a variety of options".

ii. "Do not continue treatment that doesn't provide improvement within a reasonable period of time – you should see improvement after 2-4 weeks if the treatment is the right one for you".

b. Advice to Public and Private Insurers

i. Adopt universal (multi-provider/multi-modality) evidence-based treatment guidelines when paying for services.

ii. Create health care provider incentives which reward doing the 'right thing' (e.g. thorough examination and history; effective treatment options, education and monitoring).

iii. Recognize the role that compensation policies have on patient outcomes; ensure that insurance policies don't inadvertently promote disability.

C. The New Bronfort Trial

8. Good science is long, arduous and expensive. Publication of this randomized controlled trial (RCT) followed ten years of work in which over 500 neck pain patients were recruited and seen in Minneapolis between 2001 and 2007. The researchers and authors are Gert Bronfort DC, PhD, Roni Evans DC, MS, Alfred Anderson DC, MD, Kenneth Svendsen MS, Yiscah Bracha MS, and Richard Grimm MD, MPH, PhD, from the Pain Management and Rehabilitation Center, Northwestern Health Sciences University and the Berman Center for Outcomes and Clinical Research at the Minneapolis Medical Research Foundation.

Dr Bronfort, the principal investigator, is a widely published and foremost researcher in the field of manual therapies for the spine, which many years ago was the subject of his doctoral thesis at Vrige University in his home country of Denmark. Being aware that "there was a void in the scientific literature in terms of what the most helpful treatments for neck pain are", as he explained to the New York Times, his goal in this trial was to compare the effectiveness of spinal manipulation therapy (SMT), medication and home exercises with advice (HEA) for patients with acute and subacute neck pain.

continued on page 6

Maintenance Care Prevents Future Disability

continued from page 1

analysis of 11,420 claims for non-specific LBP from claimants in all states where claimants were free to consult a provider of their own choice for work-related injuries.

All claimants who received any disability payment, and had no claim in the previous year, were followed from the date of injury until 12 months after the first episode of disability. Other reasons why this comprehensive independent expert study is important include:

a) LBP is one of the costliest work-related injuries/symptoms, and an "important component of the human and economic costs is the recurrence of LBP."

b) This study is the first of chiropractic health maintenance care, defined by the authors as "a clinical approach designed to prevent recurrent episodes" for patients with work-related LBP.

c) After controlling for severity of injury and demographics to ensure matching samples, the study reports much lower recurrent disability for workers who "only or mostly" used a chiropractor during health maintenance care after the initial disability period off work (a 5.5% recurrence rate) rather than those who only or mostly used a physical therapist (16.9%) or physician (12.5%).

d) The authors suggest two reasons for this "chiropractor advantage":

• Benefits flowing from the explicit chiropractic focus on health maintenance care, including better provider/patient communications and a focus on return-to-work and psychosocial issues rather than symptom control.

• Benefits flowing simply from diverting patients from receiving medical procedures "of unproven cost, utility, value or dubious efficacy". Those patients who only or mostly saw chiropractors during each of the disability and health maintenance periods "had fewer surgeries, used fewer opioids and had lower costs for medical care than the other provider groups."

(Cifuentes M, Willetts J, Wasiak R (2011) *Health Maintenance Care in Work-Related Low Back Pain and Its Association With Disability Recurrence*. DOI:10.1097/JOM.0b013e31820f3863)

Other Policy and Research

1. **US – Requirement of Conservative Care including Spinal Manipulation before Surgery for Chronic LBP**

Remember when it was the medical view that spinal manipulation was ineffective and inappropriate for patients with chronic low-back pain? As of January 1, 2012 the United Pennsylvania Medical Care (UPMC) Health Plan has a new policy, understood to be the first like this from a major US managed-care organization, requiring that a patient has tried and failed a 3 month course of conservative management including "early referral to a chiropractor or physical therapist" for manipulation/mobilization and/or other physical treatments, if advanced imaging or any surgical procedure is to be authorized and reimbursed.

This was the advice in a letter from UPMC's Senior Medical Director to providers in late 2011. The full 6 page policy can be found at www.upmchealthplan.com (UPMC Health Plan Policy and Procedure Manual – Surgical Management of Low-Back Pain, Policy #MP.043)

Chronic LBP is defined as "low-back pain or sciatica that is present for more than 3 months". The three months of conservative management must include non-pharmacologic therapy (including advice on self-care, screening for yellow flags, patient enrollment and graduation form a low-back pain program), pharmacologic therapy and "early referral to a chiropractor or physical therapist for manipulation/mobilization, stabilization exercises, directional preference strategies and/or traction".

2. **Denmark – Chiropractic Management of Acute Chest Pain**

The January issue of JMPT published the four award-winning original research papers – all randomized controlled trials – from the World Federation of Chiropractic's 11th Biennial Congress held in Rio de Janeiro last April. They include the first prize winning trial from Mette Stochkendahl DC, PhD, Henrik Christensen DC, MD, PhD et al., the first ever trial of chiropractic treatment of patients with chest pain suspected to be caused by heart disease or acute coronary syndrome (ACS).

The trial involved 115 patients referred by their family physicians to an emergency cardiology department at Odense University Hospital. Following medical screening to rule out ACS these patients were randomly assigned to 4 weeks chiropractic management, or alternatively self-management after reassurance and advice on exercise. Both groups improved significantly at 4 weeks (end of intervention) and 12 weeks (3 months follow up). However the chiropractic patients did significantly better and Stochkendahl, Christensen et al. report that their study suggests that "chiropractic treatment might at least lead to a faster recovery in patients with acute musculoskeletal chest pain."

At the World Federation of Chiropractic's Congress in Rio de Janeiro in April 2011, Dr Mette Stochkendahl presents her research and receives the first prize for original research (The Scott Haldeman Award) from Dr Claire Johnson, Editor, JMPT and representing sponsoring corporation NCMIC.

They note from the literature that "approximately 20% of admissions for suspected ACS" relate to patients without ACS who have undifferentiated chest pain and "leave emergency departments without a definite diagnosis or a plausible explanation for their pain." In the US 12 years ago it was estimated that the cost for initial care for such patients was $8 billion. They conclude that there are these good reasons for considering chiropractic treatment for such patients:

- The scale of the problem in terms of the number of patients involved.
- To minimize suffering and overall cost on these patients.
- The limited cost of a short series of chiropractic treatment.
- The challenge for general practitioners/family physicians of knowing how to handle patients with non-cardiac chest pain after discharge from a cardiology unit.

Further details concerning the trial are:

a) **Background**. It comes from a chiropractic research team at the University of Southern Denmark that has developed a standardized evaluation protocol to identify patients with musculoskeletal chest pain among those with known or suspected stable angina, published in JMPT in 2005. This is the first of a planned series of treatment trials.

b) **Patients**. These were the 115 consecutive patients without ACS amongst patients referred to a specialist cardiology unit by their family physicians. They were adults aged 18-75 years with a primary complaint of acute chest pain of less than 7 days duration.

c) **Intervention Groups**. These were:

i. **Chiropractic Treatment Group**. Participants received 4 weeks chiropractic management as thought appropriate from 1 of 8 experienced chiropractors from their local community. Treatment had to include manipulation directed towards the thoracic and/or cervical spine, with a maximum of 10 treatment sessions given 1 to 3 times per week. Other manual treatments (e.g. joint mobilization, soft-tissue techniques), exercises, heat or cold treatment, etc. could be given as felt necessary.

ii. **Self-Management Group**. Each participant had a 15 minute consultation with reassurance that the chest pain was benign and self-limiting. The participant was given instruction regarding home exercises aimed at increasing spinal movement or muscle stretch.

d) **Outcome Measures and Results**. The two primary outcome measures were change in pain intensity on an 11 –point numeric rating scale and self-perceived change in chest pain on a 7-point scale with responses from "much worse" to "much better" at 4 weeks and 12 weeks. Secondary outcome measures included 5 other measures of change in pain intensity.

e) **Results.** These included:

i. Chiropractic manipulation was most often directed towards the mid-thoracic region and the lower cervical spine, with trigger-point therapy and massage being the second most commonly used treatment modalities.

ii. There was significant improvement in both treatment groups, part of which the authors acknowledge to have been the result of natural history and regression to the mean. However, there were quicker and better results in the chiropractic treatment group, and these differences increased and reached statistical significance as time passed.

For example for *thoracic spine pain* there was significant decrease in the chiropractic group at 12 weeks but not in the self-management group. At both 4 and 12 weeks the largest decrease in *worst chest pain* was seen in the chiropractic treatment group, with this being statistically significant at 12 weeks. Stochkendahl, Christensen et al. point out that these group differences cannot be explained by natural history and regression toward the mean.

iii. There were no serious adverse effects.

Accordingly, here is another landmark trial for the profession. It should not be over-interpreted. It suggests rather than proves the effectiveness of chiropractic management; however it shows the profession developing an assessment and treatment protocol of major potential significance in terms of reducing patient suffering and cost. It provides a compelling basis for similar inter-disciplinary research in other countries.

(Stochkendahl MJ, Christensen HW et al. (2011) *Chiropractic Treatment vs Self-Management in Patients With Acute Chest Pain: A Randomized Controlled Trial of Patients Without Acute Coronary Syndrome,* J Manipulative Physiol Ther 2012;35:7-17)

continued on page 8

9. **Patients/Participants.** Final participants were the 272 patients out of 504 who met the following inclusion criteria:

a. Aged 18 to 65 years with a primary symptom of mechanical non-specific neck pain equivalent to Grades 1 or 2 according to the BJD Task Force classification already mentioned.

b. Duration of pain from 2 to 12 weeks – in fact most had experienced pain for more than 4 weeks.

c. A neck pain score of 3 or greater severity on a scale of 0 to 10.

d. Absence of various exclusion criteria, which included a number of complications or comorbilities, receiving any of the 3 study treatments during the past three months or pending litigation.

10. **Treatment Groups.** Patients were randomly assigned to one of the following three treatment groups:

a. *SMT Group*. Treatment was by six experienced chiropractors (minimum 5 years in practice) for a maximum of 12 weeks. Visits lasted 15-20 minutes each. Primary focus was "manipulation of areas of the spine with segmental hypomobility by using diversified techniques, including low-amplitude spinal adjustments and mobilization." Spinal level and number of treatments were left to the discretion of the clinician. Adjunct therapies common to clinical practice (e.g. light soft-tissue massage, assisted stretching, hot and cold packs and advice on activity) were allowed, but not exercises.

In fact there were an average number of 15 visits (range 2-23). In summary, participants in this group received something more than just SMT, but not the full scope of chiropractic services.

b. *Medication Group*. Medical care was given in a pain clinic. Visits lasted 15-20 minutes, and the focus of treatment was prescription medication. The first line of therapy was non-steroidal, anti-inflammatory drugs (NSAIDS), acetaminophen, or both. Narcotic medications and/or muscle relaxants were also used as needed, with choice of medications and number of visits at the discretion of the physician. Average number of visits during the 12 week period was 5 (range 1-8).

c. *HEA Group*. Home exercise with advice was provided in 2 one-hour sessions by six therapists at the university-affiliated outpatient clinic. "The primary focus was simple self-mobilization exercise (gentle controlled movement) of the neck and shoulder joints, including neck retraction, extension, flexion, rotation, lateral bending motions, and scapula retraction, with no resistance." See photographs of the exercises and further description at http://www.annals.org/content/suppl/2011/12/29/156.1_Part_1.1.DC1/156-1-1-supplement.pdf .

The delivery method was one-on-one, and the program was individualized to each participant's abilities, tolerance, and activities of daily living. Participants were instructed to do 5 to 10 repetitions of each exercise up to 6 to 8 times per day. A booklet and laminated cards of prescribed exercises were provided. Participants were given information about the basic anatomy of the cervical spine and other advice.

11. **Outcome Measures**

a. Primary measurement of results (outcomes) was subjective – pain levels as self-assessed by patients on an 11-box numerical rating scale at baseline, 2, 4, 8 and 12 weeks during the treatment phase, and at 26 and 52 weeks (1 year follow up).

b. Secondary measures included the level of disability measured on the Neck Disability Index, global improvement, extended medication use, satisfaction with care, the Short Form-36 Health Survey (SF-36) and the objective measurement of cervical motion (measured with a CA 6000 Analyzer at 4 and 12 weeks) by blinded examiners.

12. **Results**

a. Overall results, as summarized in the abstract, were that "for pain SMT had a statistically significant advantage over medication after 8, 12, 26 and 52 weeks and HEA was superior to medication at 26 weeks. No clinically important differences in pain levels were found between SMT and HEA at any time point. Results for most of the secondary outcomes were similar to those of the primary outcome".

b. *Primary Results – Pain.* Detailed group differences are given for changed pain scores at different times. These differences include, for example average (mean) pain scores, and the percentage of participants in each group experiencing more than 50%, more than 75%, or complete reduction in pain. Table 2 lists absolute reduction in pain figures. For example:

- At week 12, or the end of the treatment phase, there was a 100% reduction in pain (i.e. complete recovery) in 32.2% of the SMT group patients (1 in 3), 29.9% of the HEA group patients (1 in 3) and 13.1% of the medication group patients (1 in 8).
- Also at 12 weeks there was a 75% or greater reduction in pain in 56.7% of the SMT group, 48.3% of the HEA group and 33.3% of the medication group.
- At week 26 (which means 3 months after the treatment phase was over) there was 100% reduction/complete recovery in 36.9% of the SMT group, 34.6% of the HEA group and 19.2% of the medication group. And this was at a time that the medication group was taking more medication and seeking more other treatments than patients in the SMT and HEA groups.

c. *Secondary Results.* The secondary measurements of results supported the above greater improvement for the SMT and HEA groups. For example:

i. With respect to objective measurement of cervical spine motion, the SMT and HEA groups had much greater increased range of motion at the end of the treatment phase (12 weeks) than the medication group in each of flexion and

Table 2 **Between Group Differences: Proportion of Participants with Absolute Reduction in Pain**

	SMT Group	*Medication Group*	*HEA Group*
Week 12			
≥50% reduction	82.2	69.0	77.0
≥75% reduction	56.7	33.3	48.3
100% reduction	32.2	13.1	29.9
Week 26			
≥50% reduction	75.0	59.0	71.6
≥75% reduction	53.6	30.8	49.4
100% reduction	36.9	19.2	34.6
Week 52			
≥50% reduction	81.8	69.0	69.6
≥75% reduction	53.2	38.0	49.4
100% reduction	27.3	16.9	36.7

Adapted from Table 3, Bronfort, Evans et al

extension, rotation and lateral bending. For flexion and extension:

• Normal range of motion (ROM) in painfree individuals is 110 – 120 degrees.

• At the commencement of the trial those in the SMT group had an average ROM of 97 degrees, those in the medication and HEA groups 102 and 101 degrees respectively.

• At 12 weeks patients in the SMT and HEA groups had an average increased ROM of 6 degrees, which was more than twice the 2.75 degrees average increase for the medication group.

• The worst results for an individual patient in the SMT and HEA groups, improvements of 3.5 and 3.9 degrees respectively in range of motion for flexion and extension, were better than the medication group average of 2.75.

ii. With respect to the secondary outcome measure of patient satisfaction, the SMT group performed better than each of the medication and HEA groups – both in short-term and long-term satisfaction. On this:

• Satisfaction with care was measured on a 7 point scale from 1 (completely satisfied, couldn't be better) to 4 (neither satisfied nor dissatisfied) to 7 (completely dissatisfied, couldn't be worse).

• One would expect patients in the trial, whatever their treatment group, to be more satisfied than usual patients because both they and the health professionals involved are aware of participation in the study. This is known as the Hawthorne effect, because of an employee research study at the Hawthorne plant in the US where worker productivity increased not only when lighting was improved (the original variable being studied) but also when the lighting was diminished. Mere participation in the study produced satisfaction. Similarly, satisfaction levels were good for all three groups in this trial.

• However at 12 weeks average satisfaction in the SMT group (1.7 - range 1.5 to 1.8) was higher than in the HEA (1.9 – range 1.7 to 2.1) and medication (2.2 - range 2 to 2.4) groups.

• At 52 weeks or 1 year follow up this superior satisfaction with SMT care was not only maintained but increased (SMT 1.7, HEA 2.1, medication 2.5)

• Elsewhere in the report of this trial there are other data relevant to patient preferences and satisfaction. These are the much higher drop-out rates for patients allocated to receive medical care and medication at a medical clinic rather than SMT or exercise therapy. Of the 272 patients meeting the inclusion criteria and initially agreeing to participate in this trial, and then randomly sent to for SMT (91), HEA (91), and medication (90), none dropped out before treatment in the SMT and HEA group – but 6 (7%) "declined to participate" in the medication group.

During the 12 week treatment phase a much higher number failed to complete (were "lost to follow-up") in the medication group (21 or 25%) than in the SMT (3 or 3%) or HEA (13 or 14%) groups. That trend continued during the 1 year follow-up period.

13. **Clinical Importance**. In trial results the first item of interest is whether, when you look at the raw figures reported, there are different results for participants receiving different treatments and/or no treatment. Next of interest is whether any such differences have statistical significance – in other words, when you apply statistical methods do the numbers reported represent a real difference, or could they be explained by chance variations only. Here the results did have statistical significance.

The next question is whether the results are clinically important. Bronfort, Evans et al. explain that there is no existing gold standard for this in the management of neck pain but that relevant criteria include:

Statistically significant results across a range of subjective and objective measurements of pain and function.

• The durability of the treatment effect – i.e. are benefits sustained over time?

• The safety and tolerability of the interventions.

• The ability and willingness of subject/patients to adhere to treatment programs.

• On these criteria the results in their trial do demonstrate clinically important differences, and referring to this and other existing evidence from past studies they conclude "our results suggest that SMT and HEA both constitute viable treatment options for managing acute and subacute mechanical neck pain."

D. Conclusion

14. The past few years have seen impressive advances in the evidence supporting chiropractic manipulation for joint dysfunction and spinal pain. The already strong evidence for acute and chronic back pain has been supplemented by the Bishop, Quon et al. trial from the University of British Columbia in Canada, which reported that evidence-based care incorporating 4 weeks of chiropractic manipulation and exercise was superior to using medical care for patients with acute and subacute back pain.[10]

With respect to the cervical spine, a trial by Haas, Spegman et al. from the University of Western States in Oregon, another high-quality, interdisciplinary trial funded by the US National Institutes of Health, reported the effectiveness of chiropractic manipulation for patients with cervicogenic headache.[11] Now Bronfort, Evans et al. have produced a trial greatly strengthening the evidence and the BJD Task Force guidelines supporting manipulation for neck pain.

However, exercises have also provided benefit in most of these and other research studies in the field. The fundamental messages from the research seem to be:

• The great majority of patients with back and neck pain and associated headache have a mechanical problem – dysfunction in the joints and soft-tissues – that should be treated by mechanical methods.

• Skilled spinal manipulation and appropriate exercises are effective methods for this, and are generally superior to usual medical care relying upon medications, which may provide symptom relief but does not address the underlying problem.

• Spinal manipulation and/or exercise should be given within a biopsychosocial model, respecting the preferences and needs of individual patients. TCR

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continued from page 5

3. **UK and Australia – New Assault on CAM Exposed as Witch Hunt**

In the past year there has been a growing international campaign to close university courses in complementary and alternative medicine (CAM), defined to include established disciplines such as chiropractic, naturopathy and traditional Chinese medicine/acupuncture. In the UK a leader is Professor David Colquhoun of University College London. In Australia Emeritus Professor of Medicine John Dwyer of the University of New South Wales is a leader of a recently established group named Friends of Science in Medicine.

Such assaults are not surprising or new to the chiropractic profession. What is new is an outstanding response and defense of CAM just published in a February 18 editorial in the British Medical Journal (BMJ). This is by Visiting Editor and internationally-renowned Australian health journalist and author Ray Moynihan, who identifies this movement as a witch hunt and observes:

• Any "friend of science" would surely be horrified by much of what happens inside conventional medicine, yet the campaign in Australia is aimed solely at the complementary sector.

• Although academic standards in some CAM courses could be tightened, trying to exclude all such courses "may well undermine campus conversations that could ultimately enrich our scientific methods and our capacity to face the complex health challenges of the future."

Professor Colquhoun is quoted as dismissing the whole field of CAM as nonsense, alleging that ancient wisdom is "mostly wrong", and stating that the extensive CAM research effort by the US National Institutes of Health has found "not a single useful treatment." Moynihan exposes the inaccuracy of that, and uses as an example "a recent systematic review of almost 270 randomized, controlled trials indicating potential benefits of acupuncture, massage, and spinal manipulation for some forms of back and neck."

The main article in this issue of The Chiropractic Report reviews additional new evidence funded by the US NIH and supporting chiropractic manipulation for patients with the most common forms of neck pain.

For many years Moynihan was an investigative health journalist for the Australian Broadcasting Corporation. He notes that in Australia it is estimated that "most of Medicare's 5000 items have never been comprehensively assessed for their safety, effectiveness and/or cost-effectiveness", and that in the UK the BMJ Group's *Clinical Evidence* "currently classifies many surgical and medical interventions as being of unknown effectiveness".

Congratulations to Moynihan and the BMJ for publishing this reality check. There is, of course, an obvious logical fallacy in trying to exclude a discipline from university study because its approach is thought to be insufficiently scientific. It is precisely in a university that scientific scrutiny, cross pollination and rising standards are best found.

(Moynihan R (2012) *Assaulting Alternative Medicine:Worthwhile or Witch Hunt?* BMJ 344:e1075.)