The Chiropractic Report

www.chiropracticreport.com Editor: David Chapman-Smith LL.B. (Hons.) July 2014 Vol. 28 No. 4

Professional Notes

Steroid Injections for Stenosis

Epidural glucocorticoid injections are widely used to treat symptoms of lumbar spinal stenosis, a common cause of pain and disability in older adults. Typically they also include an anesthetic. They are thought to relieve pain by reducing nerve-root inflammation and ischemia.

More than 2.2 million of these are performed annually under the US Medicare program. Rates and costs have increased by almost 300% over the past two decades.

Are these injections effective, are they safe? Until now there have been some uncontrolled studies suggesting short-term benefit for some patients, but no rigorous controlled trials.

The first such trial, a multicenter US study by Friedly, Comstock et al. published on July 3 in *The New England Journal of Medicine*, compares injections of glucocorticoids plus the anesthetic lidocaine with injections of lidocaine alone and reports minimal or no short-term benefit – and greater risk of adverse events.

continued on page 4

Media Criticism – Whether and How to Respond

A. Introduction

CHIROPRACTORS, EVEN allowing for the injustices they have suffered as they have matured into an established healthcare profession, remain extremely sensitive to criticism.

Actor and comedian Alan Thicke, best known for his role as the father Jason Seaver in the television series *Growing Pains,* dropped a one line comment in that show in the early 1990s dismissing chiropractors as "quacks". He and the ABC were deluged with mail and phone calls from angry chiropractors. There was talk of revenge and boycotts, and there was strong opposition from many in the profession when Thicke was proposed as a keynote entertainer for the Chiropractic Centennial Celebrations in Washington DC in July 1995.

The facts of the matter are that off-screen Thicke has always been a strong supporter of the profession. Dr. Joanne Thicke of Brampton, Ontario in Canada, his sister, is a chiropractor. As a comedian used to puncturing the egos of all individuals and occupations, he was surprised at the extreme over-reaction of the profession.

(Calmer heads prevailed. Thicke was invited to the Centennial, and was such a success in Washington, DC that he was also invited to the Palmer College celebrations in Davenport in September).

2. The problem with over-reaction to media criticism is that it aggravates the situation, hindering rather than helping the profession. A response based on emotion, rather than rational comment on the exact issues and best evidence makes you an easy target.

3. And now to the present and the reason for this article. In April *Forbes,* an influential American magazine, published an article by Steven Salzberg titled "*New Medicare Data Reveal Startling $496 Million Wasted on Chiropractors*".[1] As the title implies, Salzberg argued that the government expenditure for chiropractic services for seniors under the Federal Government's Medicare plan was a serious waste of funds.

There was no basis for chiropractic subluxation, said Salzberg. Chiropractic was "invented out of thin air" and was "highly dubious". All the usual complaints were there, including the threat of stroke and the anti-vaccine stance of some chiropractors. Even the National Institutes of Health (NIH) allocation of any funding for research on chiropractic or other forms of alternative medicine was, said Salzberg, "an egregious waste of money."

There were hundreds of responses from individual chiropractors, facilitated by modern online technology inviting comment on the article. These led to a July 1 article in *Dynamic Chiropractic* titled *How to Respond When the Media Criticizes Chiropractic: Do's and Don'ts.*[2] The well-qualified authors of this, published under the byline *Research: Not Just for Scientists Anymore,* are:

- Dana Lawrence, DC, MEd, Senior Director, Center for Teaching and Learning, Palmer College of Chiropractic. Dr. Lawrence has served as Editor for several scientific journals, including the Journal of Manipulative and Physiological Therapeutics (JMPT), and published a number of textbooks.
- Christine Goertz, DC, PhD, Vice-Chancellor of Research and Health Policy, Palmer College of Chiropractic. Dr. Goertz also serves on the Board of Directors for the Patient Centered Outcomes Research Institute (PCORI), a Federal Government-sponsored senior advisory body on the relative effectiveness of different healthcare treatments and which of these should be covered by government programs, including Medicare.

Main Article *continued from page 1*

Lawrence and Goertz reviewed the responses from the profession and explained:

a) Many responses were emotional from "impassioned chiropractors", displaying hurt feelings. These were often based on *beliefs* about chiropractic, not of value in this context, rather than *evidence*. Many featured ad hominem attacks against the author rather than response to his specific allegations. "Feels good, but does not address the substance of the article."

b) Many other responses addressed the issues and provided links or references to scientific articles. Some of these were strong. Others were not, demonstrating little understanding of the relevance and weight of the evidence quoted.

c) While good responses are needed, poor responses are damaging. Media, including the Internet, "thrive on controversy" which drives traffic, sales and monetizing of sites. The editor of *Forbes* and the author know this and can pick and choose what they want to highlight and respond to.

"Most news articles today now end with text that usually says something like, "Do you agree that chiropractors waste half a million dollars a year? Click here to post your comments!"

"When you do, you had better make sure you have your facts straight."

Accordingly Lawrence and Goertz provide a list of do's and don'ts when it comes to media responses. This issue of *The Chiropractic Report* reviews and expands upon these. It then refers to some of the best evidence used on important or controversial issues. Finally it challenges you to consider whether you should be responding at all – as opposed to leaving it to those with media expertise and access to best evidence, including designated spokespersons for the profession in your country.

B. Do's and Don'ts

4. **Don'ts**. Here are three main don'ts.

a) Do not defend the profession. "It doesn't need a defence" say Lawrence and Goertz, quite correctly. The chiropractic profession is now part of the well-established fabric of American society with wide acceptance. Like all professions chiropractic has its critics, but there is no longer any need to defend its existence.

Goertz and Lawrence speak primarily to an American audience, but their comment is equally valid internationally. Chiropractic is well-established in many countries. It is recognized and regulated by legislation in over 40 countries. The World Health Organization has explicit policy supporting the inclusion of chiropractic in national health care systems.[3] There is now a sound, research evidence-base for the safety and effectiveness and cost-effectiveness of chiropractic services wherever they are provided. See more on this below.

b) Do not attack the medical or other professions. First, that does not address the issue and is therefore ineffective and beside the point. Second, although there will always be some MDs prejudiced against DCs – and vice versa – other health professionals should and must be seen as colleagues in this era. There is ever-growing interdisciplinary acceptance and integrated care.

As an example Lawrence and Goertz refer to various integrated settings in the US, including the Veterans' Administration centers which now have not only chiropractic clinical services but also postgraduate residencies for chiropractors. As one further example of this growing interdisciplinary acceptance of chiropractic services, a recent survey reported 75% of Canadian orthopedic surgeons approve of having their patients screened as to need for surgery by non-medical primary care professionals such as chiropractors[4] and many chiropractors have such relationships with them.

c) Do not let your emotions govern your response, feeling that criticism of the profession is a personal attack on you. If you are going to respond this requires a calm and objective mind. It also requires an understanding of the specific criticisms made, and direct response to these using the best evidence available – evidence that you have read, understood, and can quote accurately.

5. **Do's.** Lawrence and Goertz explain that they have the same "visceral response" as any other chiropractor to broad and unsupported criticisms such as those by Salzberg in *Forbes*. However, that response must be suppressed in an evidence-based world.

a) Do make sure you are calm as you prepare and write your response.

b) Do ensure that you understand the author's main point, why (s)he is making it, and the evidence given in support. Do the same for secondary claims.

c) Do list your counterclaims to these points, and for each counterclaim organize your arguments and your evidence in support.

d) Do analyze or weigh the evidence – both the author's and yours. Is a claim made on the basis of anecdotal evidence (e.g. other media comment, individual case reports) or a case series, or a randomized controlled trial (if so, what source/quality) or a systematic review of trials? Is your evidence of higher quality?

The Chiropractic Report is an international review of professional and research issues published six times annually. You are welcome to use extracts from this Report. Kindly acknowledge the source. Subscribers may photocopy the Report or order additional copies (.80 cents each, plus shipping – minimum of 20 copies) for personal, non-commercial use in association with their practices. However, neither the complete Report nor the majority or whole of the leading article may be reproduced in any other form without written permission.

The opinions and statements in this publication are those of the individual authors alone, not the Editorial Board, World Federation of Chiropractic or any other organization.

Subscription: for rates and order form, see page 8.
- Visit www.chiropracticreport.com
- Call 416.484.9601
- Email us at TCR@chiropracticreport.com

Changes of mailing instructions should be sent to The Chiropractic Report, 203–1246 Yonge Street, Toronto, Ontario, Canada M4T 1W5, telephone 416.484.9601, fax 416.484.9665.
Printed by Harmony Printing Limited, 416.232.1472.

ISBN 0836-144

Importantly, has the author omitted valuable evidence that does not support his or her argument, evidence you can use and reference in your reply. Do you have evidence from an interdisciplinary or non-chiropractic source so that, over and above its quality, it is seen as independent and is therefore more persuasive?

e) Do assess your response every bit as critically as you have assessed the original article.

In summary, critical thinking, logic and reason must be the foundation for your response and succeeding in any "well-reasoned debate within the scientific community." Lawrence and Goertz conclude:

"Sadly, this approach is unlikely to make you feel as good (in the present moment) as it would to pen a scathing reply that is no more substantiated than the article which enraged you in the first place. However, in the long run, it will be of far more benefit to you, the chiropractic profession and the patients we serve."

6. **Tone.** The tone of what you write or say is important and can be decisive on whether or not you and your point of view are accepted as credible. Is a response measured and professional, or is it aggressive or rude? Is there obvious emotion or exaggeration, or clear analysis and apparent authority? Is humor used well?

It is easy to forget tone when engaged in a dispute. The test is not what you or the original author understands the tone to be, but the opinion of the reasonable and independent third party watching and judging your dispute. That is who you have to convince, that is who must like your response – not your chiropractic colleagues.

As every lawyer knows, there are different and appropriate tones for different audiences, and the same thing applies to media responses. In the present case of the *Forbes* article and responses, there is a good example of this. The July 1 issue of *Dynamic Chiropractic* also publishes a response to Salzberg's article from Anthony Rosner, PhD, formerly of the Foundation for Chiropractic Education and Research (FCER).

On one hand this adopts the approach recommended by Lawrence and Goertz. It identifies eight principal criticisms by Salzberg and provides evidence-based answers. On the other hand, given that the response is written for a chiropractic audience in *Dynamic Chiropractic*, a strongly pro-chiropractic newspaper with a generally outspoken tone, Rosner's tone is highly colorful. Responding to the fact that the *Forbes* article has a graphic picture of two women wrestling to imply that spinal manipulation is violent, Rosner writes:

"This is vaudeville, plain and simple. It is difficult to imagine that a publication respected in its field should have signed on to such a gruesome image while professing to offer a modicum of truth in reporting."

Good and colorful comment when published in *Dynamic Chiropractic*. In a letter to the editor of *Forbes* the right tone might be:

"Use of such an inappropriate image in this context is revealing. It tells us how much the author is seeking attention rather than balanced comment and the truth. It is surprising that a publication as respected as *Forbes* approved it."

7. **The Black and White Problem.** The question of whether chiropractic treatment or a specific component of it is effective for patients with a given complaint is not a simple matter of yes or no – is not black and white. Questions of effectiveness, safety and the meaning of evidence are almost always answered correctly in shades of gray.

This means that the easiest media comment to challenge is one that makes an absolute claim – for example Salzberg's claim that the practice of chiropractic is "highly dubious." It also means that an effective response should usually not be absolute – claiming for example that chiropractic care can cure, or a specific chiropractic treatment is proven effective for, a specific condition.

Let's explore this with an example. In 2008 a British journalist, Simon Singh, while promoting a new book he had co-authored that was heavily critical of chiropractic and complementary and alternative medicine in general, wrote an article in the *Guardian* newspaper in which he claimed that "there is not a jot of evidence" that chiropractic treatment can help children with "colic, sleeping and feeding problems . . . and prolonged crying." In other words, a black and white claim.

There was and is evidence. Singh was wrong. How might you respond to this? Here are your options for reply, from the outspoken to the restrained:

a. Chiropractic is proven effective for the cure of infantile colic.

b. Spinal manipulation is proven effective for the cure of infantile colic

c. Manual treatments are proven effective for the cure of infantile colic

d. Chiropractic/spinal manipulation/ manual therapies may be effective in reducing the symptoms of infantile colic.

e. Where spinal joint dysfunction/subluxation is found, chiropractic/spinal manipulation/manual therapies may be effective in reducing abnormal and incessant crying in infants medically diagnosed as having infantile colic

f. Chiropractic care has a central focus of assessing and correcting spinal joint dysfunction/subluxation and its biomechanical and physiological effects, and where these are addressed many symptoms may be reduced including those associated with infantile colic.

The first three options are as black and white as Singh's statement, and are not supported by the evidence. Some studies say yes, some no. All the other options, which have appropriate qualifiers and shades of gray, are supported by sound evidence. Much of that evidence is referred to and referenced in the March 2010 issue of this Report, available online at www.chiropracticreport.com/pastissues. To answer Singh effectively one only has to produce some of the good quality research and question how he can be credible when he says "there is not a jot of evidence".

With respect to evidence, in this context that means evidence published in peer-reviewed scientific journals. You may decide to comment on one or more anecdotal case reports from your practice to give your response greater human interest, but this

This article refers to various past issues of *The Chiropractic Report*. These can be found online at www.chiropracticreport.com under Past Issues.

continued on page 6

Steroid Injections for Stenosis

continued from page 1

"These steroid injections aren't helpful," says lead author Dr Janna Friedly and assistant professor of rehabilitation medicine at the University of Washington in Seattle, interviewed by HealthDay. "There is no added benefit to the steroid itself, so if people are considering these injections I would recommend that they consider an alternative."

The study group comprised patients aged 50 years or older and with central lumbar stenosis confirmed on imaging. Additionally they had:

• At least moderate pain in the low-back/buttock/leg on standing, walking or spinal extension in the past week, with worse pain in the buttock and/or leg than back.

• At least moderate disability – a score of 7 or more on the Roland-Morris Disability Questionnaire (RMDQ).

Treatment Groups. From 2,224 patients screened for enrollment in the trial 400 were eligible and randomly assigned to one of the following:

a) Glucocorticoid – lidocaine group (GL Group). Each received a standard epidural injection of glucocorticoids plus lidocaine at the commencement of the trial, with the option of a repeat injection after three weeks.

b) Lidocaine alone group (L Group). Patients received one or two injections of lidocaine alone, on the same protocol.

The treating physicians, the patients and the research staff conducting the follow up were blinded to which type of injection was being received.

Outcome Measures. The two primary outcome measures at three and six weeks after the initial injection were:

• Disability as measured by the RMDQ, modified to refer to back or leg pain.

• The patient's rating of average buttock, hip or leg pain during the past week, according to a pain scale from 0-10 – with 0 indicating no pain and 10 pain as bad as you can imagine.

Many secondary outcome measures included questionnaires on back pain, physical function, psychosocial status and patient satisfaction. They also included the proportion of patients with minimal (30% or more) or substantial (50% or more) clinically meaningful improvement.

Results. Outcomes at six weeks, the point of primary interest, were:

a) **RMDQ – Disability**. Both groups improved but there was no significant between-group difference. Further, there were no between-group differences on how many patients had 30% or 50% improvement. In the GL Group 23.8% had 50% improvement, 37.3% had 30% improvement. This compared with 20.2% and 31.6% for the L Group.

b) **Pain Scale – Pain Intensity**. Similarly there was improvement but no between-group difference. At six weeks approximately 1 in 3 had 50% improvement (GL Group and L Group each 38.3%) and approximately 1 in 2 had 30% improvement (49.2% and 49.7%).

c) **Adverse Events**. There were more adverse events in the GL Group – 21.5% of patients reported one or more adverse events compared with 15.5% in the L Group. There were nine "serious adverse events" requiring hospitalization and/or surgery – in the GL Group (5) and the L Group (4).

Additionally, as Friedly et al. comment, injected glucocorticoids have a number of systemic effects including reduced bone mineral density with an increased risk of fracture. "We observed higher rates of cortisol suppression at three and six weeks among patients who received injections that included glucocorticoids; these findings are consistent with systemic absorption of glucocorticoids."

Because there was no sham or control group it is unclear why some patients in both treatment groups improved. Friedly et al. acknowledge that explanations include placebo effects, regression to the mean, the natural history of spinal stenosis and receipt of the lidocaine alone. However "sustained benefits from lidocaine injection have not been rigorously demonstrated."

Dr Gunnar Andersson, a professor in the department of orthopedic surgery at Rush University Medical Center in Chicago and author of a NJEM editorial published with the trial supports limited continued use of steroid injections. He notes there are few treatments for spinal stenosis and he tells his patients that steroid injections are "something you can try before resorting to surgery, but whether it's going to help you or not I can't predict." The problem, he says, is overuse – "beyond the second injection you shouldn't keep doing them."

A July 3 *New York Times* article points out that each injection costs $500-$2000, and that the Food and Drug Administration (FDA) warned in April that steroid injections in rare cases caused blindness, stroke, paralysis or death, and that they have not been FDA-approved for back pain because their effectiveness has not been established.

(Friedly JL, Comstock BA et al. (2014) *A Randomized Trial of Epidural Glucocorticoid Injections of Spinal Stenosis.* N Engl J Med 371:11-21.

World Notes

Richard Brown to be Next WFC Secretary-General

On June 11, the World Federation of Chiropractic (WFC) announced the appointment of Dr Richard Brown of Stroud, Gloucestershire in the United Kingdom as its next Secretary-General from July 1, 2015. He will succeed Mr David Chapman-Smith, who retires at that time but will remain in a transitional role for one year until June 2016.

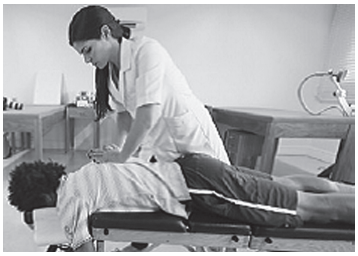
Dr Brown, who will be moving to Toronto, Canada to take up the position, is a 1990 graduate of the Anglo-European College of Chiropractic (AECC) who also holds a Master of Laws degree from Cardiff University. From 2009-2013 he served as President of the British Chiropractic Association (BCA) and he currently holds the office of Secretary-General of the European Chiropractors' Union (ECU).

Dr Brown has been in private chiropractic practice for 24 years, since 1999 as owner and Clinic Director of a large multidisciplinary practice in Stroud. He served as a chiropractor in the medical team in the Polyclinic in the Athletes' Village at the London 2012 Olympic Games. He has extensive experience as an expert witness in regulatory fitness to practise hearings and clinical negligence litigation, drawing upon his combined qualifications in law and chiropractic.

Brazil – World Cup Team Asks for Chiropractic Treatment

Here is an article published on the official website of the Brazilian Football Confederation (CBF) in early June prior to the commencement of the World Cup.

The Brazilian team has won a new advantage off the field this week. This is because of Elisa Dallegrave (ABQ 0243), a chiropractor invited by team doctor Dr Jose Luiz Runco to treat the players in Granja Comary. On Monday and Tuesday Dallegrave treated the athletes at the new Brazilian Football Confederation (CBF) Training Center offices.



According to Elisa chiropractic is a health care approach focusing on spinal function and alignment. It can be a treatment for pain, but it should also be used to improve function and prevent injury, which is what is being done by her in Granja Comary. She uses an interesting analogy to explain the importance of chiropractic care.

"I often compare spinal care with dental care. You eat and brush daily, and need to get regular care for your teeth. With the spinal column is the same. You use it all the time, but some people only remember to go for care when they have pain. Indeed, it is important to have regular preventive treatment, " she explains.

Graduated from Feevale University after five years of study, Elisa is of course very pleased to have the opportunity to help the Brazilian team at the World Cup. However, the world of football is not new to her. It was through former player and Brazilian Captain Carlos Alberto Torres that she met Dr Jose Luiz Runco. She has treated Torres, the three-time champion, since he had disabling back pain in 2010.

Although little known in Brazil, chiropractic is widely used by football players. Dante, who has benefited from chiropractic treatment for more than six years since he played in Belgium, was one of the players who requested the services of a chiropractor.

"It is an excellent help. You feel that your body is more balanced, with everything in place. This makes a difference when it comes to high performance," said the player

Ireland – ECU Convention

A well-attended and successful European Chiropractors' Union Annual Convention with a theme of *Celebrating Diversity* was held at the Dublin Convention Centre in Ireland from May 29-31. Highlights included:

• An ECU General Council meeting reporting on many positive developments for the profession in Europe, including plans for a first chiropractic educational program in Eastern Europe – in Poland in association with the Anglo-European College of Chiropractic.

• The half-day keynote presentation titled *Harnessing the Power of the Mind* by Bruce Lipton PhD explaining how much current scientific research is supporting traditional chiropractic concepts of innate intelligence, health and disease.

• A FICS Master Class sports chiropractic seminar.

• Award of the Jean Robert First Prize for original research to Dr Erik Poulsen and colleagues from the University of Southern Denmark for a study published in Osteoarthritis and Cartilage and titled *Patient education with or without manual therapy compared to a controlled group in patients with osteoarthritis of the hip. A proof-of-principle three-armed parallel group randomized clinical trial*.

*Dr Erik Poulsen (*centre*), with ECU President Dr Oystein Øgre and ECU Convention Academic Organizer Dr Gitte Tønner.*

Kenya – First AFC Assembly

The first annual assembly of the African Chiropractic Federation, co-sponsored by the WFC and Parker University and hosted by the Chiropractors' Association of Kenya (CAK), was held at the Conference Centre, Kenyatta University, Nairobi on Saturday, April 6, 2014. ACF Coordinator for the assembly, who organized an impressive meeting, was Dr Carol Mwendwa of Nairobi.

Twenty-three chiropractors from 9 countries (Republic of Congo, Ethiopia, Ghana, Kenya, Namibia, Rwanda, South Africa, and Zimbabwe/Botswana) attended the assembly and an accompanying 2-day seminar on OTZ (One to Zero) presented by Dr Francis Murphy (USA) and Dr Patricia McCord (Canada).

In the days before the assembly CAK leaders met with the leadership of Kenyatta University including the Vice-Chancellor and Dr Okello Agina, Dean, Medical School, and Ministry of Health officials concerning the prospect of opening a first chiropractic educational program for East Africa at Kenyatta University.

(From left) *Dr Thomas Adagala, CAK Chairman, Dr Carol Mwendwa, CAK Secretary, Dr Okello Agina, Dean, Kenyatta Medical School and Dr Musimbi Ondeko, CAK Treasurer following the meeting at Kenyatta University.*

will mean nothing unless supported by higher levels of published evidence.

C. Relevant Scientific Evidence

8. **No Need for Defensiveness**. Like all health professions, chiropractic has lived through a history where there was little scientific evidence to support the safety and effectiveness of its treatments and its overall clinical approach. This has bred an attitude of defensiveness in some chiropractors which manifests itself in over-sensitivity to criticism and, as already noted, a penchant for unwise public comment.

There has been a fundamental change for the profession since the early 1990s when the mainstream medical and scientific community first accepted the safety, effectiveness and appropriateness of spinal manipulation for patients with the most common forms of back and neck pain. [5,6,7]

Salzberg calls the practice of chiropractic "highly dubious". In fact, for actual patients seen in practice as described in surveys in many countries, there is at least as much evidence-based practice, and as strong a scientific evidence base, as for any other health profession.

One good authority for that is the 2010 scientific review titled *Effectiveness of Manual Therapies: The UK Evidence Report* by Bronfort, Evans et al.[8] This is particularly so given the commentaries by Dr. Scott Haldeman and Dr. Martin Underwood published with the review.[9] The purposes of the UK Evidence Report were to summarize the scientific evidence on the effectiveness of manual treatments (joint manipulation and mobilization, massage and soft-tissue techniques) for musculoskeletal and non-musculoskeletal treatments, and to give guidance to chiropractors. This guidance was on best clinical care decisions but also, of relevance to our discussion, on making supportable public claims of effectiveness of treatment."

Bronfort, Evans et al., a distinguished team of scientists in this field, report that by highest current standards of scientific evidence spinal manipulation/mobilization is *effective* in adults for acute, subacute and chronic low-back pain, migraine and cervicogenic headache, cervicogenic dizziness, acute/subacute neck pain and several extremity joint conditions. They support the *safety* and *appropriateness* of spinal manipulation/mobilization for all these conditions.

In his commentary Haldeman says "chiropractors are extremely fortunate in these times of evidence-based healthcare" because: "There is now little dispute amongst knowledgeable scientists that manipulation is of value in the management of back pain, neck pain and headaches that make up 90% or more of all patients who seek chiropractic care".

In summary about 90% of chiropractic practice is supported by scientific evidence at the most rigorous level of high-quality, randomized, controlled trials (RCTS). Is there any other profession or medical specialty that can claim that level of scientific support?

The second commentary, by Dr. Martin Underwood from the University of Warwick Medical School Clinical Trials Unit, adds to the value of the UK Evidence Report as a reliable reference. That is because Dr. Underwood, one of the principal investigators for the respected UK BEAM Trial of manipulation and exercise for back pain, is an obviously independent medical expert. He endorses the UK Report then makes these three points:

- "Any consideration of the effectiveness of manual therapies also needs to recognize that non-specific factors such as the interaction between the (clinician) and the patient may have a therapeutic effect, in addition to any specific effect resulting from the manual treatment itself".
- "From an academic perspective it is of considerable interest to be able to quantify the specific and non-specific effects of any particular treatment. From a patient perspective, however, knowing whether an overall package of care, which includes manual therapy, has shown to be effective is probably of greater relevance".
- "Many negative trials of manual therapy are too small to be sure that "an important therapeutic effect has not been overlooked. Thus, it is important when reading this report to remember that absence of evidence of effectiveness is not the same as evidence of absence of effectiveness."

9. **Low-Back Pain**. Low-back pain (LBP) is the single largest cause of disability worldwide.[10] You have Haldeman's useful quote, mentioned above, that "there is now little dispute among knowledgeable scientists that manipulation is of value in the management of back pain." Since the 1990s national and international evidence-based clinical guidelines have endorsed the chiropractic approach to management by recommending spinal manipulation, NSAIDs, patient education and motivation, and early return to activity as the appropriate first lines of management for patients with acute or chronic mechanical LBP.[5,6,11,12]

Two references of particular value are:

- The 2007 practice guidelines from Chou, Qaseem et al.[12] on behalf of the American College of Physicians and American

Pain Society. These recommend spinal manipulation as a first line of treatment for patients with both acute and chronic back pain. These guidelines were published in *The Annals of Internal Medicine* and provide independent support for spinal manipulation from scientific and mainstream medicine. For more details see the November 2007 issue of this Report.

• The recent randomized controlled trial from Bishop, Quon et al. in Canada which reports chiropractic management in accordance with the above guidelines is more effective than usual medical care.[13] For more details see the January 2011 issue.

10. **Neck Pain**. The most authoritative current classification of neck pain and recommendations for management are those found in the 220-page report of the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders published as a special supplement to *Spine* and the *European Spine Journal*[14,15] 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 editorial on the 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."[16]

For a detailed review of the BJD Task Force Report and other evidence see the March 2008 and January 2014 issues of this Report. BJD Task Force recommendations include:

• For Grades 1 and 2 neck pain (*the most common forms – without radiculopathy or serious pathology)*, treatments with similar evidence of safety and effectiveness and 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 radiofrequency neurotoxins *(overheating of small nerves in the neck to suppress pain).*

• "Therapies involving manual therapy and exercise are more effective than alternative strategies for patients with neck pain." [17]

A recent high-quality US trial by Bronfort, Evans et al. supports that last recommendation in finding that chiropractic manipulative therapy and exercise were superior to usual medical care based on medication (NSAIDS and/or acetaminophen at first, narcotics and/or muscle relaxants as needed) for patients with acute and sub-acute neck pain.[18] For more details see the January 2014 issue.

11. **Safety**. The evidence already cited supports the safety and appropriateness of neck manipulation. However, this is the one area of recurring criticism of chiropractic in terms of risk of harm. Salzberg in *Forbes* warns of the risk of stroke. Therefore let's consider responses to this. Critics generally make two allegations:

• Neck manipulation can cause stroke and therefore presents an unacceptable risk of harm.

• Joint manipulation is a safer alternative.

In fact the current best evidence suggests that the forces involved in neck manipulation are insufficient to cause damage to the vertebral arteries and vertebrobasilar stroke (VBS). There are no changes in blood flow or turbulence in the arteries with manipulation, and there is no plausible biological mechanism for injury. VBS may be "associated with" manipulation in terms of time, but is not "caused by" manipulation.

The convincing and best evidence in support of that conclusion comes from a large population-based study covering 109 million person years in Canada, the first ever to look at increased risk of stroke after both chiropractic and medical primary care visits. This comes from Cassidy, Boyle et al.[19], was part of the BJD Neck Pain Task Force, and reports:

• In the 109 million person years there were only 818 cases of VBS from all causes – 7.5 cases per million person years. In other words this is an extremely rare form of stroke, not a large public health issue.

• The slightly increased incidence of stroke for those who had visited a chiropractor in the past 1, 7 or 30 days compared with those in the general population, was exactly the same as for those who had visited a primary care physician during the past 1, 7 or 30 days. This increased risk is likely due to patients with headache and neck pain from a VA dissection, the forerunner of stroke, seeking care prior to their stroke.

The main evidence relied upon by critics of neck manipulation comes from case reports. However, as explained by Cassidy when discussing this issue in the *British Medical Journal*, case reports represent "the lowest level of evidence. They raise hypotheses to be tested in analytical designs that include control groups, *but cannot be used to infer causation*." [20]

In other words case reports represent no scientific evidence whatsoever on causation in scientific terms. An important point to make with critics who rely on case reports – they are being completely unscientific.

For rare events such as VBS, as Cassidy points out, the best research design is the case control study. With this design you compare persons suffering an adverse event with age and sex-matched control persons from the general population. There are three such studies involving chiropractic neck manipulation. By far the largest and most comprehensive is his study mentioned above. For much more detail see the July 2012 and January 2014 issues of the Report.

12. **Headaches**. After back and neck pain the condition most commonly seen in chiropractic practice is headache. Both the 2008 BJD Neck Pain Task Force Report and the 2010 UK Evidence Review are strong references supporting the safety, effectiveness and appropriateness of cervical spine manipulation for patients with migraine and/or cervicogenic headache.

The UK Evidence Review reports moderate evidence of effectiveness of spinal manipulation – a higher rating than that achieved by joint mobilisation or any other form of manual therapy – for:

• Migraine – (defined as recurrent/episodic, moderate or severe headaches which are usually unilateral, aggravated by routine physical activity and are associated with either nausea, vomiting, photophobia or phonophobia); and

• Cervicogenic headache - defined as unilateral or bilateral pain localized to the neck and occipital region which may project to regions on the head and/or face. Head pain is precipitated by neck movement, sustained awkward head positioning, or external pressure over the upper cervical or occipital region on the symptomatic side.) For more on chiropractic management of cervicogenic headache see the September 2010 issue of this Report.

D. Conclusion

13. There is insufficient space for a detailed discussion of general principles of communication, including:

• Being concise. Brevity is a virtue. The longer your letter to the editor is the less likely it is to be published, the longer your email is the less it will be read.

• Avoiding jargon/technical language.

• Demonstrating balance and objectivity.

• Avoiding over-claim. If the evidence says chiropractic care is at least as safe and effective as other treatments for a certain complaint, say that rather than it is proven superior or most effective. A complete case for chiropractic management can be made on the basis of at least equal safety and effectiveness as any other intervention, the right of patients to care of their choice, and the evidence of high patient satisfaction rates with chiropractic care.[21]

When should you respond publicly to criticism of the chiropractic profession? When you are calm, have analyzed the essence of the criticism, and have a confident understanding of the issues and relevant evidence.

Otherwise, leave it to others – ideally an experienced and designated spokesperson for the profession in your community or, on serious media attacks, in your country. Remember that next week most people will have forgotten the criticism that so offended you. Indeed, most will not have read or heard or even been concerned about it in the first place. TCR

References

1 Salzberg S (2014) "New Medicare Data Reveal Startling $496 Million Wasted on Chiropractors". *Forbes*, April 20, 2014.

2 Lawrence, D, Goertz C (2014) *Research Not Just for Scientists Anymore: How to Respond When the Media Criticizes Chiropractic: Do's and Don'ts* Dynamic Chiropractic 32(13):18.

3 World Health Organization (2005) *WHO Guidelines on Basic Training and Safety in Chiropractic.* Available online at www.wfc.org under About WFC/WHO in 11 languages.

4 Busse J, Riva J et al. (2013) Surgeon Attitudes Toward Nonphysician Screening of Low Back or Low Back-Related Leg Pain Patients Referred for Surgical Assessment Spine Vol 38:7 pp E402-E408.

5 Bigos S, Bowyer O, Braen G et al. (1994) *Acute Low Back Problems in Adults.* Clinical Practice Guideline No.14. AHCPR Publication No. 95 0642. Rockville, MD; Agency for Health Care Policy and Research, Public Health Service, U.S. Department of Health and Human Services. Rosen M, Breen A et al. (1994), *Management Guidelines for Back Pain* Appendix B in Report of a Clinical Standards Advisory Group Committee on Back Pain, Her Majesty's Stationery Office (HMSO), London.

6 Spitzer WO, Skovron ML et al. (1995) Scientific Monograph of the Quebec Task Force on Whiplash-Associated Disorders: Redefining Whiplash and its Management, Spine 20:8S.

7 Bronfort G, Haas M et al. (2010) *Effectiveness of Manual Therapies: The UK Evidence Report* Chiropractic & Osteopathy 18:3 (25 February 2010). Doi: 10.1186/174601340018-3.

8 Haldeman S, Underwood M (2010) *Commentary on the United Kingdom Evidence Report about the Effectiveness of Manual Therapies* Chiropractic & Osteopathy 18:4 (25 February, 2010). Doi: 10.1186/1746-1340-18-4.

9 Murray CJL, Ezzati M et al. (2012) *GBD 2010: A Multi-investigator Collaboration of Global Comparative Descriptive Epidemiology* The Lancet 380(9859):2055-2058. Doi:10.1016/20140-6736(12)62134-5.

10 Manniche C et al. (1999) *Low-back Pain: Frequency Management and Prevention from an HDA Perspective.* Danish Institute for Health Technology Assessment.

11 European Back Pain Guidelines , at www.backpaineurope.org.

12 Chou R, Qaseem A et al. (2007) *Diagnosis and Treatment of Low-Back Pain: A Joint Clinical Paactice Guideline from the American College of Physicians and the American Pain Society*, Annals Int Med 147 (7): 478-491.

13 Bishop P, Quon J et al. (2010) The Hospital-Based Interventions Research Outcomes (CHIRO) *Study: A Randomized Controlled Trial on the Effectiveness of Clinical Practice Guidelines in the Medical and Chiropractic Management of Patients with Acute Mechanical Lower Back Pain* The Spine Journal, 10:1055-1064.

14 Haldeman S, Carroll LJ, Cassidy JD et al. (2008) *A Best Evidence Synthesis on Neck Pain: Findings From The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders.* Spine 33(4S):S1-S220.

15 Haldeman S, Carroll LJ, Cassidy JD et al. (2008) *The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders.* Euro Spine Journal 17 (Suppl.1):S1-S220.

16 Rydevik B (2008) *Editorial Preface: The Bone and Joint Decade 2000-2010 Task Force on Neck Pain and Its Associated Disorders* Spine 33(4S):S3.

17 Hurwitz E, Carragee E et al. (2008) Treatment of Neck Pain: Noninvasive Interventions. Spine33;4S:S123-S152.

18 Bronfort G, Evans R, Anderson A, et al. (2012) Spinal Manipulation, Medication, or Home Exercise With Advice for Acute and Sub-acute Neck Pain Ann Intern Med. 156:1-10.

19 Cassidy DJ, Boyle E, Cote et al. (2008) Risk of Vertebrobasilar Stroke and Chiropractic Care: Results of a Population-Based Case-Control and Case-Crossover Study Spine 33(4S):S176-183.

20 Cassidy JD, Bronfort G, Hartvigsen J (2012) Should we abandon cervical spine manipulation for mechanical neck pain? BMJ;344:e3680.

21 For more on the Art of Communications see the November 2005 *TCR*.