Bias and ignorance in medical reporting

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Introduction

When reviewing the Canadian Chiropractic Protective Association files for the purpose of obtaining information on various subject matters, a consistent and disturbing trend was recognized. Numerous reports furnished for the plaintiff/claimant by the medical physicians contained veritable examples of bias, prejudice, or simple ignorance.

These medical doctors seemed to have a purpose other than objective reporting of the facts. They were openly critical of aspects of a chiropractic treatment, diagnosis, examination, or standards of care. The reports contained some statements that may be marginally acceptable in some circumstances, while other statements made are unequivocally inappropriate. One such example includes an unnamed medical doctor who had informed the patient that the death of her fetus was due to the chiropractic treatment. The patient had had four previous miscarriages, and was taking part in an experimental study.[1] Obviously this is an extreme and overt statement, but it heads the list of allegations reflecting the widespread inclination that medical doctors have.

The allegations are compounded by the fact that *not a single case* referenced in this article has evidence of any form of communication between themselves and *any* chiropractor. There was no investigation into what the average chiropractor might do, either by a visit to an office, correspondence, or a simple phone call. The physicians are unfamiliar with a typical chiropractic treatment and how the treatment is planned and applied. The assertion is that there is a foregoing and inherent knowledge of the situation when, in fact, there is none. An accountable opinion is based on a more cognizant approach.

Standards of care

When called upon to give a professional opinion, practitioners must use the knowledge that is within their professional capacity. This means that any stated opinion beyond the realm of their profession is unsuitable and useless. When medical doctors take issue with the standard of care as it applies to chiropractors, they are overstepping their capacity as medical doctors. A chiropractor is the only one who may address the issue of a *chiropractic* standard of care. This does not stop physicians from stating these opinions in their reports.

Standards of care – example 1

Dr. D reported on a case involving a patient who experienced a cerebral vascular accident following a chiropractic treatment. He questioned the fact that the chiropractor adjusted the cervical spine a second time after the onset of 'slight blurring of vision' in one eye with an absence of nausea, dizziness or other neurological symptomatology. His discussion of whether a second adjustment was appropriate or not was quite reasonable. However, Dr. D believed that the chiropractor had "failed in his duty toward (her) by not exercising the degree of care, competence or skill which one expects from an experienced chiropractor."[2] The physician's comment was extraneous, since a true and valid assessment of chiropractic skill and competence can only be done by a chiropractor.

Standards of care – example 2

Similarly, Dr. P accused the chiropractor of misdiagnosing and falling below the acceptable and "recommended medical up to date standards of care," with respect to the treatment of a cervical disc herniation.[3] Again, his application of a medical standard of care to a chiropractic diagnosis and treatment is pointless.

The physician also acknowledged in his report that the manipulation was not the cause of the patient's cervical

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disc herniation. This concession seems very fair, however, the physician does not leave it at that. Thereafter he stated that he did not know when the herniation began, *during* or before the treatment. He was either confused as to whether the manipulation caused the herniation or not, or he was deliberately providing his reservations on this issue. The application of the adjustment is a very key matter when addressing causation. Interestingly, the patient did not receive chiropractic adjustments at the level of the disc herniation. The physician completely ignored this fact when formulating his report.

Standards of care – example 3

The basis of the following comment on the chiropractor's standard of care relies on information from the claimant only. Dr. G allowed himself to accept the patient's version as fact, and refrained from further exploration. He formulated a statement on the chiropractor's standard of care and assumed that the patient's declarations were authentic. An assumption such as this is dangerous because it neglects the chiropractor and solidifies the patient's position. This determination would have been acceptable if the chiropractor was acting negligently or his treatment was causative, but the physician cannot confirm this without the chiropractor's version of the events.

According to Dr. G, "(She) stated that the chiropractor made no enquiry (sic) regarding her general health and specifically asked no questions about osteoporosis or previous rib or other fractures prior to manipulating her." In actuality, the chiropractor had taken a history. The history included the onset (i.e., "one year ago"), previous therapy (i.e., "physiotherapy"), and the symptom description. Other complaints (i.e., "*osteoporosis*"), and medications presently being used (i.e., "*calcium*, anti-inflammatory, multiple vitamin"), were also noted. This chiropractor deemed that previous attempts to relieve her long-standing condition had not succeeded, and that spinal manipulation could help her. The chiropractor performed adjustments on the first and second days, with the rib fracture occurring on the second visit. Incidentally, following the second adjustment and the onset of pain the patient disclosed her 'tendency to fracture ribs' to the chiropractor. The patient was advised to have X-rays done after icing the area, resting, and consulting her family physician. X-rays taken at the hospital revealed no fractures. It appears that Dr. G was unaware of the chiropractor's actions and reactions that day when he commented further in his report. "His failure to summon aid for her when she was clearly in pain only served to inflame her anger," he reported.[4]

Standards of care – example 4

In a separate case, the patient had a history of scoliosis, and presented with complaints of sinus problems and chest congestion. She was also seven months pregnant, and x-rays were contra-indicated. The chiropractor examined her and treated her on the initial visit with an activator instrument at the C2 and T4 vertebrae. He chose this mode of conservative treatment for a pregnant patient with increased joint laxity, due to its low force application. She returned for a second appointment with a new complaint of shoulder pain. She had applied ice for *three quarters of an hour* in an attempt to relieve the discomfort. The chiropractor examined the patient and treated the T4–5 rib articulations with the activator. The patient had no further adjustments. The medical doctor determined that, "...there is undisputed evidence in the medical literature that structural scoliosis such as (hers) cannot be corrected by any form of manipulation," hence misinterpreting the purpose of the manipulation.

Dr. W attempted to couple the chiropractic treatment and the origin of the pain later in the same report. Dr. W stated, "I do not know the exact cause for (her) continuing symptoms." "The pain is likely due to the abnormal position of the scapula and movement on the posterior thoracic cage due to the rib hump from the thoracic scoliosis. ... Sometimes this painful click can be caused by trauma and the temporal relationship between the patients (sic) onset of symptoms and chiropractic manipulation suggests that a causative link exists," he speculated. With ambivalence, he concluded, "However, I cannot state with certainty that the back manipulation by the chiropractor caused (her) symptoms."[5]

The patient was diagnosed with osteochondroma of the internal surface of the scapula, and had 'shoulder' pain as a result of irritations of the underlying structures. A surgical excision of the projection took place. The result of the initial surgery was less than satisfactory, so the physicians and surgeons decided to make a second attempt. The second surgery did not alleviate her symptoms either. In the end, four separate specialists believed that the activator treatment was the source of the girl's problems, in spite of the failed surgeries.

Standards of care – example 5

Most physicians do not simply restrict comments, which impugn chiropractors, to a single issue such as a standard of care. If a report is unsuitable, it is customarily due to several improprieties. Such a case occurred when a physician described a "temporal and causative relationship between the manipulation and the patient's worsening of symptoms." In addition, he commented on a standard of care as it applied to "standard *medical and surgical* (emphasis added) practice." The patient herniated a cervical disc *at work*, and *presented* with symptoms of a cervical radiculopathy.

Dr. M made his conclusion of a temporal and causative relationship using other (contradictory) medical reports. In one of the four physicians' reports used, a link to the manipulation was not suggested. A second medical doctor suggested that the chiropractor *caused* the radiculopathy. In his first report, the third physician indicated that the manipulation created numbness in the fingers in addition to pre-existing arm and shoulder pain. He indicated in a second report that the symptoms in the arm began *after* the manipulation. The fourth report was his own report.

As evidenced prior to the first visit, and in spite of the manipulations, the symptoms continued to progress. The chiropractor's treatments did not help the patient, but they did not develop or accelerate his condition either.

In any case, the literature supports the chiropractic treatment of a condition such as the one represented here. It determines that chiropractic manipulation can be appropriately administered as an alternative, or rendered previous to a more invasive surgical procedure.[7,8,9,10,11]

Every doctor should provide a quality of services deemed acceptable by their profession. If the doctor in question is found to fall below the generally accepted standards, the claim is validated. Standards of care that health care practitioners should adhere to are very important in a liability claim. Due to the importance, when a physician assigns a standard of care designed for physicians to a chiropractic situation, it has consequential effects on the claim. Couple this with a cursory assessment and a hasty judgment without all of the facts, or a misinterpretation of the chiropractic treatment and its purpose, and their report becomes heavily flawed.

Misconception

The majority of the population has an inherent and absolute trust in medical doctors. This invokes an exceedingly accepting behaviour, where individuals readily embrace and/or misinterpret physicians' directives. Assertions, made by a medical doctor maintaining an inter-professional hostility and/or rivalry, could lead to a patient's desire to initiate a claim against their chiropractor. In other situations they may establish misconceptions in the patient, subsequently lengthening the litigation process.

Misconception – example 1

A claim encloses a clear example of this. It involved a patient, treated by two chiropractors and physiotherapists, who had a clay-shoveler's fracture. The patient was involved in a motor vehicle accident (MVA) in May of 1984, and instituted the original lawsuit against the defendants claiming serious neck and back injuries. The neck injuries as a result of the MVA apparently did not include a clay-shoveler's fracture. The defendants argued that during rehabilitation and recovery the chiropractors aggravated the injuries. The claim was amended to include the chiropractors as defendants since they were alleging that the fractures (revealed on x-rays dated August 20,1987) were initiated after the accident. Dr. S, coincidentally a relative of the claimant, decided that the *only* link was to the chiropractic manipulations. Confident in his assessment, the physician says this in several reports. The claimant changed the statement of claim in February of 1988, after believing that the chiropractors had caused the fracture and created pain. One chiropractor never treated the patient during the alleged time that the fracture was caused. The claim never included the physiotherapists.[12] The outcome of this claim was that no negligence or causality could be proven. As a result, the claimant abandoned the case ... but not without cost. The claimant incurred $5,000.00 –$6,000.00 in legal expenses that she was obliged to pay.

This type of influence on the patient regularly results in significant consequences to both the patient and chiropractor. They endure months (years in several cases) of legal processes. An interruption of their normal daily life is inevitable. They incur significant expenditures during the proceedings. The immeasurable effects are far-reaching, and always include the chiropractic profession as a whole. The statements are damaging, even when proven to be unjust, unfounded or simply oblivious.

An appropriate plan of management

The responsibility of a doctor to a patient generally includes a comprehensive assessment and diagnosis in order to decide an appropriate plan of management. For chiropractors, this may influence their type of treatment or include a decision to not adjust the patient. Chiropractors' educational and clinical background certainly qualifies them to make these decisions. However, some physicians feel the need to make superfluous statements in regard to cervical manipulation.

Appropriate POM – example 1

Dr. H expressed, "I told him that I personally was frightened to manipulate peoples' necks because of the possibility of damage to the vertebral arteries and also because of the risk of causing significant disc prolapse." To express a fear of such a mild therapy demonstrates the physician's understanding (or rather, the lack of understanding) of the chiropractic manipulation. Chiropractic is viewed as a non-traumatic and non-invasive procedure, and a very safe treatment method when compared to any other protocol.[14,15,16,17,18,19]

Appropriate POM – example 2

Another patient, who experienced an internal carotid artery dissection, was "asked to forego any further neck manipulations."[20] Dr. P directs attention to the cervical manipulation, and infers it as the cause of the dissection. The cerebral vascular accidents associated with a chiropractic manipulation generally involve the basilar, or posterior arterial supply and not the carotid supply to the brain.[21,22]

As in the preceding example, the following three examples involve patients that experienced a cerebral vascular accident (CVA), an event which chiropractors consider to be a terrible although rare occurrence. In the authors' experience, chiropractor's would *not* proceed to manipulate the patient's cervical spine with an apparent risk of a CVA occurring, or of someone who has had a spontaneous or traumatic CVA. In normal circumstances, this does not necessitate an advisement from medical doctors to make such a decision.

Appropriate POM – example 3

The first chiropractor treated the patient with the activator. The activator is a device thought to reduce the risks of manipulation even further, due to the low forces involved. This factor is overlooked when Dr. C assessed the etiology. Going beyond his inference of causation, Dr. C complacently advised, "We would like to advise (her) to avoid chiropractic manipulation of her neck in the future."[23]

Appropriate POM – example 4

Dr. S states his opinion, shared by many other medical doctors, that *no* manipulation is appropriate, advisable or necessary at any time, even given the safety and relative benefits inherent in the procedure. He concludes, "... And the only remedy available to patients like (her) is the preventative remedy of not attending chiropractors."[24] If patients avoid using chiropractic services entirely, none of the benefits will be attained. Presumably, several individuals will thus continue to suffer. This certainly calls into question the purpose of damning statements such as the one shown above.

Appropriate POM – example 5

The physicians regularly misconceive the actual forces involved in manipulation, and extrapolate that the adjustment has damaging power. The forces, if put in a proper perspective, are comparable to normal daily activities.[25,26] Regardless, Dr. S cautions against seeking chiropractic care in any form due to the 'forces' of manipulation. Specifically, he says that, "It is my practice to advise my patients not to undergo chiropractic treatment involving these forces, because of this risk."[27]

The patient had experienced a cerebral vascular accident; the risk to which this leading neurologist is referring. In the same report, the physician comments on temporal factors that equate cerebral vascular accidents (CVA) with motor vehicle accidents (MVA). If the readers are questioning the authors' sensitivity on this issue, consider this fact. The physician accepted an eight year hiatus between the CVA and MVA as a reasonable time to establish a temporal link. It is quite evident that he makes a huge leap in logic, with no apparent scientific basis. When reviewing the case at hand, the physician uses the references to the MVA-CVA temporal relationship in an attempt to create a CVA-chiropractic treatment correlation. There is a perceptible ignorance of another possible etiology. His failure to compare the risk of a manipulation-associated CVA to risks associated with various medical interventions

(e.g., an arteriogram or NSAIDS) is also noteworthy.

Management of the chiropractic patient is gravely misunderstood by several physicians. The diagnostic ability of a chiropractor is comparable to physicians. Furthermore, chiropractors have a solid understanding of the contraindications and indications for chiropractic manipulation.[28,29] Reporting physicians that are not aware of the forces involved in an adjustment, or do not realize the benefits and/or the relative risks of a chiropractic treatment, are offering an uninformed opinion.

Evaluating without all the facts

Often physicians, involved in claims such as these, exclude all other factors and evaluate the situation prematurely. They observe the temporal relationship between the CVA and the chiropractic treatment and assume that that is the definitive source. At times, they can stretch this relationship beyond reason. The physician may ignore the fact that the treatment was either very benign, or has not involved an adjustment. In some cases the physician misunderstands (intentionally or accidentally, depending on the evaluator) what an adjustment is, and assesses the case discordantly. The physicians assume that all chiropractic adjustments are applied in an unusually positioned and consistent fashion, and with monumental forces.

Evaluating without facts – example 1

A prominent person in his field, Dr. F described, "The manéuver then was to 'wrench severely to the right, upwards and backwards until an audible crack was apparent' and that as many as three separate wrenchings occurred before the crack was heard."[30]

An interesting fact concerning this case is that the patient had an arteriovenous malformation supplied by both the posterior and anterior arterial supplies to the head. As mentioned previously, the basilar (posterior) supply to the brain is the one most often associated with chiropractic manipulation.[20,21] In this situation, the anomaly is supplied by *all* arteries to the brain, and would only need a trivial influence on *any* artery in order to create a disturbance. It could be speculated that this fragile structure is an accident-in-waiting, and a simple sneeze, cough or a bump on the head could have triggered the CVA. In this context, the relevancy of the adjustment is given different meaning. Nevertheless, Dr. C described the "chiropractic manipulation as one of three plausible explanations for the CVA." He added that the manipulation has a '70% probability' of causing the CVA.[31]

Evaluating without facts – example 2

It becomes clear how the adjustment is misunderstood when reviewing the next two examples. The chiropractors treated the patients with an activator instrument. The activator is applied with *neutral* head positioning, and with *low* force. If the reporting physicians were to personally witness the procedure, or contact a chiropractor to discuss the basic nature of the treatment, they would not offer the following statements. Dr. S felt that, "The probable cause is vertebral artery dissection induced by the accentric (sic) head position during manipulation ... (The head was) in extreme rotation and a slight degree of extension."

Evaluating without facts – example 3

Dr. B, in the second case, related his opinion that an "activator treatment is to reposition a *dislocated* (emphasis added) vertebrae (sic) by the application of a compressive force ..."[33] The purpose of an adjustment, more specifically an activator adjustment in this situation, is mistaken. Significantly improved inter-professional communication would readily prevent and dismiss the misconceptions. In the meantime, offhanded comments will continue and inspire dramatic images in the uninformed individual's mind, as is evidenced in the ensuing quotation.

Evaluating without facts – example 4

"Onset was related to chiropractic treatments in May 1985, ... where her neck was placed in a machine. ... Her head was turned rapidly one way then the other."[34] The machine was a Zenith Hi-Lo adjusting table.

Evaluating without facts – example 5

In addition to the communication breakdown with chiropractors, a physician may provide information derived entirely from medical references. Often the physicians' references are dubious, or they do not supply the source of their citation. Inevitably they use this information to support their assertions and gratuitous remarks. Dr. D, in the next example, offered his remarks on a case that consisted of a low back pain patient, treated conservatively with typical chiropractic manipulation. He stated, "Although I am not a chiropractor, I am aware of the method and mechanism of spinal manipulation." The physician evi-

dently wanted to justify his previous declarations of low back pain and annular tears of an intervertebral disc caused by a "forceful rotational stress." He believed that "such manipulations are not necessary," and "they have no prophylactic benefit." Trying valiantly to vindicate his report, he mentions manipulation as "well documented causes of tears of the disc and even ruptures of discs (not referenced in the report).[35] The authors will provide a more detailed demonstration later in this article how opinions, regarding disc herniation causation and treatment, are no longer acceptable when coupled to chiropractic manipulation.

Perhaps the most frustrating factor involved in reports denouncing chiropractors' actions is that the physicians very rarely communicated with a chiropractor. It is unsettling when a professional is asked to comment on an action and its consequences, and has never observed the action in question. It is extremely confounding when a physician condemns a chiropractor without hesitation, and is clearly not informed of all the facts.

Risks in a proper prospective

The risk of a cerebral vascular accident (CVA) occurring at or after a visit to a chiropractic office is minuscule, yet significant due to the seriousness of the event.[36,37,38,39,40,41,42,43] When such an incident does occur, physicians pursue the etiology in order to prevent a similar episode. Quite frequently a CVA is assessed with the help of an arteriogram, an invasive procedure that has inherent risks, not the least of which is a CVA. This is baffling when considering that the risk of a CVA occurring from a manipulation is much smaller than that of arteriograms and other invasive medical procedures, or 'benign' non-steroidal anti-inflammatory drugs (NSAIDs).[42,44,45,46,47,48,49,50] No one wishes to see a CVA occur, despite the cause. This is why we strive to obtain knowledge to reduce the incidence. However, in pursuit of this knowledge, if we ignore other relative risks, is the investigation worthwhile? A proper perspective is necessary to explore this situation.

The need for an understanding is quite reasonable, but does not justify a 'witch hunt.' In order to be gainful, the search for the cause must be comprehensive and include other possible etiologies.

The following neurologist, well respected among his peers, provided a consecutive series of reports.

Risks in perspective – example 1

"I also wondered if recent chiropractic manipulation might have pinched off his right vertebral artery. He has been prone to attend chiropractors in the past but doesn't recollect having any vigorous or extreme neck rotation within three weeks before his current troubles."[51]

"The patient clearly denied any further recollection of recent chiropractic manipulation. He did remember having jerked his neck suddenly when a welding spark got into his ear while he was in the lateral decubitus position. This might have been enough rotational injury to damage the vertebral artery."[52]

"I have asked him to contact his chiropractor to find exactly when he was last seen and what procedures were undertaken. ... He will try to tract (sic) down his chiropractor's records to better pursue the etiology of his trouble."[53]

He also recognized, but inevitably ignored, other possible sources of the patient's problem in an attempt to condemn the chiropractor's treatment. A physiotherapist's note outlined the neurologist's belief that the "stroke may have been caused by cervical manipulation by a chiropractor or it may have been by his sleeping position the night prior to the stroke."[54]

This is an excellent example demonstrating how a medical doctor's bias has initiated and prolonged a claim. The basis of the physician's 'words of encouragement' was merely a remote possibility of a stroke. Subsequent evidence lead to the conclusion that there was *no* stroke. Consequently, the plaintiff could not substantiate a claim for negligence or causation. The patient received no compensation for an unsustainable claim. All that was attained from a four year process was a patient worried that any trivial movement of his neck (e.g., a "sleeping position") would put him at risk of another 'stroke'.

Risks in perspective – example 2

In another case, a physician explored other feasible sources of a patient's CVA and mentioned the prospect of the chiropractor *or* the physiotherapist playing a role in the onset of the CVA.[55] He is the only physician to implicate the physiotherapist. A second physician simply stated the fact that the chiropractor treated the patient seven days before the CVA, and the physiotherapist treated the patient five days previous to the onset.[56] However, Dr. S felt, "It is more likely the chiropractic manipulation was the

direct cause of the vertebral artery injury."[57] Another physician also attached blame to the chiropractor (exclusively) by stating "that the chiropractic manipulation was the more likely stress on the neck which lead to the vertebral artery injury."[58]

Risks in perspective – example 3

Another matter, interesting for the physician's attempt to jump to conclusions, concerned a patient who was receiving regular chiropractic care with successful results. The patient presented with a new complaint of a stiff neck, was adjusted, and had immediate signs and symptoms. The chiropractor adjusted the patient a second time. The second manipulation, and the failure to recognize the subsequent events, was accepted as inappropriate. This indicated it was a negligent action by the chiropractor. However, the chiropractor's previous treatments were not inappropriate, nor was his first cervical adjustment that day. Nevertheless, the physician makes this statement. "I estimate that over a 10 year period she received approximately 150 adjustments to her neck. It's no wonder that she began to have neck problems." Over the ten year period, the chiropractor performed a total of 48 (*not* 150) adjustments for preexisting and chronic neck complaints. The medical doctor did not recognize that it was a new complaint, nor that the previous complaints were treated successfully.

Risks in perspective – example 4

Another CVA case where symptoms arose immediately, involved a patient with presenting symptoms of right cervical spine tenderness and sensitivity. The patient sought treatment from his family physician, and was prescribed muscle relaxants and pain killers. Eventually, the family physician made a referral to see the chiropractor. Within 48 hours of the third treatment the patient had progressive symptoms, later described as being caused by a bilateral cerebellar and central pontine infarction. The family physician made a surprising declaration, considering his referral, and judged the event(s) without close scrutiny.

"Unfortunately the normal anatomy in this area of the body as I understand it puts *any one* (emphasis added) of us at risk if chiropractic manipulations are undertaken in this area."[60] A bilateral vertebral artery dissection is an unlikely event following cervical manipulation, especially when simultaneously considering the normal anatomy of the area *and* the application of a single adjustment.

Risks in perspective – example 5

Dr. B believed that, "Vertebral artery dissection is a well recognized complication of neck manipulation and movement at the extreme neck positions."[61] Manipulation was not done at extreme neck positions, since the patient was treated with an activator instrument in a neutral head position. Also, the MRI executed three days after the onset of the CVA demonstrated unremarkable carotid and vertebral arteries (therefore, making a diagnosis of a dissection questionable).[62]

Regarding cerebral vascular accidents, some physicians have the opinion that a cervical adjustment puts patients at great risk. Despite the very small possibility of such an event, physicians have an inflated image of the actual risk. Their advisement to avoid cervical adjustments due to the perceived risk is rather quizzical when several hundreds of thousands of adjustments are performed without incident every year. When patients regularly seek relief from ailments that are successfully treated by chiropractors, putting fear into the minds of patients due to a rare complication is over-protective and counter-productive. A realistic perspective needs to be applied to these circumstances.

Questionable references

Regardless, when pertaining to the cause of a CVA, the focus is clearly on the chiropractic adjustment. Regularly, and in various claims, the physician alludes to the extensive number of references to manipulation related cerebral vascular accidents in the medical literature. They occasionally include the referenced material with their report in an attempt to justify their stance. These references are often easily refuted under closer scrutiny. The case studies and reports reveal similar situations (i.e., involving a CVA), but draw conclusions based on less-than-scientific devices.[63]

Questionable references – example 1

Such is the case when Dr. P includes 'several'(34) references of manipulation-induced strokes in his report.[64] The assumptions made in these referenced articles prove to be just as far-reaching and gratuitous. Spinal manipulation has been demonstrated as a safe and conservative treatment of cervical complaints, with a low complication

rate.[65] The Canadian Chiropractic Protective Association (CCPA) has shown that the risk of a severe complication is in the neighborhood of 1 in 3 million.[41] An investigation of this risk is being continued by the CCPA.[66]

Questionable references – examples 2,3

Regardless, physicians such as Dr. N believe that, "... the consequence is a well known if uncommon complication of this procedure. This has been reported on a number of occasions in the medical literature."[67] Dr. H also felt that, "the medical literature, medical and chiropractic texts, and the experience of knowledgeable physicians, have clearly established the association between chiropractic neck manipulations and stroke. However, the frequency of this association is underestimated."[68] These comments are made despite the fact that reviews of the literature have revealed misreporting and slanted discussions.[62]

The following case involved a *bilateral* vertebral artery dissection with a resultant bilateral cerebellar and left pontomedullary infarct, which occurred one day after the chiropractic treatment. As discussed previously, this event is not evident in the literature and is unfamiliar to chiropractic.

Questionable references – example 4

"In recent years, there have been quite a few reports in the medical literature of the vertebral artery dissection occurring secondary to chiropractic manipulation of the neck. It seems to be more common in younger rather than older patients. I am aware of no other specific risk factors for this type of injury."[69] He offered this statement even though widely accepted risks associated with cerebral vascular accidents included high blood pressure, smoking, the use of birth control pills, hyperlipidemia and hypercholesteremia. At that time, there was no clear evidence, nor any attempts made at demonstrating a lack of associated risk factors.

Questionable references – example 5

A letter from Dr. M addressed the issue of manipulation related-CVA incidence in Manitoba. It read that the College of Physicians and Surgeons of Manitoba had knowledge of six cases of stroke due to manipulation by Manitoba chiropractors in the past four years (including a patient of Dr. H). It included an article about a $213,953.00 award to a New Brunswick man. The patient did not initiate a claim, likely because the chiropractor never adjusted this person's cervical spine.[70] When asked, the College declined to provide *any* names of 'validated' cases. Chiropractic organizations are unaware of any cases. The medical doctors involved claimed 'patient confidentiality' was the reason for their non-disclosure of specifics.[71]

All types of health care interventions have the potential for complications. In the interest of the health of the general public, the complications are identified and an effort is made to reduce the number and incidence of complications. Frequently the reporting physicians cite cerebral vascular accidents as a complication of cervical spine manipulation. Regardless of the purpose for their declarations, some physicians have an inproportionate concern over this issue. If there are concerned individuals who wish to question the chiropractic treatment and its virtues, it is to be hoped that they can include specific and valid evidence.

Treatment of disc herniations and low back pain

Within the past few years, chiropractic has begun to enjoy the endorsements from sound scientific research. Studies, such as the Manga report in Ontario, the AHCPR report and a study by the RAND corporation in the United States, the Meade study and the British government guidelines have demonstrated the efficacy and/ or appropriateness of utilizing spinal manipulation for a patient with low back pain.[72,73,74,75,76] Other well-researched studies are showing how some cases of disc herniations (of the lumbar and cervical spine) are managed with spinal manipulation and have a positive outcome.[7,8,9,10,11,77,78,79,80,81] It has also been demonstrated that approximately 40% of the population over the age of 40 have disc herniations that are asymptomatic.[82] In addition, we know that sudden disc loading (e.g., with industrial lifting injuries) or gradual, repetitive forces over time can initiate a disc herniation. The chiropractic adjustment only plays a role in eliminating symptoms associated with a disc herniation, not in causing the herniation.[76,77] Chiropractors are evaluating discogenic low back pain and managing it accordingly. Despite the literature, some still do not believe the results.

Disc and LBP treatment – example 1

"I certainly do not believe in manipulating spines for discogenic pain. The only time I have recommended ma-

nipulation of joints is for locked facet joints and that diagnosis is extremely difficult to make without the use of x-rays," explained Dr. L.[82]

Disc and LBP treatment – example 2

Dr. B purported, "Generally speaking in medicine when people are suffering from disc degeneration usually physiotherapy and manipulation do not work to a person's advantage."[84] Considering the studies referenced above, what mode of therapy would be beneficial to these patients?

Disc and LBP treatment – example 3

Dr. S attributes the 'disc implosion' to the chiropractor's 'forceful manipulation.' This physician goes to the length of looking up a method of manipulation in a book by Dr. Cyriax to evaluate the forces applied during the manipulation. The method was a long lever method not used by this particular chiropractor.[85]

In the same matter, a revered neurologist and professor indicated, "It seems most inappropriate and dangerous for any practitioner claiming to have knowledge of spinal disease to carry out a manipulation of the lower back in someone presenting with classical symptoms of disc herniation."[86] The patient had a rapidly progressing herniation that originated while lifting at work, was aggravated by a sneeze, and proceeded to become a case of cauda equina. Treatment was given to provide relief, and on an emergency basis. The treatments did not appear to aggravate the condition, and certainly could not be considered 'dangerous'. The chiropractor had previously identified a sensory loss and was aware of her history of intermittent stress incontinence. In the chiropractor's haste to alleviate the pain, he did not recognize that 'numbness from the waste down' and urinary retention equated to a cauda equina syndrome. However, the chiropractor was not alone, as the patient was admitted to the hospital after a consultation with a medical physician three days later. Surgery for the cauda equina syndrome was not performed until a *fifth* day after the chiropractic treatment.

Disc and LBP treatment – example 4

In a similar case, Dr. D felt that, "Manipulation has significantly contributed and probably caused the acute onset of her cauda equina syndrome." His erroneous speculation led to the assumption that the impending paraplegia was the result of chiropractic manipulation. He added that, "Although rare, it (paraplegia secondary to manipulation) certainly occurs and in my work in spinal cord injury I have seen approximately 10 cases of paralysis that occurred immediately following manipulation."[87] The cases, unknown to the authors, are not referenced in the report, obliging the reader to believe his statements without query. The world-leading medical expert in this area declared that it was a spontaneous event, and included his opinion that the manipulation had nothing to do with the patient's cauda equina.

Disc and LBP treatment – example 5

Occasionally reports on the appropriateness of treatment will contain opinions contradictory to popular belief while still remaining negative, as evidenced in the following illustration. Dr. M stated, "These manipulations are performed serially until the patient improves. The improvement takes place over several weeks and this is quite comparable to improvement that takes place in patients who have no treatment at all or simply rest at home. Therefore I believe that the chiropractic manipulation is largely ineffectual to do anything."[88] This is quite a contrast to the opinions that form the most consistent trend seen in all CCPA claims. Dr. T expressed in the same incident that, "The chiropractor made the sprain into a herniation."[89] His opinion is more comparable to the common, deep-seated belief that chiropractic manipulation creates disc herniations in the lumbar and cervical spine.

Disc and LBP treatment – examples 6–10.

The reason for the existence of this sentiment is unclear, but is clearly negative and widespread, as evidenced in the following examples.

"It is my feeling that the chiropractic manipulations were *definately* (sic) *responsible* (emphasis added) for his (cervical) disc protrusion," a physician reported.[90]

Another cervical disc herniation case had three separate physicians claiming that the treatments were 'contra-indicated',' causative', and/or included 'forcible manipulations ... that precipitated the herniation'.[91,92,93] After five years of litigation, the claimant was finally convinced that the case could not be substantiated.

Similarly, a patient with chronic recurrent low back pain experienced a lumbar disc herniation. Once again, three medical doctors provided the belief that the hernia-

tion was 'due to the chiropractic manipulation.[94,95,96] The unsubstantiated, uncompensable claim lasted seven years. "On the basis of the history provided, I think it is reasonable to conclude that the manipulations precipitated the radiculopathy," reported Dr. B in an additional exemplification. The physician admitted that, "I did not pursue any further details as to the exact nature of the treatments and the exact nature of the manipulations," and, "could not provide any further comment."[97] Admittedly without any real knowledge of the situation, the doctor assumed that a cervical disc herniation was a natural consequence of manipulation.

Dr. G attributed spinal manipulation as the causative factor of a lumbar disc herniation.[98] A later report by a colleague opposed this attribution, saying that the herniation was initiated prior to the first chiropractic treatment.[99]

The literature and clinical experiences will continue to support the treatment of low back pain and disc herniations with chiropractic spinal manipulation. The physician who does not believe that chiropractic management of these patients is appropriate, and beneficial in most instances, will be part of an uninformed minority.

Frequent allegations

The indictments by reporting physicians are epidemic, and frequently affect an existing claim. This is the case when Dr. T states his opinion in the outpatient record and a report. He asserts in his first account that the chiropractic manipulation may have been the cause of a fractured jaw, but was more likely the blow incurred via an elbow while playing basketball. One month later, in a letter to a solicitor, he claims that the manipulation was the sole cause, not the incident while playing basketball.[100]

In a separate case, a neurologist stated, "If I can embellish (emphasis added), in any way, (her) position please let me know. I am quite keen to see justice done in this case."[101] In any claim, unbiased reports help to obtain true justice; a consequence that biased reports do not deliver.

Unbiased reports are expected

An orthopaedic surgeon offered his comments on a case that involved a patient with a symptomatic cervical disc herniation. When questioned if a spinal manipulation could cause an intervertebral disc injury, Dr. M said, " I would defer to chiropractic opinion and chiropractic literature. Whether or not the forces generated by spinal manipulation exceed any particular intervertebral discs' physical tolerance is beyond my area of expertise." Additionally, he assessed another physician's conclusion that the cervical manipulation caused the patient's central disc herniation by saying, "While I would not necessarily disagree, I would inform the reader that this causal connection has not been proven. While there is no doubt that the patient's symptoms seem to have begun acutely following a spinal manipulation, and there is no doubt that the patient does by MRI have a central disc herniation, it is by a leap of faith that one can say the spinal manipulation caused a disc herniation ..." Dr. M adds in his report, "I cannot argue chiropractic theory and practice, wherein this may be a standard approach ..."[102]

The authors recognize that not all reports are speculative or suppositional. An objective and fair assessment by any reporting doctor (physician or chiropractor), as demonstrated with Dr. M's report, is not only appreciated but expected.

Summary

The purpose of this article is to demonstrate to the reader the misinformation that is being presented. Considering the fact that the medical doctors are intrinsically accepted as authority figures, the reports provide the potential for great consequences. The denouncements, well-intentioned or not, are not based on reason or science but merely bias and ignorance. The results are not limited to litigation (a dire consequence in itself). There can be an erosion of patients' trust, discord between professions, and/or a lack of respect for another bona fide health care provider, specifically the chiropractor. It is hoped that this article will inspire objectivity and fairness in all future legal reporting.

References

1 CCPA File # L0-1577, report dated April 1990.
2 CCPA File # L0-1512, report dated September 26, 1994.
3 CCPA File # L3-6021, report dated November 17, 1993.
4 CCPA File # L0-1995, report dated November 13, 1990.
5 CCPA File # L9-425, report dated November 23, 1987.
6 CCPA File # MBL 860748, report dated April 4, 1995.
7 BenEliyahu DJ. Chiropractic management and manipulative therapy for MRI documented cervical disc herniation. JMPT 1994; 177–185.
8 Saal J. Nonoperative management of herniated cervical

intervertebral disc with radiculopathy. Spine 1996; 21(6):1877–1883.
9 Brouilette DL, Gurske DT. Chiropractic treatment of cervical radiculopathy caused by a herniated cervical disc. JMPT 1994; 119–123.
10 Tibbles AC, Cassidy JD. Cervical disc herniation missed at operation: a case report. JCCA 1992; 36(1):17–21.
11 Maigne JY, Deligne L. Computed tomographic follow-up study of 21 cases of non-operatively treated cervical intervertebral soft disc herniation. Spine 1994; 19(2):189–191.
12 CCPA File # L8-170, reports dated August 20, 1987, October 29, 1987, August 30, 1988.
13 CCPA File # L0-2079, report dated July 20, 1990.
14 Terrett AGJ, Kleynhans AM. Complications from manipulation of the low back. Chiro J Aust 1992; 22:129–149.
15 Spitzer WO, Skovron ML et al. Scientific Monograph of the Quebec Task Force on Whiplash-Associated Disorders: Redefining Whiplash and its Management. Spine 1995; 20:8S.
16 Terrett AGJ. Vascular accidents from cervical spine manipulation: report of 107 cases. J Aust Chiro Assoc 1987; 17:15–24.
17 Greenman PE. Principles of Manual Medicine. Williams and Wilkins, Baltimore, Maryland. Chapter 13. 1989.
18 Eder M, Tilscher H. Chiropractic Therapy: Diagnosis and Treatment. English trans. ed. Gengengbach MS. Aspen Publishers, Rockville MD. p. 61. 1990.
19 Maigne R. Orthopaedic Medicine – A New Approach to Vertebral Manipulation. trans. ed. Lieberson WT. Charles C. Thomas, Springfield, IL. 159–160, 282. 1972.
20 CCPA File # L0-1513, report dated July 25, 1989.
21 Haldeman S, Kohlbeck FJ, McGregor M. Cerebrovascular complications following cervical spine manipulation therapy: A review of 53 cases. Conference Proceedings of the Chiropractic Centennial Foundation. Washington, DC; July 6–8, 1995.
22 Terrett AGJ. Vascular accidents from cervical spine manipulation: the mechanisms. J Aust Chir Assoc 1987; 17:131–144.
23 CCPA File # L3-5936, report dated December 16, 1993.
24 CCPA File # TDL: 7/1328, report dated May 14, 1987.
25 Kawchuk GN, Herzog W. Biomechanical characterization (fingerprinting) of five novel methods of cervical spine manipulation. JMPT 1993; 573–577.
26 Allen ME, Weir-Jones P et al. Acceleration perturbations of daily living. Spine 1994; 19(11):1285–1290.
27 CCPA File # L3-5516, report dated December 19, 1994.
28 Guidelines for Chiropractic Quality Assurance and Practice Parameters. Proceedings of the Mercy Center Consensus Conference. 1993. ed. Haldeman S, Chapman-Smith D, Peterson DM. Aspen Publishers, Gaithersburg, Maryland.
29 Clinical Guidelines for Chiropractic Practice in Canada. ed. Henderson DJ, Chapman-Smith DA, Mior S, Vernon H. Suppl. to J Can Chiropractic Assoc. 1994; 38(1).
30 CCPA File # L8-192, report dated November 3, 1986.
31 CCPA File # L8-192, report dated June 14, 1984.
32 CCPA File # L3-5936, report dated November 2, 1993.
33 CCPA File # L3-5936, report dated June 23, 1996.
34 CCPA File # L8-146, report dated June 2, 1987.
35 CCPA File # L8-191, report dated September 16, 1986.
36 Cyriax J. Textbook of Orthopaedic Medicine. Vol. 1. Diagnosis of Soft Tissue Lesions, 7th ed. London: Bailliere Tindall. 1978; 165.
37 Hosek RS, Schram SB, Silverman H, Meyers JB. Cervical manipulation. J Amer Med Assoc. 1981; 245:922.
38 Guttman G. Injuries to the vertebral artery caused by manual therapy. Manuelle Medizin 1983; 21:2–14.
39 Haldeman S. Mason v. Forgie, S/C/1959/82, Court of Queen's Branch, New Brunswick, Canada, decision dated December 17, 1984.
40 Dvorak J, Orelli F. How dangerous is manipulation to the cervical spine? Manual Med 1985; 2:1–4.
41 Henderson DJ. 1992. Vertebral Artery Syndrome. In: Chiropractic Standards of Practice and Quality of Care. Chap. 6. ed. Vear JH. Aspen Publishers, Gaithersburg, Maryland. 115–143.
42 Carey PF. A report on the occurrence of cerebral vascular accidents in chiropractic practice. JCCA 1993; 37(2):104–106.
43 Carlini WG et al. Incidence of Stroke Following Chiropractic Manipulation. Abstract, American Heart Association's 19th International Joint Conference on Stroke and Cerebral Circulation. San Diego, February 19, 1994 and AHA news release.
44 Wishart DL. Complications in vertebral angiography as compared to non-vertebral cerebral angiography in 447 studies. Am J Roentgoenol Radium Ther Nucl Med. 1971; 113: 527–537.
45 Fries JF. Assessing and understanding patient risk. Scand J Rheumatol. 1992; Suppl. 92:21–24.
46 Fries JF. In: Marsa L. America's Other Drug Problem. September 29, 1996, Los Angeles Times Magazine.
47 Tettenborn B et al. Postoperative brainstem and cerebellar infarcts. Neurology 1993; 43:471–477.
48 Rocha v Harris (1987) 39 CCLT 279, 283. A Canadian case, expert testimony of Dr. Lawrence Clein, neurosurgeon.
49 Fager C. The age old back problem: new fad same fallacies. Spine 1984; 9:326–328.
50 Cloud DM, Ingram D. Gloucester County Times, 13 March 1994. Quoted by: Rosner AL. Cervical chiropractic manipulations: a perspective on the risk of cerebrovascular accidents. J Chiropr 1994 (May); 31(5): 31–33.

51 CCPA File # MBL 860716, report dated February 5, 1990.
52 CCPA File # MBL 860716, report dated March 5, 1990.
53 CCPA File # MBL 860716, report dated September 24, 1990.
54 CCPA File # MBL 860716, report dated March 30, 1990.
55 CCPA File # TDL:6/75, report dated October 9, 1985.
56 CCPA File # TDL:6/75, report dated October 24, 1985.
57 CCPA File # TDL:6/75, report dated August 2, 1985.
58 CCPA File # TDL:6/75, report dated October 20, 1985.
59 CCPA File # L0-1512, report dated January 20, 1992.
60 CCPA File # L8-179, report dated October 27, 1987.
61 CCPA File # L3-5936, report dated May 31, 1996.
62 CCPA File # L3-5936, report dated November 4, 1993.
63 Terrett, AGJ. Misuse of the literature by medical authors in discussing spinal manipulative therapy injury. JMPT 1995; 18(4):203–210.
64 CCPA File # L0-1512, report dated August 16, 1991.
65 Coulter ID, Hurwitz EL, Adams AH, Meeker WC, Hansen DT, Mootz RD, Aker PD, Genovese BJ, Shekelle PG. The Appropriateness of Manipulation and Mobilization of the Cervical Spine. RAND Santa Monica, California. Document No. MR-781-CR. 1996.
66 Carey PF, Haldeman S, Townsend GM. The incidence of cerebral vascular accidents following chiropractic cervical manipulation – A study of Canadian cases from 1986–1995. In progress.
67 CCPA File # L2-3967, report dated June 2, 1993.
68 CCPA File # TDL:7/1328, report dated October 22, 1987.
69 CCPA File # L8-179, report dated May 19, 1987.
70 CCPA File # TDL:6/133, report dated November 19, 1985.
71 Lecker BE. Personal communication. Taken from letters and memos from the College of Physicians and Surgeons of Manitoba.
72 Manga P, Angus D et al. The Effectiveness and Cost-Effectiveness of Chiropractic Management of Low-Back Pain. 1993. Pran Manga and Associates. University of Ottawa, Canada.
73 Bigos S, Bowyer O, Braen G et al. 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. 1994.
74 Shekelle PG, Adams AH et al. The Appropriateness of Spinal Manipulation for Low Back Pain: Project Overview and Literature Review. RAND, Santa Monica, California. Monograph No. R-4025/1 - CCR/FCER. 1991.
75 Rosen M, Breen A et al. Report of a Clinical Standards Advisory Group Committee on Back Pain. Her Majesty's Stationery Office (HMSO). London. 1994.
76 Meade TW, Dyer S et al. Low-back pain of mechanical origin: a randomised comparison of chiropractic and hospital outpatient treatment. BMJ 1993; 300:1431–1437.
77 Cassidy JD, Thiel HW, Kirkaldy-Willis KW. Side posture manipulation for lumbar intervertebral disc herniation. JMPT 1993; 16(2): 96–103.
78 Quon DC et al. Lumbar intervertebral disc herniation: treatment by rotational manipulation. JMPT 1989; 12(3).
79 Kuo PP-F, Loh Z-C. Treatment of lumbar intervertebral disc protrusions by manipulation. Clin Orthop 1987; 215:47–55.
80 d'Orano J, Conrozier T et al. Effects des manipulations vertebrales sur la hernie discale lombaire. Rev Med Orthop 1990; 19:21–25.
81 Stern PJ, Cote, Cassidy JD. A series of consecutive cases of low-back pain with radiating leg pain treated by chiropractors. JMPT 1995; 18(6):335–341.
82 Wiesel SW. A study of computer-assisted tomography: the incidence of positive CAT scans in an asymptomatic group of patients. Spine 1984; 9(6):549–551.
83 CCPA File # L0-1452, report dated February 20, 1990.
84 CCPA File # L8-020, report dated June 8, 1989.
85 CCPA File # L9-963, report dated April 8, 1988.
86 CCPA File # L9-963, report dated February 8, 1988.
87 CCPA File # L9-628, report dated February 2, 1993.
88 CCPA File # TDL:6/148, report dated October 11, 1988.
89 CCPA File # TDL:6/148, report dated November 6, 1985.
90 CCPA File # L0-1449, report dated May 23, 1989.
91 CCPA File # L2-4004, report dated September 21, 1994.
92 CCPA File # L2-4004, report dated June 8, 1993.
93 CCPA File # L2-4004, report dated July 18, 1990.
94 CCPA File # L8-304, report dated November 20, 1990.
95 CCPA File # L8-304, report dated December 8, 1988.
96 CCPA File # L8-304, report dated April 24, 1987.
97 CCPA File # L0-2500, report dated February 5, 1991.
98 CCPA File # L9-1184, reports dated July 19, 1988 and November 9, 1989.
99 CCPA File # L9-1184, report dated November 12, 1992.
100 CCPA File # L8-140, reports dated June 26, 1986 and July 28, 1986.
101 CCPA File # L8-037, report dated June 3, 1988.
102 CCPA File # L4-6447, report dated December 19, 1996.