THE CHIROPRACTIC REPORT

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Professional notes:

Chiropractic Expenses Recoverable as Medical Expenses - Recent U.S. Decision May Have Wide Application

State Farm Mutual Automobile Insurance v Gregg (Supreme Court of Mississippi, No. 57656, June 3, 1988) looked at the question of whether or not chiropractic expenses were included within a State Farm auto insurance policy which provided:

> "We will pay reasonable medical expenses for bodily injuries caused by accident, for services furnished within one year of the date of the accident. The expenses are for necessary medical, surgical, x-ray, dental, ambulance, hospital, professional nursing, and funeral services, eyeglasses, hearing aids, and prosthetic devices".

Dorothy Gregg, the plaintiff, injured her back in an automobile accident, received chiropractic care within the lawful scope of chiropractic practice in Mississippi, and presented her total bill of $920.00 to State Farm Mutual. The company agreed that $920.00 represented a reasonable and necessary charge for the chiropractic services provided, but argued that its policy did not include chiropractic.

The trial court agreed with Mrs. Gregg that 'medical expenses' included 'chiropractic expenses'. State Farm Mutual appealed. The Mississippi Supreme Court accepted the definition of 'medical' as being:

> "Pertaining, relating, or belonging to the

continued on insert page 1

WHIPLASH – Current Management and Systems of Prognosis

A. Introduction

1. Defence attorneys/lawyers, insurance professionals, and others sometimes suggest:

- Whiplash injuries and their management are quite well researched and understood. (This should be so - currently about 20 million Americans are suffering from symptoms of whiplash injury in the age of the auto.)[1]
- Symptoms not experienced/reported in the first 24 hours after an accident are unlikely to be caused by it.
- Most patients exaggerate whiplash symptoms because of litigation/insurance claims.
- Correctly treated, symptoms from a moderate soft tissue injury should subside within about 3 or 4 months.
- Chiropractic management, which gives emphasis to early and extended use of a variety of adjustive and manipulative techniques, is inconsistent with current medical principles of treatment.

The real evidence discloses that these and other common assumptions are wrong.

2. A lot remains unknown. The medical profession agrees that the nature of whiplash injuries and their recovery patterns are still poorly understood, and that the tools of diagnosis are very limited.[2]

There is not a single treatment for neck pain, the most common complaint following whiplash, that has objective trial evidence of effectiveness - not drug therapy, rest, use of collars, various forms of spinal manipulation from the most specific (chiropractic adjustment) to the more general (mobilizations), ultrasound and other physical therapy modalities, transcutaneous nerve stimulation (TNS), trigger point injection or acupuncture.[3] All the above forms of treatment have their confirmed advocates.

There are many similarities between chiropractic and medical management of injuries, and the value of team management is recognized.[4,5] However medicine has placed greater emphasis on rest and medication to relieve pain whereas chiropractic has traditionally introduced early active therapy and rehabilitation to promote restoration of function and normal lifestyle as soon as possible. There is now a clear move in medicine towards this chiropractic model of management, as there has been in the treatment of low-back pain.[6,7] Ameis MD, a Canadian rehabilitation specialist, warns that "passive management of whiplash injury may ultimately prove not to have been benign", counsels against extended rest and dependency on drugs, stresses that "recovery of function is the primary goal", and recommends early physical measures.[2] In a randomized study recently published in the British Medical Journal, Mealy MD and his colleagues followed patients with acute soft tissue whiplash injuries where:

- One group (30) was given "the standard treatment of rest and initial immobilization with a soft cervical collar".
- "Because the efficacy of this treatment is unknown" a study group (31) received "active treatment" - application of ice in the first 24 hours and then appropriate manipulative techniques and a regimen of daily exercises. (In essence, chiropractic management).
- At 4 weeks there was a statistically significant increase in cervical movement in the patients given active treatment, but not those given the standard treatment.
- At both 4 and 8 weeks the improvement in pain was significantly greater in the group given active treatment, and at 8 weeks this same group continued to show significant advantage in cervical movement.
- The researchers concluded that early active management was to be preferred.[8]

3. Establishing a reliable prognosis at an early stage, particularly important with whiplash because of third party considerations, remains vexing for all health professionals. In this report we look at whiplash, chiropractic management of injuries, and then an impressive new prognostic system developed by two California chiropractors, Stephen Foreman and Arthur Croft. This appears in their new text 'Whiplash Injuries: The Cervical Acceleration/Deceleration Syndrome'[1], described by the foremost medical author in this field, Ruth Jackson, as "the most remarkable compilation of scientific and factual data thus far published concerning the many facets of the cervical spine".[1]

B. Whiplash – General Comments

4. The head is at the end of a long lever beginning at the base of the spine. A few degrees of movement in the low-back are

magnified so that, as the head whips back into hyperextension or forward into hyperflexion, it experiences an acceleration force up to 2.5 times that of the striking vehicle.[9] In experiments dummies have sustained forces of 11G.[1]

5. Nature did not design the neck for this. The primary defence forces are the muscles, ligaments and joint capsules and these are the most common components of the resulting 'soft tissue injury'. Others include disc rupture, direct trauma to nerve roots, neurovascular compression, and perforation of the esophagus and pharynx.

6. Fractures and dislocations have been well documented in the literature, but soft tissue injuries have not and are described by Croft as "without question ... one of the most baffling and enigmatic of all human afflictions ... as ordinary as the common cold or headache ... (but) as elusive in definition, description and cure".[10] Mennell, MD agrees that "the whiplash injury to the neck is the most complicated injury to analyze".[11] The injury amounts to a 'neck sprain', and is far more problematical than a sprain to the ankle or any other region because:

a) The anatomy of the neck is so complex. (In the cervical spine there are 19 synovial joints, 8 pairs of interlaminar joints, the odontoid-atlas joint and 6 pairs of joints of Luschka. The nerve roots and sympathetic ganglia are in close proximity to the skeletal structures. The muscles are both tendinous and fleshy, and the ligaments are tight and cannot be differentiated - elsewhere, as Mennell points out, the ligaments are relatively resilient and discrete.)

b) There is a large range of movement.

c) The weight of the head cannot be shared or moved to other structures (compare other extremity injuries).

d) The soft tissue injury likely has several aspects. (One source of symptoms - such as torn sternocleidomastoid muscle - may be relieved while other unrecognized sources remain. Medical[12] and chiropractic authors agree that unrecognized joint dysfunction or subluxation produces more residual symptoms in the neck following whiplash than any other cause. There may be unrecognized damage to a second muscle group. It is common chiropractic experience where pain persists a year after a minor accident that trigger points (nodules or knots that develop within taut muscle fibres and become self- sustaining unless specifically treated) have been overlooked.[4])

e) There are complex relationships between various tissues and pain as represented in Fig. 1.

f) Delayed onset of symptoms produces uncertainty. (Timing depends on the nature and extent of injury. A period of 48 hours after the accident is accepted as the general dividing line[13,14] but it is not uncommon for pain to appear several days later, and occasionally after weeks or even months. Croft reviews the literature here.[14])

g) Lack of relationship between force of impact, injury, and symptoms. (All health professionals who work with whiplash victims know of major impacts producing little or no injury, and minor impacts producing significant injury and severe symptoms. Intermediary and aggravating factors include vehicle design and belting, personal factors such as age, pain tolerance and presence of pre-existing degenerative joint disease, and biomechanical factors such as precise head position at moment of impact. For example when the head is rotated 45° the natural range of extension is reduced by approximately 50%, limiting capacity for protective action, and increasing risk of injury. Extension with pre-existing rotation puts the anterior longitudinal ligament at greater risk of rupture.[15])

7. Emphasis is being given to neck injury because that is most common. The chiropractic literature also deals with the common clinical presentation of soft tissue injuries in the shoulder and thoracic and lumbar spine. Webb DC and Terrett DC suggest six mechanisms by which the lumbar pelvic region may be injured during whiplash.[9]

Classification

8. It is clinically useful and standard in chiropractic and medicine to classify soft tissue neck strains in three categories:

a) **Mild** (first degree spinal myofascial strain - uncomplicated). This describes injuries where there is rapid healing, minimal work loss, and the patient is symptom-free about six months after the injury. These are 'mild', but not 'slight' or 'trivial'.

b) **Moderate** (second degree strain). Serious symptoms, substantial work loss, and patients generally recover normal lifestyle within six months to two years - 50% will have functional recovery within 12 months. 'Functional recovery' is defined as ability to perform all normal activities with a competence reasonable for the patient's age, skill and needs.[16] However functional recovery may take some years longer, and the patient may never be entirely symptom free.

c) **Severe** (third degree strain). Often accompanied by other significant injury such as fracture or concussion. Symptom onset certainly within 48 hours. Long-term or even permanent disability. Many patients, up to about 15%, will never achieve a functional recovery.[17] 40-70% of patients will permanently have intermittent continuing pain and stiffness which is unpleasant but not materially disabling.[18]

9. The problem with real life is that many people do not fit into categories easily, sorely testing the patience of insurance carriers and health professionals who wish that they did. An apparently minor injury may continue to produce disabling symptoms much longer than anticipated. One reason may be inappropriate diagnosis and treatment, failing to address one aspect of the injury. But a second reason, so obvious that it is often overlooked, is that real people live on, aggravating their injury in moments of passion or times of stress or physical effort.

A third cause of continuing symptoms is early degeneration caused by the whiplash injury. Croft explores the mechanisms and evidence and concludes that "the high incidence of cervical osteoarthritis and spondylosis observed in those presenting with symptoms years after an acceleration/ deceleration injury suggests a strong causal relationship, especially when the disease is localized to one or two levels".[19] Hohl MD reported on 146 patients with soft tissue injuries but no pre-existing cervical degenerative changes and found that 39% developed premature degenerative change evidenced on x-ray, with 10% developing clinical symptoms of arthritis.[20]

10. There are plainly instances of exaggeration of symptoms because of the prospect of financial gain. However the evidence suggests this accusation should be made with caution. Macnab MD, a respected researcher, reports on a series of 266 patients amongst whom 45% continued to be symptomatic two years after settlement of financial claims.[15]

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study and practice of medicine; or the science and art of the investigation, prevention, cure and alleviation of disease" (*Black's Law Dictionary*, 5th ed. 1979).

While chiropractic care and expenses did not fall within the first meaning of 'medical' - relating to the practice of medicine - the Supreme Court held that it fell within the second wider definition and supported the judgement in favour of Mrs. Gregg.

When it works properly the law reflects prevailing social and public attitudes, and this is an excellent example. While the Supreme Court had one principle on which it could say that chiropractic expenses fell within medical expenses there was an equal argument the other way. This was that chiropractic expenses were excluded because the general term 'medical expenses' in the policy was then qualified by reference to a number of specific professions - including medicine, dentistry and nursing. Chiropractic could have been listed but was excluded.

In resolving that dilemma the Supreme Court clearly supported an interpretation reflecting the legal recognition and public acceptance of chiropractic in Mississippi. Mrs. Gregg had consulted an accepted professional in a reasonable manner. The same arguments advanced for her should have equal prospects of success in all other jurisdictions where chiropractic enjoys legislative recognition and general public support.

Researching Basic Chiropractic Theory

'Acute Effects of Spinal Manipulation on Gastrointestinal Myoelectric Activity in Conscious Rabbits', DeBoer A F, Schultz M, McKnight M E, Manual Medicine (1988) 3:85-94. PN 1

To explain clinical results chiropractic theory postulates changed visceral function arising from the effects of spinal subluxation. During the past 15 years there has been an increasing volume of basic scientific research testing this theory. Sato, MD and Swenson DC, in leading work published in JMPT in 1984, monitored clear effects on heart rate, blood pressure and sympathetic nerve activity in rats from thoracic and lumbar vertebral subluxation achieved by application of calibrated mechanical force.

DeBoer and his fellow researchers, working at the Palmer College of Chiropractic funded by the Foundation for Chiropractic Education and Research, have now published a study suggesting "that non-traumatic misalignment forces on spinal structures may have profound effects on visceral physiological activity" and providing "clear evidence of marked inhibition of gastroduodenal junction electric activity" in response to spinal manipulation in the thoracic region.

DeBoer and other researchers had discovered in previous studies that rabbits had a stable baseline pattern of GI EMG activity. Accordingly rabbits were chosen for this experiment. Electrodes were implanted on the gastric antrum and duodenal bulb to record myoelectric activity before, during and after spinal manipulation. Manipulation was then applied to create a vertebral lesion or 'subluxation mimic'. There was dramatic inhibition of EMG activity from the upper GI tract when manipulation was applied at T6. Similar manipulations at T1, T12 and L3 had progressively smaller effect. Control rabbits were given other pain-producing skin stimuli in the same areas, but no manipulation. There was no effect on GI EMG activity.

The search goes on, but here is tidy research confirming that specific spinal stimuli strongly influence specific physiological activities.

Manipulation in China

'Manual Medicine as Practised in China'. Kuo P P F Manual Medicine (1988) 3:95-99. PN 2

This is a fascinating article, which indicates parallels between chiropractic and Chinese traditional medicine. Note:

- Since the integration of traditional and modern medicine commenced in China in 1958, acupuncture and manipulation have become more respected and common in practice, not less as some might suspect, "resulting in better care for the patients". Manipulation "is one of the most common practices applied in traumatology and orthopaedics" and is now "achieving a unique place in medical treatment in China".
- 'Manipulation' is described to include various soft-tissue techniques but "the procedure most commonly used in manipulation is circumduction" which is similar to chiropractic cervical adjustment.
- The main purposes of manipulation in the setting of modern medicine are "to enhance the lymphatic and blood circulation, to stimulate the nerve endings for regulation of homeostasis in acute conditions, and to alleviate adhesions in joints and tissues in chronic conditions." Manipulation can be "considered as an alternative method of treatment of many diseases, but it will be effective only if it is used as one way in the protocol of treatment".
- Spinal manipulation requires detailed training, expertise and judgement. There is a review of the history of manipulation in China. 'Spring and Autumn Annals', published in 476 B.C., describes a dying prince cured by manipulation. The practice of manipulation first became a specialty in the Sui Dynasty (589-618 A.D.) at which time manipulators were officially designated 'doctors of manipulation'.
- In the Sung (960-1280 AD) and Yuan (1280-1368 AD) dynasties manipulation

Quote-of-the-Month

"In 1955 Gutzeit identified two important historical starting points essential in documenting the importance of spinal disorders and in understanding their clinical appearance:

1. The operation for the herniated intervertebral disc by Mixter and Barr (1934) by which the "rheumatic" ischialgia could be cured.

2. The perception by chiropractors and osteopathic physicians that pain caused by the joints of vertebrae can be influenced through manual treatment of the spine.

Both points are still significant. Diagnosis of the objective radicular failure or breakdown, clarification through radiology ... and palpatory examination of the spine and the neighboring soft tissue are all prerequisites for the establishment of a clear decision as to what procedure or procedures are to be applied".

'Neurological and Biomechanical Aspects of Back Pain' Jiri Dvorak, M.D., Berne, Switzerland in 'Empirical Approaches to the Validation of Spinal Manipulation', ed Buerger AA and Greenman P E, Charles C. Thomas, Springfield, Illinois (1985), 241.

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was studied on a theoretical basis and textbooks published. This branch of health care has been established and popular ever since.

Technikon Natal – MD Chiropractic

Chiropractic has a vibrant history everywhere, and this certainly applies to South Africa - but the profession takes a quantum leap forward in January 1989 when government-funded chiropractic education commences at the Technikon Natal in Durban.

There is a 5 year full-time program, closely modelled on CCE requirements, which leads to a Master's Diploma in Chiropractic (M.D. Chiropractic). This is followed by a 1-year mandatory internship. With respect to chiropractic in South Africa:

- The first chiropractors in South Africa, trained in North America, arrived in the early 1900's. The initial bid for legislation to regulate the profession was a bill presented to parliament in 1962. This led to a Commission of Inquiry that conducted no credible investigation of chiropractic education and practice, and defeated the attempted legislation.
- A second successful bid was made in 1971, at which time a Chiropractors' Act was passed. There were approximately 110 chiropractors, all educated outside South Africa. But the Act placed a temporary freeze on new chiropractic practices, which ultimately stood for 14 years until 1985.
- In June 1985, despite heavy opposition from the medical and dental associations, legislation was passed allowing new registrations, providing the basis for a South African chiropractic college, and laying the grounds for rapid growth in the profession.
- South Africa's 120 chiropractors now face the severe cost of establishing the chiropractic college in Durban, US$750,000.

This is to establish facilities and faculty, then part fund the course during the first 6 years until full state subsidies apply. Expatriate South Africans and other chiropractors may wish to offer financial support. In response to the question you may be asking, the chiropractic program is non-racial. (Contact: G. T. van der Walt, D.C., President, Chiropractic Association of South Africa, 701 Poynton House, Gardiner Street, Durban 4002, Natal, South Africa).

- The majority of health care plans operating in South Africa provide for total and/or partial reimbursement of chiropractic fees and there has always been strong public support for the profession. However chiropractic has only truly established itself in a country when there is government-approved and funded education within the accepted tertiary education system - chiropractic in South Africa is now home.

FCER – First International Conference

Springtime in Washington, DC is delightful. That is where FCER is holding its first International Conference on Spinal Manipulation, March 31 – April 1, 1989.

This will be the first in a series of annual interdisciplinary research and education conferences devoted to the study of the human spine and its implications for health care.

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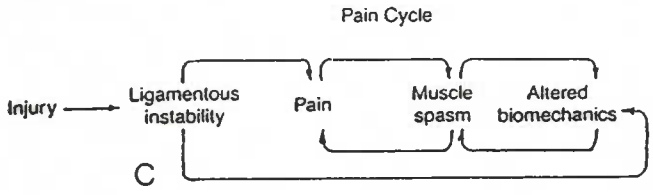
With a series of 61 patients Norris MD and Watt MD looked expressly at the possible influence of insurance claims, comparing improvement before and after settlement, and concluded that "litigation has little influence on symptoms".[21]

Figure 1



Schematic drawing illustrating the multiple mechanisms of the pain cycle.
From Foreman S M and Croft A C - see Ref. 1.

C. Treatment

11. Sound chiropractic management of whiplash injuries is, as one would expect, based upon the same principles as sound medical management - it is the emphasis that is different - which are:

- Accurate diagnosis of the bone, muscular, ligamentous, and joint disorders that are the sources of symptoms.
- Recognition that there will be relatively prolonged impairment and rational treatment should be progressive, recognizing phases of healing.
- At each stage considering ranges of motion in the spine, strength, balance and state of related musculature, general muscle tone and overall fitness, emotional state, and the continuing level of activities of daily living (ADL).

12. Croft gives a detailed review of the rationales for specific treatments in the acute, sub-acute, and chronic injury phases that are common to chiropractic and medicine, including rest, ice, ultrasound and other modalities, specific exercise programs, use of collars and other supports, traction - sometimes valuable but often mis-applied, and practical counselling on activities of daily living.

13. The significant differences between chiropractic and medical management of whiplash lie in:

- the chiropractic emphasis on diagnosis of joint dysfunction, commonly termed spinal subluxation; and
- the early use of spinal adjustment, together with mobilization and soft tissue techniques, to restore joint function, facilitate proprioceptive neuromuscular reflexes, relieve neurovascular compression, muscle spasm, and pain, and promote optimum healing of damaged soft tissues.

Whereas medical examiners generally must rely on overall range of movement in the cervical spine, chiropractors can accurately assess individual segmental dysfunction at each vertebral level - using a range of manual palpation techniques and flexion/normal/extension x-ray studies. These traditional areas of chiropractic education and practice are now gaining much greater understanding and acceptance by the medical profession.

14. A recent study in Canada asked 75 experienced chiropractors (in practice for more than five years) "how soon into your treatment program do you start to adjust an acutely sprained cervical spine". Four out of five (79%) adjusted from days 2 to 7, many (24%) on the same day as the injury in what were seen as appropriate cases. Techniques included soft-tissue manipulation, gentle mobilization, and light specific manipulations. 1 in 5 (16%) commenced adjustment between 8 and 14 days.[22]

15. One hears various criticisms of cervical manipulation concerning timing, frequency, safety and effectiveness, concerning which:

a) Much of the criticism of manipulation immediately following injury is from those with no skill or experience in this area, many of whom imagine a gross manoeuver putting newly injured soft tissues under wrenching forces. The chiropractic adjustive techniques in question are light, small and precise. The pre- adjustment positioning protects muscles and other adjacent soft tissues. The quality of movement is not unlike the first movement of a car key after insertion and prior to the ignition phase, or the cracking of a finger knuckle as commonly done by children at school.

b) Medical practitioners experienced in spinal manipulation agree that treatment of joint dysfunction by manipulation is essential to effective management of whiplash soft tissue injuries.[23,24] Maigne, a prominent French manual medical specialist, concludes in his leading text that cervical post-traumatic pain "always reacts well to manipulation", and then further says that "traumatic cervical pain ... offers still better therapeutic opportunities for manipulation" than acute low-back pain.[24]

c) It is said by some critics of cervical manipulation, who again usually have little relevant experience, that it involves unacceptable risk of harm. It is in fact far safer than various medical treatments for back and neck pain, including chymopapain injection[25] and cervical neuro-surgery, which has a 1-2% risk of paralysis[26]. The one material risk is vertebral artery syndrome which may very rarely lead to stroke (a .002% risk, or 2-3 incidents per million treatments[27,28]) and the most comprehensive independent inquiry into chiropractic concluded that all chiropractic manipulative techniques are "remarkably safe".[29] Jaskoviak reported on the National College of Chiropractic Clinics in Chicago for the period 1965 to 1980 - there was a record of an estimated 5 million cervical adjustments without a single case of vertebral artery injury or stroke.[30]

d) As to frequency of chiropractic adjustment, normal practice as described by leaders in the profession is to commence with 5-8 treatments over 2-3 weeks, during which there should be subjective and objective signs of improvement. After 4-6 weeks of a constantly improving clinical picture manipulation may be reduced to once per week. Chronic cases require an extended course of adjustment to restore and maintain normal joint mobility because concomitant muscle damage, spasm, and inflammation, and continuing activities of daily living, contribute to recurrent dysfunction.

e) In chiropractic there has undoubtedly been some over-use of spinal adjustment alone, as in medicine there has been over-prescription of rest, medication and use of collars. Some evidence of this appears in a recent Los Angeles study of 25 patients with chronic myofascial head and neck pain.[5] These patients had experienced pain for an average of 11.25 years and were all taking constant medication. Most had consulted a family practitioner and neurologist, and about a third had consulted an acupuncturist, allergist, chiropractor, internist, physical therapist and psychologist. (Each patient had seen 4.72 health practitioners on average).

In the study they were given an integrated treatment program which included cervical manipulation to eliminate joint dysfunction, spray and stretch techniques for trigger-point muscle problems, instruction on psychological relaxation skills, and teaching of specific home exercise programs.

On re-examination, and at 12 month follow-up, there was:

i) Highly significant reduction in self reports of pain; and

ii) A 90% reduction in drug use.

This suggests the importance of shifting the focus from specific approaches to integrated management.

f) As previously noted, however, the overall trend is to early active therapy and rehabilitation rather than rest and reliance on supports and medication, and this confirms the principles underlying traditional chiropractic management.

D. Prognosis

16. Whiplash injuries invariably involve insurance claims and legal issues of liability and financial compensation. Thus, even though much concerning the injuries involved remains obscure, and experience has shown that even moderate injuries may lead to years of disability and residual symptoms, the situation demands an early, accurate prognosis and the health professional must do his/her best.

17. Various systems have been devised within the chiropractic and medical professions over the years. In 1983 Norris and Watt, British medical specialists, suggested this threefold classification:

i) Patients complaining of symptoms related to their injuries but with no abnormality on physical examination.

ii) Patients with symptoms, and with a reduced range of movement of the cervical spine, but no abnormal neurological signs.

iii) Patients with symptoms, reduced range of movement of the cervical spine, and objective neurological loss.

They regarded this classification as useful to predict short-term prognosis of neck injuries from rear-end vehicle collisions, and identified as the most useful other indicator the presence of pre-existing degenerative change demonstrable on x-ray. These criteria gained widespread acceptance, but there has been a clear need for a more comprehensive and accurate rating system.

18. This seems now to have been provided by Foreman and Croft. In their new text they describe a numerical scale which they have found reliable in dealing with both insurance carriers and attorneys/lawyers, and which they conclude "will allow an accurate prognosis despite variations in patients and treatment responses". The essence of the system is:

a) Findings on physical examination provide the information needed for the patient's classification into one of three major injury categories (MICs) which correspond with those described by Norris and Watt (see para 17).

b) Radiographic examination and a patient questionnaire provide the information from which the presence or absence of seven 'clinical modifiers' can be ascertained. These clinical modifiers are the factors identified as being most significant for long-term prognosis and are:

- Canal size of 10-12mm (significant stenosis - higher incidence of neurological deficit over time).
- Canal size of 13-15mm (relative stenosis - similar effects as above).
- Straight cervical spine (produces uneven distribution of weight - associated with greater residual pain and stiffness).
- Kyphotic cervical curve (significantly higher incidence of degenerative change).
- Fixated segments (high incidence of degenerative change and poorer clinical recover).
- Pre-existing degenerative changes.
- Loss of consciousness (patient has suffered two injuries - twice the amount of post-traumatic degeneration).

c) Point values are given for MIC groups (10, 50, and 90 for MIC3) and each modifier (canal size 10-12mm - 20 points, straight cervical curve and pre-existing degeneration - 10 each, the others - 15 each) and a cumulative total is reached for each patient.

d) The total will place a patient in one of five 'prognosis groups':

Group 1. (10-30 points) Excellent prognosis - no objective findings and few modifiers. May be residual problems but mild.

Group 2. (35-70 points). Prognosis generally good but some risk of future neurological deficits and moderate residual symptoms.

Group 3. (75-100 points). Mostly MIC2 patients with several modifiers, poor prognosis with likelihood of future neurological deficits developing. More significant residual symptoms.

Group 4. (105-125 points). Prognosis guarded because of likelihood of persistent or future neurological deficits. Fair probability that surgical intervention will one day be necessary.

Group 5. (130-165 points). Patients who have suffered neurological deficits and have most of the modifiers. Clinical picture not likely to improve much.

Foreman and Croft give a detailed description of this system, together with case studies. They suggest to chiropractors and medical physicians that use of this prognosis scale not only provides the documentation required for third parties but also encourages careful diagnosis and proper management of the patient from the outset.[31]

E. Conclusion

19. Many innovations come from California, which embraces change a little more quickly than the rest of the world. Recent case law in that state establishes that a medical doctor has a legal duty to disclose all 'material' information to the patient, this being information that would be regarded by a reasonable person as significant in deciding to accept or reject medical procedures.

In a recent article Lewkovich, a chiropractor, and Wallenius, an attorney, argue that in typical soft-tissue whiplash cases this duty obliges an MD to inform patients that:

a) The use of rest, immobilization and symptom-suppressive medication may lead to delayed and impaired healing.

b) There are alternative and/or supplemental methods of care, including spinal manipulation, that may be more advantageous to the patient's recovery.[32]

20. The published evidence makes such a responsibility in law premature in most jurisdictions, but these views certainly reflect current trends worldwide and, we predict, will sound much less novel a few short years from now.

References: *see insert page 2.*