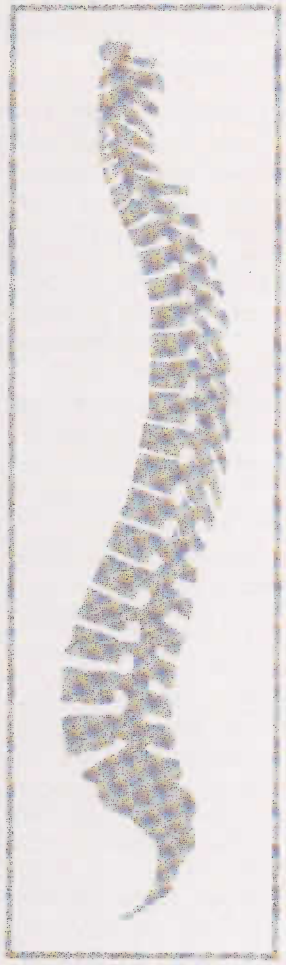

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Manipulation for Chronic Back Pain – Strong New Evidence of Long Term Results

"Low-back pain treatment has represented the least cost-effective expenditure of health care dollars that the author is aware of". *Charles Burton, neurosurgeon, Minneapolis.*[1]

"... with backache our understanding is so poor, our therapeutic armamentarium so weak ... Clinicians completely disagree about the recognition of discogenic pain, facet pain, and instability pain, the three commonly mentioned orthopedic causes of backache without direct nerve root involvement". *Gordon Waddell, orthopedic surgeon, Glasgow.*[2]

"We have not been honest with ourselves in the past when we have supported months of passive modality care that can offer no long-term benefit. We have not been fair to our patients when we have focused on *pain* rather than *function*. We, as medical clinicians, have relied only on the science available to us for the care of *structural* disorders and not for *functional deficits* ... The time has come to develop rational principles of care". *Vert Mooney, orthopedic surgeon, Dallas.*[3]

A. Introduction

1. A new trial by Koes et al funded by the Dutch government makes it time to re-visit chronic back pain.[4] This is the second major controlled trial published by the British Medical Journal within two years reporting:

• Manipulation is highly effective and cost-effective in the management of chronic and severe back pain.

• Benefits of manipulation are not temporary but long-term – they remain at 12 months follow-up.

2. The first trial, a multicenter study by Meade et al[5] funded by the British Medical Research Council and comparing chiropractic manipulation with medical and physiotherapy management, reported long-term benefit at two year follow-up also.

3. There is no longer any argument against skilled manipulation as an effective treatment for most acute back pain patients. That was the conclusion last year of a major study by the RAND Corporation,[6] and there is more controlled trial evidence than for any other treatment approach.

The debate centers on chronic back pain – pain persisting for months or years. This is one of the major health and cost issues in modern society because:

a) The annual cost of back pain is staggering – best estimates in 1982 were $50 billion in the United States[7] and £1000 million in the U.K.[8]

b) 85% of that cost arises for treatment and compensation for only about 10% of back pain patients – those who develop chronic pain.[9]

c) Chronic back pain is the most rapidly growing cause of disability. Work and life are more sedentary. Stress intensifies. Between 1971 and 1981 the US population rose by 12.5% – but the population disabled by back pain rose by 168%.[10,11] There has been a similar disproportionate rise in the United Kingdom.[12]

4. Governments, private third party payors, health providers and patients have all been dismayed by this situation. Frustration arises because there has been little scientific evidence to suggest an answer, and:

a) Recent trials report that various standard medical approaches, such as bed rest,[13] passive modalities such as TENS,[14] and corticosteroid facet injections,[15] are ineffective.

b) The average medical practitioner in primary care feels unable to alter the natural history of back pain – to prevent acute pain from becoming a chronic problem.[16]

c) Prominent researchers such as Waddell, in work that won him a Volvo prize, suggest that medical management of back pain has actually promoted disability.[7]

5. During the past five years, however, there has been a major change in medical management of chronic back pain worldwide. This is evident from the research, professional meetings, alterations to workers compensation and other managed care plans, and now clinical practice. There is recognition that:

a) Most chronic pain does not arise from a structural disorder apparent on imaging and standard medical examination.

Mercy Center Guidelines - Distribution.
The Publication Committee advises that the Mercy Center Proceedings will be mailed free of charge to all doctors of chiropractic in North America during the second half of May 1992. That mailing will contain information concerning price and availability of additional copies.

Professional Notes

Cassidy on Second Quebec Task Force - Neck Pain

The report of the Quebec Task Force on Spinal Disorders published in Spine in 1987 (Spitzer E et al 'A Scientific Approach to the Assessment and Management of Activity-related Spinal Disorders', Spine, Vol 12 (suppl), 1987, pp.S1-S59), has been widely quoted. The Chairman, Professor Walter Spitzer, Head of Epidemiology, McGill University, Montreal, and Editor, Journal of Clinical Epidemiology, first gained international prominence with research showing that a periodic medical examination is unwarranted in terms of health benefits and cost.

The Task Force, which focused on low-back pain, had no chiropractic participation and was noticeably thin in its review of research relating to manipulation.

It has recently been announced that Spitzer will chair a second task force – this to review the management of neck pain, a field in which there are widely diverging treatment approaches, none with clear scientific evidence in support. David Cassidy, DC PhD, a prominent chiropractic researcher, has been appointed to the Task Force which will work for three years and report in early 1995. Cassidy is co-author of a recent controlled trial, presented at scientific meetings in 1991 but still in print, which reports that manipulation is effective in the treatment of neck pain (both in reducing pain and increasing ranges of motion) and more effective than mobilization (muscle energy techniques)

b) It is wrong, in the absence of evidence of structural pathology, to assume that the problem is simply psychosocial.

c) An integral part of most chronic back pain is functional pathology – weakness and/ or lost range of motion in the muscles, joints and other structures of the spine and pelvis.

d) Passive treatment – bed rest beyond two days, physical therapy modalities and anything promoting patient reliance – is generally inappropriate, certainly by itself. There should be 'functional restoration', involving exercise and earliest possible return to activities of daily living (ADL), together with education, so that the patient understands and takes responsibility for his/her need for continuing rehabilitation and altered lifestyle.

6. From a chiropractic perspective this is appropriate as far as it goes. The missing element, however, is the diagnosis and specific treatment of joint dysfunction. To quote Rudolf, a Swiss medical physician and chiropractor, who is Head Physician, Leukerbad Rheumatology and Rehabilitation Clinic:

"Our experience is that an integrated program produces sound long-term results with chronic low-back pain patients. Muscle conditioning, balancing various individual capacities, is important. Back education, giving patients the knowledge necessary for their own participation and recovery, is vital. But, both with in-patients and out-patients, I consider skilled manipulative therapy to be the foundation of the whole program. It is valuable for functional restoration of joints or 'hardware' problems, for its impact on related muscle or 'software' problems, and as a specific source of reflex therapy."[17]

In recent years there has been a growing body of scientific evidence supporting this approach. The leading work was a large prospective study by Kirkaldy-Willis, an orthopedic surgeon, and Cassidy, a chiropractor, at the University Hospital, Saskatoon in Canada.[18]

Now that this has been confirmed by two major trials in Europe, and having regard to various factors that have now made increased cooperation between the chiropractic and medical professions feasible, this Report:

• Defines manipulation.

• Describes a highly successful model for interdisciplinary management of chronic back pain as developed by Kirkaldy-Willis and Cassidy.

• Reviews the evidence in support, including the new Dutch trial which found the immediate and long term benefits of skilled manipulation to be superior to physiotherapy (exercises and modalities) and medical management (bed rest, medication and advice on exercise).

• Comments on what amounts to an appropriate course of manipulation – frequency and duration.

B. Definition of Manipulation

7. The term 'spinal manipulation' has been used loosely in the past, often to refer to all manual techniques used to treat muscles or joints. Today the international literature of all relevant professions – chiropractic, medicine, osteopathy and physiotherapy – generally makes a distinction between two inherently different types of joint treatment:

a) **Mobilization:** slower (low-velocity) techniques in which the joint remains within its passive range of movement. The treatment can be monitored and resisted by the patient, who therefore has final control.

b) **Manipulation:** faster (high-velocity) techniques that take the joint beyond the passive range end barrier to what is known as the 'paraphysiological' space. Range of movement is greater. Because of the speed the patient does not have control. Potential for harm in unskilled hands is greater.

8. In the words of Kirkaldy-Willis and Cassidy "the terms mobilization and manipulation require separate definition."[18] This need is emphasized by recent controlled trials showing that manipulation has different and superior results to mobilization in:

a) Reducing back pain.[19]

b) Reducing neck pain.[20]

c) Increasing range of movement in a joint.[20,21]

9. The RAND study,[6] the British trial and the Dutch trial all recognize this distinction between mobilization and manipulation. Together these treatments should now be called 'manual medicine' or 'manual therapy' rather than 'manipulative therapy'.

The chiropractic profession has traditionally used the term 'adjustment' to describe specific techniques of manipulation. That term is synonymous with 'chiropractic manipulation' as used in much of the recent research.

C. A Canadian Interdisciplinary Model

10. Kirkaldy-Willis' model of chiropractic/ medical inter-disciplinary management of back pain was established in an outpatient back pain clinic at the University Hospital, Saskatoon in the 1980s – producing impressive results (see below). However it applies equally to the management of acute and chronic back pain in primary practice, evidenced by the facts:

a) When the Saskatoon study began, medical referral to chiropractors was rare in that city. Now 20% of all chiropractic practice involves back and neck pain patients on medical referral.[22]

b) A similar model has been adopted in Ontario – the 'Back Power Program'[23] – where 63% of family physicians now refer such patients for chiropractic manipulation.[24]

11. William Kirkaldy-Willis, a Past President of the International Society for the Study of the Lumbar Spine and the American Back Society, commenced clinical research with chiropractors because he was seeking more precise diagnosis and effective management for chronic back pain patients. He was an experienced orthopedic surgeon who knew surgery was seldom the right answer. In a study co-authored by David Cassidy, DC PhD a chiropractor, and published in the Canadian Family Physician in 1985:[18]

a) The aim was to determine the effectiveness of chiropractic treatment for a population of patients who:

i) Had experienced low-back and leg pain *for a period of several years;*

ii) Were totally disabled by this pain (scaled as *Grade 4* on a scale where *Grade 1* was symptom free, *Grade 2* mild, constant or intermittent pain but with no restrictions for work or other activities, *Grade 3* pain-restricting activities, and *Grade 4* disabled from work or other activities by constant severe pain).

iii) Had been referred to a specialized hospital clinic after not responding to conservative and/or operative treatment.

b) Following referral for chiropractic examination, 171 of 283 patients were

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diagnosed as having posterior joint syndrome and/or sacroiliac joint syndrome. They had experienced Grade 4 disability for over 7 years on average.

c) Following a 2-3 week regime of daily chiropractic adjustment, combined with back school and advice on exercise, 87% returned to full function with no restrictions for work or other activities. (Grades 1 and 2).

d) No patient was made worse.

e) The 87% success rate was maintained when the patients were reviewed after 12 months.

12. These startling results have led to a permanent interdisciplinary program at the hospital, and a new model of care most fully described by Kirkaldy-Willis in his widely acclaimed text `Managing Low-back Pain',[25] a third edition of which will soon be available. The essence of this model is:

a) Kirkaldy-Willis places patients with low-back pain in one of three phases:

i) *Dysfunction:* Here there is minor pathology resulting in abnormal function of the posterior joints and disc (called by him the 'three joint complex'). As the pathological changes are small they are frequently missed on medical examination.

ii) *Instability:* The next stage in the disease process, where progressive degeneration due to repeated trauma produces laxity in the joint.

iii) *Stabilization.* The third and final stage, where fibrosis, formation of osteophytes, etc. greatly restricts movement.

b) Dysfunction, the first stage of disability, includes 90% of low-back pain patients received at his hospital. (The percent is even higher of course for patients in primary practice). Of this 90%:

i) The commonest types of dysfunction are posterior joint dysfunction and sacroiliac dysfunction.

ii) 75% of the former, 90% of the latter, "are greatly benefitted" by chiropractic adjustment.

iii) In his hospital unit the 90% of patients in Phase 1 (dysfunction) are diagnosed then treated by chiropractors.

c) However the indications for chiropractic management are even broader. Kirkaldy-Willis' overall approach is:

i) *Firstly*, decide which of the 3 phases the patient is in.

ii) *Secondly,* pinpoint a syndrome. This involves both chiropractic and medical diagnosis. If, as in most cases, the patient is in the dysfunction phase and chiropractic analysis reveals specific joint dysfunction(s), the initial treatment of choice is chiropractic adjustment/manipulation.

If there is no spinal dysfunction, but imaging reveals marked stenosis or disc herniation with significant nerve involvement, which is much less common, medical management is indicated.

What is of particular interest is the step taken where there is both dysfunction and stenosis or disc herniation. Here most medical specialists would avoid any form of manipulation and many would proceed to operation. Kirkaldy-Willis does not – he goes to his 'third factor'.

iii) *Thirdly*, he asks whether the symptoms and real problem arise from the stenosis/herniation or the joint dysfunction. If some pain derives from each, which is more significant?

To answer, and as an integral part of establishing a precise diagnosis, Kirkaldy-Willis starts nearly all of his patients on a trial of chiropractic manipulation. This frequently proves successful. Other more invasive interventions are only considered three weeks later if there has been no success.

13. Kirkaldy-Willis and Cassidy were the first to report excellent long-term benefits following manipulation for chronic back pain. Their work assumes fresh importance now that their results have been confirmed by recent research in a number of countries – including two large randomized controlled trials just published, and a third about to be published.

D. The New Evidence

14. The early trials of manipulation in the 1960s and 1970s are now known to be seriously flawed and have been analyzed and criticized by many.[26,27,28,29]

There were many design weaknesses, they were too small, there was usually no definition or description of manipulation or the qualifications of those who gave the treatment, and there was no effort to study a course of manipulation as given in clinical practice.

Few looked at chronic pain and long-term results. Those that did suggested only short term benefit and the conventional medical view, summarized by Jayson in a BMJ editorial in the mid-1980s, was that manipulation was of benefit for acute pain but there was no satisfactory evidence that it helped severe problems or reduced long-term complications.[30]

15. The various studies and trials of the past 10 years have learned from the lessons of the past – they have been larger and far better designed. Four principal features have been:

a) The practitioners, in most cases chiropractors, have specialized training and skill in manipulation.

b) There is an appreciation of the difference between manipulation and mobilization.

c) Subject to certain limits concerning frequency and duration, practitioners have been able to treat at their discretion as they would in clinical practice. (e.g. manipulate at all spinal levels where movement restriction or dysfunction is found, vary technique as appropriate, use supporting soft-tissue techniques, prescribe exercises, advise on posture and lifestyle, etc.). This research is pragmatic and has external validity.

d) Use of better outcome measures, focusing on functional status and pain levels.

The overall result is that the scientific evidence now goes the other way and supports manipulation as an important component of cost-effective management of chronic back pain.

British Trial (Meade et al)[5]

16. This was a large (n 741) multicenter randomized controlled trial – arguably the best yet in the field of back pain as a whole – by independent investigators appointed by the British Medical Research Council.

a) The aim was to compare chiropractic and hospital out-patient treatment for low-back pain of mechanical origin.

b) Treatment was at the discretion of the participants subject to limitations on frequency (10 visits) and duration ("concentrated in the first three months") of care.

c) Virtually all chiropractic patients received joint manipulation, and received basic advice and back education. Some also received specific exercises and/or physical therapy

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Erratum

The March 1992 issue, reviewing the new Mercy Center Practice Guidelines, indicated a rating of *'equivalent* to *promising'* for use of 'mechanical force, manually assisted, moving stylus instruments' (e.g. activator methods). Please note that the correct rating is *'promising* to *established'*. We apologize for this error.

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modalities. The great majority of hospital out-patients (84%) received manipulation or mobilization from physiotherapists according to the techniques of Maitland or Cyriax. Some also received, singly or in addition, traction, corsets, exercises, and physical therapy modalities.

d) Measurement of results was subjective (Oswestry Pain Disability Questionnaire) and objective (degrees of straight leg raise and lumbar flexion).

e) The chiropractic patients did significantly better, especially those with severe or chronic pain. These superior results were maintained at 1 and 2 year follow-up.

f) The investigators identified three likely reasons for the superiority of chiropractic treatment – diagnostic and treatment skill, frequency of treatment (medical/PT patients received 6.3 treatments on average, chiropractic patients 9.1) and duration of treatment (79% of medical/PT patients had completed treatment within 6 weeks, only 29% of chiropractic patients).

g) Meade et al conclude that chiropractic manipulation has long-term success in the management of severe and chronic mechanical back pain, is highly cost-efficient, and recommend introduction of chiropractic services into the British National Health System. Referring to Jayson's editorial questioning the value of manipulation for severe or chronic pain they conclude:

"For chiropractic our findings suggest otherwise."

Dutch Trial (Koes et al)[4]

17. The first results of this trial were presented at the 1991 World Chiropractic Congress and are published in the Journal of Manipulative and Physiological Therapeutics.[31] It is the one year follow-up results that have just been published in the British Medical Journal.

a) 256 patients with chronic non-specific neck and back pain (median duration – 52 weeks) were randomly assigned to one of four groups.

i) *General medical practice* – medication, bed rest and advice on posture and exercises.

ii) *Physiotherapy* – exercises, massage and physical therapy modalities.

iii) *Manipulative therapy* – manipulation and mobilization of the spine according to the protocols of the Dutch Society for Manual Therapy. Treatment was by physiotherapists with at least an additional three years postgraduate education in manual therapy.

iv) *Placebo (control)* – physical examination and detuned ultrasound and diathermy.

b) Measurement of results was objective (severity scale and physical functioning assessed by research assistant) and subjective (global perceived effect of treatment – assessed by patient on a 6 point scale).

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Figure 1

Chiropractic Guidelines on Frequency and Duration of Care

The Proceedings of the Mercy Center Conference (ed Haldeman et al, Aspen Publishers, Gaithersburg, MD 1992) contain U.S. national guidelines for the practice of chiropractic. These were established by formal consensus methods and have been endorsed by the Federation of Chiropractic Licensing Boards.

Chapter 8 deals with 'Frequency and Duration of Care'. What follows is a summary of the guidelines relating to adjustment/ chiropractic manipulation for low-back pain. The full publication should be read for an accurate understanding of the role and content of the guidelines.

Basic Trial of Therapy (Uncomplicated Cases)

After a maximum of two trial therapy series of manual procedures lasting up to 2 weeks each (4 weeks total) without significant documented improvement, manual procedures may no longer be appropriate and alternative care should be considered. *(Rec. 8.4.1).*

Frequency - General

Specific recommendations related to acute, subacute and chronic presentations are given below. In general, more aggressive in- office intervention (3-5 sessions per week for 1-2 weeks) may be necessary early. Progressively declining frequency is expected to discharge of the patient, or conversion to elective care. *(Rec. 8.2.1).*

Acute Episodes

Symptom Response: Significant improvement within 10-14 days. 3-5 treatments per week.

Return to Pre-Episode Status: 6-8 weeks. Up to 3 treatments per week. *(Rec. 8.5.1)*

Subacute Episodes

Symptom Response: Symptoms have been prolonged beyond six weeks, and care in this phase is as necessary but not generally to exceed two treatments per week in order to avoid promoting chronicity or physician dependence.

Return to Pre-episode Status: 6-16 weeks.

Chronic Episodes

Symptom Response: Symptoms have been prolonged beyond 16 weeks, and care is for acute episodic exacerbation only.

Return to Pre-episode Status: May not return. Supportive treatments may be necessary if repeated efforts to withdraw treatment result in significant deterioration of clinical status. *(Rec. 8.6.3).*

Complicating Factors

These factors, when combined (two or more), do not necessarily imply combined delay in recovery, but must be evaluated on a case by case basis.

A. *Pain more than 8 days:* recovery may take 1.5 times longer.

B. *Typical Severity of Symptoms:* Mild pain: no anticipated delay in recovery. Severe pain: recovery may take up to 2 times longer.

C. *Number of Previous Episodes:* 0-3: no anticipated delay in recovery. 4-7: recovery may take up to 2 times longer.

D. *Injury Superimposed on Pre-Existing Condition(s):* Skeletal anomaly: may increase recovery time by 1.5-2 times.

Structural pathology: may increase recovery time by 1.5-2 times. *(Rec. 8.1.1).*

NOTES:

1. The above guidelines are not quoted in full. Chapter 8, both in the literature review and guidelines, deals with both passive care (which includes adjustment/manipulation and other manual procedures) and active care (which includes remobilization, rehabilitation and lifestyle adaptations) and describes their integration in chiropractic practice and management of low-back pain.

2. The guidelines expressly note that "the particular factors of each case will govern the course of recovery and will need to be a part of the considerations in assessing clinical progress", and that the purpose of the guidelines "is to assist the clinician in decision making ... not for determining the absolute frequency and duration of treatment/care for any specific case."

3. *'Supportive care'* is defined as "treatment/care for patients having reached maximum therapeutic benefit, in whom periodic trials of therapeutic withdrawal fail to sustain previous therapeutic gains. Supportive care follows appropriate application of active and passive care including lifestyle modifications. It is appropriate when rehabilitative and/or functional restorative and alternative care options, including home-based self-care and lifestyle modifications, have been considered and attempted. Supportive care may be inappropriate when it interferes with other appropriate primary care, or when the benefits of supportive care are outweighed by its risks, i.e. physician dependence, somatization, illness behavior, or secondary gain."

4. *'Elective Care'* is defined as "treatment/care requested by the patient designed to promote optimum function to alleviate subjective symptomatology in cases having reached maximum therapeutic benefit."

c) At 6 months and 12 months:

i) The manipulative therapy and physiotherapy groups showed far superior results to those receiving medical treatment and placebo.

ii) The manipulative therapy group showed the largest overall improvement and "consistently better results for physical functioning than the physiotherapy group".

iii) At 12 months follow-up there was a "significantly larger mean improvement" for patients receiving manipulative therapy than any others.

d) The patients receiving manipulative therapy (median: 6 treatments) received fewer treatments than those receiving physiotherapy (median: 14).

e) This was a fully independent study, funded by the Dutch government and the Dutch National Health Insurance Council. The investigators find it "remarkable" that the patients receiving manipulative therapy showed superior long-term results. They consider and rule out potential design problems, and conclude their results indicate that "manipulative therapy may help to restore the function of the spine better than physiotherapy."

U.S. Trial (Waagen, Haldeman et al)[32]

18. A third controlled trial now in press, from the Palmer College of Chiropractic and presented at the 1991 World Chiropractic Congress, also reports long-term benefits:

a) 68 patients with chronic low-back pain were randomly allocated to three groups:

i) *Chiropractic manipulation* ("standard chiropractic manipulative adjustments" at the discretion of the practitioner).

ii) *General medical care* (medication and exercises).

iii) *Control* – sham manipulation (light palpation and massage).

b) Frequency of treatment/office visit for each group was 3 times a week for 2 weeks, then once for week to a total of 13 visits. (i.e. 9 weeks).

As in the other trials, precise techniques of adjustment or manipulation used, assessment of levels of spinal dysfunction, number of manipulations given on each visit, ancillary soft tissue work etc. was at the discretion of the practitioner as in clinical practice.

c) Measurement of results was subjective (modified Million Questionnaire for functional impairment, and visual analog scale for pain).

d) Patients in both the medical treatment and chiropractic manipulation groups showed more improvement in both functional impairment and pain levels than those in the control group.

However, only the chiropractic group experienced statistically significant improvement. This was on both measures. Importantly, improvement was maintained at 12 months follow-up.

Other Evidence

19. These are the only three well-designed controlled trials assessing long-term benefits of manipulation for chronic back pain – they consistently report impressive effectiveness. There is supporting evidence from other less rigorous but valid research such as:

a) A multicenter prospective study (n 298) by Brontford in Denmark.[33] This reports lasting benefit after three months of chiropractic manipulation in terms of improved functional capacity and reduced work loss and disability over a 12 month period. However, the study mixes acute and chronic patients, patients self-selected chiropractic care (other than the 19% referred by MDs), and there was some continuing treatment during the 9 month follow-up period (an average of 1.8 manipulative treatments).

b) A randomized trial (n 100) from Poland by Arkuszewski[34] compared standard medical treatment (medication and physiotherapy exercises and modalities) with medical manual treatment (manipulations, mobilizations, and traction) for patients with acute and chronic low-back and leg pain.

Arkuszewski reports "highly significant" improvement in the manual treatment group, especially in chronic cases (pain more than one year, present episode over five weeks). At six month follow-up continued benefit was better for the manual treatment group (60% returned to work vs 36%; only 25% on disability pension vs 57% in medical care group).

There are a number of trial design problems (unblinded assessment, manual care group received mixed manual treatments and some bed rest and medication) but here is a further study better designed than the early trials which reports that the introduction of manual treatment markedly reduces disability with prolonged benefit.

E. Manipulation – Frequency and Duration

20. The research does not yet provide a clear guide on what amounts to an optimal course of manipulation for each of acute, sub-acute and chronic back pain. Beyond that lies the issue of prevention. A leading U.S. orthopedic surgeon Vert Mooney, as quoted at the beginning of this Report, draws attention to the need to focus on *function* rather than *pain*. Future episodes of pain and disability are prevented by maintaining joint and muscle function prior to the arrival of fresh symptoms.

In the research cited on chronic pain one notes:

a) In the Canadian study treatment was on a daily basis for 2-3 weeks – high frequency, short duration. External circumstances influenced this decision. Many patients had been referred to a regional hospital pain clinic and were in residence away from home.

On the other hand, results reported were superior to those in any of the other published research.

b) In the British and U.S. trials there was a limit of 10 and 13 treatment visits respectively, concentrated in the early weeks but extending for 2-3 months. However in the British trial, as in the Dutch study, there were occasional treatment visits for up to six months.

21. Perhaps the best interdisciplinary consensus on an appropriate trial of manipulation, blending the literature with clinical experience, is found in the 1991 RAND study. An expert panel of nine, with 3 chiropractors, 1 osteopath and 5 medical practitioners (2 orthopaedists, 1 internist, 1 neurologist and 1 family practitioner) agreed unanimously that:

"An adequate trial of spinal manipulation is a course of two weeks for each of two different types of spinal manipulation (four weeks total) after which, in the absence of documented improvement, spinal manipulation is no longer indicated."[35]

22. This view has been adopted in new U.S. national guidelines for chiropractic practice,[36] established by formal consensus methods and endorsed by the U.S. Federation of Chiropractic Licensing Boards. The guidelines on frequency and duration of care for manipulation for low-back pain are described in some detail in Figure 1.

F. Conclusion

23. Two controlled trials, and a third to be published soon, confirm that skilled manipulation is of long-term benefit in the management of chronic back pain and highly cost-effective. The work of Kirkaldy-Willis and Cassidy emphasizes that three elements are vital:

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a) A precise diagnosis – enhanced when the different and complementary expertise of medicine and chiropractic are brought together.

b) Skilled manipulation. As many have warned, the greatest contra-indication to manipulation is lack of training and skill, and full time practice is essential.[37,38]

c) A combination of manipulation with education, rehabilitation and a management program that allows for psychosocial factors. Used inappropriately, manipulation can become a passive treatment approach promoting patient dependency.

24. In recent years there has been a greatly increased medical referral rate of chronic low-back patients to chiropractors, but probably as much out of frustration as conviction of likely success. Now general medical practitioners have a sound scientific basis for referral – much sounder than for any alternative treatment approach.

Medical specialists have compelling evidence that it is important to incorporate manipulation in management protocols for chronic back pain patients – whether in back pain clinics, functional restoration programs, hospitals or other institutional settings. Kirkaldy-Willis and Cassidy, through published results and methods, have laid out the basic model of management.

Finally, all those suffering the formidable cost of back pain treatment and disability – third party payors and patients themselves – should place pressure on both the chiropractic and medical professions to put their past differences aside. Research has played the role of honest broker at last. Manipulation must now be accepted as a significant part of the appropriate management of chronic back pain patients. Precise diagnosis and maximum effectiveness relies upon both professions understanding their limitations and working together.

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