

Contrasting Views in Using Manipulation to Treat Whiplash Injuries

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There are many differences of opinion related to when and how spinal manipulation should be used. The purpose of this literature search is to locate articles that describe and contrast the use of spinal manipulation by chiropractors, osteopaths, physical therapists and medical providers for the treatment of whiplash injuries.

The following are important steps in locating this literature. Each step has been customized to retrieve maximum information.

Databases: Each database contains a wide variety of information in a certain realm of the biomedical literature. ChiroLars concentrates on primary care, wellness, prevention, and manual medicine. Databases like Biosis Previews and Embase concentrate on research in the biological and biomedical fields. Medline gives us a wider scope and covers a large portion of health care and research but does not specialize in any specific area of care. Primary database selection(s) for this subject will be Medline and ChiroLars; secondary database(s)--Embase.

Search Strategy: Developing a search strategy is accomplished by combining selected keywords with boolean arguments to help modify, or focus, your retrieval. "Whiplash injuries" is a medical subject heading (MeSH), but treatment and spinal manipulation are not so synonyms must be found. "Manipulation, orthopedic" and "manipulation, chiropractic" (became a MeSH term as of last year) are both MeSH terms and are inclusive of the areas of manipulation in which the search is to take place. Boolean arguments will now be added to the search to specifically look for articles that include information about orthopedic or chiropractic manipulation of whiplash injuries. The search strategy will be as follows: manipulation, chiropractic "or" manipulation, orthopedic "and" whiplash injuries.

Using the search strategy above a total of 8 articles appeared in Medline (1975-1995) and 37 articles were found in ChiroLars dealing with the utilization of spinal manipulation on patients with whiplash injuries.

When we eliminate duplicate articles from the two online indexes we have approximately 40 unique articles. The osteopathic, chiropractic, and manual medicine approaches have more similarities than differences. They emphasize the judicious use of manipulation after the very acute phase. Chiropractic and osteopathic approaches also utilize multiple interventions with more of an emphasis on whole person care. The physical therapy approach is more limited and in many instances does not recommend manipulation as an appropriate method of treatment, "Under no circumstances at all should these joints be forced or manipulated in any of the stages of recovery from whiplash. Cervical manipulation will place considerable strain, on the anulus fibrosus (which is very slow to heal) and is likely to increase the size of any rim lesion, rather than assist the healing process." (Twomey, 1993)

Abstracts from three of the articles appear below:

Cisler T. Whiplash as a total-body injury. *Journal of the American Osteopathic Association* 1994; 94(2): 145-8.

In our highly active society, individuals and groups push their physical limits. Consequently, the incidence of whiplash injury is increasing. Patients may not recover rapidly or fully from a whiplash injury, thus leading to chronic neck and spinal symptoms and litigation. Physicians must recognize whiplash injury as a manifestation of total-body trauma and treat accordingly, with particular emphasis on alleviating abnormal tension of the fascia. Precise description of the accident, followed by healing methods tailored to well-defined bodily injury, aids in effective management. Whiplash injury poses a challenge to the osteopathic physician to sharpen skills in defining the injury based on the details of the accident and to incorporate myofascial release treatment into traditional modes of whiplash treatment. Fortunately, many highly respected osteopathic physicians have written extensively on the subject and the tools are at hand to refine treatment for both acute and chronic whiplash.

Twomey L, Taylor J. The whiplash syndrome: Pathology and physical treatment. *The Journal of Manual and Manipulative Therapy* WIN 1993; 1(1): 26-9.

The "whiplash syndrome" causes acute neck sprain due to rapid motion of the head arising from acceleration/deceleration forces, most often produced following motor vehicle accident, particularly rear-end collisions. Whole cervical spines were removed at post-mortem from 32 subjects. Sixteen of the spines came from subjects who died as a result of motor vehicle accidents while for the remainder, trauma was not the cause of death. Two sectioning methods were used to examine clefts in the anulus fibrosus, for vertebral end-plate lesions, traumatic disc ruptures, facet injuries and for the presence of blood or bruising in the discs or facet joints. Based on the findings of this study, suggestions for treatment of patients with acute damage to the discs and joints of the neck are offered.

Fitz-Ritson D; Filonenko N; Slansky N. Efficacy of low energy laser therapy for extensor neck muscles and sleep pattern improvement after "whiplash" injury. *Journal of Manipulative and Physiological Therapeutics* 1994; 17(4): 277-8.

Objective: Test re-test extensor muscle strength and monitor sleep patterns after an eight week course of low energy laser therapy to the extensor muscles of the neck.

Design: Three randomly assigned groups of patients. Group I: chiropractic manipulation. Group II: chiropractic manipulation and rehabilitation exercises. Group III: chiropractic manipulation and laser therapy.

Setting: Chiropractic clinic.

Patients/Subjects: 54 M.V.A. ranging in ages 23 to 64, average 37 +/- 7 years. There were 29 females and 25 males.

Intervention: Low energy laser therapy to Group III extensor muscles. This was from upper cervical to mid-thoracic 2/week.

Main Outcome: Measure: Extensor neck strength measures were monitored: 0, 2, 4, 6, 8 weeks via CMT 1000. Patient was seated with a belt to support lower chest against back of chair. Average sleep patterns were monitored first week and the week after the 8th week of the study via diary and questionnaire.

Results: Strength measures: All three groups had similar strength measures initially. After 8 weeks

Group I showed 9% increase. Not significant. Group II 15% increase, $p < 0.1$. Group III 23% increase, $p < 0.0001$. Sleep Patterns: Average hours uninterrupted sleep. All three groups had similar hours sleep per night initially. After 8 weeks: Group I had 10% increase. Not significant. Group II had 22.6% increase, $p < 0.01$. Group III had 36% increase, $p < 0.001$.

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SEPTEMBER 1995