

Journal of Manipulative Physiological Therapeutics

ABSTRACTS FOR SEPTEMBER 2004 (VOLUME 27 - NUMBER 7)

Editorial Staff

A randomised controlled clinical trial of stay-active care versus manual therapy in addition to stay-active care: functional variables and pain.

Marie I. Grunnesjo, DN; Johan P. Bogefeldt, MD; Kurt F. Svärdsudd, MD, PhD; and Stefan I. E. Blomberg, MD, PhD

Objectives: To compare the effect of manual therapy in addition to the stay-active concept versus the stay-active concept only in low back pain patients.

Study Design: A randomised, controlled trial during 10 weeks.

Methods: One hundred sixty outpatients with acute or subacute low back pain were recruited from a geographically defined area. They were randomly allocated to a reference group treated with the stay-active concept and in some cases, muscle stretching; and an experimental group receiving manual therapy and in some cases, steroid injections in addition to the stay-active concept. Pain and a disability rating index were used as outcome measures.

Results: At baseline, the experimental group had somewhat more pain, a higher disability rating index and more herniated discs than the reference group. After 5 and 10 weeks, the experimental group had less pain and a lower disability rating index than the reference group.

Conclusions: The manual treatment concept used in this study in low back pain patients appears to reduce pain and disability rating better than the traditional stay-active concept.

Key Indexing Terms: Low Back Pain; Disability Rating; Chiropractic Manipulation; Active Care.

An evaluation of medical and chiropractic provider utilization and costs: managing injured workers in North Carolina.

Shawn P. Phelan, DC; Richard C. Armstrong, DC; David G. Knox, DC; Michael J. Hubka, DC; and Dennis A. Ainbinder, MD

Objective: To examine utilization, treatment costs, lost workdays and compensation paid to workers with musculoskeletal injuries treated by medical doctors and doctors of chiropractic.

Design: Retrospective review of 96,627 claims between 1975 and 1994.

Results: Average cost of treatment, hospitalization, and compensation payments were higher for

patients treated by MDs than for patients treated by DCs. Average number of lost workdays for patients treated by MDs was higher than for those treated by DCs. Combined care patients generated higher costs than patients treated by MDs or DCs alone.

Conclusion: These data, with the acknowledged limitations of an insurance database, indicate lower treatment costs, less workdays lost, lower compensation payments, and lower utilization of ancillary medical services for patients treated by DCs. Despite the lower cost of chiropractic management, the utilization of chiropractic services in North Carolina appears very low.

Key Indexing Terms: Workers' Compensation; Rate Setting; Chiropractic; Cost; Cost Effectiveness.

Spinal manipulation post-epidural injection for lumbar and cervical radiculopathy: a retrospective case series.

Paul Dougherty, DC; Saeed Bajwa, MD; Jeanmarie Burke, PhD; and J. Donald Dishman, DC

Objective: To describe the safety and potential therapeutic benefit of spinal manipulation post-epidural injection in the non-operative management of patients with cervical and lumbar radiculopathy.

Methods: The study design was a retrospective review of outcomes of 20 cervical and 60 lumbar radiculopathy patients who underwent spinal manipulation post-epidural injection in a hospital setting. Patients received either fluoroscopically or CT-guided epidural injection of a combination of lidocaine and Depo-Medrol. The manual therapy consisted of an immediate post-epidural application of flexion distraction mobilization, and then high-velocity, low-amplitude spinal manipulation to the affected spinal regions. Outcome criteria were empirically defined as: significant improvement, temporary improvement, or no change. The minimum follow-up time for all patients was one year.

Results: There were no complications associated with spinal manipulation, while three complications associated with the epidural injection procedure were noted. Of lumbar spine patients, 36.67% (n=22) noted significant improvement, 41.67% (n=25) experienced temporary improvement and 21.67% (n=13) reported no change. Of the patients undergoing spinal manipulation post cervical epidural injection, 50% (n=10) noted significant improvement, 30% (n=6) experienced temporary improvement, while 20% (n=4) exhibited no change.

Conclusions: These data suggest that spinal manipulation post-epidural injection is a safe non-operative procedure to employ in the management of the patient with radiculopathy of spinal origin. This is also the first report of the use of spinal manipulation post-epidural injection in the cervical spine.

Key Indexing Terms: Radiculopathy; Spinal Manipulation; Epidural Steroid Injections.

Back schools in occupational health care: design of a randomized controlled trial and cost-effectiveness study.

Martijn W. Heymans; Henrica CW de Vet, PhD; Paulien M Bongers, PhD; Bart W Koes, PhD; and Willem van Mechelen, MD, PhD

Objective: To describe the design of a randomized controlled trial (RCT), including a cost-effectiveness analysis, comparing high- and low-intensity back schools with usual care in occupational health care.

Design: RCT and cost-effectiveness analysis.

Study Population: Employees sick-listed for a period of 3 to 6 weeks due to non-specific low back pain.

Interventions: High-intensity back school treatment consists of a training program based on the principles of cognitive-behavioral therapy. Low-intensity back school treatment is comparable to the original "Swedish Back School." Usual care is provided by the occupational physician according to the Dutch guidelines for the occupational health management of patients with low back pain.

Outcome Measures: Primary outcome measures are return to work, pain intensity, functional status and general improvement. Secondary outcome measures are kinesiophobia and pain coping. The cost-effectiveness analysis includes the direct and indirect costs. The outcome measures are assessed before randomization and 3, 6, and 12 months after randomization.

Conclusion: RCTs of different methodological quality have been conducted to examine the effectiveness of back schools in occupational health care. The large variation in type, content and intensity of back schools has led to conflicting evidence. Therefore, two different forms of back schools are compared. Moreover, this is the first RCT to include a cost-effectiveness analysis comparing low- and high-intensity back schools with usual care in occupational health care.

Key Indexing Terms: Low Back Pain; Back School; Randomized Controlled Trial; Cost-Effectiveness; Occupational Health.

Cutaneous two-point discrimination thresholds and palpatory sensibility in chiropractic students and field chiropractors.

Ian E. Foster and Jeffery Bagust, PhD

Objective: To investigate differences in cutaneous two-point discrimination and palpatory sensibility at different stages in a chiropractic training course and in field chiropractic practitioners.

Methods: Static two-point discrimination and palpation thresholds of the skin in the dominant index finger were measured in 102 subjects taken from the first and final years of a chiropractic degree/masters course and practicing field chiropractors. Two-point discrimination measurements were obtained by applying modified electronic engineering callipers mounted on a lever arm, which allowed the points to be lowered onto the skin at a constant rate and pressure. Palpation measurements were made by locating a nylon monofilament under a variable number of sheets of paper held in a purpose-designed frame. Paper thickness was measured using electronic engineering callipers. Differences in the two-point discrimination and palpation threshold measurements recorded between cohorts were analysed using one-way ANOVA and Tukey-Kramer multiple comparison tests.

Results: A statistically significant reduction was observed in two-point discrimination thresholds between first-year (control group) and fifth-year chiropractic students ($p < 0.001$), but not between the control group and the practicing field chiropractors. A progressive increase was observed in palpatory sensibility, as determined by the thickness of paper through which the nylon monofilament could be

felt, from first-year chiropractic students to practicing field chiropractors. A significant difference in palpatory threshold was also found between first-year students and chiropractors ($p < 0.05$). Although both two-point discrimination and palpatory discrimination thresholds were different between groups, no statistically significant correlation could be made to link statically recorded two-point discrimination acuity with palpatory sensibility.

Conclusion: These investigations support previous research that two-point discrimination improved through the chiropractic training program at the Anglo-European College of Chiropractic, but that this appeared not to be retained into field practice. However, the changes in palpatory ability were maintained and *improved upon* in professional practice, suggesting that two-point discrimination thresholds do not provide a good measure of palpatory ability.

Key Indexing Terms: Cutaneous; Training; Palpation; Chiropractic.

Chiropractors disciplined by a state chiropractic board and a comparison with disciplined medical physicians.

Stephen M. Foreman, DC; and Michael J. Stahl, DC

Objective: To determine categories of offense, experience and gender of disciplined doctors of chiropractic in California and compare them to disciplined medical physicians in California.

Methods: Retrospective reviews of publicly available data from the California Board of Chiropractic Examiners.

Results: The DC disciplinary categories, in descending order, were fraud (44%), sexual boundary issues (22%), other offenses (13%), abuse of alcohol or drugs (10%), negligence or incompetence (6%), poor supervision (2%) and mental impairment (.3%).

Conclusions: The professions differ in the major reasons for disciplinary actions. Two-thirds (67%) of the doctors of chiropractic were disciplined for fraud and sexual boundary issues, compared to 59% for negligence and substance misuse for medical physicians. Additional study in each profession may reveal methods to identify causes and possible interventions for those who are at high risk.

Key Indexing Terms: Disciplinary Actions; Chiropractic; Regulatory Issues.

The neuroarticular lesion in the elderly: a condensed literature review.

John L. Stump, DC, OMD, EdD

Objective: This condensed literature review was done to illustrate how inappreciably known are the aging effects of the neuromuscular system, especially the neuroarticular function; and to give a needed perspective on the aging process of the musculoskeletal system of a rapidly aging population.

Data Sources: An online search of several databases (MEDLINE and MANTIS) provided several guidelines for review. Comparison among the guidelines was made on different aspects: format, focus, significance of aging of the neuroarticular process and primary diagnostic considerations. For brevity, no tables were cited for comparisons on the aspects covered and supported by the references.

Data Synthesis: Condensed literature review from abstracts and full-length articles were used to establish the review conclusions.

Results: The data and information found in this literature search are insufficient to draw primary conclusions about the aging process and the neuroarticular complex.

Conclusion: It may be simply concluded that there needs to be additional concentrated research in the area of the neuroarticular process and the lesion that occurs, at some point in time, to a significant majority of individuals. As a large portion of Chiropractic patients are elderly, this perspective should be read by all Chiropractors. There were several criteria in mind when the project began, especially to improve the Chiropractic care of the aged patient, to review and develop needed data and understand the neuroarticular process involvement. This article was to accomplish the understanding and build interest in the degeneration ramifications in the neuroarticular complex of the elderly. This interest may stimulate more attention on the subject with an extensive literature search of the topic and additional research needed.

Key Indexing Terms: Aging; Nervous System; Musculoskeletal System.

Osteolysis of the distal clavicle: serial improvement and normalization of acromioclavicular joint space with conservative care.

Brooke L. Gajeski, DC and Norman W. Kettner, DC

Objective: To discuss a case of osteolysis of the distal clavicle (ODC) in a 29-year-old male chiropractic student, which demonstrated interval radiographic and clinical evidence of healing.

Clinical Features: The patient complained of intermittent left-sided shoulder pain of 8-months' duration that was exacerbated while performing spinal manipulative procedures. A radiographic examination revealed changes consistent with osteolysis involving the distal clavicle.

Intervention and Outcome: A conservative treatment regimen of physiotherapy, nutritional supplementation, and activity modification resulted in an interval reduction in symptomatology and radiographic findings on serial examinations, ultimately resolving both abnormal clinical and radiographic findings after approximately 14 months of treatment. We specifically observed normalization of the acromioclavicular joint dimension.

Conclusions: In contrast to the post-treatment radiographic outcome seen in our patient, ODC classically does not result in complete resolution of radiographic findings or normalization of AC joint dimension, and such radiographic normalization of joint space is currently not reported in the literature. This case report serves to document and illustrate this unique occurrence.

Key Indexing Terms: Clavicle; Osteolysis; Acromioclavicular Joint; Trauma; Chiropractic.

Chiropractic management of hip pain following conservative hip arthroplasty.

Jeffrey J Wisdo, DC

Objectives: To describe a case involving post-surgical hip pain that was successfully treated with a

combination of chiropractic manipulation of the lumbar and pelvic region and low-tech rehabilitation 14 months' post surgery.

Clinical Features: A 45-year-old man had pain and difficulty with walking. He was diagnosed with bilateral avascular necrosis at the femoral heads. He had successful right hip arthroplasty (HA) surgery at the time of the original diagnosis, and had two previous surgeries to the left hip joint to treat avascular necrosis, with the latter being hip arthroplasty. He had a chief complaint of left hip pain that radiated down the lateral thigh to the knee, with a "clicking" of the hip noted at end-range abduction and adduction, as well as an altered gait pattern associated with dysfunction of the left hip.

Intervention and Outcome: He was treated with chiropractic manipulative therapy of the lumbar and sacroiliac joints and a rehabilitation program that consisted of in-office and home exercise programs. The patient experienced a decrease in the pain and an improvement in the flexibility and strength that led to an improved gait pattern and decreased pain. Outcomes were measured through active range-of-motion comparisons and use of the Harris Hip Scale Evaluation.

Conclusions: Treatment of hip pain through chiropractic manipulation and rehabilitation is described. The patient had increases in active ranges of motion and Harris Hip scores. Additional studies should be done to evaluate the effects chiropractic manipulations have on patient outcomes following such surgeries.

Key Indexing Terms: Chiropractic Manipulation; Rehabilitation; Arthroplasty.

OCTOBER 2004