

# An N-of-1 Randomised Clinical Trial focused on Chiropractic Care and Health-related Quality of Life

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## ABSTRACT

**Introduction:** Historically chiropractors have advised asymptomatic patients to continue with periodic office visits, often called maintenance chiropractic care (MCC), for the purposes of prevention and health promotion. One component of the care rendered to patients during such MC programs is the chiropractic spinal adjustment (CSA). While several studies have sought to better delineate the role and use of MCC within the chiropractic profession (1-8) we know very little about it. For example, during the early 1990's one author asked,

"Preventive chiropractic: what justification?" and after reviewing the literature concluded, "Preventative chiropractic, as exemplified by prophylactic adjusting, lacks the scientific justification, as its current stage of validation, to be accepted as a positive contribution to health care." (1,2)

Furthermore, in 1996 two authors carried out a review of the literature (3) relating to MCC and attempted to describe the rationale behind MC. They concluded,

"There is no scientific evidence to support the claim that maintenance care improves health status." Furthermore, the two authors stated, "Overall, there is a tremendous need to research the hypothesis that regular maintenance chiropractic care (spinal manipulation) will improve an individual's health status."

This N-of-1 randomised clinical trial (RCT) aims to describe one patient's experience whilst receiving one, followed by another, chiropractic technique during a 6 month long MCC program by using 3 very different health-related quality of life (QoL) outcome assessment instruments.

**Methods:** A 33 year old Caucasian male presented with a chief complaint of uncomplicated chronic (>3mths) low back pain. After an initial 3 months of intensive chiropractic care the patient began a MCC program prior to which he was randomized to receive one of two chiropractic techniques. The interventions consisted of chiropractic spinal adjustments, for the first 3 months using SOT protocol, and for the second 3 months using Activator Methods protocol. The baseline data, and data collected concurrently after 3 and 6 months of chiropractic MCC, are described. Outcome measures included: SF-36 sub- and composite scales, Quality of Well Being Scale, Patient Generated Index (PGI), Pain Visual Analog Scale (VAS), number of vertebral subluxations detected/visit.

**Results:** Pain VAS scores improved from a pre-MCC intervention score of 5 to a post-intervention score of 2.3. SF-36 MCS improved from a mean MCC baseline score of 67 to a mean post-intervention score of 85. SF-36 PCS improved from a mean baseline score of 43 to a mean post-intervention score of 62. Quality of Well Being Scale

(QWBS) scores improved from a mean pre-intervention score of 7 to a mean post-intervention score of 8.5. PGI went from a mean maintenance care baseline value of 62 to 75. The number of vertebral subluxations, detected via palpation for spinous process tenderness, went from a pre-MCC care mean of 6 to a post-MCC care mean of 4. This patient's QoL and Pain VAS scores appeared to improve across the course of this 6 month long study despite whether the patient was receiving chiropractic adjustments in accordance with SOT or Activator methods protocols.

**Conclusion:** This N-of-1 RCT describes one patient's experience during a chiropractic maintenance care program that involved the use of 2 different chiropractic techniques. The patient reported considerable improvement in QoL, as measured by 3 different quality of life instruments. A slight decrease in the number of tender spinous processes may be suggestive of improved spinal function. The relationship between indicators of vertebral subluxation and quality of life deserve further investigation utilising a research design that allows for the exploration of possible causal relationships.

**INDEX TERMS:** MeSH: CHIROPRACTIC; OUTCOME ASSESSMENT; QUALITY OF LIFE. OTHERS: MAINTENANCE CARE; SUBLUXATION.

## References:

- 1.) Jamison JR. Can chiropractic contribute to a sustainable healthcare system? A commentary. *J Manipulative Physiol Ther* 1992; 15:604-8.
- 2.) Jamison JR. Preventive chiropractic: what justification? *Chiropr J Aust* 1991; 21:10-12.
- 3.) Aker PD, Martel J. Maintenance Care. *Topics in Clinical Chiropractic* 1996; 3:32-35.
- 4.) Rupert RL. A survey of practice patterns and the health promotion and prevention attitudes of US chiropractors. Maintenance care: part I. *J Manipulative Physiol Ther* 2000; 23:1-9.
- 5.) Jamison JR, Rupert RL. Maintenance care: towards a global description. *JCCA* 2001; 45:100-5.
- 6.) Jamison JR. Preventive chiropractic and the chiropractic management of visceral conditions: is the cost to chiropractic acceptance justified by the benefit to health care? *Chiropr J Aust*. 1991; 21:95-101.
- 7.) Leboeuf C, Morrow JD, Payne RL. A preliminary investigation of the relationship between certain practice characteristics and practice location: chiropractor-population ratio. *J Manipulative Physiol Ther*. 1989; 12:253-8.
- 8.) Boline PD, Sawyer CE. Health promotion attitudes of chiropractic physicians. *Am J Chiropr Med*. 1990; 3:72-6.