



# Manipulation for Asthma

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Manipulation has been practiced by bone setters in traditional societies around the world for hundreds, if not thousands of years. Daniel David

is described as a palpable restriction of joint play in a spinal joint, which is associated with surrounding muscle tightness, pain and tenderness. The theory is that vertebral subluxation causes irritation of the sensory, motor and autonomic nerves that lead from the spine and cause symptoms of dysfunction.

Palmer founded modern chiropractic in 1895 and it is the third largest primary-health contact profession in North America. Chiropractic is based on the treatment of spinal joint dysfunction or vertebral subluxation. A subluxation

There are randomly controlled trials that show chiropractic manipulation is helpful for low back pain and migraines. The research that demonstrates chiropractic as beneficial for non-musculoskeletal problems is lacking.

## Studies in Asthma

Ninety-one children, aged seven to 16 that had continuing symptoms of asthma despite usual medical therapy, were randomly assigned to receive either active or simulated chiropractic manipulation for four months. Conditions and findings of the study included:

- There had to be evidence of vertebral subluxation on palpation, as determined by a single chiropractor on screening.
- The subjects visited the selected chiropractor three times weekly for four weeks, twice weekly for four weeks and weekly for eight weeks.
- The primary outcome measure was the change from baseline in the peak expiratory flow at two and four months, measured in the morning, and before the use of a bronchodilator.
- Except for the treating chiropractor and one investigator, all participants remained fully blinded to treatment assignment throughout the study.
- There were small increases (seven to 12 litres per minute) in peak expiratory flow in the

morning and the evening in both treatment groups, with no significant differences between the groups in the degree of change from baseline (morning peak expiratory flow,  $p = 0.49$  at two months and  $p = 0.82$  at four months).

- Symptoms of asthma and use of beta-agonists decreased and the quality of life increased in both groups, with no significant differences between the groups. There were no significant changes in spirometric measurements or airway responsiveness.<sup>1</sup>

A randomly controlled trial with a four-week crossover trial of 31 adults aged 18 to 44 years, with chronic asthma that required bronchodilators or inhaled corticosteroids, compared the effects of twice-weekly active chiropractic with simulated treatments. Conditions and findings of the study included:

- There were no clinically important or statistically significant differences in subjective or objective outcomes between the groups. The ratings of symptom severity (on a visual-analogue scale) decreased by 34% for all the subjects, but there was no improvement in lung function.<sup>2</sup>

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### Uncontrolled Trials

Previous trials in which there had been evidence of the benefits of chiropractic treatment of asthma were inadequately controlled.

Bronfort, *et al.* allocated 24 asthmatic children to a active care group and 12 to a sham group and provided each with 20 treatments over three months. The findings include:

- The active and sham group were dissimilar at baseline in terms of classification and patient-related severity. There was no attempt to make statistical comparisons between the two groups. There was no significant change in lung function, or day or night symptoms. There was improvement in quality of life scores, severity ratings and overall self-rated improvement, which was maintained at one year. No comparisons were made between the two groups. The authors believed that these changes were unlikely the result of spinal manipulative therapy.<sup>3</sup>
- Three patients treated by conventional pharmacologic means had chiropractic

manipulation administered to the upper thoracic spine twice a week for a period of six weeks. Objective measurements were collected using a peak flow meter and subjective data using an asthma specific questionnaire. All three cases resulted in increased subjective and objective parameters.<sup>4</sup>

- Nineteen subjects, aged two to 70 years, had improvement in mean peak expiratory flow at baseline and after two, three, five and eight treatments, whereas 11 control subjects that were not matched for age or respiratory status had no change.<sup>5</sup>
- In another uncontrolled study, 15 subjects, aged eight to 45 years, felt subjectively better after three, five and seven treatments, but there were no changes in the mean forced expiratory volume or: forced vital capacity ratio.<sup>6</sup>

Although there are uncontrolled trials that show spinal manipulation may be helpful for the symptomatic relief of asthma, the randomly assigned controlled trials did not show any difference between sham and manipulation.

### Closing thoughts

There are many possible reasons why sham treatments may provide equally good results as manipulation. Studies have shown that patient education, family support and the daily use of asthma diaries may have been very important. Teaching parents and children how to recognize and rate their asthma symptoms and how to perform peak flow measurements, assess readings and use beta2-agonists appropriately increased the sense of control and knowledge of the participants. Asthma patients that write about stressful life events seem to have increases in pulmonary lung function. Perhaps the visit to the chiropractor and the physical contact, even though manipulation was not done, may also be important.



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