

## Study: Manipulation-Exercise Combo Effective for Back Pain

BUT "MANIPULATION ALONE PROBABLY GIVES BETTER VALUE FOR MONEY"

Editorial Staff

Although exact numbers remain elusive, it's clear that back pain and related musculoskeletal conditions place a tremendous burden on the nation's economy. According to some experts, these disorders account for upwards of \$50 billion per year in time away from work, hospital bills, prescription drugs and lost productivity.<sup>1</sup>

Many chiropractors offer their patients a range of options to help relieve back pain in addition to manipulation of the spine. In many instances, DCs provide advice on diet, lifestyle and exercise regimens, among other wellness recommendations. A recent study<sup>2</sup> conducted by the Medical Research Council, a research organization based in the United Kingdom, has found that patients given a combination of spinal manipulation and exercise experienced greater improvements in back function and greater reductions in pain compared to those treated with spinal manipulation or exercise only. These improvements also lasted longer in patients receiving both manipulation and exercise than those who received only one type of intervention.

The study, published on the *British Medical Journal (BMJ)* Web site ([www.bmj.com](http://www.bmj.com)), was conducted at 14 health centers across the United Kingdom, and included more than 1,300 patients who had consulted a general practitioner about low back pain, but whose pain had not improved. Patients were randomized into four groups; all of the groups received "best care" based on the country's national acute back pain guidelines. One group was used as a control and did not receive any other intervention. The remaining groups received one of three forms of care: spinal manipulation, exercise, or both interventions.

In the exercise group, patients took part in group-exercise sessions conducted at local community centers and other facilities. Participants were invited to attend up to eight 60-minute sessions over four to eight weeks, along with a refresher course 12 weeks after randomization.

In the spinal manipulation group, patients received "a package of techniques representative of those used by the UK chiropractic, osteopathic and physiotherapy professions." Treatment was delivered by "qualified manipulators" skilled in a variety of therapies, including high-velocity thrusts. Patients were invited to attend up to eight 20-minute sessions over a 12-week period; high-velocity thrusts were performed on most patients at least once. Patients in this group were further segmented to receive care from a private practitioner or a member of the National Health Service (NHS), the UK's national health care plan.

In the combined treatment group, patients were invited to attend eight sessions of manipulation over six weeks, followed by eight sessions of exercise in the next six weeks, and a refresher course at 12 weeks. The therapies provided in this group were identical to those provided in the manipulation-only and exercise-only groups.

Participants in all four groups completed a series of questionnaires on general health, back pain,

disability (the Roland Morris disability questionnaire and the modified Von Korff scales), fear-avoidance beliefs, and psychological well-being before being randomized, and at 1-, 3- and 12-month intervals. The researchers also monitored any instances of adverse events that occurred during the trial.

Compared to the control group, patients in all three intervention groups experienced "small to moderate" benefits in the treatment of back pain. In the exercise, group, for example, "statistically significant improvements" were seen in the Roland disability scores and the physical and fear-avoidance scores, but only at the three-month interval. Similarly, patients treated with manipulation showed significant improvements in the Von Korff disability scores (but at 12 months only) and the SF-36 mental health scores (but only at the three-month interval). The greatest improvements were seen in the group that received spinal manipulation followed by exercise. This combination produced "significant improvements" in the Roland disability scores, the Von Korff disability and pain scores, back pain beliefs, fear-avoidance beliefs and physical questionnaires at both three and 12 months, and improvement in mental health scores at three months. Three of the improvements documented in this group (fear avoidance at three months, fear avoidance at 12 months and back beliefs at 12 months) were "significantly greater than the corresponding improvements from manipulation without exercise."

Analysis of the Roland disability questionnaires showed just how much the combination of manipulation and exercise could help patients regain the ability to perform certain activities of daily living. The questionnaire contained 24 items (valued at one point each) designed to measure functional disability due to back pain, including a variety of daily activities such as walking, dressing, and self-care. When comparing the results of each group, exercise helped participants perform an average of 1.4 additional personal functions three months after the start of the study; manipulation helped patients perform 1.6 additional functions; and combined treatment resulted in patients being able to perform 1.9 additional personal functions.

In an accompanying paper also published on the *BMJ* Web site,<sup>3</sup> the researchers examined the cost-effectiveness of adding manipulation, exercise, or both to the usual "best care" practice for back pain. They concluded that, depending on the total cost of treating a patient with back pain, spinal manipulation would be "a cost-effective addition to"best care' for back pain in general practice," and that "manipulation alone probably gives better value for money than manipulation followed by exercise." Due to budgetary concerns, the researchers were unable to track the participants for more than 12 months. Considering that many of the patients continued to show reductions in pain and improved functionality at that time, the authors suggested: "The cost-effectiveness of both manipulation and combined treatment may be better than we have reported."

Together, these papers provide new evidence that manipulation of the spine, either alone or in conjunction with an exercise program, is an efficacious and cost-effective form of care for people suffering from back pain. As the researchers noted:

"We believe that this is the first study of physical therapy for low back pain to show convincingly that both manipulation alone and manipulation followed by exercise provide cost-effective additions to care in general practice. The detailed clinical outcomes reported in the accompanying paper reinforce these findings by showing that the improvements in health status reported here reflect statistically significant improvements in function, pain, disability, physical and mental aspects of quality of life and beliefs about back pain."

## References

1. Recent study findings reinforce effectiveness of spinal manipulation, says American

- Chiropractic Association. ACA press release, Nov. 29, 2004.
2. UK BEAM Trial Team. United Kingdom back pain exercise and manipulation (UK BEAM) randomised trial: effectiveness of physical treatments for back pain in primary care. *BMJ* Online First, Nov. 29, 2004.
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