

## Study in Medical Journal Touts Effectiveness of Chiropractic Manipulation

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A recent randomized, controlled trial conducted in Italy sheds new light on the use of spinal manipulation in the treatment of acute back pain and sciatica with disc protrusion. Results of the study, published in a recent issue of *The Spine Journal*, indicate that active spinal manipulation relieves pain more effectively than a sham simulation, leading to fewer days of localized pain and fewer days of radiating pain, and with no side-effects.

The study population consisted of 102 adults seen in two medical rehabilitation centers in Rome. All of the patients demonstrated the following characteristics: moderate to severe low back pain, moderate to severe radiating pain in one leg, and MRI evidence of disc protrusion in the spinal segments believed to be associated with the pain. Obese patients with acute LBP were excluded, as were patients with chronic LBP, disc protrusion with a ruptured annulus, and those who had already received spinal manipulation.

Upon admission to the study, each patient was interviewed and given a complete physical examination. During the interview, researchers collected detailed information on low back pain and leg pain (using a pair of visual analog scores), including the location of pain and the patient's overall quality of life with the pain.

Participants were randomized into two types of manipulation groups - active and simulated. Individuals in the active manipulation group received a maximum of 20 sessions over a 30-day period, with each session lasting five minutes. Active manipulation consisted of examining the range of motion in the patient's back, followed by soft-tissue manipulation and "brisk rotational thrusting away from the greatest restriction." The purpose of manipulation was to restore movement to the "physiological motor unit" (with each motor unit consisting of two vertebrae, disc and surrounding structures). Subjects in the simulated manipulation group received soft muscle pressing that was similar to manipulation, but did not follow any specific patterns or involve rapid thrusts. All manipulations were performed by two experienced chiropractors with similar formal training from a U.S. chiropractic college.

During the treatment period, patients in both groups were asked to track the number of days they were in pain, the number and type of nonsteroidal anti-inflammatory drugs (NSAIDs) they took, and the number of drug prescriptions. In addition, patients were assessed at 15, 30, 45, 90 and 180 days to document changes in pain.

Among the variables the researchers measured were the number of patients who were free of pain at the end of the study period, along with treatment failure (the number of patients who stopped receiving care because it failed to relieve the pain). Changes in visual analog scores at both anatomical locations and in the number of patients experiencing a reduction in disc protrusion (at 45 days) also were recorded.

### Results

At the end of the follow-up period, the authors noted "a significant difference" in the percentage of patients between manipulation groups who were pain-free. Fifty-five percent of patients in the active treatment group were free of radiating pain, compared to only 20 percent of patients who received simulated manipulations. Moreover, 28 percent of the active manipulation patients were free of local pain, versus 6 percent of simulated manipulation patients.

In addition, there were significant differences between groups in terms of the number of days patients suffered pain. Active manipulation patients experienced an average of 23.6 days with pain (including 13.9 days experiencing moderate or severe pain). Among patients who received simulated manipulations, the average number of days with pain was higher (27.4), as was the number of days they experienced moderate or severe pain (17.9). Patients who received active manipulations also reported taking fewer NSAIDs and for fewer days than simulated-manipulation patients, although these results were considered nonsignificant. No adverse events were reported by patients.

Two limitations were noted by the study authors: the lack of an exit interview (which precluded the researchers from ascertaining whether the patients were truly "blinded" with regard to treatment) and the specificity of the condition being treated (pain with disc protrusion). Because of these limits, the authors stated that their study "needs to be replicated in other settings to verify its findings."

Limitations aside, active chiropractic manipulation appeared to have a greater effect on overall pain relief than simulated chiropractic manipulation, with secondary benefits such as reduced use of pain medication, and without causing any adverse effects. As the researchers noted in the study's conclusion:

"Patients receiving active manipulations enjoyed significantly greater relief of local and radiating acute LBP, spent fewer days with moderate-to-severe pain, and consumed fewer drugs for the control of pain. Thus, manipulations may relieve acute back pain and sciatica with disc protrusion, although the results of subgroup analyses must be interpreted with caution."

### *Reference*

1. Santilli V, Beghi E, Finucci S. Chiropractic manipulation in the treatment of acute back pain and sciatica with disc protrusion: a randomized double-blind clinical trial of active and simulated spinal manipulations. *The Spine Journal* 2006; in press, published online Feb. 3, 2006.

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