

## **Manipulation Plus Exercise Superior to Exercise Alone for Chronic LBP**

Recent studies have shown exercise therapy to be effective for treating chronic low-back pain (LBP). Many studies on the efficacy of manipulation for LBP focus on acute pain, and results of randomized, controlled trials evaluating this therapy for chronic LBP have brought inconsistent results.

Forty-nine patients with chronic low-back or radicular leg pain who had been sick-listed for between eight weeks and six months were randomized to receive exercise therapy or manual therapy.

The patients, ages 20-60, were administered 16, 45-minute treatments over eight weeks; outcomes (pain intensity, functional disability, general health and return-to-work status) were measured before and after treatment and at four weeks, six months and one year after treatment. Spinal range of motion was recorded only before and immediately after treatment.

Subjects in the manual-therapy group received mobilization or HVLA manipulation from trained physiotherapists. Manual procedures were limited to traction thrust to the thoracic-lumbar junction; side-posture rotation-lateral flexion manipulation to segments between T10-L5; and/or sacroiliac manipulation. These subjects also performed 11 specific exercises to improve strength, flexibility and coordination of the torso, spine and legs. Exercise-group patients trained under the supervision of a physiotherapist for 45 minutes per session, with a 35-minute focus on the trunk and legs that followed 10 minutes of warm-up on an exercise bicycle.

**Results:** Both groups showed improvements; however, the manual-therapy group experienced greater improvements than the exercise group in all outcome measures at every point in follow-up. For example, mean reduction in pain on a visual analog scale (VAS) was doubled for manual-therapy patients compared to exercise patients (33 mm vs. 17 mm). Also, immediately following the treatment period, the manual-therapy group was significantly more likely to have returned to work (67% vs. 27% for the exercise group). At one-year follow-up, exercise-therapy patients were over three times more likely to still be sick-listed (59%) than manual-therapy patients (19%).

Aure OF, Nilsen JH, Vasseljen O. Manual therapy and exercise therapy in patients with chronic low back pain: A randomized, controlled trial with 1-year follow-up. *Spine* 2003;28(6), pp. 525-532.  
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## **Nonsurgical Approaches to Treating Low Back Pain**

Wide variations in back care suggest that there is professional uncertainty about an optimal approach for relieving patient suffering. A new commentary by noted experts says that surgery is overused in the treatment of low back pain (LBP), and that there is evidence of excessive utilization of imaging in the diagnosis of LBP.

Since most patients experience a fairly rapid recovery from nonspecific LBP, this may partly explain the proliferation of treatments that may seem to be effective.

The authors state that the use of plain radiography should be limited to patients with clinical findings suggestive of underlying systemic disease.

The study notes that MRIs and surgery are overused and recommends that they be considered only in case of severe nerve pain or loss of function. Advanced imaging (CT and MRI) should be reserved for patients suspected of infection, cancer, or persistent neurologic deficit.

Bed rest is not recommended for the treatment of low back pain or sciatica. A rapid return to normal activities is not useful for the acute phase, but helps to prevent recurrences and treat chronic pain. Surgery is only appropriate for a small proportion of patients with low back symptoms. Intensive strengthening exercise and aerobics conditioning work best to minimize recurrence of chronic low back pain.

The author recommends the following treatments as potential nonmedical approaches to managing different forms of LBP:

- \* massage therapy;
- \* chiropractic care;
- \* aerobic conditioning;
- \* intensive strengthening exercise.

Deyo R, Weinstein J. Low back pain. *The New England Journal of Medicine* 2001;344(5), pp. 363-369.

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## **Disc-Related Low Back Pain: Conservative Management vs. Surgical Referral**

With low back pain being the burden that it is to both patients and the health care system, patients and health care practitioners regularly must decide if surgery or more conservative management is the best option.

This review of the literature distills and synthesizes previously published research

and provides readers with specific information regarding the clinical diagnosis of intervertebral disc-related low back pain and referral of patients for surgery.

The investigators examined a wide range of articles on lumbar intervertebral disc problems. The article lists various causes of low back pain, noting what findings in patient histories, physical examinations, and diagnostic imaging represent "red flags" that indicate the need for surgical intervention.

The investigators listed several conclusions, including the caution that:

Patients should be screened for red flags (bowel or bladder symptoms, fever, history of cancer, unexplained weight loss, urinary tract infection, intravenous drug use, saddle anesthesia, or prolonged use of corticosteroids) to determine whether they are candidates for conservative chiropractic treatment....

Conservative treatment should be the first line of treatment in patients without absolute signs for surgical intervention (patients with a cauda equina syndrome, in the presence of severe motor deficits, and in patients with intractable pain.

The authors also conclude:

Of the available conservative treatments, chiropractic management has been shown through multiple studies to be safe, clinically effective, cost-effective, and to provide a high degree of patient satisfaction. As a result, in patients with discogenic or radicular pain syndromes for whom the surgical indications are not absolute, a minimum of 2 or 3 months of chiropractic management is indicated.

Troyanovich SJ, Harrison DD, Harrison DE. Low back pain and the lumbar intervertebral disk: Clinical consideration for the doctor of chiropractic. *Journal of Manipulative and Physiological Therapeutics*, Feb. 1999;22(2), pp96-104.

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## **Chiropractic Manipulation for Chronic Spinal Pain**

The immense public health impact of chronic spinal pain syndromes, and their significant associated costs for health care budgets worldwide, underscore the need for effective long-term interventions.

In a study designed to compare the relative effectiveness of different protocols for managing chronic spinal pain, 77 patients were randomly assigned to receive one of three interventions: needle acupuncture, nonsteroidal anti-inflammatory medication (NSAIDs) or chiropractic spinal manipulation. Subjects were treated for 30 days, and symptom changes were assessed by way of the Oswestry Back Pain Disability Index, the Neck Disability Index, and three visual analog scales of local pain intensity.

After 30 days, spinal manipulation was the only intervention to achieve statistically significant improvement. Patients receiving chiropractic care demonstrated a 30.7% reduction in Oswestry scores and a 25% reduction in neck disability index scores. Visual analog measurements showed a 50% reduction for low back pain, 46% reduction for upper back pain, and 33% reduction for neck pain. Intervention by way of acupuncture or NSAIDs did not result in significant improvements in any of the outcome measures.

The authors point out several potential limitations to these results, including the short-term nature of the study and problems with managing the study due to funding difficulties. Nonetheless, they suggest that their findings demonstrate the added benefit of chiropractic manipulation over acupuncture and NSAIDs for patients with chronic pain syndromes.

Giles LG, Muller R. Chronic spinal pain syndromes: a clinical pilot trial comparing acupuncture, a nonsteroidal anti-inflammatory drug, and spinal manipulation. *Journal of Manipulative and Physiological Therapeutics*, July/August 1999;22(6), pp376-81.

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J Manipulative Physiol Ther. 1999 Jul-Aug;22(6):376-81.

**Chronic spinal pain syndromes: a clinical pilot trial comparing acupuncture, a nonsteroidal anti-inflammatory drug, and spinal manipulation.**

Giles LG, Müller R.

Compared Acupuncture, a nonsteroidal anti-inflammatory drug, and spinal manipulation for the treatment of chronic spinal pain. The authors concluded that those in the manipulation group displayed most significant improvements and that spinal manipulation “has an important role to play in the treatment of spinal pain syndromes.”

J Manipulative Physiol Ther. 2000 Jun;23(5):307-11.

**Chiropractic management of mechanical neck and low-back pain: a retrospective, outcome-based analysis.**

McMorland G, Suter E.

The study demonstrated that under chiropractic care, patients with mechanical neck pain and/or low back pain show significant improvement.

Spine. 2003 Mar 15;28(6):525-31; discussion 531-2.

**Manual therapy and exercise therapy in patients with chronic low back pain: a randomized, controlled trial with 1-year follow-up.**

Aure OF, Nilsen JH, Vasseljen O.

After the two-month treatment, 67% of the manual therapy group had returned to work, while only 27% of the exercise group had done so.

Spine. 2003 Oct 1;28(19):2185-91.

**A randomized trial of combined manipulation, stabilizing exercises, and physician consultation compared to physician consultation alone for chronic low back pain.**

Niemistö L, Lahtinen-Suopanki T, Rissanen P, Lindgren KA, Sarna S, Hurri H. At 5- and 12- month follow-ups, the manipulation group demonstrated significantly greater reductions in pain and disability than the control group, allowing the authors to conclude that manipulative therapy is superior to consultation alone and that short, specific treatments may change the course of chronic low-back pain.

J Manipulative Physiol Ther. 2004 Mar-Apr;27(3):160-9.

**A practice-based study of patients with acute and chronic low back pain attending primary care and chiropractic physicians: two-week to 48-month follow-up.**

Haas M, Goldberg B, Aickin M, Ganger B, Attwood M.

The authors concluded, using 2,780 patients, that chiropractic patients with chronic and acute low-back pain experienced greater relief up to one year following treatment, and those with chronic low-back pain showed a clinically important advantage in the short term.

Eur Spine J. 2006 Jul;15(7):1070-82.

**A randomized clinical trial and subgroup analysis to compare flexion-distraction with active exercise for chronic low back pain.**

Gudavalli MR, Cambron JA, McGregor M, Jedlicka J, Keenum M, Ghanayem AJ, Patwardhan AG.

Subjects randomly allocated to the flexion–distraction group had significantly greater relief from pain than those allocated to the exercise program. Patients with radiculopathy (back pain with pain into the legs) did significantly better with flexion distraction. Chronic pain patients, with moderate to severe symptoms, improved most with the flexion–distraction protocol.

J Altern Complement Med. 2006 Sep;12(7):659-68.

**One-year follow-up of a randomized clinical trial comparing flexion distraction with an exercise program for chronic low-back pain.**

Cambron JA, Gudavalli MR, Hedeker D, McGregor M, Jedlicka J, Keenum M, Ghanayem AJ, Patwardhan AG, Furner SE.

In this first trial on flexion distraction care, flexion distraction was found to be more effective in reducing pain for 1 year when compared to a form of physical therapy.

Chiropr Osteopat. 2006 Aug 24;14:19.

**Amount of health care and self-care following a randomized clinical trial comparing flexion-distraction with exercise program for chronic low back pain.**

Cambron JA, Gudavalli MR, McGregor M, Jedlicka J, Keenum M, Ghanayem AJ, Patwardhan AG, Furner SE.

During a one year follow up, participants previously randomized to physical therapy attended significantly more healthcare visits than those participants who received chiropractic care.

J of The Neuromusculoskeletal System 1997; 5(2):70-73

**Flexion-Distraction Successfully Used to help Disc Herniation Patient**

Guadagnino MR

Flexion-distraction manipulation of a patient with a proven disc herniation.

J of Manipulative and Physiological Therapeutics 16(5): 342-346

**L5-S1 Disc Herniation Successfully Care for With Distraction Manipulation**

Cox JM, Hazen LJ, Mungovan M: Distraction manipulation reduction of an L5-S1 disk herniation.

A computed tomography (CT)-confirmed L5-S1 disk protrusion is reported to be reduced following chiropractic adjustment, as seen on repeat CT scanning.

Distraction type chiropractic manipulation, electrical stimulation, exercises, nutrition advice and low back wellness school class were administered with complete relief of sciatic pain and nearly complete relief of low back pain.

Chiropractic distraction manipulation is an effective treatment of lumbar disk herniation, if the chiropractor is observant during its administration for patient tolerance to manipulation under distraction and any signs of neurological deficit demanding other types of care.

Spine. 2008 Nov 1;33(23):E887-900.

**Effectiveness of acupuncture for low back pain: a systematic review.**

Yuan J, Purepong N, Kerr DP, Park J, Bradbury I, McDonough S.

This study evaluated the effectiveness of acupuncture for nonspecific low back pain by review past research and clinical trials. Using twenty-three trials, with subjects totaling over 6,000 people, there is strong evidence that acupuncture can be a useful supplement to other forms of conventional therapy for nonspecific lower back pain, including spinal manipulation and massage therapy. Authors of this study recommended that acupuncture be advocated in the European Guidelines for the treatment of chronic lower back pain in conjunction with other therapies.

Industrial Health. 2008 Aug;46(4):336-40.

**Acupuncture can reduce perceived pain, mood disturbances and medical expenses related to low back pain among factory employees.**

Sawazaki K, Mukaino Y, Kinoshita F, Honda T, Mohara O, Sakuraba H, Togo T, Yokoyama K.

This study investigated the effects of acupuncture on perceived pain, mood disturbances and medical expenses related to low back pain. It looked at 72 employees of a steel company, 70 males and 2 females, aged 46 to 60 with lower back pain. They received acupuncture treatment once a week for 8 wk by licensed acupuncturists. Perceived pain scale and profile of mood states questionnaires were administered. Past and present histories of employees' visits to hospitals and their medical expenses for lower back pain were examined from receipts obtained from the subjects' branch factory. After 8 weeks of treatment, patients with LBP reported diminished pain. Profile of mood states showed a significant decrease in the total mood disturbance score. The number of visits to conventional hospitals and standardized medical expenses for lower back pain after acupuncture intervention was significantly decreased as compared with those before intervention. In contrast, such decreases were not observed in employees from a control branch factory. It is suggested that acupuncture can reduce medical expenses for LBP through improvement in mood and pain.