

# **Spinal High-Velocity Low Amplitude Manipulation in Acute Nonspecific Low Back Pain**

## ***A Double-Blinded Randomized Controlled Trial in Comparison With Diclofenac [NSAID] and Placebo***

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This study cites 31 references.

The objective of this study was to investigate in acute nonspecific low back pain (LBP) the effectiveness of spinal high-velocity low-amplitude (HVLA) manipulation compared with the nonsteroidal anti-inflammatory drug diclofenac and with placebo.

This is a randomized, double-blinded, placebo-controlled, trial. However, the placebo drug and the sham manipulation really didn't work, so the study ended up essentially comparing spinal manipulation to the NSAID diclofenac [such as Voltaren].

The diclofenac NSAID was 50 mg tablets 3 times a day.

The article shows pictures of and describes the manipulation as being side-posture and primarily in rotation thrust. The authors describe it as "osteopathic manipulation."

The "sham spine manipulation was performed using a HVLA manipulation to give the patient the same mechanical and acoustical sensations as are experienced during the [non-sham] manipulation, however, at an 'incorrect' position." It was delivered prone to the opposite side sacral-iliac (SI) joint of the identified segmental dysfunction.

"Few studies have evaluated the effectiveness of spinal manipulation in comparison to nonsteroidal anti-inflammatory drugs or placebo regarding satisfaction and function of the patient, off-work time, and rescue medication."

Outcomes included:

- Self-rated physical disability using the Roland-Morris Disability Score (RMS)
- Function (SF-12)
- Visual analog scale (VAS) for pain
- Off-work time

“The hypothesis for this trial was that treatment of acute LBP by spinal manipulation is equal or better than NSAID medication, and active intervention is more useful than rescue medication.”

The trial was conducted in 5 orthopedic or general practices in 4 different cities.

The follow-up was 12 weeks after randomization.

#### KEY POINTS FROM THIS ARTICLE:

- 1) “Low back pain (LBP) is a common problem to medicine and a reasonable threat to all national health care systems.”
- 2) The majority of low back pain is nonspecific, meaning that a definitive diagnosis cannot be made.
- 3) In the past 20 years, the costs to treat back and neck pain have increased substantially:
  - “Low back pain also incurs high indirect costs due to lost productivity.”
  - “LBP ranks first, as cause for work disability and retains the third place as reason for early retirement.”
  - “Reducing ineffective treatments is necessary to decrease the LBP associated costs.”
- 4) Patients with acute Low Back Pain:
  - 80% of patients who receive treatment return to work within 1 month
  - 7% develop chronic Low Back Pain
  - Without treatment more than 60% develop chronic LBP or recurrences  
**[Important]**
  - “Appropriate treatment therefore seems to be essential to avoid chronic pain.”  
**[Very Important Point]**
- 5) “The analysis demonstrated statistically significant superiority of active treatment compared with placebo in the primary efficacy variable, RMS, as well as in secondary variables like self-assessment of pain, use of rescue medication or clinical judgment of the blinded investigating physician.” **[Key Point]**
- 6) “In a subgroup of patients with acute nonspecific LBP, spinal manipulation was significantly better than nonsteroidal antiinflammatory drug diclofenac and clinically superior to placebo.”

## 7) Additional Findings:

- Spinal manipulation showed a faster and quantitatively more distinct reduction in the RMS.
- Spinal manipulation required much less rescue medication.
- Spinal manipulation group had less time off work.
- There were no adverse effects or harm from manipulation. **[Important]**

8) "Subjects noticed a faster and quantitatively more distinct reduction in this subjective estimation of pain after manipulation."

9) "This is the first time that spinal manipulation was investigated in a double-blinded randomized controlled design showing clear superiority compared with placebo and NSAID."

10) "HVLA manipulation can be recommended for the therapy for acute nonspecific LBP." **[Key Point]**

11) "Final evaluation showed manipulation being significantly better than NSAID and clinically superior to placebo."

**The Numbers  
7-9 days After Intervention**

	Manipulation	Drugs NSAID: Diclofenac
Number of Subjects	35	37
Complete Relief	19 19/35 = 54%	8 8/37 = 22%
Improvement	10 10/35 = 29%	13 13/37 = 35%
No Change	6 6/35 = 17%	9 9/37 = 24%
Deteriorated	0 0/0 = 0.0%	7 7/37 = 19%
Acceptable Outcome	29/35 = 83%	21/37 = 57%

COMMENTS FROM DAN MURPHY

This study notes that the real problem and costs associated with low back pain is ascribed to *chronic* low back pain.

They note that more than 60% of untreated acute back pain develops chronic low back pain. They state that "appropriate treatment" is "essential to avoid chronic pain."

This study shows, and the authors conclude, that spinal manipulation is appropriate treatment for acute low back pain, noting:

**“This is the first time that spinal manipulation was investigated in a double-blinded randomized controlled design showing clear superiority compared with placebo and NSAID.”**

**“HVLA manipulation can be recommended for the therapy for acute nonspecific LBP.”**

**“Final evaluation showed manipulation being significantly better than NSAID and clinically superior to placebo.”**