

**Manipulation or Micro-Diskectomy for Sciatica?  
A Prospective Randomized Clinical Study**

**Journal of Manipulative and Physiological Therapeutics  
October 2010; Vol. 33; No. 8; pp. 576-584**

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“The purpose of this study was to compare the clinical efficacy of spinal manipulation against micro-diskectomy in patients with sciatica secondary to lumbar disk herniation (LDH).” It is a randomized clinical trial.

This is the first study to directly compare the efficacy of surgery against chiropractic spinal manipulation. It is also the first study to report on chiropractic spinal manipulation treatment effects on a group of patients *failing* other medical management interventions.

All study subjects suffered from sciatic radiculopathy for more than 3 months.

All study subjects were referred for neurosurgery by their primary care physician after they failed at least 3 months of conservative management including treatment with analgesics, lifestyle modification, physiotherapy, massage therapy, and/or acupuncture.

After failing 3 months of traditional conservative care (analgesics, lifestyle modification, physiotherapy, massage, and/or acupuncture), 40 patients were randomized to either *surgical micro-diskectomy* or to *chiropractic spinal manipulation*.

Patients were assessed at 3, 6, 12, 24, and 52 weeks after treatment was initiated.

Response to treatment was measured with a general quality of life assessment tool (Short Form [SF-36]) as well as disease-specific questionnaires (McGill Pain Questionnaire, Aberdeen Back Pain Scale, and Roland-Morris Disability Index).

**KEY POINTS FROM THIS ARTICLE:**

- 1) “Surgical decompression and spinal manipulation are popular choices among patients with sciatica due to LDH, [yet] there are no controlled studies comparing patient outcomes between these 2 treatments.”
- 2) Initial intervention for the treatment of patients with sciatica is usually nonoperative.

- “Nonoperative management has been demonstrated to be beneficial in more than 50% of patients with sciatica.”
  - Patients failing conservative care are recommended for surgical assessment.
- 3) “Lumbar diskectomy is one of the most commonly performed surgical procedures in the United States, now exceeding 250,000 cases per year.”
- When compared to conservative treatment, long-term follow-up of 1 year or more compared with surgery shows improvement in the patient's “symptoms, return to work, and persisting disability tend to be similar regardless of treatment received.”
- 4) The first-line treatment of radiculopathy secondary to LDH should consist of nonoperative care that includes:
- Anti-inflammatory medications
  - Physiotherapy
  - Massage
  - Local injections
  - Acupuncture
  - Chiropractic
- “It is when these modalities fail over a period of 6 to 12 weeks that the more invasive and expensive option of surgery is often considered.”
  - “Surgery is generally regarded as the final solution in what is in many cases a very long journey through failed medical management.”
- 5) “Spinal manipulation for sciatica has been found to be related to positive patient and cost outcomes when compared to medical management.”
- 6) Spinal Manipulation:
- All spinal manipulative therapies were done by a single doctor of chiropractic.
  - Spinal manipulation was a side-posture, high-velocity, low-amplitude, short lever technique.
  - Significant exacerbation of the patient's leg symptoms when attempting to position the patient to receive manipulation was considered a contraindication on that visit.
  - “Cryotherapy or thermotherapy (ice or heat) were used on an ‘as-needed’ basis during each treatment session to enhance patient ability to tolerate treatment.”

- All patients undergoing spinal manipulation were provided with an information/education package for rehabilitative exercises.
    - “The patients also participated in a supervised rehabilitative (core stability) exercise regimen.”
  - Typical treatment was 2 to 3 visits per week for the first 4 weeks reducing to 1 to 2 visits per week for the next 3 to 4 weeks.
    - Patients received an average of 21 manipulation sessions and 6 supervised rehabilitation sessions over the 52-week duration of the study.
  - No new neurologic deficits occurred from manipulation and there were no “significant adverse events reported.”
    - The most common minor adverse event was soreness: “This was self-limiting, requiring no additional intervention.”
  - At 12 weeks, 60% of the 20 manipulation group “demonstrated clear improvement in outcomes and continued to complete the 52-week follow-up period.”
- 7) “Although 40% of patients referred to spinal manipulative therapy for LDH-induced sciatica may fail to achieve satisfactory relief, the obvious risk and cost profile of operative care argues for serious physician and patient consideration of spinal manipulative therapy before surgical intervention.” **[Key Point]**
- “There was no evidence that delay in definitive treatment adversely affected degree of improvement.”
  - “Of those who failed spinal manipulation treatment, subsequent surgical intervention provided excellent outcomes.”
- 8) 60% of patients with discogenic radicular sciatica who had failed other medical management benefited from chiropractic spinal manipulation to the same degree as if they underwent surgical intervention.
- 40% of the chiropractic manipulation group were unsatisfied with their outcome and elected to have micro-discectomy surgery; their surgical outcome was “excellent.”
- 9) “Patients with symptomatic LDH failing medical management (failed at least 3 months of nonoperative management including treatment with analgesics, lifestyle modification, physiotherapy, massage therapy, and/or acupuncture) should consider chiropractic spinal manipulative treatment as a primary treatment, followed by surgery if unsuccessful.” **[Key Point]**

## 10) Practical Applications from Authors

- “Based upon this randomized clinical study, 60% of patients with sciatica that had failed other medical management benefited from spinal manipulation to the same degree as if they underwent surgical intervention.”
- “Of the 40% of patients that showed unsatisfactory results with spinal manipulation, subsequent surgical intervention conferred excellent outcomes.”

11) “Patients with symptomatic LDH failing medical management should consider spinal manipulation followed by surgery if warranted.” **[Key Point]**

### COMMENTS FROM DAN MURPHY

The 3 most important aspects of this study are:

- All of the patients in the study were deemed to be *surgical* with lumbar compressive radicular sciatica; the chiropractor was treating patients that were already deemed to be surgical candidates. Chiropractic spinal adjusting achieved an acceptable clinical outcome in 60% of these patients.
- All of the patients in this study had failed to improve with traditional conservative management for 3 months, including analgesics, lifestyle modification, physiotherapy, massage therapy, and acupuncture.
- For those who did not respond favorably to chiropractic and subsequently had micro-diskectomy surgery, their results were “excellent.” This indicates that delaying surgery for a trial run of chiropractic care is quite reasonable because 60% of the patients will essentially recover with chiropractic care and the delay in surgery for those that do not respond to chiropractic care does not negatively impact the surgical clinical outcome.

A related Article Review is:

*Article Review 45-15:*

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