

American Family Physician

A peer reviewed journal of the American Academy of Family Physicians

[January 1, 2007 Table of Contents](#)

FPIN's Clinical Inquiries

Treatment of Acute Sciatica

Tsveti Markova, M.D., Baldev Singh Dhillon, M.D., and Sandra I. Martin, M.S.L.S.
Wayne State University, Detroit, Michigan

Clinical Question

What are the most effective therapies for acute sciatica?

Evidence-Based Answer

In patients with acute sciatica, bed rest and advice to stay active have similar outcomes on their functional status and perceived improvement. (Strength of Recommendation [SOR]: A)

Spinal manipulation increases improvement compared with placebo; also, specific spinal pulling and turning manipulation techniques are more effective than traction. (SOR: A)

Nonsteroidal anti-inflammatory drugs (NSAIDs) are similar to placebo in overall improvement. (SOR: A) Epidural steroid injections are unlikely to be beneficial. (SOR: A)

Standard diskectomy seems effective only for patients with sciatica caused by lumbar disk prolapse that fails to resolve with conservative management. (SOR: A) Compared with physiotherapy, diskectomy patients report improvement at one year but not at four or 10 years. (SOR: A) Standard diskectomy produces similar outcomes to microdiskectomy. (SOR: A)

Evidence Summary

Acute sciatica is lower back pain with radiculopathy below the knee and symptoms lasting up to six weeks. Sciatica is a common and costly problem, caused by a variety of conditions: disk herniation, lumbar spinal stenosis, facet joint osteoarthritis or other arthropathies, spinal cord infection or tumor, or spondylolisthesis. The best evidence recommendations for management of acute back pain differ somewhat from those for management of acute sciatica. Treatment modalities for sciatica can be grouped into nondrug treatments, drug treatments, and surgical treatment categories.

Three systematic reviews of studies involving patients with sciatica found little or no difference in clinical outcomes and patients' perceived improvement between those advised to rest in bed

and those advised to stay active (based on pain and functional status at three- to-four-week and 12-week intervals).¹⁻³

There is limited evidence that, compared with placebo, epidural corticosteroid injections increased global improvement.^{2,4} With disk herniation sciatica, spinal manipulation increased perceived improvement after two weeks (80 versus 67 percent with placebo [infrared heat]; number needed to treat [NNT] = 8; 95% confidence interval [CI], 5 to 109).⁵ Spinal manipulation was compared with manual traction, exercise, and corsets (Table 12), with no difference in perceived improvement after one month; however, quantified results were not reported.² Compared with traction, spinal manipulation using specific pulling and turning techniques increased the number of patients with improved symptoms (112 patients, 66 versus 87 percent, respectively; NNT = 5; 95% CI, 4 to 16). Manipulation (both cervical and lumbar) may cause further herniation in surgical candidates.² Acupuncture offers no benefit in patients with acute sciatica.²

Table 1

Evidence-Based Interventions for Patients with Herniated Disk

Treatment	Likely to be beneficial	Unknown effectiveness	Unlikely to be beneficial
Nonpharmacologic	Spinal manipulation	Acupuncture; advice to stay active; exercise; application of heat or ice; massage; traction	Bed rest
Pharmacologic	-	Analgesics other than NSAIDs; antidepressants; muscle relaxants	Epidural steroid injections; NSAIDs
Surgical	Standard diskectomy (short-term effect); microdiskectomy (as effective as standard diskectomy)	Automated percutaneous - diskectomy; laser diskectomy	-

NSAID = nonsteroidal anti-inflammatory drug.

Information from reference 2.

A systematic review of three randomized controlled trials (RCTs) evaluating drug treatments in 321 total patients found no difference in overall improvement between use of NSAIDs and placebo (odds ratio [OR] 0.99; 95% CI, 0.60 to 1.70).² The evidence is inconsistent for the use of muscle relaxants, non-NSAID analgesics, and antidepressants.

Standard diskectomy increased self-reported improvement at one year when compared with physiotherapy (65 percent with surgery versus 36.4 percent without; NNT = 3; 95% CI, 2 to 9)

but not at four or 10 years.² A Cochrane systematic review of 26 randomized or quasi-randomized trials found considerable evidence for the effectiveness of diskectomy for "carefully selected patients" with lumbar disk prolapse sciatica that failed to resolve with conservative management.⁶ Comparing standard diskectomy with microdiskectomy (219 patients) revealed no difference in outcomes at one year.^{2,6} No RCTs comparing laser or automated percutaneous diskectomy with standard diskectomy were found.

Recommendations from Others

The Institute for Clinical Systems Improvement emphasizes the need for patient education, conservative self-care, and early return to work in patients with sciatica. They recommend initial treatment with cold packs or heat, NSAIDs, and other analgesics. Patients with acute sciatica should remain active but discontinue any activity causing spread of symptoms. Imaging studies should be limited to "red flag" indications (i.e., unrelenting back pain, fever, trauma, history of cancer, loss of bowel or bladder control, age older than 50 years, or acute weight loss). Referral to neurosurgery or orthopedics is indicated if symptoms progress, if there is neuromotor deficit, or if sciatica persists beyond six weeks of conservative treatment.⁷

Clinical Commentary

An efficient clinical history and thorough physical examination of a patient with suspected sciatica is needed to rule out urgent conditions like cauda equina syndrome, infection, or cancer, and to determine the need for diagnostic tests. After the acute episode, emphasis is placed on activity, back exercises, behavioral techniques, ergonomics education, and close clinical monitoring. Educating patients on self-care and establishing reasonable expectations usually increase patient compliance with therapy and improve satisfaction.

The authors thank Anne Victoria Neale, Ph.D., M.P.H., and John Epling, M.D., M.S.Ed., for their editorial input.

Copyright Family Physicians Inquiries Network. Used with permission.

Address correspondence to Tsveti Markova, M.D., F.A.A.F.P., at tmarkova@med.wayne.edu. Reprints are not available from the authors.

Author disclosure: Nothing to disclose.

REFERENCES

1. Hagen KB, Jamtvedt G, Hilde G, Winnem MF. The updated Cochrane review of bed rest for low back pain and sciatica. *Spine* 2005;30:542-6.
2. Jordan J, Shawver Morgan T, Weinstein J. Herniated lumbar disc [Update appears in *Clin Evid* 2005;13:1445-58]. *Clin Evid* 2004;11:1477-92.

3. Hagen KB, Hilde G, Jamtvedt G, Winnem MF. The Cochrane review of advice to stay active as a single treatment for low back pain and sciatica. *Spine* 2002; 27:1736-41.
4. Buchner M, Zeifang F, Brocai DR, Schiltenswolf M. Epidural corticosteroid injection in the conservative management of sciatica. *Clin Orthop Relat Res* 2000;375:149-56.
5. Vroomen PC, de Krom MC, Slofstra PD, Knottnerus JA. Conservative treatment of sciatica: a systematic review. *J Spinal Disord* 2000;13:463-9.
6. Gibson JN, Grant IC, Waddell G. The Cochrane review of surgery for lumbar disc prolapse and degenerative lumbar spondylosis. *Spine* 1999;24:1820-32.
7. Institute for Clinical Systems Improvement. Health care guideline: adult low back pain. 10th ed. Bloomington, Minn.: Institute for Clinical Systems Improvement, 2004.

Clinical Inquiries provides answers to questions submitted by practicing family physicians to the Family Physicians Inquiries Network (FPIN). Members of the network select questions based on their relevance to family medicine. Answers are drawn from an approved set of evidence-based resources and undergo peer review. The strength of recommendations and the level of evidence for studies are rated using criteria developed by the Evidence-Based Medicine Working Group (http://www.cebm.net/levels_of_evidence.asp).

The complete database of evidence-based questions and answers is copyrighted by FPIN. If interested in submitting questions or writing answers for this series, go to <http://www.fpin.org> or e-mail: questions@fpin.org.