



ONLINE EXCLUSIVE

Q / Does spinal manipulation relieve back pain?

EVIDENCE-BASED ANSWER

A / **YES**, spinal manipulation therapy (SMT) reduces lower back pain and improves the ability to perform everyday activities more than sham therapies (strength of recommendation [SOR]: **A**, multiple randomized controlled trials [RCTs] and systematic reviews), but it's no more or less effective

than pain medication, physical therapy, exercise, back school, or care given by a general practitioner (SOR: **A**, meta-analysis).

Insufficient evidence exists to conclude that the effectiveness of SMT varies with the presence or absence of radiating pain or the profession or training of the manipulator.

Evidence summary

Low back pain, defined as pain between the thoracic cage and proximal thighs, is the fifth most common reason for physician visits in the United States.^{1,2} The pain can be characterized by its duration: acute, <4 weeks; subacute, >4 weeks but <3 months; and chronic, >3 months.^{1,3}

Pharmacologic treatments for low back pain include nonsteroidal anti-inflammatory agents, opioids, and muscle relaxants.^{2,3} Non-pharmacologic options comprise exercise, physical therapy, massage, acupuncture, and yoga.^{2,3} Self-care includes handouts, books, heat, cognitive-behavioral therapy, and interdisciplinary rehabilitation. Traction, corsets, bed rest, home care, and diathermy are considered harmful.³

How SMT compares with other treatments

A 2004 Cochrane meta-analysis of 39 RCTs with a total of 5486 patients concluded that SMT was superior to placebo and as effective as all other treatments in reducing low back pain.³ SMT wasn't more helpful than other forms of treatment.^{1,3} Neither the professional training of the SMT provider nor the patient's level of radiating pain was associated with better outcomes.³

Compared with patients who received sham therapy for acute low back pain, SMT-

treated patients showed a 10-mm improvement in pain on a visual analog scale (VAS) (95% confidence interval [CI], 2-17 mm) and no statistically significant difference in function on the Roland-Morris Disability Questionnaire (RMDQ).³ No significant clinical or statistical differences were noted between SMT and conventional care/analgesics, physical therapy/exercise, and back school.

SMT patients reported only slightly more pain reduction (4 mm on a 100-mm scale [95% CI, 1-8 mm]) and no significant improvement in function compared with patients treated with nonbeneficial modalities, such as traction, bed rest, or topical gel.

Patients with chronic low back pain showed a 19-mm improvement in pain on the VAS (95% CI, 3-35 mm) and functional gains of 3.3 mm on the RMDQ (95% CI, 0.6-6.0 mm) compared with patients receiving sham therapy.

Complications from SMT are rare

The American Pain Society (APS) and the American College of Physicians (ACP) recently published a comprehensive review of RCTs published from 2000 to 2006 that examined nonpharmacologic treatments for low back pain.² They evaluated 69 trials in 10 systematic reviews of the efficacy of SMT. Five higher-quality reviews reached conclusions consistent

Richard O. Speakman, MD;
Robert Persons, DO
Eglin Air Force Base
Family Medicine Residency,
Eglin Air Force Base, Fla

William F. Nichols, MLS
Eglin Air Force Base, Fla



Spinal manipulation therapy works as well as, but no better than, other standard treatments for low back pain.

with the Cochrane review—there was no difference between SMT and other effective therapies. Two lower-quality reviews (based on 1-3 trials with low numbers) found SMT superior to other effective treatments.^{1,2}

Based on a review of more than 70 controlled trials, the APS and ACP concluded that the risk of a serious complication from SMT (worsening lumbar disk herniation or cauda equina syndrome) is rare, less than 1 per 1 million patient visits.²

Recommendations

The APS and ACP guidelines recommend adding nonpharmacologic therapies such as SMT for acute, subacute, and chronic low back pain when patients don't improve with self-care.⁴

JFP

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References

1. Chou R, Huffman LH. Nonpharmacologic therapies for acute and chronic low back pain: a review of the evidence for an American Pain Society/American College of Physicians Clinical Practice Guideline. *Ann Intern Med.* 2007;147:492-504.
2. Kinkade S. Evaluation and treatment of acute low back pain. *Am Fam Physician.* 2007;75:1181-1188.
3. Assendelft WJ, Morton SC, Yu EI, et al. Spinal manipulative therapy for low-back pain. *Cochrane Database Syst Rev.* 2004;(1):CD000447.
4. Chou R, Qaseem A, Snow V, et al. Diagnosis and treatment of low back pain: a joint clinical practice guideline from the American College of Physicians and the American Pain Society. *Ann Intern Med.* 2007;147:478-491.

 The risk of a serious complication from spinal manipulation therapy is <1 per 1 million patient visits.