

Editorials: *Controversies in Family Medicine*

Is Spinal Manipulation an Effective Treatment for Low Back Pain?

Yes: Evidence Shows Benefit in Most Patients

JAMES J. ARNOLD, DO, and SHANNON R. EHLERINGER, DO, *David Grant Medical Center, Travis Air Force Base, California*

Manual manipulation of the spine has been used by clinicians for thousands of years and continues to be a commonly used technique.^{1,2} Andrew Taylor Still, the founder of osteopathy, and Daniel David Palmer, the founder of chiropractic therapy, introduced manual manipulation techniques to American medicine more than a century ago.³ Currently in the United States, osteopathic physicians, chiropractors, and physical therapists practice manipulation techniques.^{1,2} The goal of manipulation is to restore maximal, pain-free movement of the musculoskeletal system in postural balance.³ In the past decade, there has been a significant growth in evidence supporting the benefits of manipulation. Most randomized controlled trials have looked at two broad categories: spinal manipulative techniques and mobilization techniques.^{1,2}

Spinal manipulative techniques are high-velocity, low-amplitude maneuvers that force an individual vertebra against a restriction, just beyond its passive range of motion, and back into normal alignment. These techniques produce a palpable and sometimes auditory articulation.^{1,2} Mobilization techniques are broadly defined as manual manipulation of a group of vertebrae or an individual vertebra through passive range of motion with no thrust.^{1,2} Benefits of other common manual manipulation techniques, such as myofascial release, soft tissue techniques, or strain/counterstrain, are not as well studied.

The current evidence, which has been incorporated into clinical practice guidelines by allopathic and osteopathic organizations, shows that manual manipulation



This is one in a series of pro/con editorials discussing controversial issues in family medicine.

► See Editor's Note on page 764.



AAFP members may post comments about this editorial at <http://www.aafp.org/afp/2012/0415/p756.html>.

is an effective option for treatment of low back pain.^{1,2,4,5} In two large systematic reviews, manipulation decreased pain and improved range of motion in patients with chronic neck pain and in patients with acute and chronic back pain.^{1,2} Manipulation improved symptoms more effectively than placebo and was as effective as nonsteroidal anti-inflammatory drugs, home exercises, physical therapy, and back school.^{1,2} Minimal adverse effects are a key benefit of manual manipulation, compared with the medications commonly used for back pain.^{2,6} Furthermore, clinical studies have clearly demonstrated a significant decrease in medication use in patients who undergo manual manipulation treatments.^{2,6}

Low back pain is a complex disease process with a wide array of available therapies. There is a large economic burden because back pain management is highly variable.⁴ A cost-effective approach for back pain involves one physician providing both full-scope medical care and manual medicine.^{7,8} One retrospective review of 1,556 patients demonstrated that those seen by a primary care physician who provided osteopathic manipulative therapy in addition to standard care had 38 percent more office visits than patients who received only standard care.⁸ However, receiving osteopathic manipulative therapy by a primary care physician was associated with 18.5 percent fewer prescriptions, 74.2 percent fewer radiographs, ►

Editorials

76.9 percent fewer referrals, and 90 percent fewer magnetic resonance imaging scans, which led to reduced overall costs (an average of \$36.26 less per patient than in the standard care group).⁸ In addition to manual manipulation, this difference may be related to higher continuity of care and consistency in the use of referrals, radiography, and medications.

Osteopathic physicians in primary care disciplines use their manual medicine skill set predominantly for musculoskeletal problems.⁹ Manual manipulation is sometimes used to treat other conditions; however, evidence of effectiveness is limited and this is currently being explored for benefit and cost-effectiveness. To date, there are no head-to-head studies comparing osteopathic manipulative techniques, chiropractic therapy, and/or physical therapy.^{1,2} Techniques used by osteopathic physicians, chiropractors, and physical therapists have many similarities and do not seem to vary in effectiveness.³

The opinions and assertions contained herein are the private views of the authors and are not to be construed as official or as reflecting the views of the U.S. Air Force Medical Department or the U.S. Air Force at large.

Address correspondence to James J. Arnold, DO, at james.arnold.3@us.af.mil. Reprints are not available from the authors.

Author disclosure: No relevant financial affiliations to disclose.

REFERENCES

1. Assendelft WJ, Morton SC, Yu EI, Suttrop MJ, Shekelle PG. Spinal manipulation therapy for low back pain: a meta-analysis of effectiveness relative to other therapies. *Ann Intern Med*. 2003;138(11):871-881.
2. Bronfort G, Haas M, Evans RL, Bouter LM. Efficacy of spinal manipulation and mobilization for low back pain and neck pain: a systematic review and best evidence synthesis. *Spine J*. 2004;4(3):335-356.
3. Structural diagnosis and manipulative medicine history. In: DeStefano LA, Greenman Ph E, eds. *Greenman's Principles of Manual Medicine*. 4th ed. Baltimore, Md.: Lippincott Williams & Wilkins; 2011:3-12.
4. Chou R, Qaseem A, Snow V, et al. Diagnosis and treatment of low back pain: A joint practice guideline from the American College of Physicians and the American Pain Society [published correction appears in *Ann Intern Med*. 2008;148(3):247-248]. *Ann Intern Med*. 2007;147(7):478-491.
5. Clinical Guideline Subcommittee on Low Back Pain. American Osteopathic Association guidelines for osteopathic manipulative treatment (OMT) for patients with low back pain. *J Am Osteopath Assoc*. 2010;110(11):653-666.
6. Andersson GB, Lucente T, Davis AM, Kappler RE, Lipton JA, Leurgans S. A comparison of osteopathic spinal manipulation with standard care for patients with low back pain. *N Engl J Med*. 1999;341(19):1426-1431.
7. Licciardone JC. The unique role of osteopathic physicians in treating patients with low back pain. *J Am Osteopath Assoc*. 2004;104(11 suppl 8):S13-S18.
8. Crow WT, Willis DR. Estimating cost of care for patients with acute low back pain: a retrospective review of patient records. *J Am Osteopath Assoc*. 2009;109(4):229-233.
9. Johnson SM, Kurtz ME. Conditions and diagnoses for which osteopathic primary care physicians and specialists use osteopathic manipulative treatment. *J Am Osteopath Assoc*. 2002;102(10):527-532, 537-540. ■