

# Annals of Family Medicine

## Osteopathic Manual Treatment and Ultrasound Therapy for Chronic Low Back Pain: A Randomized Controlled Trial

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### Abstract

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**PURPOSE** We studied the efficacy of osteopathic manual treatment (OMT) and ultrasound therapy (UST) for chronic low back pain.

**METHODS** A randomized, double-blind, sham-controlled, 2 × 2 factorial design was used to study OMT and UST for short-term relief of nonspecific chronic low back pain. The 455 patients were randomized to OMT (n = 230) or sham OMT (n = 225) main effects groups, and to UST (n = 233) or sham UST (n = 222) main effects groups. Six treatment sessions were provided over 8 weeks. Intention-to-treat analysis was performed to measure moderate and substantial improvements in low back pain at week 12 (30% or greater and 50% or greater pain reductions

from baseline, respectively). Five secondary outcomes, safety, and treatment adherence were also assessed.

**RESULTS** There was no statistical interaction between OMT and UST. Patients receiving OMT were more likely than patients receiving sham OMT to achieve moderate (response ratio [RR] = 1.38; 95% CI, 1.16-1.64;  $P < .001$ ) and substantial (RR = 1.41, 95% CI, 1.13-1.76;  $P = .002$ ) improvements in low back pain at week 12. These improvements met the Cochrane Back Review Group criterion for a medium effect size. Back-specific functioning, general health, work disability specific to low back pain, safety outcomes, and treatment adherence did not differ between patients receiving OMT and sham OMT. Nevertheless, patients in the OMT group were more likely to be very satisfied with their back care throughout the study ( $P < .001$ ). Patients receiving OMT used prescription drugs for low back pain less frequently during the 12 weeks than did patients in the sham OMT group (use ratio = 0.66, 95% CI, 0.43-1.00;  $P = .048$ ). Ultrasound therapy was not efficacious.

**CONCLUSIONS** The OMT regimen met or exceeded the Cochrane Back Review Group criterion for a medium effect size in relieving chronic low back pain. It was safe, parsimonious, and well accepted by patients.

### Key words

- [osteopathic manipulation](#)
- [ultrasonic therapy](#)
- [spinal manipulations](#)
- [spine](#)
- [low back pain](#)
- [chronic pain](#)
- [pain management](#)
- [complementary therapies](#)
- [manual therapies](#)

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