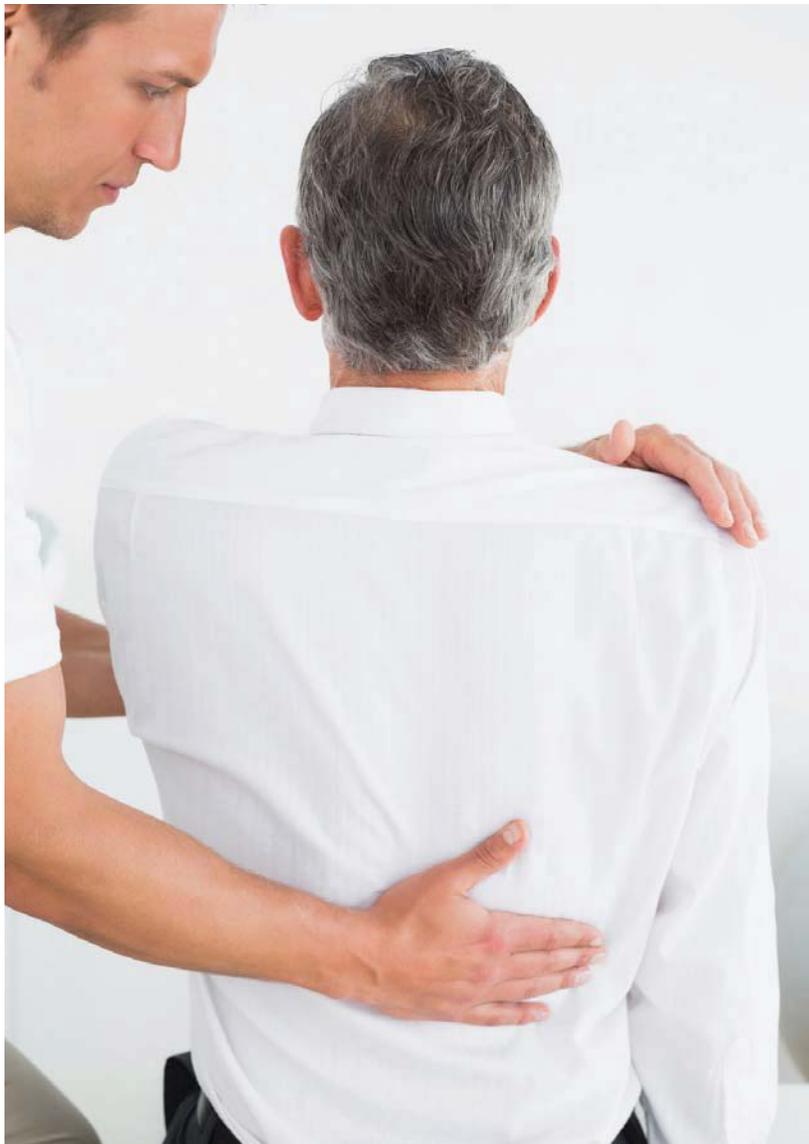


Evidence in Action: Treatment Dose Decisions for Patients with Chronic Low-Back Pain

By Robert Vining, DC, and Amy Minkalis, DC



goals and co-presenting conditions. When making a final decision related to care frequency and duration, which resources do you use? Perhaps you rely on a technique-specific algorithm or your prior experience with similar patients. These resources can be quite valuable, but is there an evidence-based resource that provides guidance on the most effective chiropractic dose for patients with chronic low-back pain?

AN EVIDENCE-BASED CONSIDERATION: (LITERATURE SEARCH STRATEGY AND ARTICLE DESCRIPTION)

A PubMed search using the terms *low back pain* AND *dose* AND *chiropractic* yields several articles. One article that may spark your interest is a clinical trial studying chiropractic treatment frequency for chronic low-back pain.¹ *Dose-response and efficacy of spinal manipulation for care of chronic low back pain: a randomized controlled trial*. Haas M, Vavrek D, Peterson D, Polissar N, Neradilek MB. *Spine J*. 2013 Oct 16. pii: S1529-9430(13)01390-9. PMID: 24139233.

WHAT HAPPENED IN THIS STUDY?

The study conducted by Haas et al. enrolled 400 participants age 18 or older (mean age of 41) with chronic low-back pain (defined as lasting three months or more). Participants were randomly assigned to receive a dose of six, 12 or 18 visits that included an adjustment. One group received no adjustments. All participants, regardless of group, were scheduled for 18 visits at a rate of three/week for six weeks. They were seen by one of 12 licensed DCs practicing in the Northwestern United States. On visits where no adjustments were performed, light massage was provided to balance the amount of touch and attention participants received in each group.

All participants received five minutes of heat therapy with a moist hot pack prior to their assigned intervention and five minutes of low-dose, pulsed ultrasound afterward. The adjustment delivered was primarily high-velocity, low-amplitude spinal manipulation in the side-posture position. Low-velocity mobilization or

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FACTORS YOU MAY CONSIDER

Which factors are most important to you when you reflect on how you determine the most effective care plan for patients with chronic low-back pain? You likely weigh multiple elements, including the patient's diagnosis, his or her general presentation and overall health status. You likely also consider prior response to care, treatment

light thrust manipulation occurred if patients suffered an acute exacerbation.

WHAT DID THE AUTHORS CONCLUDE IS THE MOST EFFECTIVE CHIROPRACTIC CARE DOSE FOR CHRONIC LOW-BACK PAIN?

Twelve spinal manipulation treatments from a doctor of chiropractic over a six-week timeframe demonstrated the most favorable improvements in pain and disability. About half of patients with chronic low-back pain would be expected to achieve 50-percent improvement in pain and disability based on these results.

LIMITATIONS

This study did not separate patients into defined diagnostic categories of low-back pain (LBP). Therefore, we do not know how patients with specific diagnoses responded and study results are best interpreted generally. Participants were excluded if they reported radiating pain below the knee, suffered an inflammatory arthropathy, autoimmune disease or anticoagulant condition; if they were pregnant, or received disability compensation. Consequently, participants in this study were probably similar to some of your patients with CLBP but dissimilar to others. Data analysts and other investigators were blinded to treatment group, but practitioners were not. Other forms of spinal manipulation, exercise or rehabilitative care were not studied. Thus, patient responses could have been different with the addition or substitution of other treatments utilized by doctors of chiropractic.

WHAT COULD THIS MEAN IN A PRACTICE SETTING?

Dosing studies are an important aspect of chiropractic clinical research. The study conducted by Haas et al., was designed and conducted in part to provide evidence for designing future studies comparing chiropractic care with other treatments. Therefore, the study was not specifically designed to determine the most effective dose for any particular patient in your practice. Because this trial found 12 visits were the most effective dose for uncomplicated chronic low-back pain, however, it may help inform your decisions regarding a starting point for treatment recommendations.

For example, if your patient's characteristics match the study population, you may choose to recommend treatments as they were performed in this study and reasonably expect similar responses. If a slow response ensues, you have a research-based rationale to re-evaluate the diagnosis and treatment options, to revisit psychosocial factors, or to refer. If your patient differs from the study

population (e.g., pregnancy, autoimmune disease, younger or older, etc.), or your treatment differs, other resources will be necessary to support your care decisions.

Fortunately, there is a growing body of research-based resources in this arena. Murphy et al., conducted an uncontrolled study of patients with lumbar radiculopathy secondary to disc herniation and demonstrated substantial clinical improvements with chiropractic care using relatively well-described treatments including frequency and duration components.² Haas et al., also conducted a dose-response study with patients diagnosed with cervicogenic headache³ and Bryans et al., authored evidence-based guidelines for chiropractic treatment of adults with headache⁴ and neck pain⁵ including dose recommendations for spinal manipulation, joint mobilization and exercise. Another evidence-based resource is an article by Farabaugh et al.,⁶ which provides treatment frequency, duration and outcome assessment recommendations for chiropractic care of chronic spine-related conditions.

If we accept that patients, providers and payers seek effective treatments to avoid prolonged suffering, unnecessary cost and the frustration of poor progress, we need more chiropractic research focused on dose. High-quality dosing studies will help inform and provide research-based justification for care decisions and better enable us to compare clinical results with specific study findings, thereby enhancing our understanding of the patients we treat and improving our ability to deliver individualized, evidence-based care. ■

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