

# get the facts

## Spinal Manipulation for Low-Back Pain

Low-back pain is a common condition that can be difficult to treat. Spinal manipulation is among the treatment options used by people with low-back pain in attempts to relieve pain and improve functioning. It is performed by chiropractors and other health care professionals such as physical therapists, osteopaths, and some conventional medical doctors. This fact sheet summarizes the current scientific knowledge about the effects of spinal manipulation on low-back pain.

### Key Points

- Evidence indicates that spinal manipulation can provide mild-to-moderate relief from low-back pain. It appears to be as effective as conventional treatments, and recent guidelines for health care practitioners include it as a treatment option for pain that does not improve with self-care.
- Spinal manipulation is generally a safe treatment for low-back pain. The most common side effects (e.g., discomfort in the treated area) are minor and go away within 1 to 2 days. Serious complications are very rare.
- Recent research into spinal manipulation for low-back pain has begun to look at the effects of different forms of manipulation, as well as treatment duration and frequency.
- Tell your health care providers about any complementary and alternative practices you use. Give them a full picture of what you do to manage your health. This will help ensure coordinated and safe care.

### About Low-Back Pain

Each year, up to one-quarter of U.S. adults experience low-back pain. Most people have significant back pain at least once in their lives; often, the cause is unknown. Back pain varies widely. For many people, it lasts only a few weeks, no matter what treatment is used. But for others, the pain can become chronic and even debilitating. Low-back pain is a challenging condition to diagnose, treat, and study.

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## **Spinal Manipulation and Low-Back Pain**

Spinal manipulation—sometimes called “spinal manipulative therapy”—is practiced by health care professionals such as chiropractors, physical therapists, osteopaths, and some conventional medical doctors. Practitioners perform spinal manipulation by using their hands or a device to apply a controlled force to a joint of the spine, moving it beyond its passive range of motion. The amount of force applied depends on the form of manipulation used. The goal of the treatment is to relieve pain and improve physical functioning.

In the United States, spinal manipulation is often performed as part of chiropractic care. Chiropractic is a health care approach that focuses on the relationship between the body’s structure—mainly the spine—and its functioning. In chiropractic, spinal manipulation is sometimes called “adjustment.” Back problems are the most common reason people seek chiropractic care. (For background information on chiropractic, see the fact sheet *Chiropractic: An Introduction*.)

### **What the Science Says**

#### ***Study Findings to Date***

Overall, studies have shown that spinal manipulation can provide mild-to-moderate relief from low-back pain and appears to be as effective as conventional medical treatments. In 2007 guidelines, the American College of Physicians and the American Pain Society include spinal manipulation as one of several treatment options for practitioners to consider using when pain does not improve with self-care.

Research is under way to determine whether the effects of spinal manipulation depend on the duration and frequency of treatment. Recent studies have found that spinal manipulation provides relief from low-back pain at least over the short term (i.e., up to 3 months), and that pain-relieving effects may continue for up to 1 year. In one study funded by the National Center for Complementary and Alternative Medicine (NCCAM) that examines long-term effects in more than 600 people with low-back pain, results to date suggest that chiropractic care involving spinal manipulation is at least as effective as conventional medical care for up to 18 months. However, less than 20 percent of participants in this study were pain free at 18 months, regardless of the type of treatment used.

#### ***Challenges Facing Researchers***

When considering the evidence on spinal manipulation for low-back pain, it is important to know about the research behind the evidence. Although many clinical trials have been conducted, earlier trials tended to be small and poorly designed, making their findings less reliable. Moreover, studies have differed in focus (the specific type of back pain treated and form of manipulation used) and design (comparisons with other treatments vs. placebos). It can be difficult to clearly interpret findings when what is being measured varies widely from one study to the next. Recent research has begun to address these issues.

## Side Effects and Risks

### ***Common Side Effects***

Reviews have concluded that spinal manipulation is relatively safe when performed by a trained and licensed practitioner. The most common side effects are generally minor and include temporary discomfort in the treated area, headache, or tiredness. These effects usually go away in 1 to 2 days.

### ***Serious Complications***

The rate of serious complications from spinal manipulation, although not definitely known, appears to be very low overall. A potential complication from low-back manipulation is cauda equina syndrome, a condition in which nerves in the lower part of the spinal cord become compressed, resulting in pain, weakness, and loss of feeling in one or both legs. Other functions—such as bowel or bladder control—may also be affected. Reports indicate that cauda equina syndrome is an extremely rare complication. In people whose pain is caused by a herniated disc, manipulation of the low back also appears to have a very low chance of either causing or worsening cauda equina syndrome.

## NCCAM Research

Projects supported by NCCAM to study spinal manipulation for low-back pain include studies of:

- The optimal number and frequency of treatments, and the duration of care
- Estimated use, costs, and outcomes of chiropractic care for recurrent back pain
- What happens in the body during manipulation of the low back.

## Definitions

**Chiropractic:** A whole medical system that focuses on the relationship between the body's structure—mainly the spine—and function. Practitioners perform adjustments (also called manipulation) with the goal of correcting structural alignment problems to assist the body in healing.

**Complementary and alternative medicine (CAM):** A group of diverse medical and health care systems, practices, and products that are not generally considered to be part of conventional medicine. Complementary medicine is used **together with** conventional medicine, and alternative medicine is used **in place of** conventional medicine.

**Conventional medicine:** Medicine as practiced by holders of M.D. (medical doctor) or D.O. (doctor of osteopathy) degrees and by their allied health professionals such as physical therapists, psychologists, and registered nurses.

**Manipulation:** The application of controlled force to a joint, moving it beyond the normal range of motion in an effort to aid in restoring health. Manipulation may be performed as a part of other therapies or whole medical systems, including chiropractic, massage, and naturopathy.

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## **For More Information**

### **NCCAM Clearinghouse**

The NCCAM Clearinghouse provides information on CAM and NCCAM, including publications and searches of Federal databases of scientific and medical literature. The Clearinghouse does not provide medical advice, treatment recommendations, or referrals to practitioners.

Toll-free in the U.S.: 1-888-644-6226

TTY (for deaf and hard-of-hearing callers): 1-866-464-3615

Web site: [nccam.nih.gov](http://nccam.nih.gov)

E-mail: [info@nccam.nih.gov](mailto:info@nccam.nih.gov)

### **National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), NIH**

NIAMS supports research into the causes, treatment, and prevention of arthritis and musculoskeletal and skin diseases; the training of scientists; and the sharing of research-based information.

Web site: [www.niams.nih.gov](http://www.niams.nih.gov)

Toll-free in the U.S.: 1-877-22-NIAMS

### **PubMed®**

A service of the National Library of Medicine (NLM), PubMed contains publication information and (in most cases) brief summaries of articles from scientific and medical journals. CAM on PubMed, developed jointly by NCCAM and NLM, is a subset of the PubMed system and focuses on the topic of CAM.

Web site: [www.ncbi.nlm.nih.gov/sites/entrez](http://www.ncbi.nlm.nih.gov/sites/entrez)

CAM on PubMed: [nccam.nih.gov/research/camonpubmed/](http://nccam.nih.gov/research/camonpubmed/)

### **ClinicalTrials.gov**

ClinicalTrials.gov is a database of information on federally and privately supported clinical trials (research studies in people) for a wide range of diseases and conditions. It is sponsored by the National Institutes of Health and the U.S. Food and Drug Administration.

Web site: [www.clinicaltrials.gov](http://www.clinicaltrials.gov)

### **CRISP (Computer Retrieval of Information on Scientific Projects)**

CRISP is a database of information on federally funded scientific and medical research projects being conducted at research institutions.

Web site: [www.crisp.cit.nih.gov](http://www.crisp.cit.nih.gov)

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