



© istockphoto.com/peepo

Chronic Pain

What's the Bottom Line?

Are complementary health approaches for chronic pain safe?

- There's no simple answer to this question. Although many of the complementary approaches studied for chronic pain have good safety records, that doesn't mean that they're risk-free for everyone. Your age, health, special circumstances (such as pregnancy), and medicines or supplements that you take may affect the safety of complementary approaches.

Are any complementary health approaches for chronic pain effective?

- The currently available evidence is not strong enough to allow definite conclusions to be reached about whether any complementary approach is effective for chronic pain. However, a growing body of scientific evidence suggests that several of these approaches, including spinal manipulation, acupuncture, massage, and yoga, may help to manage some painful conditions.

What Is Chronic Pain and Why Is It Important?

Chronic pain is pain that lasts a long time. It's a very common problem.

Results from the 2012 National Health Interview Survey show that

- About 25.3 million U.S. adults (11.2 percent) had pain every day for the previous 3 months.
- Nearly 40 million adults (17.6 percent) had severe pain.
- Individuals with severe pain had worse health, used more health care, and had more disability than those with less severe pain.

Chronic pain becomes more common as people grow older, at least in part because health problems that can cause pain, such as osteoarthritis, become more common with advancing age. Not all people with chronic pain have a physician-diagnosed health problem, but among those who do, the most frequent conditions by far are low-back pain or osteoarthritis, according to a national survey. Other common diagnoses include rheumatoid arthritis, migraine, carpal tunnel syndrome, and fibromyalgia. The annual

Chronic Pain

economic cost of chronic pain in the United States, including both treatment and lost productivity, has been estimated at nearly \$635 billion.

Chronic pain may result from an underlying disease or health condition, an injury, medical treatment (such as surgery), inflammation, or a problem in the nervous system (in which case it is called “neuropathic pain”), or the cause may be unknown. Pain can affect quality of life and productivity, and it may be accompanied by difficulty in moving around, disturbed sleep, anxiety, depression, and other problems.¹

For more information about chronic pain, visit the National Institute of Neurological Disorders and Stroke at www.ninds.nih.gov/.

What the Science Says About Safety and Side Effects

Although many of the complementary approaches studied for chronic pain have good safety records, that doesn’t mean that they’re risk-free for everyone. Your age, health, special circumstances (such as pregnancy), and other treatments (such as medication) may affect the safety of complementary approaches. If you are considering or using a complementary approach for pain, check with your health care providers to make sure that it is safe for you and compatible with your conventional treatment.

Here are some safety considerations for specific approaches:

Spinal manipulation

Side effects from spinal manipulation—a technique performed by trained practitioners that involves using their hands or a device to apply a controlled force to a joint of the spine—can include physical discomfort in the parts of the body that were treated, temporary headaches, or tiredness. There have been rare reports of more serious problems; for details, see the National Center for Complementary and Integrative Health (NCCIH) fact sheets *Headaches* (nccih.nih.gov/health/pain/headachefacts.htm) and *Spinal Manipulation for Low-Back Pain* (nccih.nih.gov/health/pain/spinemanipulation.htm).

Acupuncture

Acupuncture is generally considered safe when performed by an experienced, well-trained practitioner using sterile needles. Improperly performed acupuncture can cause serious side effects.

Yoga

Yoga, a mind and body practice that combines physical activity or postures, breathing exercises, and meditation, has been studied for pain conditions such as chronic low-back pain and arthritis. Overall, those who practice yoga have a low rate of side effects. However, injuries from yoga, some of them serious, have been reported. People with health conditions may need to modify or avoid some yoga poses to prevent side effects. If you have a health condition, you should talk with your health care provider before starting yoga, and inform your yoga instructor about your health issues. For further information on the safety of yoga, see the NCCIH fact sheet *Yoga for Health* at nccih.nih.gov/health/yoga/introduction.htm.

¹ Certain chronic conditions, several of which cause pain, may occur together; some individuals have two or more of these problems. These conditions include chronic fatigue syndrome, endometriosis, fibromyalgia, interstitial cystitis (painful bladder syndrome), irritable bowel syndrome, temporomandibular joint dysfunction, and vulvodynia (chronic vulvar pain). It is not known whether these disorders share a common cause.

Chronic Pain

Herbal products

Some **herbal products** studied for painful conditions (in particular, thunder god vine (*Tripterygium wilfordii*), which is sometimes used for rheumatoid arthritis) may have serious side effects. NCCIH's Herbs at a Glance fact sheets (nccih.nih.gov/health/herbsataglance.htm) have information about the potential side effects and drug interactions of specific herbs.

Glucosamine and chondroitin

Studies in people have not found safety issues with the dietary supplements **glucosamine** or **chondroitin**. However, a study in rats raised the possibility that high doses of glucosamine might harm the kidneys. Studies in people indicate that glucosamine or chondroitin may interact with the anticoagulant (blood-thinning) drug warfarin.

What the Science Says About Complementary Health Approaches for Chronic Pain

The scientific evidence suggests that some complementary health approaches may help people manage chronic pain. In most instances, though, the amount of evidence is too small to clearly show whether an approach is useful.

A comprehensive description of scientific research on all the complementary approaches that have been studied for chronic pain is beyond the scope of this fact sheet. This section highlights the research status of some approaches used for common kinds of pain.

Low-back pain

- A 2007 comprehensive evaluation of studies in people found fair evidence that **acupuncture** is helpful in chronic low-back pain. Based on this finding, clinical practice guidelines recommend considering acupuncture as one of several non-drug treatment options when patients with chronic low-back pain do not respond to self-care. A 2012 combined analysis of data from several studies also supports the conclusion that acupuncture is a reasonable option to consider. How acupuncture works to relieve pain is unclear. Current evidence suggests that many factors—like expectation and belief—that are unrelated to acupuncture needling may play important roles in the beneficial effects of acupuncture on pain.
- **Massage** may be helpful for chronic low-back pain.
- There is some evidence that **progressive relaxation** may help relieve low-back pain, but studies on this topic have not been of the highest quality.
- **Spinal manipulation** can provide relief from low-back pain and appears to work at least as well as other treatments.
- Studies have shown that **yoga** can be helpful for low-back pain.
- A 2006 systematic review of research on **herbal remedies** for low-back pain found preliminary evidence that short-term use of three herbs—devil's claw and white willow bark (taken by mouth) and cayenne (applied on the skin)—might be helpful for low-back pain, but it is not known whether these herbs are safe or effective when used for longer periods of time.
- Studies of **prolotherapy** (a treatment involving repeated injections of irritant solutions) for low-back pain have had inconsistent results.

Chronic Pain

Osteoarthritis

- A 2012 combined analysis of data from several studies indicated that **acupuncture** can be helpful and a reasonable option to consider for osteoarthritis pain. After that analysis was completed, a 2014 Australian study showed that both needle and laser acupuncture were modestly better at relieving knee pain from osteoarthritis than no treatment but not better than simulated (sham) laser acupuncture. These results are generally consistent with previous studies, which showed that acupuncture is consistently better than no treatment but not necessarily better than simulated acupuncture at relieving osteoarthritis pain.
- A small amount of research on **massage** and **tai chi** suggests that both practices might help to reduce osteoarthritis pain.
- Numerous natural products, including **glucosamine**, **chondroitin**, **dimethyl sulfoxide (DMSO)**, **methylsulfonylmethane (MSM)**, **S-adenosyl-L-methionine (SAMe)**, and a variety of **herbs**, have been studied for osteoarthritis, but there is little conclusive evidence of benefit for symptoms.

More information on complementary health approaches for osteoarthritis is available at nccih.nih.gov/health/arthritis.

Rheumatoid arthritis

- Research results suggest that some mind and body practices, such as **relaxation**, **mindfulness meditation**, **tai chi**, and **yoga**, may be beneficial additions to treatment plans, but some studies indicate that these practices may do more to improve other aspects of patients' health than to relieve pain.
- Omega-3 fatty acids of the types found in **fish oil** may have modest benefits in relieving symptoms in rheumatoid arthritis. No other dietary supplement has shown clear benefits for rheumatoid arthritis, but there is preliminary evidence for a few, particularly **gamma-linolenic acid** and the herb **thunder god vine**. However, serious safety concerns have been raised about thunder god vine.

More information on complementary health approaches for rheumatoid arthritis is available at nccih.nih.gov/health/arthritis.

Headache

- **Relaxation training** may help to relieve chronic headaches and prevent migraines.
- **Biofeedback** may be helpful for migraines and tension-type headaches.
- A 2012 combined analysis of data from several studies indicates that **acupuncture** can be helpful and a reasonable option to consider for headache pain. How acupuncture works to relieve pain is unclear. Current evidence suggests that many factors—like expectation and belief—that are unrelated to acupuncture needling may play important roles in the beneficial effects of acupuncture on pain.
- **Spinal manipulation** may help people suffering from chronic tension-type or cervicogenic (neck-related) headaches and may also be helpful in preventing migraines.
- Several dietary supplements, including **riboflavin**, **coenzyme Q10**, and the herbs **butterbur** and **feverfew**, have been studied for migraine, with some promising results in preliminary studies.

More information on complementary health approaches for headache is available at nccih.nih.gov/health/pain/headaches.htm.

Chronic Pain

Neck pain

- **Acupuncture** hasn't been studied as extensively for neck pain as for some other conditions. A large randomized clinical trial in Germany found that people who received acupuncture for neck pain had better pain relief than those who didn't receive acupuncture. Several small studies have compared actual acupuncture with simulated acupuncture, but the amount of research is limited. No current guidelines recommend acupuncture for neck pain.
- There is some evidence that **spinal manipulation** or **mobilization** (movement imposed on joints and muscles) may help to relieve neck pain, but much of the research on these techniques has been of low quality.

Fibromyalgia

- It is uncertain whether **acupuncture** is helpful for fibromyalgia.
- Some evidence suggests that **tai chi** may be helpful for fibromyalgia pain and other symptoms, but the amount of research on tai chi has been small.
- Studies have found improvements in fibromyalgia symptoms from various **meditation** techniques, but much of the research on this topic has not been of the highest quality.
- There is insufficient evidence that any **natural products** can help to relieve fibromyalgia pain.
- Studies of **homeopathy** have not demonstrated that it is beneficial for fibromyalgia.

More information on complementary health approaches for fibromyalgia is available at nccih.nih.gov/health/fibromyalgia.

Irritable bowel syndrome

- Although no complementary health approach has definitely been shown to be helpful for irritable bowel syndrome, some research results for **hypnotherapy** and **probiotics** have been promising.
- A study of **mindfulness meditation** has indicated that it may help reduce the severity of irritable bowel syndrome in women.
- Studies on **peppermint oil** have suggested that it may be helpful, but the quality of much of the research is poor.
- Studies of **acupuncture** for irritable bowel syndrome have not found actual acupuncture to be more helpful than simulated acupuncture.

More information on complementary health approaches for irritable bowel syndrome is available at nccih.nih.gov/health/digestive.

Other types of pain

- Various complementary approaches have also been studied for other types of chronic pain, such as **facial pain, nerve pain, chronic prostatitis/chronic pelvic pain syndrome, menstrual cramps, elbow pain, pain associated with endometriosis, carpal tunnel syndrome, and cancer pain**. There is promising evidence that some complementary approaches may be helpful for some of these types of pain, but the evidence is insufficient to clearly establish the effectiveness of any of the approaches.

Chronic Pain

Other complementary approaches

- It has been suggested that **vitamin D** may be helpful for chronic pain, but there has been only a small amount of research on this topic, and much of the research has been of poor quality.
- **Music** may help to relieve pain and decrease the need for pain-relieving drugs, but research indicates that its effects are small.
- There is a lack of high-quality research to definitively evaluate whether **Reiki** is of value for pain relief.
- Although **static magnets** are widely marketed for pain control, the evidence does not support their use.

For more information on complementary health approaches that have been studied for pain, see:

- Acupuncture (nccih.nih.gov/health/acupuncture)
- Spinal manipulation (nccih.nih.gov/health/spinalmanipulation)
- Massage therapy (nccih.nih.gov/health/massage)
- Relaxation techniques (<https://nccih.nih.gov/health/stress/relaxation.htm>)
- Tai chi (nccih.nih.gov/health/taichi)
- Yoga (nccih.nih.gov/health/yoga).

Guidelines for the Treatment of Chronic Pain Conditions

National health professional organizations have issued guidelines for treating several chronic pain conditions. Some mention ways in which certain complementary health approaches can be incorporated into treatment plans. Others discourage the use of certain complementary approaches.

For example, the guideline for treating back pain issued by the American College of Physicians and the American Pain Society states that nondrug approaches should be considered in patients who do not improve with self-care. Some of the suggested nondrug approaches, such as exercise therapy and cognitive-behavioral therapy, are conventional; others, including acupuncture, massage therapy, spinal manipulation, and progressive relaxation, are complementary.

Another example is the guideline for treating osteoarthritis of the knee and hip issued by the American College of Rheumatology. For osteoarthritis of the knee, the guidelines mention tai chi as one of several nondrug approaches that might be helpful. The same guidelines, however, discourage using the dietary supplements glucosamine and chondroitin for osteoarthritis of the hip or knee.

For more information, see the Health Professional Information section of NCCIH's Web page on Pain at nccih.nih.gov/health/pain.

Chronic Pain

NCCIH-Funded Research

NCCIH is part of the National Institutes of Health (NIH) Pain Consortium, which coordinates pain research across NIH. NCCIH-supported studies are helping to build an evidence base on the effectiveness and safety of complementary modalities for treating chronic pain.

NCCIH-supported studies in progress are investigating:

- The mechanisms by which manual and movement-based complementary approaches may help relieve low-back pain.
- The effectiveness of a hospital-based integrative care clinic in helping patients with chronic low-back pain.
- The use of complementary approaches as part of pain management for hospital inpatients.
- The use of acupuncture for chronic pain within an integrated health plan.

In addition, NCCIH's Division of Intramural Research focuses on the role of the brain in perceiving, modifying, and managing pain. This focus complements the efforts of other ongoing NIH intramural neuroscience, imaging, and mental and behavioral health research programs.

Research projects include investigating the role of the brain in pain processing and control, and how factors such as emotion, attention, environment, and genetics affect pain perception. The program is also exploring how chronic pain produces changes in the brain that can modify how the brain reacts to pain medications such as opioids.

In light of the human and economic costs of chronic pain, as well as evidence that many people who have chronic pain turn to complementary health approaches for relief, NCCIH places a high priority on pain-related research. Researchers in this area face unique challenges: much remains to be understood about the nature of chronic pain and about the best ways of studying its many causes, people's different responses, and the value of various treatment approaches—complementary and conventional. The ultimate goal is to build an evidence base that can guide pain management decisions tailored to individuals. These decisions often involve combining treatment approaches in cost-effective ways that do the best possible job of helping people minimize pain, carry out everyday activities, and improve their quality of life.

While building an evidence base to help people with chronic pain and their health care providers make decisions about pain management, research on complementary health approaches is also helping to close gaps in our basic understanding of pain mechanisms.

If You Are Considering Complementary Health Approaches for Chronic Pain

- Do not use an unproven product or practice to replace conventional care or to postpone seeing a health care provider about chronic pain or any other health problem.
- Learn about the product or practice you are considering, especially the scientific evidence on its safety and whether it works.

Chronic Pain

- Talk with the health care providers you see for chronic pain. Tell them about the product or practice you are considering and ask any questions you may have. They may be able to advise you on its safety, use, and likely effectiveness.
- If you are considering a practitioner-provided complementary health practice such as spinal manipulation, massage, or acupuncture, ask a trusted source (such as your health care provider or a nearby hospital) to recommend a practitioner. Find out about the training and experience of any practitioner you are considering. Ask whether the practitioner has experience working with your pain condition.
- If you are considering dietary supplements, keep in mind that they can cause health problems if not used correctly, and some may interact with prescription or nonprescription medications or other dietary supplements you take. Your health care provider can advise you. If you are pregnant or nursing a child, or if you are considering giving a child a dietary supplement, it is especially important to consult your (or your child's) health care provider. To learn more, visit NCCIH's Web page on dietary supplements at nccih.nih.gov/health/supplements.

Tell all your health care providers about any complementary or integrative health approaches you use. Give them a full picture of what you do to manage your health. This will help ensure coordinated and safe care.

For More Information

NCCIH Clearinghouse

The NCCIH Clearinghouse provides information on NCCIH and complementary and integrative health approaches, 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: nccih.nih.gov

E-mail: info@nccih.nih.gov

National Institute of Neurological Disorders and Stroke (NINDS)

The mission of NINDS is to reduce the burden of neurological diseases—a burden borne by every age group, every segment of society, and people all over the world. To accomplish this goal NINDS supports and conducts research, both basic and clinical, on the normal and diseased nervous system, fosters the training of investigators in the basic and clinical neurosciences, and seeks better understanding, diagnosis, treatment, and prevention of neurological disorders.

Toll-free in the U.S.: 1-800-352-9424

Web site: www.ninds.nih.gov

Chronic Pain

National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)

The mission of NIAMS is to support research into the causes, treatment, and prevention of arthritis and musculoskeletal and skin diseases; the training of basic and clinical scientists to carry out this research; and the dissemination of information on research progress in these diseases.

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

Web site: www.niams.nih.gov

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.

Web site: www.ncbi.nlm.nih.gov/pubmed

Cochrane Database of Systematic Reviews

The Cochrane Database of Systematic Reviews is a collection of evidence-based reviews produced by the Cochrane Library, an international nonprofit organization. The reviews summarize the results of clinical trials on health care interventions. Summaries are free; full-text reviews are by subscription only.

Web site: www.cochranelibrary.com

NIH Clinical Research Trials and You

The National Institutes of Health (NIH) has created a Web site, NIH Clinical Research Trials and You, to help people learn about clinical trials, why they matter, and how to participate. The site includes questions and answers about clinical trials, guidance on how to find clinical trials through ClinicalTrials.gov and other resources, and stories about the personal experiences of clinical trial participants. Clinical trials are necessary to find better ways to prevent, diagnose, and treat diseases.

Web site: www.nih.gov/health/clinicaltrials/

MedlinePlus

To provide resources that help answer health questions, MedlinePlus (a service of the National Library of Medicine) brings together authoritative information from the National Institutes of Health as well as other Government agencies and health-related organizations.

Information on chronic pain: <http://www.nlm.nih.gov/medlineplus/chronicpain.html>

Web site: www.medlineplus.gov

Chronic Pain

Key References

- Bronfort G, Haas M, Evans R, et al. [Evidence-informed management of chronic low back pain with spinal manipulation and mobilization](#). *Spine Journal*. 2008;8(1):213-225.
- Bronfort G, Nilsson N, Haas M, et al. [Non-invasive physical treatments for chronic/recurrent headache](#). *Cochrane Database of Systematic Reviews*. 2004;(3):CD001878 [edited 2009]. Accessed at www.cochranelibrary.com on February 18, 2013.
- Cherkin DC, Sherman KJ, Kahn J, et al. [A comparison of the effects of 2 types of massage and usual care on chronic low back pain. A randomized, controlled trial](#). *Annals of Internal Medicine*. 2011;155:1-9.
- 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](#). *Annals of Internal Medicine*. 2007;147(7):492-504.
- Furlan AD, Imamura M, Dryden T, et al. [Massage for low-back pain](#). *Cochrane Database of Systematic Reviews*. 2008;(4): CD001929 [edited 2010]. Accessed at www.cochranelibrary.com on February 18, 2013.
- Furlan AD, Yazdi F, Tsertsvadze A, et al. [A systematic review and meta-analysis of efficacy, cost-effectiveness, and safety of selected complementary and alternative medicine for neck and low-back pain](#). *Evidence-Based Complementary and Alternative Medicine*. 2012;2012:953139.
- Gaylord SA, Palsson OS, Garland EL, et al. [Mindfulness training reduces the severity of irritable bowel syndrome in women: results of a randomized controlled trial](#). *American Journal of Gastroenterology*. 2011;106(9):1678-1688.
- Gross A, Miller J, D'Sylva J, et al. Manipulation or mobilisation for neck pain. *Cochrane Database of Systematic Reviews*. 2010;(1):CD004249. Accessed at www.cochranelibrary.com on February 18, 2013.
- Hinman RS, McCrory P, Pirota M, et al. [Acupuncture for chronic knee pain. A randomized clinical trial](#). *JAMA*. 2014;312(13):1313-1322.
- Institute of Medicine. *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research*. The National Academies Press Web site. Accessed at www.nap.edu/catalog.php?record_id=13172 on July 16, 2012.
- Kozasa EH, Tanaka LH, Monson C, et al. [The effects of meditation-based interventions on the treatment of fibromyalgia](#). *Current Pain and Headache Reports*. 2012;16(5):383-387.
- Manheimer E, Cheng K, Wieland LS, et al. [Acupuncture for treatment of irritable bowel syndrome](#). *Cochrane Database of Systematic Reviews*. 2012;(5):CD005111. Accessed at www.cochranelibrary.com on February 18, 2013.
- Miller KL, Clegg DO. [Glucosamine and chondroitin sulfate](#). *Rheumatic Diseases Clinics of North America*. 2011;37(1):103-118.
- Nahin RL. [Estimates of pain prevalence and severity in adults: United States, 2012](#). *Journal of Pain*. 2015;16(8):769-780.
- Moayyedi P, Ford AC, Talley NJ, et al. [The efficacy of probiotics in the treatment of irritable bowel syndrome: a systematic review](#). *Gut*. 2010;59(3):325-332.
- Ritchie ML, Romanuk TN. [A meta-analysis of probiotic efficacy for gastrointestinal diseases](#). *PLoS One*. 2012;7(4):e34938.
- Vickers AJ, Cronin AM, Maschino AC, et al. [Acupuncture for chronic pain: individual patient data meta-analysis](#). *Archives of Internal Medicine*. 2012;172(19):1444-1453.
- Vickers AJ, Linde K. [Acupuncture for chronic pain](#). *Journal of the American Medical Association*. 2014;311(9):955-956.
- Wang C, Schmid CH, Hibberd PL, et al. [Tai chi is effective in treating knee osteoarthritis: a randomized controlled trial](#). *Arthritis & Rheumatism*. 2009;61(11):1545-1553.
- Wang C, Schmid CH, Rones R, et al. [A randomized trial of tai chi for fibromyalgia](#). *New England Journal of Medicine*. 2010;363(8):743-754.

Chronic Pain

Guidelines

American College of Gastroenterology Task Force on Irritable Bowel Syndrome, Brandt LJ, Chey WD, Foxx-Orenstein AE, et al. [An evidence-based position statement on the management of irritable bowel syndrome.](#) *American Journal of Gastroenterology*. 2009;104 Suppl 1:S1-S7.

Childs JD, Cleland JA, Elliott JM, et al. [Neck pain: clinical practice guidelines linked to the International Classification of Functioning, Disability, and Health from the Orthopedic Section of the American Physical Therapy Association.](#) *Journal of Orthopedic and Sports Physical Therapy*. 2008;38(9):A1-A34.

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.](#) *Annals of Internal Medicine*. 2007;147(7):478-491.

Hochberg MC, Altman RD, April KT, et al. [American College of Rheumatology 2012 recommendations for the use of nonpharmacologic and pharmacologic therapies in osteoarthritis of the hand, hip, and knee.](#) *Arthritis Care & Research*. 2012;64(4):465-474.

Holland S, Silberstein SD, Freitag F, et al. [Evidence-based guideline update: NSAIDs and other complementary treatments for episodic migraine prevention in adults: report of the Quality Standards Subcommittee of the American Academy of Neurology and the American Headache Society.](#) *Neurology*. 2012;78(17):1346-1353.

Acknowledgments

NCCIH thanks Gert Bronfort, D.C., Ph.D., Northwestern Health Sciences University; Scott Haldeman, D.C., M.D., Ph.D., University of California, Irvine; John Kusiak, Ph.D., National Institute of Dental and Craniofacial Research, NIH; Karen Sherman, Ph.D., M.P.H., Group Health Research Institute; Dennis Turk, Ph.D., University of Washington; and John Glowa, Ph.D., NCCIH for their contributions to the 2013 update of this publication.

Chronic Pain

This publication is not copyrighted and is in the public domain.

Duplication is encouraged.

NCCIH has provided this material for your information. It is not intended to substitute for the medical expertise and advice of your primary health care provider. We encourage you to discuss any decisions about treatment or care with your health care provider. The mention of any product, service, or therapy is not an endorsement by NCCIH.

U.S. Department of Health & Human Services • National Institutes of Health • National Center for Complementary and Integrative Health

nccih.nih.gov