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Chronic Pain and CAM: At a Glance

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Pain is one of the most common conditions for which adults use complementary and alternative therapies. Because chronic (long-term) pain can be resistant to many medical treatments and can cause serious problems, people who suffer from chronic pain often turn to complementary and alternative medicine (CAM) for relief. This fact sheet provides basic information on chronic pain and "what the science says" about the effectiveness of CAM therapies. If you are considering a CAM therapy for chronic pain, talk with your health care provider first.

About Chronic Pain

Millions of Americans suffer from pain that is chronic, severe, and not easily managed. Pain from arthritis, back problems, other musculoskeletal conditions, and headache costs U.S. businesses more than $61 billion a year in lost worker productivity.

Chronic pain is often defined as any pain lasting more than 12 weeks. Whereas acute pain is a normal sensation, chronic pain is very different. Chronic pain persists—often for months or even longer. (In a national survey, 26 percent of adults—an estimated 76.5 million Americans—reported experiencing pain that lasted more than 24 hours; of those reporting pain, 42 percent said it lasted more than a year.) Chronic pain may arise from an initial injury such as a back sprain, or there may be an ongoing cause such as a disease, or there may be no evident cause. Other health problems—such as fatigue, sleep disturbance, mood changes, and mobility limitations—may also be associated with chronic pain.

Common chronic pain conditions include low-back pain, headache, arthritis pain, pain from nerve damage (e.g., diabetic neuropathy), cancer pain, and other conditions, such as fibromyalgia, in which pain is a prominent factor.

A person may have two or more co-existing chronic pain conditions. Such conditions can include chronic fatigue syndrome, endometriosis, fibromyalgia, interstitial cystitis (painful bladder

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syndrome), irritable bowel syndrome, temporomandibular joint dysfunction, and vulvodynia (chronic vulvar pain). It is not known whether these disorders share a common cause.

People who suffer from chronic pain take various prescription and nonprescription medications; often, these do not provide adequate relief and have unwanted side effects. Other approaches to pain management, such as cognitive behavioral therapy (which emphasizes the role of thought patterns), physical therapy, exercise, and various CAM therapies, are also widely used.

CAM Use for Chronic Pain

In the 2007 National Health Interview Survey, back pain was by far the most common condition cited as a reason for using CAM, followed by neck pain, joint pain/stiffness, and arthritis; other musculoskeletal pain and severe headache also ranked among the top 10 reasons. Another survey of more than 400 patients at a chronic pain clinic found that almost 40 percent used at least one form of CAM.

People seeking relief from chronic pain use a variety of CAM therapies. Examples include dietary supplements, such as glucosamine, chondroitin, and various herbs, and mind and body approaches, such as acupuncture, guided imagery, hypnotherapy, massage, meditation, relaxation therapy, spinal manipulation, tai chi, and yoga.

What the Science Says About CAM and Chronic Pain

In spite of the widespread use of CAM therapies for chronic pain, scientific evidence on whether the therapies help the conditions for which they are used and, if so, how—is, for the most part, limited. However, the evidence base is growing, especially for CAM therapies that many people use for common kinds of pain.

About Scientific Evidence on CAM Therapies

Scientific evidence on CAM therapies includes results from laboratory research (e.g., animal studies) as well as clinical trials (studies in people). It encompasses both "positive" findings (evidence that a therapy may work) and "negative" findings (evidence that it probably does not work or that it may be unsafe). Scientific journals publish study results, as well as review articles that evaluate the evidence as it accumulates; fact sheets from the National Center for Complementary and Alternative Medicine (NCCAM)—like this one—base information about CAM research primarily on the most rigorous review articles, known as systematic reviews and meta-analyses. Authors of such reviews often conclude that more research and/or better designed studies are needed.

A comprehensive description of scientific research on all the CAM therapies that people use for chronic pain is beyond the scope of this fact sheet. The rest of this section highlights the research status of some of the therapies used for common kinds of pain.

- **Low-back pain.** Reviews of research on ***acupuncture, massage,*** and ***spinal manipulation*** for chronic low-back pain have found evidence that these therapies may be beneficial. Clinical practice guidelines issued by the American College of Physicians/American Pain Society in 2007 recommend these therapies and five other nonpharmacologic (nondrug) approaches for patients with back pain who do not improve with medication, education, and self-care (the other recommended approaches are cognitive-behavioral therapy, exercise therapy, ***progressive relaxation,*** intensive interdisciplinary rehabilitation, and ***yoga***). Reviews of research on other CAM therapies that people sometimes use for chronic low-back pain, such as various ***herbal remedies*** and ***prolotherapy injections,*** generally have found limited or no evidence to support their use for this purpose, or the evidence is mixed.

Scientific Evidence on CAM for Pain	Promising Evidence of Potential Benefit	Limited, Mixed, or No Evidence To Support Use
Low-Back Pain		
Acupuncture	✓	
Massage	✓	
Spinal Manipulation	✓	
Progressive Relaxation	✓	
Yoga	✓	
Prolotherapy		✓
Herbal Remedies		✓
Arthritis		
Acupuncture	✓	
Glucosamine/Chondroitin		✓
Gamma Linolenic Acid (GLA)		✓
Herbal Remedies		✓
Balneotherapy (Mineral Baths)		✓
Tai Chi		✓
Headache		
Acupuncture	✓	
Spinal Manipulation	✓	
Feverfew		✓
Neck Pain		
Acupuncture		✓
Spinal Manipulation		✓

- **Arthritis.** Among CAM approaches that have been studied for pain relief in osteoarthritis are ***acupuncture, glucosamine/chondroitin, herbal remedies, mineral baths (balneotherapy),*** and tai chi. Many of these approaches have also been studied for rheumatoid arthritis. Overall, although some studies of CAM practices for arthritis have had promising results, the evidence generally is limited or mixed. A systematic review article on acupuncture for osteoarthritis concluded that acupuncture may lead to small improvements in pain and function. However, in a large clinical study, known as GAIT (Glucosamine/chondroitin Arthritis Intervention Trial), the popular dietary supplements ***glucosamine*** and ***chondroitin sulfate*** alone or in combination did not significantly relieve knee osteoarthritis pain among all participants, although the combination did help a subgroup who had moderate-to-severe pain. Reviews have found evidence that ***gamma linolenic acid*** (GLA, from evening primrose and certain other plant oils) may relieve rheumatoid arthritis pain, although further research is needed. Reviews have also noted evidence that dietary supplements known as ***ASUs*** (avocado-soybean unsaponifiables) and ***devil's claw*** may provide relief from osteoarthritis pain.

- **Headache.** Reviews of research on ***acupuncture*** for reducing the frequency and intensity of migraine and tension-type headaches conclude that patients may benefit from acupuncture therapy. One review found evidence that ***spinal manipulation*** may help patients suffering from chronic tension-type or cervicogenic (neck-related) headaches. Some research suggests that the herb ***feverfew*** may prevent migraine attacks, but results from clinical trials are mixed, and additional research is needed.

- **Neck pain.** Reviews of research on ***manual therapies*** (primarily manipulation or mobilization) and ***acupuncture*** for chronic neck pain have found mixed evidence regarding potential benefits and have emphasized the need for additional research. One review noted that clinical guidelines often endorse the use of manual therapies for neck pain, although there is no overall consensus on the status of these therapies.

- **Other types of pain.** Various CAM approaches have also been studied for other types of chronic pain, such as **facial pain,** including from **temporomandibular joint (jaw) disorder; nerve pain** associated with diabetes and other conditions; **cancer pain;** and pain experienced by people with **fibromyalgia.** For example, a small study found that people with fibromyalgia may benefit from practicing ***tai chi.*** In general, research reviews have found some promising evidence of effectiveness for some CAM therapies but often emphasize that additional research is needed before treatment recommendations can be made.

- **Other CAM approaches.** People suffering from various types of chronic pain sometimes turn to other CAM practices, such as ***hypnotherapy, meditation,*** or ***qi gong.*** Again, reviews of the research on these therapies have found some evidence of effectiveness but note the need for further studies. Although ***static magnets*** are widely marketed for pain control, a review of the related research concludes that the evidence does not support this practice.

Several NCCAM fact sheets present additional information on pain-related CAM research and include reference lists citing relevant studies and reviews; examples include *Acupuncture for Pain, Spinal Manipulation for Low-Back Pain, Fibromyalgia and CAM: At a Glance, Massage Therapy: An Introduction, and Yoga for Health: An Introduction*.

NCCAM-Funded Research

NCCAM is part of the National Institutes of Health (NIH) Pain Consortium, which coordinates pain research at NIH. NCCAM-supported studies are helping to build an evidence base on the efficacy and safety of CAM modalities for treating chronic pain. Recent NCCAM-supported studies have been investigating:

- CAM therapies for chronic low-back pain, including acupuncture, massage, spinal manipulation, and yoga
- CAM therapies for osteoarthritis pain, including prolotherapy, tai chi, and yoga
- Massage for chronic neck pain
- Acupuncture and spinal manipulation for chronic headaches
- Acupuncture and tai chi for fibromyalgia pain.

In addition, NCCAM is supporting a year-long, Internet-based survey of people with chronic pain and other chronic conditions to study CAM effectiveness as well as interactions among stress and coping, pain, and treatment outcomes. The survey is called PROCAIM—Patient-Reported Outcomes from Complementary, Alternative, and Integrative Medicine. NCCAM is also supporting an analysis of results from clinical trials on acupuncture for chronic pain. Another NCCAM initiative is assessing the effectiveness of CAM interventions for chronic back pain.

Chronic Pain: CAM Research Challenges and Opportunities

In light of the human and economic costs of chronic pain, as well as evidence that many people who suffer from chronic pain turn to CAM for relief, NCCAM places a high priority on pain-related research. Researchers in this area face unique challenges, in that much remains to be understood about the nature of chronic pain and about the best approaches to studying its many different causes, people's different responses, and the value of various treatment approaches—CAM and conventional. The ultimate goal of research on chronic pain 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 with chronic pain minimize pain, maximize function, and improve quality of life.

While building an evidence base to help people with chronic pain and their health care providers make decisions about specific therapies, CAM research is also helping to close gaps in our basic understanding of pain mechanisms. For example, researchers are using state-of-the-art imaging technology to see how acupuncture affects brain activity. One study's finding that changes in brain activity during acupuncture are different for people with chronic pain compared with healthy people is important for understanding not only how acupuncture might work but also pain processes in general.

If You Are Considering CAM for Chronic Pain

- Do not use a CAM therapy as a replacement for conventional care or to postpone seeing a doctor about chronic pain or any other medical problem.

- Learn about the therapy you are considering, especially the scientific evidence on its safety and whether it works.

- Talk with the health care providers you see for chronic pain. Tell them about the therapy you are considering and ask any questions you may have. They may know about the therapy and be able to advise you on its safety, use, and likely effectiveness.

- If you are considering a practitioner-provided CAM therapy such as chiropractic manipulation, massage, or acupuncture, ask a trusted source (such as your doctor 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. To learn more, see the NCCAM fact sheet, *Selecting a CAM Practitioner*.

- If you are considering dietary supplements, keep in mind that they can act in the same way as medications. They can cause medical 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 health care provider. To learn more, see the NCCAM fact sheet, *Using Dietary Supplements Wisely*.

- Tell all 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. For tips about talking with your health care providers about CAM, see NCCAM's Time to Talk campaign at nccam.nih.gov/timetotalk/.

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For More Information

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