

What Is Complementary and Alternative Medicine?



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Many Americans use complementary and alternative medicine (CAM) in pursuit of health and well-being. The 2007 National Health Interview Survey (NHIS), which included a comprehensive survey of CAM use by Americans, showed that approximately 38 percent of adults use CAM. This fact sheet presents an overview of CAM, types of CAM, summary information on safety and regulation, the mission of the National Center for Complementary and Alternative Medicine (NCCAM), and additional resources.

Defining CAM

Defining CAM is difficult, because the field is very broad and constantly changing. NCCAM defines CAM as a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine. Conventional medicine (also called Western or allopathic medicine) is medicine as practiced by holders of M.D. (medical doctor) and D.O. (doctor of osteopathic medicine) degrees and by allied health professionals, such as physical therapists, psychologists, and registered nurses. The boundaries between CAM and conventional medicine are not absolute, and specific CAM practices may, over time, become widely accepted.

“Complementary medicine” refers to use of CAM **together with** conventional medicine, such as using acupuncture in addition to usual care to help lessen pain. Most use of CAM by Americans is complementary. “Alternative medicine” refers to use of CAM **in place of** conventional medicine. “Integrative medicine” combines treatments from conventional medicine and CAM for which there is some high-quality evidence of safety and effectiveness. It is also called integrated medicine.

Types of CAM

CAM practices are often grouped into broad categories, such as natural products, mind and body medicine, and manipulative and body-based practices. Although these categories are not formally defined, they are useful for discussing CAM practices. Some CAM practices may fit into more than one category.

U.S. DEPARTMENT OF HEALTH
AND HUMAN SERVICES

National Institutes of Health

National Center for Complementary
and Alternative Medicine



Natural Products

This area of CAM includes use of a variety of herbal medicines (also known as botanicals), vitamins, minerals, and other “natural products.” Many are sold over the counter as **dietary supplements**. (Some uses of dietary supplements—e.g., taking a multivitamin to meet minimum daily nutritional requirements or taking calcium to promote bone health—are not thought of as CAM.)

CAM “natural products” also include **probiotics**—live microorganisms (usually bacteria) that are similar to microorganisms normally found in the human digestive tract and that may have beneficial effects. Probiotics are available in foods (e.g., yogurts) or as dietary supplements. They are not the same thing as prebiotics—nondigestible food ingredients that selectively stimulate the growth and/or activity of microorganisms already present in the body.

Historical note: Herbal or botanical medicines reflect some of the first attempts to improve the human condition. The personal effects of the mummified prehistoric “ice man” found in the Italian Alps in 1991 included medicinal herbs. By the Middle Ages, thousands of botanical products had been inventoried for their medicinal effects.

Current use: Interest in and use of CAM natural products have grown considerably in the past few decades. The 2007 NHIS found that 17.7 percent of American adults had used a nonvitamin/nonmineral natural product. These products were the most popular form of CAM among both adults and children. The most commonly used product among adults was fish oil/omega 3s (reported by 37.4 percent of all adults who said they used natural products); popular products for children included echinacea (37.2 percent) and fish oil/omega 3s (30.5 percent).

Mind and Body Medicine

Mind and body practices focus on the interactions among the brain, mind, body, and behavior, with the intent to use the mind to affect physical functioning and promote health. Many CAM practices embody this concept—in different ways.

- **Meditation** techniques include specific postures, focused attention, or an open attitude toward distractions. People use meditation to increase calmness and relaxation, improve psychological balance, cope with illness, or enhance overall health and well-being.
- The various styles of **yoga** used for health purposes typically combine physical postures, breathing techniques, and meditation or relaxation. People use yoga as part of a general health regimen, and also for a variety of health conditions.
- **Acupuncture*** is a family of procedures involving the stimulation of specific points on the body using a variety of techniques, such as penetrating the skin with needles that are then manipulated by hand or by electrical stimulation. It is one of the key components of traditional Chinese medicine, and is among the oldest healing practices in the world.

* Acupuncture is considered to be a part of mind and body medicine, but it is also a component of energy medicine, manipulative and body-based practices, and traditional Chinese medicine.

Other examples of mind and body practices include **deep-breathing exercises, guided imagery, hypnotherapy, progressive relaxation, qi gong,** and **tai chi.**

Historical note: The concept that the mind is important in the treatment of illness is integral to the healing approaches of traditional Chinese medicine and Ayurvedic medicine, dating back more than 2,000 years. Hippocrates also noted the moral and spiritual aspects of healing and believed that treatment could occur only with consideration of attitude, environmental influences, and natural remedies.

Current use: Several mind and body approaches ranked among the top 10 CAM practices reported by adults in the 2007 NHIS. For example, the survey found that 12.7 percent of adults had used deep-breathing exercises, 9.4 percent had practiced meditation, and 6.1 percent had practiced yoga; use of these three CAM practices had increased significantly since the previous (2002) NHIS. Progressive relaxation and guided imagery were also among the top 10 CAM therapies for adults; deep breathing and yoga ranked high among children. Acupuncture had been used by 1.4 percent of adults and 0.2 percent of children.

Manipulative and Body-Based Practices

Manipulative and body-based practices focus primarily on the structures and systems of the body, including the bones and joints, soft tissues, and circulatory and lymphatic systems. Two commonly used therapies fall within this category:

- **Spinal manipulation** is practiced by health care professionals such as chiropractors, osteopathic physicians, naturopathic physicians, physical therapists, and some medical doctors. Practitioners perform spinal manipulation by using their hands or a device to apply a controlled force to a joint of the spine. 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. Spinal manipulation is among the treatment options used by people with low-back pain—a very common condition that can be difficult to treat.
- The term **massage therapy** encompasses many different techniques. In general, therapists press, rub, and otherwise manipulate the muscles and other soft tissues of the body. People use massage for a variety of health-related purposes, including to relieve pain, rehabilitate sports injuries, reduce stress, increase relaxation, address anxiety and depression, and aid general well-being.

Historical note: Spinal manipulation has been used since the time of the ancient Greeks and was incorporated into chiropractic and osteopathic medicine in the late 19th century. Massage therapy dates back thousands of years. References to massage appear in writings from ancient China, Japan, India, Arabic nations, Egypt, Greece (Hippocrates defined medicine as “the art of rubbing”), and Rome.

Current use: According to the 2007 NHIS, chiropractic/osteopathic manipulation and massage ranked in the top 10 CAM therapies among both adults and children. The survey found that 8.6 percent of adults and 2.8 percent of children had used chiropractic or osteopathic manipulation, and 8.3 percent of adults and 1 percent of children had used massage.

Other CAM Practices

CAM also encompasses **movement therapies**—a broad range of Eastern and Western movement-based approaches used to promote physical, mental, emotional, and spiritual well-being. Examples include **Feldenkrais method, Alexander technique, Pilates, Roling Structural Integration,** and **Trager psychophysical integration.** According to the 2007 NHIS, 1.5 percent of adults and 0.4 percent of children used movement therapies.

Practices of **traditional healers** can also be considered a form of CAM. Traditional healers use methods based on indigenous theories, beliefs, and experiences handed down from generation to generation. A familiar example in the United States is the Native American healer/medicine man. The 2007 NHIS found that 0.4 percent of adults and 1.1 percent of children had used a traditional healer (usage varied for the seven specific types of healers identified in the survey).

Some CAM practices involve manipulation of various **energy** fields to affect health. Such fields may be characterized as veritable (measurable) or putative (yet to be measured). Practices based on veritable forms of energy include those involving electromagnetic fields (e.g., **magnet therapy** and **light therapy**). Practices based on putative energy fields (also called biofields) generally reflect the concept that human beings are infused with subtle forms of energy; **qi gong, Reiki,** and **healing touch** are examples of such practices. The 2007 NHIS found relatively low use of putative energy therapies. Only 0.5 percent of adults and 0.2 percent of children had used energy healing/Reiki (the survey defined energy healing as the channeling of healing energy through the hands of a practitioner into the client's body).

Finally, **whole medical systems,** which are complete systems of theory and practice that have evolved over time in different cultures and apart from conventional or Western medicine, may be considered CAM. Examples of ancient whole medical systems include **Ayurvedic medicine** and **traditional Chinese medicine.** More modern systems that have developed in the past few centuries include **homeopathy** and **naturopathy.** The 2007 NHIS asked about the use of Ayurveda, homeopathy, and naturopathy. Although relatively few respondents said they had used Ayurveda or naturopathy, homeopathy ranked 10th in usage among adults (1.8 percent) and 5th among children (1.3 percent).

A Note About Safety and Effectiveness

Rigorous, well-designed clinical trials for many CAM therapies are often lacking; therefore, the safety and effectiveness of many CAM therapies are uncertain. NCCAM is sponsoring research designed to fill this knowledge gap by building a scientific evidence base about CAM therapies—whether they are safe; and whether they work for the conditions for which people use them and, if so, how they work.

As with any medical treatment, there can be risks with CAM therapies. These general precautions can help to minimize risks:

- Select CAM practitioners with care. Find out about the practitioner’s training and experience.
- Be aware that some dietary supplements may interact with medications or other supplements, may have side effects of their own, or may contain potentially harmful ingredients not listed on the label. Also keep in mind that most supplements have not been tested in pregnant women, nursing mothers, or children.
- 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/.

NCCAM’s Role

NCCAM’s mission is to define, through rigorous scientific investigation, the usefulness and safety of complementary and alternative medicine interventions and their roles in improving health and health care. NCCAM achieves its mission through basic, translational (“bench-to-bedside”), and clinical research; research capacity building and training; and education and outreach programs.

Be an Informed Consumer: Information Resources From NCCAM

The “Health Information” page of the NCCAM Web site (nccam.nih.gov/health/) provides access to a variety of information on CAM, as well as links to other National Institutes of Health (NIH) resources. Materials include:

- Fact sheets designed to help you think about the issues involved in deciding whether to use CAM:
 - *Are You Considering CAM?*
 - *CAM Use and Children*
 - *Evaluating Web-Based Health Resources*
 - *Paying for CAM Treatment*
 - *Selecting a CAM Practitioner*
 - *Tips for Talking With Your Health Care Providers About CAM*
 - *Using Dietary Supplements Wisely*

- Fact sheets on specific CAM therapies (e.g., *Yoga for Health: An Introduction*) and on CAM for specific health conditions (e.g., *CAM and Hepatitis C: A Focus on Herbal Supplements*)—including information on safety, the status of evidence-based research on effectiveness, and points to consider in deciding to use the therapy.
- Herbs at a Glance: Information on more than 40 of the most common herbs in popular dietary supplements. Available in a booklet and in individual fact sheets.

A Note About Government Regulation

Dietary Supplements

The Federal Government regulates dietary supplements primarily through the U.S. Food and Drug Administration (FDA). The regulations for dietary supplements are not the same as those for prescription or over-the-counter drugs. In general, the regulations for dietary supplements are less strict; for example, a manufacturer does not have to prove the safety and effectiveness of a dietary supplement before it is marketed. Once a dietary supplement is on the market, the FDA monitors safety and product information (label claims and package inserts), and the Federal Trade Commission (FTC) monitors advertising.

Practitioner-Based Therapies

There is no standardized, national system for credentialing CAM practitioners. The extent and type of credentialing vary widely from state to state and from one CAM profession to another. For example, some CAM professions (e.g., chiropractic) are licensed in all or most states, although specific requirements for training, testing, and continuing education vary; other CAM professions are licensed in only a few states or not at all.

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

E-mail: info@nccam.nih.gov

Office of Dietary Supplements (ODS)

ODS seeks to strengthen knowledge and understanding of dietary supplements by evaluating scientific information, supporting research, sharing research results, and educating the public. Its resources include publications (such as *Dietary Supplements: What You Need to Know*), facts sheets on a variety of specific supplement ingredients (such as vitamin D and black cohosh), and the PubMed Dietary Supplement Subset.

Web site: ods.od.nih.gov

E-mail: ods@nih.gov

U.S. Food and Drug Administration (FDA)

Center for Food Safety and Applied Nutrition

Web site: www.fda.gov/AboutFDA/CentersOffices/OfficeofFoods/CFSAN/

Toll-free in the U.S.: 1-888-723-3366

Information includes *Tips for the Savvy Supplement User: Making Informed Decisions and Evaluating Information* (www.fda.gov/food/dietarysupplements/consumerinformation/ucm110567.htm) and updated safety information on supplements (www.fda.gov/Food/DietarySupplements/Alerts). If you have experienced an adverse effect from a supplement, you can report it to the FDA's MedWatch program, which collects and monitors such information (1-800-332-1088 or www.fda.gov/Safety/MedWatch).

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/sites/entrez

NIH National Library of Medicine's MedlinePlus

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

Web site: www.medlineplus.gov

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