

# Complementary & Alternative Medicine

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## BACKGROUND

Practices that lie outside the mainstream of “official” medicine have always been an important part of the public’s health care. Recently, these practices—frequently called *complementary and alternative medicine (CAM)*—have become more prominent in the West. In April 1995, a panel of experts convened at the National Institutes of Health (NIH) defined CAM as “a broad domain of healing resources that encompasses all health systems, modalities, practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health system of a particular society or culture in a given historical period.” Surveys of CAM use have defined it as those practices used for the prevention and treatment of disease that are neither taught widely in medical schools nor generally available in hospitals. CAM is that subset of practices that is not an integral part of conventional care, but is still used by patients in their health care management. Table 49–1 lists some of the categories of CAM defined by the White House Commission on CAM Policy.

Panel on Definition and Description: Defining and describing complementary and alternative medicine. *Alt Ther Health Med* 1997;3:49.

## Patient Use of CAM

Complementary, alternative, and unconventional medicine is becoming increasingly popular in the United States. Two identical surveys of unconventional medicine use in the United States, done in 1990 and 1996, showed a 45% increase in use of CAM by the public. Visits to CAM practitioners increased from 400 million to over 600 million per year. The amount spent on these practices rose from \$14 billion to \$27 billion—most of it not reimbursed. Professional organizations are now beginning the “integration” of these practices into mainstream medicine. More than 95 of the nation’s 125 medical schools require some kind of CAM coursework, many hospitals have developed complementary and integrated medicine programs, and some health management

organizations are offering “expanded” benefits packages that include alternative practitioners and services. Biomedical research organizations are also investing more into the investigation of these practices. For example, the budget of the Office of Alternative Medicine at NIH rose from \$5 million to the present \$123.1 million in 10 years and changed from a coordination office to a National Center for Complementary and Alternative Medicine (NCCAM).

Multiple surveys have been conducted on use of CAM by populations with cancer and HIV infection, as well as by children, minorities, and women. Rates of use are significant in all these populations. Women, for example, are consistently more likely to explore and use CAM. Frequently central in health care decisions for a family, women seek out health care options in a pragmatic way. In the survey by Eisenberg and colleagues, 49% of women used CAM. Emigrant populations often use traditional medicines not commonly used in the West. According to the World Health Organization, between 65% and 80% of the world’s health care services are classified as traditional medicine. These become complementary, alternative, or unconventional when used in Western countries. Even in countries in which modern western biomedicine dominates, the public (and more women than men) makes extensive use of unconventional practices. In western Europe and Australia, for example, regular use of complementary and alternative practices ranges from 20% to 70%.

The public uses these practices for both minor and major problems. Surveys show more than 68% of patients with cancer and HIV will use unconventional practices at some point during the course of their illness. Complementary medicine is an area of great public interest and activity, both nationally and worldwide. It appears that CAM has again “come of age” in the West.

Astin JA: Why patients use alternative medicine: Results of a national study. *JAMA* 1998;279:1548. [PMID: 9605899]

Eisenberg DM et al: Trends in alternative medicine use in the United States 1990–1997: Results of a follow-up national survey. *JAMA* 1998;280:1569. [PMID: 9820257]

**Table 49–1.** CAM systems of health care, therapies, or products.<sup>1</sup>

Major Domains of CAM	Examples under Each Domain
Alternative health care systems	Ayurvedic medicine Chiropractic Homeopathic medicine Native American medicine (eg, sweat lodge, medicine wheel) Naturopathic medicine Traditional Chinese medicine (eg, acupuncture, Chinese herbal medicine)
Mind–body interventions	Meditation Hypnosis Guided imagery Dance therapy Music therapy Art therapy Prayer and mental healing
Biological-based therapies	Herbal therapies Special diets (eg, macrobiotics, extremely low-fat or high-carbohydrate diets) Orthomolecular medicine (eg, megavitamin therapy) Individual biological therapies (eg, shark cartilage, bee pollen)
Therapeutic massage, body work, and somatic movement therapies	Massage Feldenkrais Alexander method
Energy therapies	Qigong Reiki Therapeutic touch
Bioelectromagnetics	Magnet therapy

<sup>1</sup>This table was adapted from the major domains of CAM and examples of each developed by the National Center for Complementary and Alternative Medicine, National Institutes of Health.

### Physician Use of CAM

Conventional physicians are not only frequently faced with questions about CAM, but also refer patients for CAM treatment and, to a lesser extent, provide CAM services. A review of 25 surveys of conventional physician referral and use of CAM found that 43% of physicians had referred patients for acupuncture, 40% for chiropractic services, and 21% for massage. The majority believed in the efficacy of these three practices. Rates

of use of CAM practices ranged from 9% (homeopathy) to 19% (chiropractic and massage). National surveys have confirmed that many physicians refer for and fewer incorporate CAM practices into their health care management.

### Risks of CAM

The amount of research on CAM systems and practices is small compared with research on conventional medicine. There are over 1000 times more citations in the National Library of Medicine's bibliographic database, MEDLINE, on conventional cancer treatments than on alternative cancer treatments. With increasing public use of CAM, poor communication between patients and physicians about it, and few studies on the safety and efficacy of most CAM treatments, a situation exists for misuse and harm from these treatments. Many practices, such as acupuncture, homeopathy, and meditation, are low risk but require practitioner competence to avoid inappropriate use. Botanical preparations can be toxic and produce herb–drug interactions. Contamination and poor quality control also exist with these products, especially if shipped from Asia and India.

### Potential Benefits of CAM

CAM practices have value for the way physicians manage health and disease. In botanical medicine, for example, there is research showing the benefit of herbal remedies such as ginkgo biloba for improving dementia due to circulation problems and possibly Alzheimer disease, benign prostatic hypertrophy with saw palmetto and other herbal preparations, and the prevention of heart disease with garlic. Several placebo-controlled trials have been done showing that Hypericum (St John's wort) is effective in the treatment of depression, although recent studies in the United States have cast doubt on the generalizability of those studies. Additional studies report that Hypericum is as effective as some conventional antidepressants but produces fewer side effects and costs less. The quality of many of these trials is poor, however, so physicians need to have basic skills in the evaluation of clinical literature.

Le Bars PL et al: A placebo-controlled, double-blind, randomized trial of an extract of Ginkgo biloba for dementia. North American EGb Study Group. JAMA 1997;278:1327. [PMID: 9343463]

### ROLE OF THE FAMILY PHYSICIAN

What is the role of the family physician in the management of CAM? The goal is to help patients make informed choices about CAM as they do in conventional medicine. Specifically, physicians can protect, permit, promote, and partner with patients about CAM practices as appropriate.

## Protecting Patients from Risks of CAM

Many practices, such as acupuncture, biofeedback, homeopathy, and meditation, are low risk if used by competent practitioners, but if used in place of more effective treatments they can result in harm. Practitioners should be qualified to help patients avoid inappropriate use. Many herbal remedies contain powerful pharmacologic substances with direct toxicity and herb–drug interactions. Contamination and poor quality control occur more often than with conventional drugs, especially if preparations are obtained from overseas.

The family physician can help distinguish between CAM practices with little or no risk of direct toxicity (eg, homeopathy, acupuncture) and those with greater risk of toxicity (eg, megavitamins, herbal remedies). Physicians should be especially cautious about products that can produce toxicity, work with patients so they do not abandon proven care, and alert patients to signs of possible fraud or abuse. “Secret” formulas, cures for multiple conditions, slick advertising for mail-order products, pyramid marketing schemes, and any recommendation to abandon conventional medicine are “red flags” and should be suspect.

## Permitting Use of Nonspecific Therapies

Spontaneous healing and placebo effects account for the improvement seen in many illnesses. Science attempts to separate these factors from those that are specific aspects of a therapy. Physicians, however, are interested in how to combine both specific and nonspecific factors for maximum benefit. Many medical systems emphasize high-touch, personalized approaches for the management of chronic disease. The physician can permit the integration of selected CAM approaches that are not harmful or expensive but that may enhance these nonspecific factors.

## Promoting CAM Use

Proven therapies that are safe and effective should be available to the public. As research continues, expanded options for managing clinical conditions will arise. Gradually, physicians and patients will have more options for management of disease. In arthritis, for example, there are studies suggesting improvements with homeopathy, acupuncture, vitamin and nutritional supplements, botanical products, diet therapies, mind-body approaches, and manipulation. A similar collection of small studies exists for other conditions such as heart disease, depression, asthma, and addictions. The Cochrane Collaboration conducts systematic reviews of randomized controlled trials on both conventional and complementary medicine and is an excellent source for evidence-based evaluation of such studies. As research accumulates, rational therapeutic options can be developed in these areas.

## Partnering with Patients about CAM Use

Over 60% of patients who use CAM practices do not reveal this information to their conventional physicians. Thus, there is a major communication gap between physicians and the public about CAM. Patients use alternative practices for a variety of reasons, among them, because it is part of their social network, because they are not satisfied with the results of their conventional care, or because they have an attraction to CAM philosophies and health beliefs. The overwhelming majority of patients use CAM practices as an adjunct to conventional medicine. Less than 5% use CAM exclusively. Patients who use alternative medicine do not foster antiscience or anticonventional medicine sentiments, or represent a disproportionate number of the uneducated, poor, seriously ill, or neurotic. Often patients do not understand the role of science in medicine and will accept anecdotal evidence or slick marketing as sufficient justification for use. The conventional practitioner can play a role in examining the research base of these medical claims and work with patients to incorporate more evidence into their health care decisions. Quality research on these practices can help to provide this evidence, and the physician can help interpret that evidence with patients.

Other social factors have also influenced the rise in prominence of CAM. These include the prevalence of chronic disease, increasing access to health information, the “consumerization” of medical decision making, a declining faith that scientific breakthroughs will have relevant benefits for personal health, and an increased interest in spirituality. In addition, the public and professionals are increasingly concerned over side effects and escalating costs of conventional health care. Ignorance about CAM practices by physicians and scientists can broaden the communication gap between the public and the profession that serves them. All physicians should learn about these practices and discuss them with patients.

Chez RA, Jonas WB: The challenge of complementary and alternative medicine. *Am J Obstet Gynecol* 1997;177:1156. [PMID: 9396912]

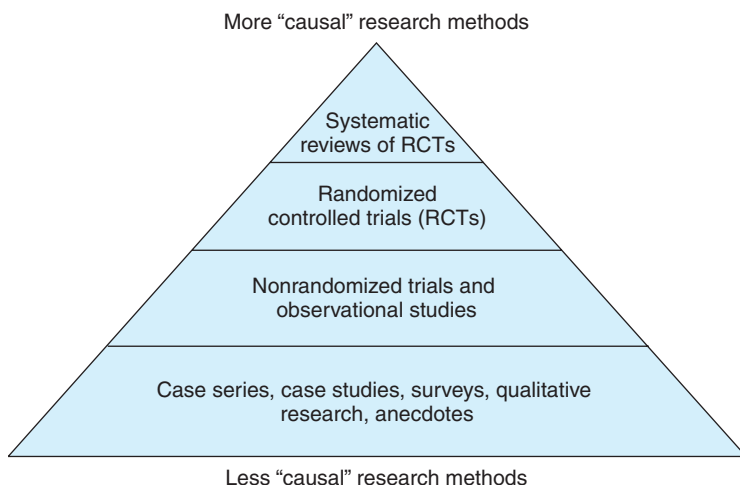
Lewith G et al: *Clinical Research in Complementary Therapies: Principles, Problems and Solutions*. Churchill Livingstone, 2002.

## WEB SITES

Cochrane Collaboration:  
<http://www.cochrane.org>

## EVIDENCE HIERARCHY OR EVIDENCE HOUSE?

All physicians need good evidence to make medical decisions. Evidence comes in a variety of forms, and



**Figure 49–1.** The evidence hierarchy.

what may be good for one purpose may not be good for another. The term *evidence-based medicine* has become a synonym for “good” medicine recently, and it is often used to support and deny the value of complementary medicine. Evidence-based medicine uses the “hierarchy of evidence” (Figure 49–1). In this hierarchy, systematic reviews are seen as the “best” evidence, then individual randomized controlled trials (RCTs), then nonrandomized trials, then observational studies, and finally case series. All efforts are focused on approximating evidence at the top of the pyramid, and lower levels are considered inferior. Clinical experiments on causal links between an intervention and outcomes become the gold standard when this model is used.

All family physicians have seen patients who recover from disease because of complex factors, many of which are not additive and cannot be isolated in controlled experiments. Under these circumstances, observational data from clinical practice may offer the best evidence rather than controlled trials. Patients’ illnesses are complex, and holistic phenomena cannot be reduced to single, objective measures. Often highly subjective judgments about life quality may be the best information with which to make a decision. Such experiences may be captured only with qualitative research, not with scans or blood tests. In that case the meaning patients have of their illness and recovery is the “best” evidence for medical decisions. Sometimes the “best” evidence comes from laboratory tests. For example, the most crucial evidence for management of St John’s wort in patients on immunosuppressive medications comes from a laboratory finding that it accelerates drug metabolism via cytochrome P450. Arranging evidence in a “hierarchy” obscures the fact that the “best” evidence may not be about cause and effect, may not be objective, and may not be clinical.

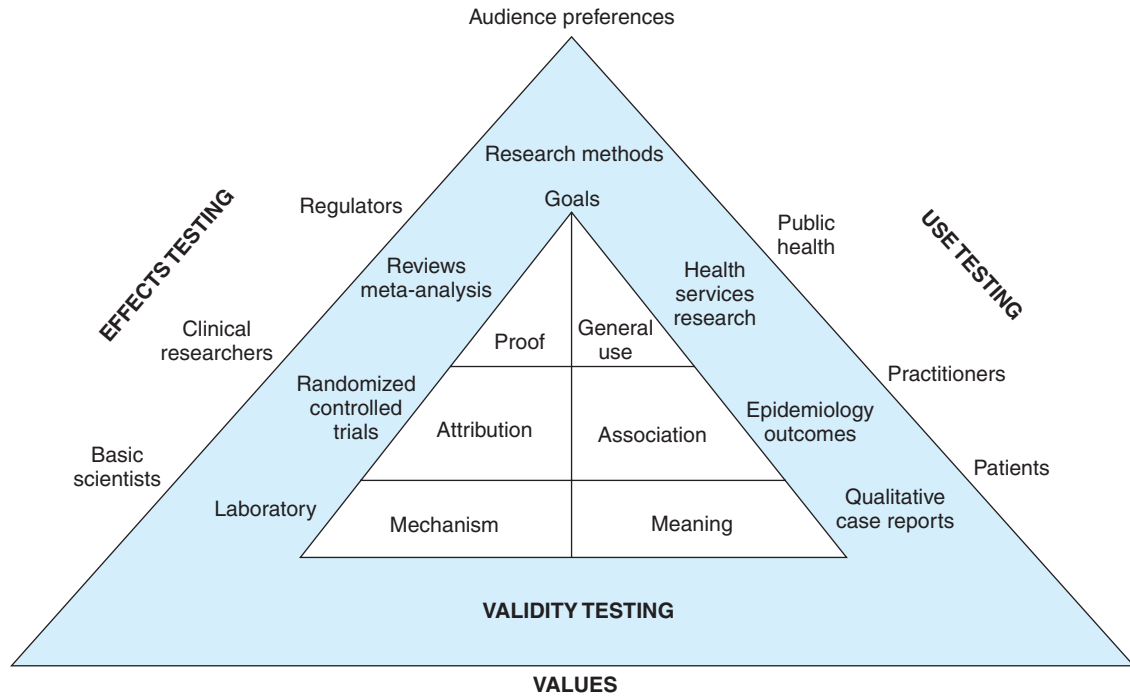
We suggest that family physicians not use an evidence hierarchy, rather that they build an evidence “house” (Figure 49–2). On the left side of this house is evidence for causal attributions, for mechanisms of action, and for “proof.” However, if physicians confine themselves to the left side of the house they will never know about the relevance of a treatment for patients or what happens in the real world of clinical practice. They will also not know if proven treatments can be generalized to populations such as the ones they see or the health care delivery system in which they practice. The “rooms” on the right side of the house provide evidence about patient relevance and usefulness, in practices both proven and unproven.

How evidence is approached has ethical implications. Different groups prefer different types of evidence. Regulatory authorities are most interested in RCTs or systematic reviews (left side), which may never be done. Health care practitioners usually want to know the likelihood of benefit or harm from a treatment (right side). Patients are intensely interested in stories and descriptions of cures (right side). Rationalists want to know how things work and so need laboratory evidence (left side). If one type of evidence is selected to the exclusion of others, science will not allow for full public input into clinical decisions. A livable house needs both a kitchen and a bathroom, a place to sleep and play. Each type of evidence has different functions and all need to be of high quality.

Jonas WB: Evidence, ethics and evaluation of global medicine. In Callahan D, ed: *Ethical Issues in Complementary and Alternative Medicine*. Hastings Center Report, 2001.

Kelner M, Wellman B: *Complementary and Alternative Medicine: Challenge and Change*. Gordon & Breach, 2000.

Linde K, Jonas WB: Evaluating complementary and alternative medicine: The balance of rigor and relevance. In Jonas WB,



**Figure 49–2.** The evidence house.

Levin J, eds: *Essentials of Complementary and Alternative Medicine*. Lippincott Williams & Wilkins, 1999.

## AN EVIDENCE-BASED APPROACH

Most treatment decisions require information about whether a practice has a specific effect, and about the magnitude of that effect in practice. This evidence is provided by RCTs and outcomes research, respectively. An evidence-based practice, then, would involve clinical expertise, informed patient communication, and quality research. This presumes that the physician has good clinical and communication skills. Medical training and experience address these prerequisites, but evaluation of the research evidence may not be something physicians feel fully prepared for in CAM. Obtaining research, selecting appropriate research for clinical situations, and then evaluating the quality of that research in CAM are essential for a fully evidence-based practice that addresses these topics.

### Finding & Selecting Good Information

Where can the family physician obtain research on CAM? Several groups have collated and produced CAM-specific databases, although central, comprehensive, and easily accessed sources for quality CAM literature are not yet available. Table 49–2 lists useful sources of clinical information on CAM and what they

provide. When searching these databases physicians should look for the following key terms: (1) *meta-analyses and systematic reviews*, (2) *randomized controlled trials*, and (3) *observational or prospective outcomes data*. Although there are many other types of studies, physicians must be cautious about using these for problem-oriented decision making in practice. If no research information is found in the databases listed, there is likely to be little relevant practice-oriented evidence for that clinical condition. A search for this information need not be time consuming; in fact, a trained office assistant can often do the search, streamlining time spent on this process. After completing a literature search the physician can be confident, knowing the quantity of evidence on the therapy. Patients are usually grateful for this effort, because many come to their physician in the hopes of obtaining science-based information they can trust.

### Risks & Types of Evidence for Practice

If there are studies on a specific type of CAM practice, then the risk of toxicity and the cost of the therapy indicate which types of data are needed. Low-risk practices include over-the-counter homeopathic medications, acupuncture, gentle massage or manipulation, meditation, relaxation and biofeedback, other mind-body methods, and vitamin and mineral supplementa-

**Table 49–2.** Sources of CAM information for health care practitioners.

Source of CAM Information	Description	Where to Go
Cochrane Library	Database of Systematic Reviews: systematic reviews of RCTs of CAM and conventional therapies Controlled Trials Register: extensive bibliographic listing of controlled trials and conference proceedings	<a href="http://www.cochrane.org">http://www.cochrane.org</a> <a href="http://gateway.ovid.com">http://gateway.ovid.com</a>
Natural Medicines Comprehensive Database	Comprehensive listing and cross-listing of natural and herbal therapies, separate “all known uses” and “effectiveness” sections, safety ratings, mechanisms of action, side effects, herb–drug interactions, and review of available evidence	<a href="http://www.naturaldatabase.com">http://www.naturaldatabase.com</a>
National Library of Medicine	Powerful search engine that allows searches of PubMed and all government guidelines combined Includes “synonym and related terms” option	Search engine: <a href="http://hstat.nlm.nih.gov">hstat.nlm.nih.gov</a> Individual guidelines at: <a href="http://www.guideline.gov">http://www.guideline.gov</a> <a href="http://www.cdc.gov/publications">http://www.cdc.gov/publications</a>
Focus on Alternative and Complementary Therapies (FACT)	Quarterly review journal of CAM therapies Contains evidence-based reviews, focus articles, short reports, news of recent developments, and book reviews on complementary medicine	<a href="http://www.exeter.ac.uk/FACT">http://www.exeter.ac.uk/FACT</a>
PubMed Clinical Queries Search Engine	The old standby has a clinical queries filter to limit your search results Click on “Clinical Queries” on the left blue banner to access the filter For the most comprehensive search, use the key words “complementary medicine”	<a href="http://www.pubmed.org">http://www.pubmed.org</a>
National Center for Complementary and Alternative Medicine (NCCAM)	Clinical Trials Section: listing of clinical trials indexed by treatment or by condition Cross-linked to <a href="http://www.clinicaltrials.gov">http://www.clinicaltrials.gov</a> and PubMed	<a href="http://www.nccam.nih.gov">http://www.nccam.nih.gov</a>
Agency for Healthcare Research and Quality (AHRQ)	For information on the quality, safety, efficiency, and effectiveness of health care for all Americans	<a href="http://www.ahrq.gov">http://www.ahrq.gov</a>
Clinical Evidence	Promotes informed decision making by summarizing what is known, and not known, about > 200 medical conditions and > 2000 treatments	<a href="http://www.clinicalevidence.com/ceweb/condition/index.jsp">http://www.clinicalevidence.com/ceweb/condition/index.jsp</a>
TRIP	Allows health professionals to easily find the highest-quality material available on the Internet	<a href="http://www.tripdatabase.com">http://www.tripdatabase.com</a>
Family Physicians Inquiry Network	Provides clinicians with answers to 80% of their clinical questions in 60 seconds	<a href="http://www.fpin.org/">http://www.fpin.org/</a>

CAM, complementary and alternative medicine; RCT, randomized controlled trial.

Reproduced, with permission, from Beutler AJ, Jonas WB: Complementary and alternative medicine for the sports medicine physician. In: Birrer RB, O'Connor FG, eds: *Sports Medicine for the Primary Care Physician*. CRC Press, 2004:315.

tion below toxic doses. Low-cost therapies involving self-care are also often low risk. High-risk practices include herbal therapies, high-dosage vitamins and minerals, vaccine products, colonics, and intravenous administration of substances. Some otherwise harmless therapies can result in considerable cost if they require

major life-style changes. Herbal therapies can produce serious adverse effects. Because patients frequently use herbal remedies along with prescription medications, physicians should specifically inquire about their use. High-risk or high-cost practices and products require RCT data.

Under some circumstances observational (outcomes) data are more important, and in other circumstances RCT data are more important. Outcomes research provides the probability of an effect and the absolute magnitude of effects in the context of normal clinical care. It is more similar to clinical practice and usually involves a wide variety of patients and variations of care to fit the patient’s circumstances. It does not provide information on whether a treatment is specific or better than another treatment. With low-risk practices, the physician wants to know the probability of benefit from the therapy. Quality outcomes data from practices are preferable to RCT data if the data are collected from actual practice populations similar to the practitioner’s patient. This may be sufficient evidence for making clinical decisions. Often it will be the only useful information available for chronic conditions. For example, if quality outcomes studies report a 75% probability of improving allergic rhinitis using a nontoxic, low-cost, homeopathic remedy, this information can assist in deciding on its use.

For high-risk, high-cost interventions, the physician should use RCTs (or meta-analyses of those trials). RCTs address the relative benefit of one therapy over another (or no therapy). RCTs can determine if the treatment is the cause of improvement, and how much the treatment adds to either no treatment or placebo treatment. RCTs provide relative (not absolute) information effects between a CAM and a control practice. They are difficult to do properly for more than short periods and difficult if the therapy being tested is complex and individualized or if there are marked patient preferences. In addition, RCTs remove any choice about therapy and, if blinded, blunt expectations—

both of which exist in clinical practice. They are largely dependent on the control group, which requires careful selection and management. Strong patient preference for CAM, differing cultural groups, and informed consent may also alter RCT results. The importance of RCTs increases the more we need to know about specific benefit–harm comparisons, such as with high-risk, high-cost interventions.

The more a CAM practice addresses chronic disease and depends on self-care (eg, meditation, yoga, biofeedback), or involves a complex system (eg, classical homeopathy, traditional Chinese medicine, Unani–Tibb), the more outcomes data are important. The more a CAM practice involves high-risk or high-cost interventions, the more essential RCT data become.

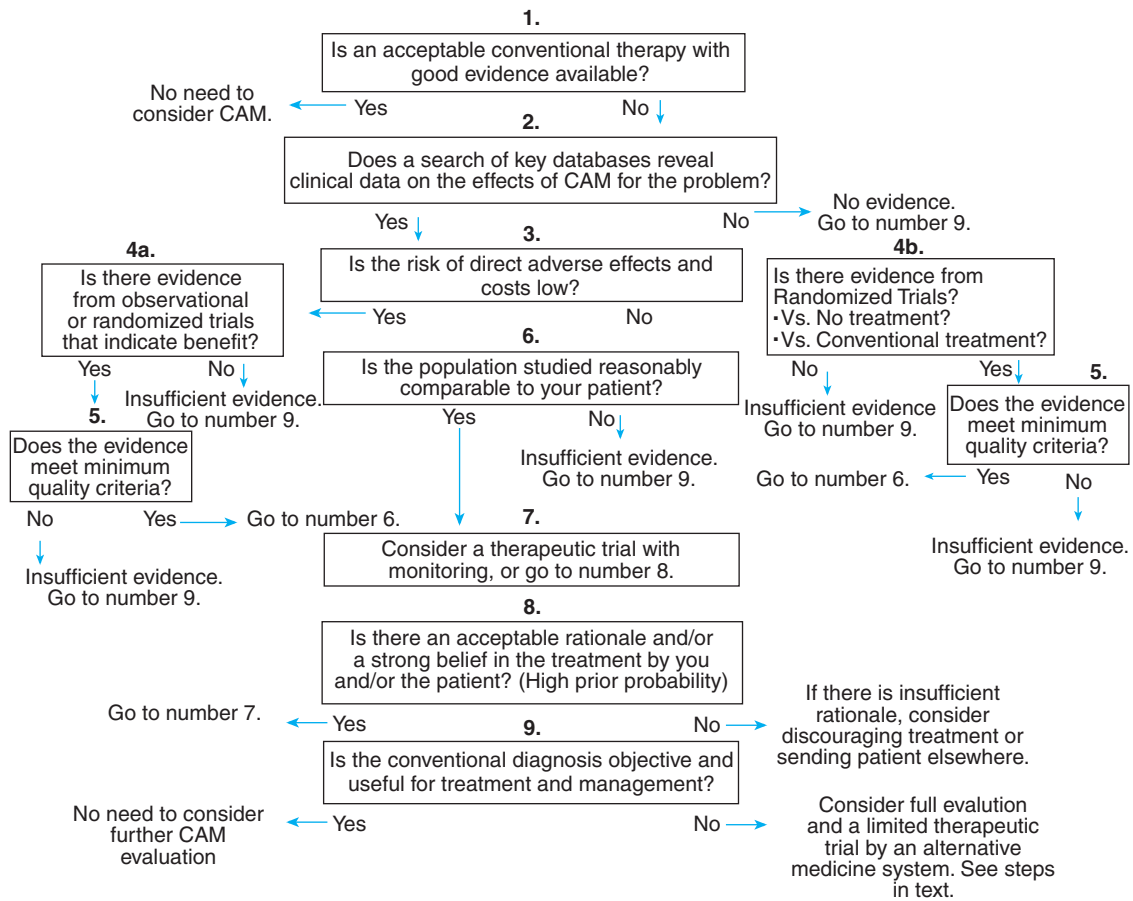
### Evaluating Study Quality

Once data are found and the preferred type of study is selected, the practitioner should apply some minimum quality criteria to these studies (Table 49–3). Three items can be quickly checked: (1) blind and random allocation of subjects to comparison groups (in RCTs) or blind outcome assessments (in outcomes research), (2) the clinical relevance and reliability of the outcome measures, and (3) the number of subjects that could be fully analyzed at the end of the study compared with the number entered. These same minimum quality criteria apply to RCTs or observational studies, except that blinded, random allocation to treatment and comparison groups does not apply in the latter. However, evaluation of effects before and after treatment can be blinded to the treatment given in any study. Detailed descriptions of patients, interventions, and drop-outs are hallmarks of a quality outcomes trial.

**Table 49–3.** Minimum guidelines for assessment of study quality.

Study Type	Guidelines			
Randomized controlled trials	Was there concealed random allocation to comparison groups?	Were outcome measures of known or probable clinical importance?	Were there few lost to follow-up compared with the number of bad outcomes (< 20%)?	
Observational and outcomes studies	Were outcome measures assessed blind to patient treatment?	Were outcome measures of known or probable clinical importance?	Were there few lost to follow-up compared with the number of bad outcomes (< 20%)?	Were confidence intervals reported and were they narrow or broad?
Reviews	Were explicit criteria for selecting articles and rating their quality used?	Was there a comprehensive search for all relevant articles?	Were negative and unpublished articles found?	

Adapted, with permission, from Haynes RB et al: Transferring evidence from research into practice: 2. getting the evidence straight. *ACP J Club* 1997;126:A14.



**Figure 49–3.** Decision tree for evidence-based complementary and alternative medicine.

Finally, one can ask if the probability of benefits reported in the outcomes study is worth the inconvenience, risk of side effects, and costs of the treatment and, in addition, whether confidence intervals were reported. Confidence intervals are the range of minimum to maximum benefit expected in 95% of similar studies. If confidence intervals are narrow, the physician can be confident that similar benefits will occur with other patients. If confidence intervals are broad, the chance of benefits from treatment in other patients will be unpredictable.

Quality screening questions that show there are marked quality flaws in the studies retrieved indicate that the evidence in the study is insufficient and so should not be used as a basis for clinical decisions.

### Population Studied

Even if good evidence is found for a practice, physicians should determine whether the population in the studies is similar to the patient being seen. Although this

matching is largely subjective, physicians can compare five areas. Specifically, they should determine if the study was done (1) in a primary, secondary, or tertiary referral center; (2) in a western, eastern, developing, or industrialized country; and (3) with diagnostic criteria similar to the patient (eg, the same criteria were used to diagnose osteoarthritis or congestive heart failure); and should determine if (4) the age and (5) the gender of the study population were similar. If the study population is not similar to the patient being seen, then the data, even though valid, cannot be applied to the situation. The study country may be especially important for some CAM practices. For example, data on use of acupuncture to treat chronic pain derives largely from China. Pain perception may be different in China than in the United States. Results from a study done in one country may not be applicable in another. If the study and clinic population match, an appropriate body of evidence for moving forward with a therapeutic trial exists.

## Balancing Beliefs

Belief in the treatment by the physician and the patient needs to be explicitly considered in CAM. In conventional medicine, both patient and physician accept the plausibility of treatment. Belief has long been known to affect outcome. Strong belief enhances positive outcomes and weak belief interferes with them. A physician may feel that a CAM practice has incredibly low plausibility although the patient may have a strong belief in the therapy. This so-called “prior probability” (or belief) by the physician and patient should be considered in the decision to allow or not allow the patient to use a treatment. If physician and patient have similar beliefs, then a decision is easily made. Sometimes, however, the patient has a strong belief in the therapy but the physician finds it unbelievable. In such situations, the physician should work with the patient to decide the best action—including referral elsewhere as an option.

## Alternative Diagnoses

Some diagnoses are not very useful for management of a patient's illness. If the family physician's conventional diagnosis is not helping a patient, the clinician may want to consider an evaluation by an alternative system. Chinese medicine uses energy diagnosis, for example, and homeopathy has a remedy classification system. Sometimes obtaining an assessment from a CAM system may prove useful. For example, a 51-year-old woman with several years of idiopathic urticaria had obtained no relief from several conventional physicians. A homeopathic assessment showed that she might benefit from the remedy *Mercurius*. She was given several small doses and the urticaria cleared.

The physician should also be alert to practitioners who pursue CAM diagnoses that are not useful. In such situations, a complicated CAM evaluation and treatment with little effect might be managed simply and effectively by conventional medicine. For example, a 57-year-old man with cardiovascular disease and recurrent bouts of angina was treated by a CAM practitioner for 3 years with special diets and nutritional supplements without help. Consultation with a conventional practitioner showed that he had myxedema. A thyroid supplement cleared his angina rapidly.

In cases in which the diagnostic approach of the medical system fails, a professional consultation may be needed. In situations in which the alternative system's diagnostic and treatment approach is clear, a limited therapeutic trial with specific treatment goals and follow-up can be attempted. Of course, quality products and qualified practitioners must be located. In situations of serious disease, such as cancer, anxiety-ridden

**Table 49–4.** Questions for evidence-based CAMT management.

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A patient is using a complementary and alternative medicine therapy (CAMT) or an alternative treatment is sought. The following questions should be answered.

1. Has the patient received proper conventional medical care?
  2. Is the CAMT likely to produce direct toxic or adverse effects or is it high cost?
  3. Are there clinical data from randomized trials or outcomes research on the CAMT?
  4. Do the studies meet minimum quality criteria? (Table 49–3)
  5. Is the study population similar to the patient using or seeking the CAMT?
  6. Is the plausibility of the therapy acceptable to both patient and physician?
  7. Can a quality product or a qualified practitioner be accessed?
  8. Can the patient be monitored while undergoing the CAMT?
  9. Is a full diagnostic assessment by a conventional or CAM system in order?
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patients may seek out CAM treatments. Under these circumstances, good training and clinical experience and protection of patients from harm (even from themselves) should prevail.

Evidence-based medicine can be applied to CAM. Figure 49–3 summarizes the steps involved, and Table 49–4 summarizes questions for CAM management. Although evidence-based CAM may initially seem like a large task, appropriate data-driven clinical decisions can be made with CAM as with all medical care.

Eisenberg DM: Advising patients who seek alternative medical therapies. *Ann Intern Med* 1997;127:61. [PMID: 9214254]

Gatchel RJ, Maddrey AM: Clinical outcome research in complementary and alternative medicine: An overview of experimental design and analysis. *Altern Ther Health Med* 1998;4:36. [PMID: 9737030]

Jonas WB: Clinical trials for chronic disease: Randomized, controlled clinical trials are essential. *J NIH Res* 1997;9:33.

Kirsch I: *How Expectancies Shape Experience*. American Psychological Association, 1999.

## WEB SITES

Clinical Pearls News: Current Research in Nutrition and Integrative Medicine:

<http://www.clinicalpearls.com>

National Center for Complementary and Alternative Medicine (NCCAM):

<http://nccam.nih.gov>