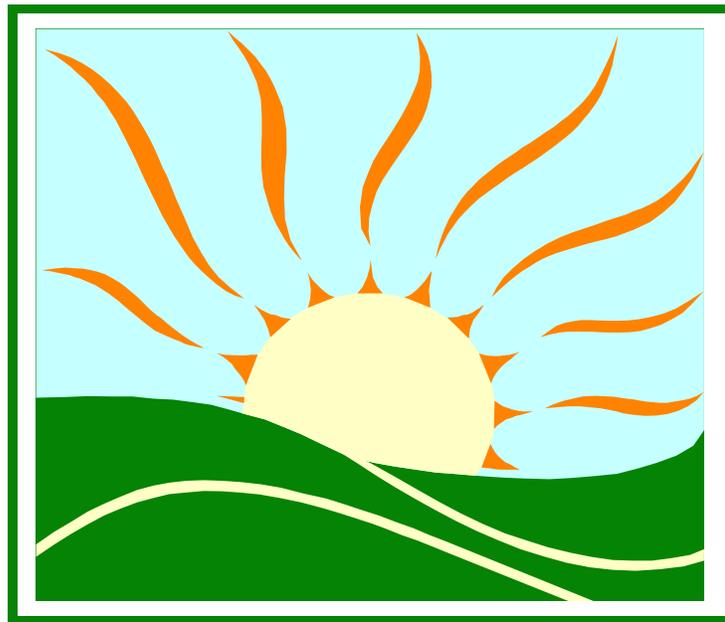


Between Heaven and Earth

An Introduction to
Integrative Approaches to Health Care

Second Edition



ansa[®]

American Medical Student Association
Standing Committee on Medical Education
National Project on Alternative and Complementary Medicine

Between Heaven and Earth

*An Introduction to
Integrative Approaches to Health Care*

National Project on Alternative and Complementary Medicine
Standing Committee on Medical Education

Second Edition

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There exists more
between heaven and earth,
Horatio, than is dreamt of in
one single philosophy.

Paraphrased from Shakespeare,
Hamlet, Act I, Sc. 5



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Forward

by Christopher L. Perdue, Creighton University School of Medicine

Unlike your professors, preceptors or attendings, we're not trying to teach you any particular clinical skill here. More than likely, you are already familiar with some form of unconventional medicine, including some of those described in this book. When faced with the reality of a movement that has the potential to radically alter the practice of medicine in the United States, like many of us you are probably overwhelmed with a mixture of curiosity, pessimism and hopefulness. While we feel challenged by systems and theories that counter, if not frankly contradict, our understanding of proper health care, we cannot ignore the potential for improving the biomedical field.

Like the adolescence of any investigation, the American exploration of unconventional medicine suffers from a preponderance of qualified experts and a paucity of concordance. Professionals of all suits—health care, business, pharmaceutical, marketing, legal, research—jockey for position in a field where the “health-care team” is supposedly the highest evolutionary species. Do we as medical students, at best ancillary to the medical establishment, have anything to contribute to this dialogue? I will go so far as to say that we are obligated to do so because it is our future at stake.

The content of this booklet is not intended to be authoritative documentation of the risks or benefits of any particular complementary or alternative medicine, nor should this be the last thing you ever read on the subject. It reflects the interests of students, physicians and practitioners who volunteered to contribute time and energy to write about forms of health care that you will not likely be taught to practice in medical school. So it is not our goal to teach you everything you need to know about Ayurveda or Therapeutic Touch, for example, because such an endeavor is better left to those whose lives are dedicated to those practices. As your colleagues and, in some cases, friends, we hope merely to inspire you to think, be critical and, in turn, be hopeful as well. Before you get to the rest of the book, the next few paragraphs may help you to consider a number of philosophical and pragmatic issues relevant to Complementary and Alternative Medicine (CAM).

This is any exciting time for conventional Western medicine, otherwise known as biomedicine. As students now, we will soon enter into a profession with a long and distinguished history of progress, innovation, healing and public service. We can be proud of our intended profession's successes, and proud of our predecessors' abilities to learn from their mistakes. Despite the pressure to be experts, to have answers and protocols and medicines, to question, test and exam-

ine, we cannot be afraid not to know once in a while. This is why, in part, we specialize.

In our medical system, some of our collective functions require such a level of ability and knowledge that certain individuals are allowed, and expected, to serve only a very specific and difficult patient population. Who else but a pediatric neurosurgeon can do what a pediatric neurosurgeon does? The rest of us watch and refer, honestly admitting that we believe in his or her abilities where we have none. Yet we can express unearned pride because the medical system of which we are a part makes us collectively successful. But we must also find the courage to admit that we do not always succeed. Mistakes and failures inform us of our limitations and challenge us to explore, learn and innovate. While the successes of the past and the promise of the future incline us to wield the Biomedical Model (one designation for the currently predominant form of medicine) against each new challenge, there is reason to believe that it has not, and will not, be able to solve all of our health problems.

Consider that the biomedical model itself is only one kind of world view, that it is inherently limited by the very laws that it embraces. It, like other historical traditions, is only capable of answering the questions it can ask. This may seem erudite, but consider that the predominant conception of health care is limited in its understanding of “God” or “soul,” or even something as mundane as “humor.” Those are things humans intuit and sometimes take for granted. They are questions that we are capable of asking, but which “medicine” has a difficult time understanding or utilizing. Likewise, is it reasonable to assume that the biomedical model of health care can respond to all of our questions about “health” or, more specifically, “healing”? Time may tell. Certainly, there are numerous philosophies of health care and existence that defy biomedical precepts. Some of them are presented in this booklet. Questions are raised about whether or not it is appropriate to test alternative medicines with bio(medical)science. We may discover that it is not. What commonality between CAMs and the Biomedical Model might assign value to an investigation? A particular possibility comes to mind.

While not an entirely simple task, the concept of “being well” or “not being ill” can be defined in an inclusive way for specific situations. For instance, someone is either jaundiced, or they are not; someone either has a cold, or they do not; someone feels nauseated, or they do not. Putting aside complexities of etiology, pathophysiology, physical findings and clinical manifestations (the hallmarks of scientific medicine),

there is a simple, objective nature to the illness that is testable. If it is also possible for an unconventional medical system or methodology to make an equivalent distinction for each case, then we can ask the question, "Are patients made well through an alternative treatment?" This may be particularly useful for biomedical scientists and practitioners who, due to their training and personal tendencies, are unable to recommend a therapy that lacks certain kinds of evidence.

There will be difficulties in defining wellness and treatment, but I believe they can be resolved. Experts from various realms of experience should be able to reach an agreement regarding positive and negative outcomes. In the end, this is the most critical distinction for successful medicine. Where bioscience is concerned, it may not be possible to elucidate a mechanism of action, but it can indicate whether or not the health of the patient is improved after treatment. Admittedly, this is too simplistic to be applicable for every illness—there are syndromes in alternative systems of medicine that do not exist in our biomedical culture and vice versa—but perhaps this is the best we can offer.

The question of efficacy and reliability (i.e., statistical significance) is an important one for the public. As medical professionals, we feel obligated to protect the public from quackery and false hope. Indeed, there may be dangers associated with untested therapies, either due to harmful substances and procedures, or because patients may fail to seek biomedical assistance while an illness is still treatable. This is not to say that biomedicine should always be the first course of action, or that it is necessarily the best, but that there are certain instances where definitive biomedical intervention seemingly holds the greatest promise for healing, as in acute appendicitis.

With increasing availability of information (the Web) and alternative therapies (health food stores), there is legitimate concern that patients who prefer alternative medicine, for whatever reason, will be misguided by unqualified advice. However, no system is without risk, and in biomedicine as in alternative medicine, patients often rely on the skill of individual practitioners. Occasionally, regrettably, they fall prey to charlatans. To address those problems, we can serve the public in a number of ways.

First, we can ensure that the public has an avenue of redress for "alternative malpractice." Regardless of evidence of effectiveness or degree of risk, fear of legal action and punishment would certainly inspire alternative practitioners to be confident with their prescriptions. The legal test for conventional medicine is related to the capabilities of a particular medical community that is established by geography as well as specialty. Physicians within a community are expected to provide a level of care that meets or exceeds the reasonable expectations for quality and effectiveness as

determined by other members of that community. It would seem reasonable to use the same standard for the administration of non-biomedical health care. We can also improve patient care by supporting legislation that controls education, licensure and product manufacturing.

In addition to legal protection, patients will be greatly benefited by thoughtful and appropriate research. The greater our confidence in a healing modality, the less should be our worry for the safety of the patient. Many questions remain with respect to this issue, though the National Center for Complementary and Alternative Medicine (formerly the Office of Alternative Medicine) at the National Institutes of Health is providing much-needed funding to instigate and support such work. The office has also established a framework for classifying alternative medicines and developed goals and guidelines for research. (See Introduction to Alternative Medicines in this book.) There should be concern, however, that the funded research does not ignore fundamental philosophical differences.

As I suggested earlier, there is an uniqueness to certain medical systems (e.g., Ayurveda, acupuncture) that isolates them from certain levels of scrutiny, namely the double-blind, randomized trial. This qualification does not apply to every "alternative medicine" because some have been created within a decidedly Western context, despite claiming Eastern or ancient inspiration. Magnetic therapy is one. Western herbalism, and possibly homeopathy, because of their close relationship to Western culture, might benefit from rigorous scrutiny. However, with regard to Ayurveda, exactly how would a biomedical scientist probe for Pitta-Dosha and thus understand that a person may suffer from an excess of it?(See Ayurvedic Medicine in this book for illustration.) We can, however, observe the reactions of the patient to treatment, and say "this woman is better" or not. Hard evidence exists for the utility and safety of chiropractic, one "alternative medicine" that is widely accepted, although some of its principles remain outside of traditional Western thought. After sensitive examination, medical modalities that are deemed testable must prove themselves as well, or fall by the wayside if they cannot. It should also be recognized that the degree to which a particular modality or therapy is alternative depends a great deal on the practitioner. Bioscientists should be more sensitive to the uniqueness of transplanted medical philosophies, those that are truly "alternative medicines," because it cannot hope to explain them, and it should not be used to prosecute them.

A number of articles in this booklet describe a clinical methodology that is rather, if not radically, different from typical Western medicine. It seems that part of the popularity of certain forms of alternative health care is due to the dedication of its practitioners to the holistic philosophy (not all alternative medicines are

part of a holistic system, i.e. magnetic therapy). Some would claim that it is merely a holistic phenomenon, a kind of passing fad, but I believe that we can serve our patients by recognizing the value of genuine compassion and total patient care. Additionally, techniques such as Therapeutic Touch are said to rely on a practitioner's genuine intention to help the patient without serving external motivations. (See Therapeutic Touch in this book for more details.) There is an important lesson in this for all medical practitioners.

Lastly, we serve patients by helping them to make smart medical decisions. Many patients will be desperate and in pain, and we must help them with compassion, skill and knowledge. Insofar as our biomedical model tells us what is safe and effective, we are obliged to offer this for the patient's consideration, even if it means referral to a non-biomedical practitioner. Additionally, we can be sensitive to a patient's personal health care choices, offering them our opinions and services without judgement. Well-trained and licensed practitioners of alternative medicines are specialists in their fields, analogous to the pediatric neurosurgeon or family practitioner. We must be aware of the risks of alternative treatment, just as we are aware of those as-

sociated with conventional medicine. Clinging as we do to our biomedical skills and knowledge, we must have the courage to tell patients that we are not the only source of hope, because biomedicine is not the only route to wellness.

We, the editors and authors, hope that you find this book informative. More than that, we hope you find it enlightening. Several pieces will help provide a personal and emotional context for the Complementary and Alternative Medicine movement; others will satisfy the scientist in you. All are as accurate and up-to-date as possible, but we caution you not to rely on these works as the last-things-you-need-to-read about CAM or become quiescent in your pursuit of the truth. The realm of Western medicine is changing quickly, and will require sincerity and open-mindedness—and a certain level of tenacity—on the part of its practitioners. I would personally like to thank Wendy Golden, project co-coordinator and assistant editor, and Ariana Vora, Pamela Diamantis and Eliot Tokar for leaving Wendy and me with a fine product on which to build a second edition. I am especially indebted to Dr. Patricia Muehsam for her sincerity and generosity in reviewing this booklet.



Introduction to Alternative Medicines

by Sarah Warber, M.D., University of Michigan

In 1991, Sen. Tom Harkin (D-Iowa) added a provision to the National Institutes of Health's spending bill that created the Office of Alternative Medicine (OAM). The mandate of the OAM was to evaluate and coordinate research into complementary and alternative medicine (CAM) and disseminate information as it becomes available. Two years later, David Eisenberg and colleagues published the results of a national telephone survey performed in 1990 which showed that one in three persons had used some form of alternative medicine in the past year.¹ (See "60 Million Patients Are Not Telling You Something" in this book.) The research group defined alternative medicine as modalities which are not generally taught in medical schools, not usually available in hospitals, and not usually covered by health insurance.

Another noteworthy discovery of Eisenberg's survey was that about 70 percent of patients using alternative medicine did not reveal that information to their doctors. Furthermore, the estimated out-of-pocket expenses for alternative medicine equaled all out-of-pocket expenses for hospitalization; and the number of visits to alternative practitioners exceeded the number of visits to all primary care physicians. Previous work had documented the use of alternative therapies by patients with cancer and HIV-AIDS, and the use of alternative therapies in European countries,^{2,3,4} but Eisenberg's original study looked at Americans with routine health problems.

Inspired by recent interest and research into the subject, this book was conceived by medical students, for medical students, as an introduction to the world of CAM. The importance of understanding these therapies and being able to communicate with patients about them cannot be underestimated. This skill, like so many in medicine, must be grounded in an adequate understanding of the knowledge-base and tempered by an open-minded, yet thoughtful attitude.

In 1992, the OAM held a series of workshops in which practitioners and researchers reviewed issues, concerns and priorities for a national research agenda for CAM. Out of those workshops came the *Chantilly Report* which gave an overview of the field of alternative medicine.⁵ In this report, the working group identified seven major categories of alternative medicine and documented many examples of therapies included in each category. Given the numerous modalities of alternative medicine, this categorization has proved quite useful to both students and practicing physicians as they struggle to assimilate this enormous new set of information. The categories defined by the OAM are:

- *Alternative Systems of Medical Practice* (including but not limited to Traditional Chinese Medicine, acupuncture, homeopathy);
- *Manual Healing Methods* (including but not limited to massage therapy, reflexology, osteopathy);
- *Mind-Body Interventions* (including but not limited to art therapy, guided imagery, meditation);
- *Herbal Medicine*;
- *Diet and Nutrition* (including but not limited to lifestyle changes, macrobiotics, supplements);
- *Bioelectromagnetic Therapies* (including but not limited to pulsed electromagnetic fields, electroacupuncture, magnets);
- *Pharmacologic and Biologic Treatments* (including but not limited to cell treatment, metabolic therapy, cartilage therapy).

The material presented in this book is by no means exhaustive or comprehensive, but it will give an introduction to a number of these realms of healing that patients have found to be useful.

A testament to the persistent nature of patient choices is the follow-up study published by Eisenberg, et al, in late 1998.⁶ The percentage of patients who reported using alternative medicine had risen from 34 percent in 1990 to 42 percent in 1997. Among women, this number was almost 50 percent. However, only 38 percent of alternative therapy usage was reported to the patients' medical doctor. Another recent study found that only 4 percent of those surveyed used alternative medicine exclusively.⁷ The vast majority of patients were using these techniques in a complementary or integrated manner in conjunction with their use of conventional medicine.

Few studies have actually asked patients about their reasons for using alternative medicine. Current information suggests that people use CAM because it relieves symptoms and is effective.⁸ It is imperative that the next generation of physicians be 1) familiar with the types of complementary and alternative therapies used by patients; 2) comfortable discussing them with patients; and 3) conversant with the growing body of evidence that is helping to differentiate those that are effective from those that are not, as well as able to identify instances where harm may be done through the use of alternative medicine. The following is a more detailed description of each CAM classification proposed by the OAM, now renamed the National Center for Complementary and Alternative Medicine.

ALTERNATIVE SYSTEMS OF MEDICAL PRACTICE

This category includes Traditional Chinese Medi-

cine (TCM), acupuncture, homeopathy, naturopathy, Ayurveda, Native American medicine, and other systems of health care that derive from non-Western traditions and cultures. Each system of healing has its own method of defining illness, followed by subsequent detection, diagnosis and mitigation. Many of them, such as TCM, Ayurveda and Native American medicine, are ancient and have been used over the course of hundreds of generations. Other systems, like homeopathy and naturopathy, were jockeying with allopathic medicine for supremacy in late 19th- and early 20th-century America. The advent of antibiotics, new technologies and publication of the *Flexner Report* of 1910 assured allopathic medicine its position as the dominant system. However, the other schools of medicine were never completely obliterated and have had a large increase in popularity in recent decades.

Preparation to become a practitioner in one of these alternative systems of medicine may be as lengthy and rigorous as the experience of medical school, internship and residency. Some training may be obtained in special courses designed for physicians. Others may require an apprenticeship-type training with an experienced practitioner and delving into realms of consciousness or evidence not ordinarily examined by conventional medicine.

MANUAL HEALING METHODS

This category includes some of the most popular of alternative methods such as osteopathic and chiropractic manipulation, massage therapy of many types, acupressure, reflexology, Therapeutic Touch and others. The hallmark of each of these disciplines is the physical manipulation of, or non-contact approximation to, the patient's body by an experienced practitioner. Each of these types of therapy has different underlying assumptions about the achievement of bodily well-being and its relationship to manifestations of illness. Osteopathy and many forms of massage are based on a conventional understanding of muscles, nerves, and fascia; however, trained practitioners come to know these parts of the human body in ways that allopathic medical doctors hardly imagine (with the possible exception of specialists in physical medicine and rehabilitation). Other modalities, such as acupressure or reflexology, are based on bodily concepts that are quite different from Western understandings.

Training for those practices includes postgraduate schools of osteopathic and chiropractic medicine, extensive courses for medical doctors or lay persons in various forms of massage, apprenticeship-training or self-study. Many different organizations provide certification. Osteopaths and chiropractors are licensed to practice in all 50 states. Many states also license massage therapists.

MIND-BODY INTERVENTIONS

This category includes many practices that are used by patients in a complementary way to achieve a holistic approach to their illness or to promote an improved sense of health and well-being. It includes practices such as guided imagery, meditation, hypnosis, biofeedback, spiritual approaches and others. More conventionally-used therapies such as art therapy and music therapy would also be classified as having their effects within this realm. Each of these practices centers around affecting the mental state of the patient or exploring the meaning of illness in order to enhance the ability of the body to heal itself. An emerging Western conventional medical understanding of psychoneuro-immunology and psychoneuroendocrinology has suggested biochemical explanations for such healing modalities.

Training for the practice of these modalities comes in many forms, including formal course work for health-care professionals or lay persons. This is an area where practitioners and patients often learn through self-study. Several modalities have certifying organizations, some of which are competing for recognition.

HERBAL MEDICINE

Herbs have been used to benefit and to poison humans from the beginning of time. The early botanists were physicians who began to systematically study the plants they used in their profession. In fact, 25 percent of today's modern pharmaceuticals are derived from plant sources. According to the World Health Organization, 80 percent of the world's population uses herbs for some of its primary care needs.⁵ In Europe and the Far East particularly, herbal systems are incorporated into the dominant system in a complementary way. For example, the German Commission E investigated the traditional uses of herbs and the scientific evidence available in support of herbal applications. The Commission then issued 380 herbal monographs detailing those herbs for which the evidence was acceptable and those for which it was not. A translation of this work is now available for the first time in the U.S.⁹

The use of herbal medicine in the U.S. is growing at a phenomenal rate. Eighteen percent of patients who take prescription drugs also use herbal remedies and often more than one.⁶ In this country herbal medicines are regulated as dietary supplements. These regulations set standards for labeling, but they do not require proof of labeling accuracy prior to marketing. As consumer interest shows no signs of abating, the regulation of the herbal industry is becoming an important issue. Another concern is the question of who is qualified to give advice about herbs. Many patients seek information in books and select for themselves which herbs to use. Others may consult with practicing herbalists or naturopathic physicians. Some chiropractors, osteo-

paths, nutritionists and medical doctors are making herbal recommendations. There is no consensus among these practitioners about what is an adequate knowledge base from which to make recommendations to patients. This area is enormously complex and will see many changes in the next few years. Greater regulation and a strong push for credentialing of practitioners is highly likely.

DIET AND NUTRITION

This category includes lifestyle diets, such as macrobiotics, the Ornish diet, the Pritikin diet, the Zone, as well as the use of mega-supplements of vitamins, minerals and other nutrients. Like the use of herbs, this is one area where the growth of consumer interest is skyrocketing. Lifestyle diets, like the Ornish diet for reversing coronary artery disease, have many potential benefits, but may be difficult for patients to tolerate. For those interested in prevention, dietary changes can be extremely important.

However, the evidence available in support of diet modification is often epidemiological and not constructed to investigate causality. Even when a particular nutrient is identified as having health benefits, there is little evidence for the benefit or lack of benefit in supplementing that nutrient in large quantities. Clearly, a great deal of work remains to be done to investigate the popular supplements and diets, and their potential for enhancing this field.

As with the other areas of CAM, this area is again one where the claims to knowledge vary greatly among practitioners. Nutritionists, chiropractors, holistic practitioners of every stripe, including physicians, make recommendations about diet and supplements. Educational requirements and credentials are not agreed upon by any of these groups.

BIOELECTROMAGNETIC THERAPIES

This category includes externally applied therapies such as pulsed electromagnetic fields, electroacupuncture, magnets and others. Athletes are embracing the use of magnets and at least one study supports the effectiveness of magnets when applied over a painful area. Bioelectromagnetics also includes the study of the electromagnetic properties of the human body and their manipulation. This may provide a theoretical foundation for some alternative therapies such as acupuncture and homeopathy.

PHARMACOLOGIC AND BIOLOGIC TREATMENTS

This category includes chelation therapy for cardiovascular disease, cartilage therapy, apitherapy (the use of bee products) and others. These are primarily pharmacologic maneuvers that have not yet been formally tested for safety or efficacy due to financial constraints. Many of these therapies focus on treatment of cancer, while others are used for arthritis or AIDS. Further

study will help to differentiate those with real benefits from those that do harm or have no benefit.

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60 Million Patients Are Not Telling You Something...

by Bobby Kapur, Baylor University College of Medicine

A study in the *New England Journal of Medicine* investigated the prevalence, costs and patterns of use of complementary and alternative medicine (CAM). Unconventional medicine, or CAM, was defined as any treatment neither taught widely in U.S. medical schools nor generally practiced in U.S. hospitals. Examples include acupuncture, chiropractic, herbal medicine and massage therapy. The study revealed that the utilization of complementary and alternative modalities parallels that of conventional primary care practices.

Thirty-four percent of patients interviewed reported using CAM therapies mostly for chronic conditions such as cancer, arthritis, back pain, AIDS, gastrointestinal complaints, renal failure and eating disorders. An estimated 425 million visits to CAM providers occurred in 1990, which exceeds the total number of visits to all conventional primary care providers (388 million). Patterns of usage of CAM modalities were not confined to any particular segment of society, and similar percentages occurred irrespective of gender, age, race, insurance status or community size.

However, CAM utilization is not a mutually exclusive medical route separate from conventional medical pathways. Among patients embracing CAM, 83 percent also consulted a medical doctor concomitantly for their conditions. However, 72 percent of this group did not inform their physicians of these additional therapies. These statistics indicate that a large number of patients choose CAM options but feel unable to discuss this with their physicians. This failure to communicate an important aspect of their medical care with their physicians could reflect patients' fears of alienating themselves from the conventional medical community and physicians' lack of knowledge about CAM.

Patients ultimately suffer as a result of this deficiency in communication. As medical students, we can begin to bridge the communication gap by educating ourselves about CAM and by learning to ask patients in a non-judgmental way about their use of unconventional therapies whenever we take a history. The more informed we are, the more able we are to provide the best possible health care.

Reference

Eisenberg DM, Kessler RC, Foster C, et al. Unconventional medicine in the United States: prevalence, costs, and patterns of use. *New England Journal of Medicine*. 1993; 328: 245-252.



Mission Impossible

by Leigh White, Wake Forest University School of Medicine

The Mission

Organize and implement the Fall 1997
AMSA Complementary Medicine Symposium

The Site

Wake Forest University School of Medicine,
Winston-Salem, North Carolina

The Agents

Leigh White and Janet Knight
Co-chairs, Alternative & Complementary Medicine Committee, AMSA–Wake Forest

In the Spring of 1997, AMSA-Wake Forest sponsored several lunch meetings where students viewed Bill Moyer's video series *Healing and the Mind* (David Grubin Production, Inc. and Television Affairs, Inc.). These meetings were well-attended, with about 30 students at each of four sessions. Because the student body expressed additional interest in alternative medicines, the Alternative and Complementary Medicine Committee organized a lunch seminar on acupuncture. With positive feedback from these events, the chapter decided to expand its efforts by offering a Complementary Medicine Symposium. This event would enable attendees to continue learning about alternative therapies. The small group format was chosen to allow an informal and personal interaction with various practitioners.

Following is a diary by the author of the work leading up to the event and observations from the organizers.

JUNE

A couple of weeks after I had finished my first year of classes, I began the organization process. I thought that it was important to invite only highly trained, qualified and pragmatic practitioners to participate in our symposium. I talked with Louisa Klein, my Yoga teacher, about the symposium idea. From my own personal experience, I knew that Louisa would be an excellent speaker; she also has extensive experience and great credentials. After agreeing to speak at the symposium, Louisa suggested two other possible speakers: Susan Goldstone, a practitioner of acupuncture and Chinese herbology in Winston-Salem, and Alpa Bhatt, an Ayurvedic physician practicing in the Chapel Hill/Raleigh area.

I spoke with Alpa Bhatt by phone and arranged to meet her in Chapel Hill. During our meeting, I learned that Alpa had obtained her training in Jamnagar, India, where she graduated in 1986. She practiced for five years in India, then moved to London where she practiced for six years at the Kusal Ayurvedic Center. She is the only Ayurvedic physician in the state of North Carolina. Luckily, she agreed to

come to Winston-Salem to speak to us about Ayurveda.

The combination of topics for our symposium was unique. These topics would be a diverse sampling of complementary medicines in the United States today. Acupuncture is becoming widely accepted and has received an endorsement from the NIH as a legitimate therapy for certain forms of emesis and chronic pain control, though traditional practitioners are capable of myriad treatments that have yet to be thoroughly investigated by Western scientists. Yoga is also increasing in popularity and is receiving more attention from the lay press. Ayurveda is a relatively new therapy in the United States and is in the early stages of discovery by American patients. I believed that we could learn a great deal from these speakers, and felt fortunate to have recruited people who were so highly qualified.

JULY

Picking a date for the symposium required obtaining the tentative schedules of first- and second-year medical students. Even three months in advance, a number of potential dates and times were unavailable in the Commons area. The speakers provided a number of dates and times when they could be available. I was able to find a day where three nearby rooms were open on October 13 from 3:30 to 5:30 p.m.

We planned for the event to start with an orientation and refreshments (of course!) for 30 minutes. The participants were divided into three groups for rotation through the rooms. Each talk was 25 minutes long, with five minutes allowed for movement to the next room. The whole event could be finished in two hours; it was very difficult to get students to commit to any more time than that. I wrote a short note to each of the speakers to inform them of the official date and time. (It seemed important to provide a written reminder to those busy practitioners.)

AUGUST

With the summer over, it was necessary to complete the final arrangements for the symposium. Janet Knight assisted

me with the remaining plans. When planning the refreshments, we thought that the theme of this event was inconsistent with serving chips and cookies, so we chose the more healthy option of vegetable trays. Because this choice would be more expensive, Janet volunteered to attempt to locate funding through our school.

Although we felt comfortable with the abilities of our speakers, we thought that they might appreciate some guidance concerning our interests in their work. We organized a brainstorming lunch with other AMSA members and compiled a list of "Alternative Interests" (below).

SEPTEMBER

Janet developed flyers to advertise the event. I prepared directions to the parking deck for the speakers and requested that they send handouts that needed to be copied by October 6. I also requested that they inform me of any audiovisual equipment requirements as soon as possible. Three AMSA members volunteered to meet the speakers at the medical center entrance at 2:50 and escort them to the conference rooms; an additional person validated their parking tickets at the Medical Education Office. Janet, with the help of Dr. Bryant Kendricks, a faculty member, found some "extra" funds to pay for the refreshments. The vegetable trays were provided by university catering (which was convenient and required little work on our part).

E-mail was sent to all four classes announcing the event and I made verbal announcements in the first- and second-year classrooms. Sign-up sheets were placed outside classrooms and flyers were posted three weeks in advance of the symposium.

OCTOBER

Eighty people signed up for the event, 20 more than we had originally planned for. We decided to divide the participants randomly into three groups on the day of the event. We cut red, green and blue construction paper into squares to hand to people as they entered the lecture hall for the orientation. This method would allow the groups to remain evenly divided throughout the symposium.

An e-mail reminder was sent to all participants one week before the event. Janet and I took the handout material to Kinko's on Monday, the 12th. I included an article on the contraindications for a number of popular herbal remedies (The herbal medicine boom: understanding what patients are taking. *Cleveland Clinic Journal of Medicine*. 1998;65(3):129-134.) We planned to take the speakers out to dinner after the event as our way of thanking them for their participation.

OCTOBER 13, 199 — AMSA-WAKE FOREST COMPLEMENTARY MEDICINE SYMPOSIUM

The symposium went very smoothly and the attendance was good. Sixty students and two faculty members participated. Some students commented that the talks were too short, but we thought that it worked well (it left them wanting more, after all). In response to their interest, we plan to have several lunch seminars on these topics later in the year.

Hopefully, the interest shown by the students in this symposium will encourage the administration to offer a class or elective in complementary and alternative medicines in the near future. Until then, our AMSA chapter will host another symposium. While planning the 1997 Symposium took a lot of organization and effort, it was an interesting and rewarding project. I believe we have an obligation to learn about alternative and complementary medicine. A large number of our future patients will be using these therapies. As responsible physicians, we should be knowledgeable about their appropriate uses and contraindications.

Medical Student Alternative Interests

(as presented to the Symposium speakers)

1. We would be interested in hearing a brief history of your therapy.
2. What credentials would a patient need to look for in a competent practitioner (so that we can help our patients find a qualified practitioner)?
3. In your experience, what particular injuries and/or illnesses is your therapy especially helpful for? (We would like to hear about the treatment of specific patients and their outcome as the result of using your therapy.)
4. What illnesses/injuries is your therapy not particularly useful for? (So that we can effectively advise our patients as to the use of appropriate therapies for their health.)
5. Are there different types (forms, disciplines) of your therapy? What are their focuses and what are their strengths and weaknesses?
6. What are your suggestions for productive communication between a doctor of Western medicine and a practitioner of your therapy?
7. We would love to see demonstrations and/or participate in any way.

Louisa Klein has been teaching Yoga in Winston-Salem for over 20 years.

- Former Vice-president of the International Yoga Teachers Association, based in Sydney, Australia; certified through that organization.
- Member of the Mid-Atlantic Yoga Teachers Association, the Southeast Yoga Association, and the Iyengar Yoga Association.

Susan Goldstone is a licensed Acupuncturist.

- Diplomate of Acupuncture through the National Commission of Acupuncture and Oriental Medicine.
- Affiliate of the National Sports Acupuncture Association, licensed Massage Therapist and member of the North Carolina Acupuncture Licensing Board.

Alpa Bhatt is a licensed Ayurvedic practitioner.

- Bachelor of Ayurvedic Medicine and Surgery from the Gujurat Ayurvedic University (Jamnagar, India); certified in Sanskrit Examination and Ayurvedic Massage Therapy.
- Ayurvedic consultant to Kusal Ayurvedic Center, London, England, and a member of the British Holistic Medical Association.



Complementary Medicine Elective at the University of Alabama School of Medicine

by Kristin Copeland, University of Alabama School of Medicine

A recent article published in the *Journal of the American Medical Association* indicated that 75 U.S. medical schools (64 percent of schools responding) offered instruction in complementary medicine, either as part of a required course or as an elective.¹ Thirty-one schools offered instruction in complementary medicine as a part of a required course. Academic credit was awarded in 79 percent of the total number of courses. The study highlighted the great diversity in course formats, requirements and content. From this survey, it is evident that there is no teaching in complementary medicine at more than one-third of medical schools, and that there is a great variety in comprehensiveness of instruction at the schools where courses are offered.

Introducing instruction in complementary medicine into the modern medical curriculum is relatively new at most medical schools, and as such, these courses are still in an evolutionary, if not experimental, phase. In an effort to contribute to the dialogue concerning what, if any, fundamental concepts these courses should include, and how they may be best adapted to the established medical curriculum, the following description of an elective course at the University of Alabama School of Medicine is offered. It is hoped this summary will prove useful to medical students who wish to either introduce or expand their school's curriculum in complementary medicine.

In the spring of 1997, an elective in complementary medicine was offered to medical students at the University of Alabama School of Medicine. The elective was not for credit, and it was offered outside of regularly scheduled lecture time. The format was primarily didactic, with demonstrations by practitioners and interactive sessions when possible. The course was open to all medical students as well as interested community members, although it was primarily targeted and advertised to first- and second-year students. There were no course requirements; consistent attendance was not a requirement, although students were encouraged to attend as many sessions as possible in order to gain as comprehensive and cohesive an experience as possible. A supplemental textbook² was available to interested students at a group-discounted rate. Readings from this text were suggested but not required.

Each session focused on either a therapeutic modality or a spectrum of traditional healing practices within a particular culture. Topics included herbal therapy, acupuncture, chiropractic, massage, lay mid-

wifery, art therapy, biofeedback, homeopathy, therapeutic touch, and native North American and native South American healing practices. Lecturers were generally practitioners within the field and were encouraged to perform demonstrations if possible. The course also included an introductory lecture given by a primary care physician and authority on complementary medicine, as well as a session on fraud and interpreting the medical literature. Each session ranged from one to three hours, either at lunch-time or in the afternoon when there were no other lectures scheduled. Because all students had regularly scheduled commitments (a lab or clinical preceptorship) on certain days of the week, the sessions were offered on a rotating schedule through the weekdays. This schedule was chosen to make the course available to as many interested students as possible, realizing that no student would be able to attend all of the sessions.

The initiative for starting the course came from both the students and the Associate Deans for Medical Education and Students. A committee of approximately 10 interested students was formed in the fall of 1996 to organize the course. This committee was responsible for choosing the format, content, speakers and schedule. A brief questionnaire was distributed to first- and second-year students in the fall of 1996 to gauge the level of interest in such a course and to collect suggestions for instructional topics. Based on the large positive response, a didactic format was selected. The course content was selected from student suggestions on the questionnaire, as well as from a syllabus of a continuing-studies course offered previously at the University of Alabama at Birmingham. Lecturers were recruited from the previous course and through contacts of the course coordinator, of students on the committee and of interested medical school faculty. Some lecturers were identified through the Yellow Pages and at local health food stores. A few lecturers late in the course were the suggestions of early lecturers, who knew of them through professional societies or social groups. All local lecturers readily agreed to come speak about their fields without reimbursement. Speakers said they saw it as a chance to open the lines of communication between traditional and alternative medicine, to establish professional relationships and possibly referral networks. Reimbursement from the Associate Dean's office was provided to only two visiting lectures for travel expenses.

Attendance at the sessions ranged from approximately 40 students at the introductory lecture to five students at later lectures. In general, the hour-long

lunch sessions were better attended than the two- or three-hour afternoon sessions. Each session was advertised by flyers, announcements during regularly scheduled classes, and in a bookmark which listed all of the lecture dates. Poor attendance in the afternoon sessions can be explained by students' prior commitments (preceptorships or labs) or the fact that many students usually go home or to the library after morning lectures, thereafter choosing or forgetting to return to school. The two- or three-hour sessions represented a significant time commitment on top of the regular curriculum.

In general, the course was considered a success by all those participating, considering that it was the first year offered, that it was not offered for credit, and that it had significant budgetary constraints. The textbook was received fairly well, although students requested a more comprehensive explanation of some of the treatment modalities, and a more balanced, unbiased review of the literature. The course was not offered again in the subsequent year due to lack of student interest. The organizing committee did compile a list of lessons learned and suggestions for future courses:

1. *Credit:* The organizing committee felt that, while students indicated considerable interest in the course at the outset, this interest became overshadowed by course work and test preparation for credited classes. A goal in the future of this course will be to offer it for credit, or to incorporate it into another credited class.
2. *Scheduling:* The committee wrestled with the issue of whether to provide brief lunch-time sessions to as many students as possible or to provide more in-depth afternoon sessions to fewer, more interested students. Both formats provide obvious advantages and disadvantages. The smaller sessions allow for more student participation and interaction, but the larger sessions provide exposure for a greater number of students. Some topics may lend themselves better to a seminar format and others to a didactic session.
3. *Speaker recruitment:* In addition to the Yellow Pages, student and faculty contacts, and local health food stores, pain clinics may provide a valuable resource for identifying complementary medicine practitioners. Pain clinics often refer to, and receive patients from, acupuncturists, herbalists and homeopaths, among other specialties.
4. *Lecturer preparation:* All lecturers were asked to give a brief introduction to their therapeutic modality, including a brief history, explanation of the methods used, a demonstration if possible, and any evidence within the medical literature documenting its effectiveness. Some lecturers provided brief one-page handouts about their specialty that proved to be especially useful. In general, it was felt by the committee that it would be best to preview all lecturers if possible, especially when recruiting speakers from outside of an academic

network.

It is hoped this description of the course offered at the University of Alabama at Birmingham and the above suggestions will be useful to students at other medical schools who wish to start an elective course at their school. Several important points must be considered. To date, there is no consensus on the appropriate structure of a Complementary and Alternative Medicine curriculum for medical schools. A number of organizations, including the AAMC, have task forces working on academic guidelines. Certainly, the philosophical aspects of modalities grouped within the CAM movement will need to be considered in order to maintain the appropriate cultural and methodological awareness. Additionally, any effort to create such a course must take into account the students and academic environment of the medical school, as well as what aspects of complementary medicine are covered or omitted from the existing curriculum. It is clear that what will work for one medical school might not work at every medical school at this time, but the evolution of these courses should continue.

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Use of Traditional Medicine Among Elderly Chinese Immigrants in New York City

by Pamela M. Diamantis, SUNY at Buffalo School of Medicine and Biomedical Sciences,
and Vivian Ka, CUNY at Sophie Davis School of Medicine

Many immigrants of diverse ethnic backgrounds bring medicine from their native countries and use it in combination with Western medicine. These individuals possess medical belief systems that combine the medical practices of their country of origin with Western medicine. A study conducted by a student at Sophie Davis illustrates the need for physicians to pay attention to the medical belief system of patients because this affects the level of communication between the medical doctor and patient and, consequently, influences clinical management.

In 1997, Vivian Ka conducted a pilot study surveying the attitudes of Chinese elderly patients toward Western medicine and their use of Traditional Chinese Medicine (TCM). Care to these homebound patients is provided by a home health care program, *Living-At-Home*, which prohibits the use of alternative and complementary remedies that are outside the realm of conventional medicine. *Living-At-Home* serves the elderly and chronically ill Asian population on the Lower East Side of Manhattan. Its mission is to furnish home health care in a culturally sensitive manner by providing a bilingual team consisting of a physician, nurse and social worker. Paradoxically, it hinders patients from using remedies that are indigent to their culture.

Participants in the survey were assured of confidentiality and told that their responses would not place them at risk of disqualification from their health-care program. Astoundingly, 84 percent of the respondents reported that they used TCM remedies (acupuncture, herbal medicine, topical ointments and Chinese teas and soups) concurrently with their medical treatments, despite the fact that they were prohibited. While the survey suggests active use of TCM, results also indicate

that many patients hesitate to seek Chinese herbal doctors because of their distrust of inadequately trained providers in the United States.

This study reflects the spectrum of beliefs within one immigrant group. In traditional Chinese culture, phlebotomy is considered harmful to one's health. A significant number of participants indicated the retention of this belief. However, 58 percent of the participants indicated that they did not feel this way, reflecting their assimilation to American ways. This exemplifies the need to learn about the medical belief system of patients on an individual basis, because some patients may maintain more of their cultural beliefs while others may assimilate more into Western society.

In conclusion, clinical realities of immigrant patients are influenced not only by their cultural backgrounds, but also by their degree of assimilation into American society. In order to facilitate adequate communication, physicians must identify their patients' attitudes toward health and medicine. It would be in the patients' best interests for *Living-At-Home* to reevaluate its policy regarding the prohibition of CAM and to consider incorporating TCM in its provision of care. In so doing, it would remain true to its mission of providing health care in a culturally sensitive manner.

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A Study of Herbal Medicine

Usage Among Chinese Patients in Boston

by Audrey Young, University of Washington School of Medicine

Background. Chinese medicine has had a strong presence in the lives of Chinese people for 5,000 years, and many Chinese living in America, particularly immigrants, have retained their beliefs and practices. I hypothesized that many patients attending a Chinatown community health center used herbal remedies and that many of those patients had not discussed those uses with their physicians.

Methodology. A patient survey translated into written and spoken Chinese, administered to 116 patients in the waiting room at a Boston community health center.

Results. Almost all respondents used herbal medicines (90%, n=82). Many individuals used multiple herbs; the most commonly used herbs were chrysanthemum (68%), ginger (63%), astragalus, Huangqi or Bei qi

(51%), ginseng (49%), cordyceps (46%), and tang kuei (45%). Almost all respondents (91%, n=65) reported using herbal medicines to stay healthy. The two primary sources for information about herbal treatments were family or friends (78%, n=59), and herbalists (39%). Only four patients (7%) used the mass media—television, books or magazines—for information about herbal medicines. Fifty-five percent of respondents (n=74) had spoken with their doctor about the use of herbal medicines.

Conclusions. Herbal medicine use is culturally accepted and practiced widely among Chinese patients. The popular preventive usage of herbal medicines suggests that Chinese patients desire to stay healthy and that individuals are willing to practice preventive behaviors. However, the number of patients using herbal substances without discussion with their doctors is high.

Chinese medicine has had a strong presence in the lives of Chinese people for 5,000 years, and many Chinese living in America, particularly immigrants, have retained their beliefs and practices. Chinese concepts of disease and treatment sometimes clash with what is encountered in a Western medical setting. For example, one Chinese belief is that the human person cannot be compartmentalized into different organ systems, but rather is a fully integrated unit. Chinese medicines treat multiple systems under a belief that the body is out of balance, so a Chinese patient may not comprehend using a medicine to treat only one area of the body. Compounding the problems of cultural differences, the American medical literature contains very little research on Chinese health beliefs and practices. Researchers who have attempted to study the health of Chinese Americans have encountered several stumbling blocks.

Many Asians, like other ethnic minorities in the United States, fear being the subjects of experimentation and are wary of participating in scientific studies. Translating and culturally-sensitizing study instruments is not enough to gain this population's trust. The employment of bilingual, culturally-aware health workers to interact with patients helps, but does not in itself guarantee good, usable data; the setting in which subjects are approached may have some effect on the responses.

One recently published study of the Chinese elderly in Boston reported a 17 percent response rate to random sampling among Boston Chinese; to complete

the study, bilingual staff were hired to interview individuals at a senior center in Chinatown.¹ Another investigator experienced in sampling the Boston Chinatown population noted similar difficulties. In one study, a randomly-selected sample of residents was approached by bilingual students from the community who were specially trained to administer the study questionnaire; this methodology produced a very low response rate.²

In this study, I hypothesized that many patients attending a Chinatown community health center used herbal remedies, both for prevention and treatment of disease, and that many of these patients had not discussed these uses with their physicians. In addition, I hoped to learn more about patterns of herbal medicine use.

Study design

SAMPLE. I surveyed two different groups of patients attending a busy community health center near Boston's Chinatown. The health center's clientele was from the greater Boston area and consisted primarily of Chinese immigrants, for whom Cantonese or Mandarin was the primary language. The total sample was 116 patients. The response rate was 78 percent; 91 patients filled out questionnaires and 25 declined to answer. Among the 91 respondents, 67 fully completed the questionnaires. All 91 responses were analyzed. Of the respondents, 42 percent were male and 58 percent were female. This was similar to the gender ratio among patients who declined to answer (36 percent male and

64 percent female).

STUDY INSTRUMENT. A 15-question, multiple-choice questionnaire (Figures 1 & 2) was translated into Mandarin Chinese by a native-Chinese acupuncturist fluent in English, and was translated back from Chinese into English and evaluated for cultural sensitivity by staff members of the clinic. A final Chinese version was written in cursive Mandarin and pretested. An introductory statement informed patients that we wished to learn about herbal medicine use in Asians. The study instrument asked about usage of eight popular Chinese herbal remedies commonly mentioned in the media, the medical literature and conversations with clinic staff. Questions ascertained how patients learned of, and in which scenarios, they used the herbal medicines. The questionnaire also asked whether patients had discussed the use of herbal medicines with their Western doctors and about particular components of those conversations. Demographic information included gender, age group, primary language as a measure of acculturation and family status as a measure of social isolation.

RESPONSE. An interpreter fluent in Mandarin, Cantonese, Vietnamese and English approached patients and offered to read the questionnaire and assist patients in filling out the form.

Results

USE OF VARIOUS HERBS AS MEDICINES. Almost all respondents used herbal medicines (90%, n=82). Many individuals used multiple herbs; the most commonly used herbs were chrysanthemum (68%), ginger (63%), astragalus, huangqi or bei qi (51%), ginseng (49%), cordyceps (46%), and tang kuei (45%). Only 4 respondents (5%) used ginkgo. Nineteen patients (21%) wrote in that they used "formulas" prescribed by herbalists, which are combinations of herbs prepared individually for a patient's needs. Not all patients using formulas knew the herbal components of their formulas. Multiple patients noted that they used these herbs with food preparation.

PATTERNS OF USE. There is no Chinese word for "prevention." However, almost all respondents (91%, n=65) reported using herbal medicines to stay healthy. A few respondents also noted using herbal medicines to quell temporary symptoms (9%), appease acute diseases (12%), or for chronic conditions (14%). (Patients may have selected more than one answer, thereby resulting in total percentages greater than 100.) Most patients used Western medicine only or Western medicine in combination with herbal medicines (75%, n=44). The remaining 25 percent used herbal medicines only. Three patients wrote that they used Western medicine only, but would use herbal medicines if they could pay for the medications.

LEARNING ABOUT HERBAL TREATMENT. The two primary sources for information on herbal treatments were family or friends (78%, n=59) and herbalists (39%). More than half of respondents had seen an herbalist (60%, n=78). Only four patients (7%) used the mass media (television, books, or magazines) for information about herbal medicines.

BELIEFS. Nearly all respondents (95%, n=40) indicated that they believed that herbal medicines worked.

COMMUNICATION BETWEEN DOCTORS AND PATIENTS. Fifty-five percent of respondents (n=74) had spoken with their doctor about use of herbal medicines. Of patients who used herbal medications, 50% (n=30) indicated having talked to their doctor about herbal medications. Only 15 percent of patients were warned against using herbal medicines (n=39), and 24 percent had conversations about the potential side effects of herbal medications and potential interactions with their prescription medications (n=34). Sixty-four percent of people who had talked to their doctor about herbal medicines indicated that they had followed their doctor's advice; 36 percent did not follow the doctor's advice.

DEMOGRAPHICS. Respondents were 42 percent male and 58 percent female, a ratio similar to those declining to answer the survey. Patients were of all age groups; 21 percent were aged 18-30, 40 percent were aged 31-45, 23 percent were aged 46-60, and 16 percent were age 61 or older. The great majority were married (90 percent). The most common languages spoken were Cantonese and Mandarin. Only a handful of patients spoke English. Four spoke Vietnamese.

Adding to the knowledge base: Caring for Chinese patients. Herbal medicine use is widespread among Chinese patients. A 1993 *New England Journal of Medicine* study found a 3 percent incidence of herbal medicine use in Americans, and of this segment, only 10 percent saw an herbalist.³ In contrast, I found that nine in 10 Chinese use herbal medicines. This may be attributable to the degree to which herbal medication use is perpetuated and endorsed by the Chinese community. The finding that most Chinese learn of herbal medicines either through their family and friends or through a Chinese herbal specialist suggests that herbal medicines are very much intertwined into Chinese culture and accepted by Chinese people. In addition, the findings that more than half of respondents using herbal medications had consulted with a Chinese herbal specialist, and that nearly all respondents indicated that they believed the formulas prescribed by herbalists worked, identifies herbalists as respected and trusted medical advisers to the Chinese community.

Few respondents obtained their information about

herbal medicines through means of mass media (television, books or magazines). Given the authority of the Asian family in the community social structure, it is not surprising that most individuals derive their health beliefs and behaviors from family sources rather than the less culturally directed media. This suggests that patient education may be much more effective when disseminated from respected sources in the community, such as the church, rather than through the popular media, which may be seen as having less relevance to Chinese people.

This study also raises interesting points about Chinese patients and disease prevention. The very popular preventive usage of herbal medicines suggests that Chinese patients desire to stay healthy and that individuals are willing to practice preventive behaviors. However, this impetus does not translate into Western preventive behaviors. Among Massachusetts ethnic groups, Asians tend to receive fewer screening services in major categories of disease. Compared to other ethnic groups, Asians are less likely to have had blood pressure and cholesterol levels checked, and have the highest percentages of people who have never received mammograms, pap smears or digital rectal exams.⁴ A separate study of Chinese patients in northern California similarly found that Chinese were less likely than other Californians to present to the doctor for routine checkups, pap smears and mammograms, as well as perform daily preventive behavior such as wearing seat belts.⁵ While problems of poverty—low levels of education, income and poor access to insurance—may explain these results, Chinese cultural health beliefs or biases could also play a role in these behaviors. Part of the difficulty could be that a visit to the doctor is not viewed as a way to “stay healthy” or prevent disease. It is commonly reported that for refugees and immigrants, a visit to the Western doctor may be a visit of last resort. Some patients may find Western hospitals, clinics, insurance structures and social services so confusing that they cannot access the appropriate resources.

Given the difficult interface between Western health care systems and Chinese patients, it is surprising that 55 percent of Chinese patients have talked to their doctor about using herbal medicines. In 1993, Eisenberg found that only 28 percent of patients using alternative therapies had discussed these treatments with their medical doctor; no data on the percentage of patients who had discussed herbal therapies with their medical doctor was available.³ There are several explanations for the 55 percent figure I found. A question to test the patient’s interpretation of the translated questions suggests that some respondents may have thought that this meant a discussion with any doctor, including a Chinese herbal doctor. This misunderstanding could result in a falsely high percentage of patients who had discussed herbal concerns with their physicians. The high rate could also be related to

cultural sensitivity at the site where the survey was performed. This site employs doctors who are bilingual in Cantonese or Mandarin and patients have exposure to culture-specific programming, including the availability of an acupuncturist. These qualities of the health center may be related to patients’ comfort in talking with their doctor about culturally-related health issues. Most patients were not warned against using herbal medicines, which seems to be culturally appropriate in a setting where herbal medicine usage is widely accepted and practiced among patients’ family members and friends. However, many patients were not advised or did not remember being advised of the potential dangers of herbal medicine use. Dr. Eisenberg, the principal investigator in the *NEJM* study, advises providers to warn patients about interactions between herbal medicines and prescription medicines. He notes that Chinese herbal medications have caused death in overdoses, and that some remedies manufactured overseas may be adulterated with steroids or lead.⁶

Recommendations

With the knowledge that Chinese patients are likely to use herbal medicines to stay healthy, providers should ask about a patient’s usage, discuss the specific herbs and potential side effects or interactions with prescription medications. The provider can use the conversation as a lead-in to discussing screening measures and other preventive behaviors. Sessions should be conducted with a medically-trained translator. Providers should also be aware that an Asian patient may only be openly communicative with a provider and translator of the same gender, and that the ages of the health care providers may have an effect on how the patient responds.⁷

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St. John's Wort for Low Mood Disorders

by Eva Olson, M.D., University of Michigan Department of Psychiatry

Low mood and tension are common complaints in today's busy, stress-filled society. Millions of people have found the convenience and perceived "safety" of herbs to be preferable to a medical workup and diagnosis (illness label) possibly followed by prescription ("drugs"). There has been an explosion in the sale of herbs. In 1997, sales of St. John's Wort were at \$200 million.¹

St. John's Wort (*Hypericum perforatum*) has been widely prescribed in Europe, especially Germany, for many years and has been the subject of increased study in the United States. In 1996, the *British Medical Journal* published a review article on the treatment of mild to moderate depression with *Hypericum*. The results indicated an overall positive response rate of 55.1 percent compared to 22.3 percent for placebo.²

When *Hypericum* was compared to standard antidepressants in the treatment of moderate to severe depression (HAM-D > 20), trends were in favor of the traditional antidepressants. Amitriptyline at 75 mg/day versus *Hypericum* at 900 mg/day over a six-week period revealed reduction of symptoms from baseline significantly ($p < 0.5$) in favor of the amitriptyline group.³ In a study of severe depression (HAMD = 25), patients on imipramine at 50 mg *tid* had a 41.2 percent response

rate compared to 35.3 percent for patients on *Hypericum* at 600 mg *tid* ($p < 0.02$).⁴

The pharmacologic effect of *Hypericum* is thought to be due to the ability of the herb to inhibit re-uptake of serotonin, though other studies have shown a monoamine oxidase-inhibiting function.⁵ Questions have been raised about whether or not the concentration of *Hypericum* in the standard preparation is high enough to elicit pharmacologic effects.⁶ Side effects are thought to be mild and consist of gastrointestinal complaints, fullness or constipation, allergic rash or photosensitivity.⁵ Dosing recommendations are usually 300 mg *tid* to 600 mg *bid*, though the PDR indicates 2-4 g of drug preparation or 0.2-1.0 mg of total *Hypericum* daily. Treatment duration is 4-6 weeks for a full effect on mild to moderate depression.¹

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Efficacy and Safety of Ginkgo biloba for Dementia

by James J. Mezhir, SUNY at Buffalo SMBS

Recently, a placebo-controlled, double-blind, randomized study appeared in the *Journal of the American Medical Association* (JAMA) on the efficacy and safety of EGb 716, an extract from dried leaves of the *Ginkgo biloba* tree. The study focused on effects of EGb on patient behavior and cognitive status associated with dementia. Unlike prior studies, this study utilizes standard assessments of cognition and behavior.

Included in this multicenter trial were patients with mild to moderately severe dementia, measured by the Mini Mental State Examination. Participants had either uncomplicated dementia of the Alzheimer's type or multi-infarct dementia. Patients with other significant medical problems (e.g., heart disease, IDDM, liver disease, chronic renal disease, brain mass, psychiatric disorders) or taking concomitant medications that interfere with cognitive functioning were excluded. Participants were matched on demographics.

EGb was given over a 52-week period in the form of 40 mg tablets administered three times a day prior to meals. The extract was standardized to 24 percent Ginkgo-flavoneglycosides and 6 percent terpenelactones. The mechanism of action of EGb on the central nervous system is not well understood, but is thought to involve its anti-oxidant properties. Certain compounds of EGb, such as the flavonoids, terpenoids and organic acids, work synergistically to neutralize free radicals which mediate cell damage in Alzheimer's disease. Thus, the extract may furnish cells with membrane protection and neurotransmission modulation.

Two of the cognitive assessment instruments used were the *Alzheimer's Disease Assessment Scale—Cognitive subscale* and the *Geriatric Evaluation by Relatives Rating Instruments*. At the end of one year, the former scale showed a slight improvement in cognitive function of patients receiving EGb, whereas the placebo group experienced a significant worsening of cognitive function ($P=.006$). The mean treatment difference at 26 weeks was 2.4 points ($P=0.05$). On a clinical level, this may be equivalent to a six-month delay in progression of the disease. The Geriatric Evaluation by Relatives Rating Instruments scale indicated mild improvement in the EGb group and significant worsening in the control ($P=0.002$). A third scale was used which showed no significant difference between control and placebo.

These results indicate that when given over the course of one year, EGb can help patients maintain their baseline level of cognitive impairment and may improve activities of daily living and social behavior by 20 percent greater than placebo. The placebo group declined in both of these parameters. Comparison to the placebo group also demonstrated that there were no side effects to the extract.

In conclusion, EGb use over the period of one year can significantly decline further cognitive degeneration in patients with Alzheimer's disease or multi-infarct dementia. Additional studies are needed to ascertain the mechanism of action of EGb, its utility as a preventive measure against dementia, the long-term effects of EGb use and its potential therapeutic action in other cognitive disorders.

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Acupuncture: An Overview

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Introduction

The first medical texts on Chinese acupuncture were compiled in second-century China. Since the Seventeenth Century, acupuncture has been practiced extensively in Europe and more recently in America. Sir William Osler's medical text, first published in 1892, recommended acupuncture for treating lumbago.¹ Since that time, more and more Americans have sought acupuncture treatment, licensure and research funding. The American Association of Oriental Medicine, a membership organization for acupuncturists, estimates that 15 million Americans have tried acupuncture.² Needle distributors report sales of 150 million acupuncture needles in the United States annually, suggesting that more than 12 million acupuncture treatments are performed each year.³ It seems that acupuncture, practiced for over 3,000 years in China, is becoming increasingly prevalent in the U.S. as a therapeutic modality. Thus, it is imperative that physicians have a familiarity with the uses of acupuncture and with practitioners in their geographic area in order to offer complete health care to their patients.

Acupuncture is the therapeutic stimulation of specific points on the body. Traditionally, this was accomplished by using needles (acus) to puncture (punctura) the skin. However, lasers, electromagnetic energy, microwaves, ultrasound, heat, pressure, friction, suction, injections or impulses may be used to stimulate the same points. Treatment points are selected based upon a diagnostic history and physical examination, utilizing complementary models for how the body functions in health and disease. Because almost all acupuncture modalities are drug-free, patients avoid the side effects and dependency that are often limiting factors in Western medicine.

In 1973, the Food and Drug Administration (FDA) classified devices used in acupuncture as investigational, stating that "the safety and effectiveness of acupuncture devices [had] not yet been established by adequate scientific studies to support the many and varied uses."⁴ However, in 1996 the FDA reclassified acupuncture needles, removing the investigational label, and recognizing the purpose of the needle as "piercing the skin in the practice of acupuncture." This recognized purpose placed acupuncture needles in a class comparable to that of the scalpel or other surgical instruments, inasmuch as the therapeutic value is dependent on proper use by a skilled practitioner.⁵ No claim of effectiveness for any specific disease is permitted on the label. The Class 2 categorization of acupuncture needles requires that the needles be sterile, nontoxic,

and labeled for single use, and that sales be restricted to qualified practitioners as determined by the states. Currently, all acupuncture devices other than needles remain investigational.

Since FDA recognition of acupuncture in 1973, a wealth of research has been completed and continues today with funding by the Office of Alternative Medicine (now the National Center for Complementary and Alternative Medicine) of the NIH. The following is intended as a brief introduction to the types of acupuncture most commonly practiced in the United States, Western scientific research concerning mechanism of action and efficacy of treatment, biomedical (i.e., current evidence-based) indications for therapeutic acupuncture, cost of care, licensure and training in the United States.

Research Summary

Acupuncture was developed around the theory that the body has channels or meridians through which vital energy flows in a continuous circuit to maintain balanced health. Acupuncturists believe that this vital energy can be accessed and moved from one part of the body to another by stimulating precise points on the body. Over the past half-century, a number of studies have used Western scientific methods to demonstrate that acupuncture points possess electrical properties different from the surrounding skin.

In 1950, Yoshio Nakatani demonstrated that, in disease states, acupuncture points corresponding to the affected organ had notably-reduced electrical resistance in comparison with surrounding skin. He also demonstrated that a 200 mAmp current applied to a needle inserted into an electrically active point would change its electrical properties and evoke a physiological effect identical to acupuncture treatment.

In the 1960s, Dr. Reinhold Voll measured skin resistance values on thousands of patients, verifying that there is decreased electrical resistance at the 361 classical acupuncture points. In the late 1970s, Dr. Robert Becker's group demonstrated reduced resistance values for more than half of the points along the classical large intestine meridian. Becker proposed that the acupuncture points act as amplifiers for myelin on peripheral nerves. He suggested that the direct current became more negative as it traveled to the ends of fingers and toes and more positive as it returned to the trunk and head. The electrical activity that he described cycled approximately every 15 minutes within a larger 24-hour cycle. Becker demonstrated that acupuncture points were more positive than the surrounding skin

and caused the skin to act like a battery. Insertion of a needle short-circuited this battery and altered the current for several days. He proposed that electrical activity was generated by ionic reactivity between the metal needle and body fluids, as well as low frequency pulses from twirling the needle.⁶

Cohen and associates later demonstrated that the electrical resistance of acupuncture points varied throughout the day from subject to subject with physical and mental activities.⁷ In the late 1980s, Darras injected radiolabeled sodium pertechnetate subcutaneously and identified acupuncture points and meridians with a Scintillation 99m Technetium scan.⁸ Other researchers, such as Kuo-Gen Chen in Taiwan, hypothesized that electro-acupuncture meridians began development from the morula stage of embryogenesis and continued to develop to link various organ systems and the immune system. Consequently, it was believed that acupuncture taps into this endogenous system and affects cellular activity resulting in healing.^{9,10} Over the past 30 years, Western physicians have demonstrated that applying pressure, stimulation or injections to specific superficial body points can relieve pain. These points are referred to as "trigger points." In 1977, Dr. Melzack, Nobel laureate for his research in the field of pain, showed that these trigger points correspond with acupuncture points.¹¹

Types of Acupuncture

*The profession of acupuncture is the treating, by means of mechanical, thermal or electrical stimulation effected by the insertion of needles or by the application of heat, pressure or electrical stimulation at a point or combination of points on the surface of the body predetermined on the basis of the theory of the physiological interrelationship of body organs with an associated point or combination of points for diseases, disorders and dysfunctions of the body for the purpose of achieving a therapeutic or prophylactic effect.*¹²

Traditionally, acupuncture entailed puncture of the skin by extremely small needles at specific points on the body which were believed to correspond to pathways of vital energy. However, the same energy pathways may be accessed through stimulating the points by other means. The following is a brief synopsis of the various types of acupuncture that are currently performed.

NEEDLE ACUPUNCTURE. Acupuncture needles are very fine, sharp, usually-stainless-steel needles that have either a wire-wound grip section or a solid grip made from metal or plastic. Needles are usually single-use (disposable). Because the needles are so fine (e.g., 38-gauge), there is very seldom pain upon insertion. The needles are pushed beneath the skin directly, by tapping sharply on the top of an introducer tube or by

means of a spring-loaded injector. Upon insertion, patients may report a feelings of heaviness and numbness at the site. The needles can then be twirled between the acupuncturist's fingers, stimulated with a pulsatile electric ryodoraku unit or attached to an electronic stimulator that delivers electric stimuli of variable intensity, frequency and waveform. For most of these modalities, a treatment might take about 30 minutes. Ryodoraku treatment may take only a few minutes because each point is usually stimulated for seven seconds.

LASER ACUPUNCTURE. There are two main methods for utilization of lasers in acupuncture. The first is dependent on a time-energy formula. A laser is applied to a point for a time that depends on the energy of the laser unit, which may vary from 5–100 milliwatts. The second method operates on a "minimal stimulus/maximal effect" relationship. In this form, a low-powered laser unit (1–5 milliwatts) is applied to each acupuncture point for 20–30 seconds. It is felt that acupuncture points are very sensitive to low-intensity stimuli and therefore are responsive to minimal stimulation. Along the same lines, because acupuncturists have shown that the body is extremely sensitive to vibrations below 10 Hz, some practitioners not only use low energy lasers, but also use sound waves by incorporating music. Music of the Baroque period is reportedly effective.⁶

MICROWAVE AND ULTRASOUND. A microwave or ultrasound unit can be applied to acupuncture points to stimulate them with heat or vibration.

TENS (TRANSCUTANEOUS ELECTRICAL NERVE STIMULATOR). A high-frequency electrical stimulus is conducted through the skin via electrode stickers and stimulates neurons to release enkephalins. No needles are involved. Pain relief is reportedly achieved shortly after the unit is disconnected. TENS units have become popular in pain management clinics because they are inexpensive and compact. The duration and intensity of stimulus can be modified to meet individual patients' needs.

AQUAPUNCTURE/HOMEOPUNCTURE. Local anesthetic or vitamin B-12 is injected into an acupuncture point in order to enhance the effect of acupuncture. Some practitioners also place a drop of a homeopathic substance onto the skin and then insert a needle through it, carrying a minute amount into the acupuncture point.

SHIATSU. Shiatsu, also known as acupressure, is a therapeutic treatment developed in Japan in which acupuncture points are stimulated by pressure from a therapist's thumb or fingers.

MOXIBUSTION. In ancient times, burning incense was placed directly on the skin over acupuncture points. However, because this led to pain and scarring, it is more common now to place the burning incense or *moxa* on the end of an acupuncture needle after it is inserted into an acupuncture point. The heat from the burning moxa is transferred down the shaft to the acupuncture point.

CUPPING. A bamboo or glass cup is applied to the skin, forming a weak vacuum. The cup draws skin and subcutaneous tissues up into the mouth of the cup producing a red wheal and subsequent echymosis. Practitioners may interpret the redness to diagnose changes in the flow of vital energy.

SEMI-PERMANENT NEEDLES. These needles are made of silver, gold or stainless steel and are left in place for days to weeks. They may be in the form of studs, pins, hypodermic fine silver needles or staples.

EMBEDDED SUTURE. A suture is drawn through the acupuncture point and the ends cut off at the skin surface; often dissolving sutures are used.

BEADS OR BALLS. Small metallic beads, bi-metallic balls or hard seeds are pressed against acupuncture points and affixed with adhesive.

MAGNETS. Small magnets, either rigid metal rods or flexible, self-adhesive magnetic patches are applied to acupuncture points.

RYODORAKU. Points along scientifically-proven lines of altered skin conductivity are stimulated by a 200 uA electric probe. This is a very efficient treatment regimen, because usually only seven seconds of stimulation of each point is required. While a conventional needle acupuncture treatment lasts an average of 30 minutes, it may take only 2–3 minutes using *ryodoraku*. The indications for *ryodoraku* are identical to those for acupuncture, but results are often reported sooner. In particular, acute pain and acute traumatic swelling (e.g., sports injury) often respond better during the initial treatment.

Efficacy

A survey of thousands of world citations of acupuncture therapy for diverse indications clearly demonstrates that acupuncture has a therapeutic effect that exceeds a placebo or cultural effect. To date, studies have suggested numerous effects of acupuncture on the endogenous opioid system, release of central neuropeptides, and regulation of neuroendocrine function. However, the results of many acupuncture studies have been equivocal due to limitations in the study design, sample size and ability to incorporate an ap-

propriate control group. Studies have clearly demonstrated efficacy for control of nausea and vomiting caused by surgical procedures, pregnancy and chemotherapy as well as relief of post-operative dental pain. Although many studies of therapeutic efficacy have examined treatment of pain, there have been mixed results concerning treatment of syndromes such as fibromyalgia, arthralgia or menstrual discomfort. Furthermore, research has not yet demonstrated the efficacy of acupuncture for smoking cessation.¹³

There are thousands of citations in the medical literature concerning the usefulness of acupuncture treatments for a wide range of ailments. Most of these are criticized for not being strict enough with regard to sample size, randomization, double-blinding or comparison with an appropriate control group. When analyzing the results of research concerning the therapeutic efficacy of acupuncture, it is essential to remember the significance of proven “therapeutic efficacy.” There are many treatments and procedures routinely performed in Western medicine that are believed to be useful, but that have never been proven efficacious. For instance, aspirin was used for a century before scientists understood its mechanism of action. To date, there still have not been randomized controlled trials proving its efficacy. Physicians often employ treatments they find helpful to their patients, relying on clinical experience, the patients’ needs and the potential for harm.

It has been suggested that evidence supporting the usefulness of acupuncture is at least equivalent to the evidence for many accepted Western medical therapies. In addition, acupuncture has the added benefit of having an extremely low incidence of adverse effects in comparison with accepted medical treatments for the same conditions. In the report of the 1997 NIH Consensus Conference on Acupuncture, researchers concluded that there is not adequate proof of efficacy of acupuncture in the treatment of musculoskeletal conditions (fibromyalgia, myofascial pain and epicondylitis). They conceded, however, that the evidence supporting the use of conventional anti-inflammatory medications is no stronger.¹³ The Conference also concluded that “ample clinical experience, supported by some research data, suggests that acupuncture may be a reasonable option for [treatment of] postoperative pain and myofascial and low back pain,” but more research needs to be conducted concerning addiction, stroke rehabilitation, carpal tunnel syndrome, osteoarthritis and headache. The NIH currently recommends that if acupuncture treatments are to be used for conditions such as asthma, addiction or smoking cessation, that they comprise one component in “a comprehensive management program.”¹³

Substantial empirical and practical knowledge of the benefits of acupuncture as recognized by biomedicine has accumulated in scientific literature such that

Figure 1. *WHO List of Diseases That Lend Themselves to Acupuncture Treatment*⁷

Upper respiratory tract	Disorders of the mouth	Disorders of the eye
acute & chronic pharyngitis acute sinusitis acute rhinitis common cold acute tonsillitis	toothache post-extraction pain gingivitis	acute conjunctivitis central retinitis myopia (in children) cataract (uncomplicated)
Lower respiratory tract	Neurological/Musculoskeletal	Unrecognized uses
acute bronchitis bronchial spasms	headache migraine trigeminal neuralgia facial palsy (early stage) paresis following stroke lower back pain neurogenic bladder nocturnal enuresis intercostal neuralgia osteoarthritis "frozen shoulder" sciatica Meniere's disease early sequelae of poliomyelitis cervicobrachial syndrome	infertility menstrual cramps menopausal symptoms insomnia depression anxiety nervousness neurosis
Gastrointestinal system		
spasms of esophagus and gastric cardia acute & chronic gastritis hiccup acute bacillary dysentery constipation chronic duodenal ulcer (pain relief)		

acupuncture is increasing in usage at medical centers throughout the United States. The Mayo Clinic has had an acupuncture service since 1975. As of 1979, the World Health Organization (WHO) listed 47 indications for acupuncture treatment;¹⁴ *Figure 1* lists a number of them.¹⁷ However, it should be recognized that the use of acupuncture by traditional practitioners and their patients is virtually unlimited.

As mentioned previously, it is estimated that more than 12 million acupuncture treatments are provided in the United States each year. Multiple surveys of patients who have undergone treatment have demonstrated satisfaction. In one study, of the 575 respondents attending, one of six clinics in five states, 91.5 percent reported "disappearance" or "improvement" of symptoms after acupuncture treatment, and 70 percent of those to whom surgery had been recommended reported avoiding it. Patients also reported satisfaction with acupuncture care, its cost, and with their care providers. On average, respondents used 3.5 forms of health care, including acupuncture and conventional medicine, others being chiropractic, massage therapy or psychotherapy. Fifty-seven percent believed that their improvement was "definitely" due to acupuncture; 19.9 percent said "probably"; and 17.5 percent reported "a combination of factors." Assessment of satisfaction with outcome, cost of treatment, and the practitioner were strongly skewed towards "extremely satisfied." The distribution of indices for satisfaction with conventional medicine was not skewed toward dissatisfaction, but was a classical bell-shaped distribution. This suggests that patients receiving acupuncture are not abandoning

conventional Western medicine. In these studies, there were no reports of serious harm from an acupuncture needle. Seventy-two percent reported that they had never experienced any harm from an acupuncture needle; 24.6 percent reported a single isolated incident of a small bruise or drop of blood at the site; and 3.6 percent reported a contact allergy to the alcohol preparation used to cleanse the skin.¹⁵

Cost

In a five-hospital study, the average cost for three months of acupuncture treatment (six visits) was \$264.40, compared with \$409.09 for six months of conventional medical treatment averaging 2.2 visits.¹⁸ Studies of cost-of-care in France showed that medical practices consisting of at least 50 percent acupuncture "cost the system considerably less for laboratory examinations, hospitalizations and medication than their non-acupuncture-practicing colleagues."¹⁶

Licensure/training/accreditation

Licensing of medical professionals is determined by each state. Thus, there is wide variation in the licensing criteria for practitioners of acupuncture. *Figure 2* is intended as an overview concerning the current regulation of acupuncture accreditation in the United States. For up-to-date information on the laws governing the practice of acupuncture in a specific state, contact individual state boards of medicine.

Currently, 34 states and the District of Columbia regulate the practice of acupuncture in some way, and not all of them recognize the same licensing examina-

Figure 2. *1997 Summary of Acupuncture and Oriental Medicine Laws by State*

<u>No regulation</u> AL, AZ, DE, GA, ID, IN, KY, MI, NE, NH, ND, OH, OK, SD, TN, WY
<u>Minimal requirements for MD or DO to practice</u> AR, CT, FL, IL, IA, KS, ME, MA, MN, MS, MO, NV, OR, RI, SC, UT, VT
<u>Require education and NCCA exam for certification</u> AK, CO, DC, HI, LA, MD, MT, NJ, NC, PA, TX, VA, WA, WV, WI
<u>Most stringent requirements</u> (more than 2,000 hours of training) CA, NM, NY

tion. It has been estimated that there are at least 10,000 acupuncture providers practicing in the United States today. Of the more than 70 schools of acupuncture, presently 34 are accredited by the National Accreditation Commission of Schools and Colleges of Acupuncture and Oriental Medicine (NACSCAOM). Considering that there are more than 5,000 students enrolled at accredited schools, with an equal or greater number attending non-accredited institutions, and an increasing number of chiropractors and physicians who are providing acupuncture, the number of practitioners of acupuncture in the U.S. may double by the year 2000.¹³

Schools accredited by NACSCAOM accept students with at least two years of college and require a minimum of 123 semester credits (2,175 hours) of training. Training consists of 47 semester credits (705 hours) in oriental medical theory, diagnosis and treatment techniques; 30 semester credits (450 hours) in oriental herbal medicine; 24 semester credits (360 hours) in biomedical clinical sciences; and 22 semester credits of clinical observation and practice (660 hours). On average, accredited programs provide more than 30 semester credits (450 hours) of training beyond this standard, and some of the most rigorous programs provide considerably more.¹³

Physicians (those with an M.D. or D.O.) are permitted to provide acupuncture in nearly every state. As with other licensing, there is great variation among states with requirements ranging anywhere from no training to several hundred hours of training for physicians to be licensed. The American Academy of Medical Acupuncture (AAMA), a national body of physicians who incorporate acupuncture into their medical practices, offers a 200-hour training as well as introductory, intermediate and advanced AMA Category I Continuing Medical Education courses in acupuncture. Each state has varying requirements for acupuncture licensure for chiropractors, naturopaths, podiatrists, physical therapists, physician's assistants and nurses.

Conclusions

Acupuncture has been practiced for nearly 3,000 years in the East, more than 300 years in Europe and 100 years in the United States. It is now coming to the forefront of American biomedical research and practice.

However, while biomedical research is essential for acceptance of acupuncture in America, it is important for biomedical researchers to bear in mind that the practice and purpose of acupuncture is not limited to symptomatic relief. The aim of acupuncture is to treat the whole patient and to restore balance among the physical, emotional and spiritual aspects of the individual. The philosophy at the core of acupuncture treatment considers all illness to be due to imbalances in the energy flow (*qi*) as a result of both internal and external influences. Thus, acupuncture can be used for preventive therapy even for those who are not considered "ill" in the Western sense.¹⁷

To date, most of the NIH-sponsored studies of acupuncture treatment for acute pain have been done in animal models. Biomedical researchers are only beginning to study the efficacy and optimal parameters (intensity, frequency, spacing of multiple treatments, etc.) for the treatment of chronic pain. However, preliminary studies suggest that by combining acupuncture with Western pharmacological treatments for pain, it is possible to achieve a state of complete analgesia with drug dosages reduced by 50 percent.¹⁸ Recent NIH-sponsored studies have demonstrated that peripheral stimulation by acupuncture can centrally evoke maximal activation of the endogenous systems of analgesia.²⁴ A long-term study of 58 patients on a waiting list for elective knee replacement in Denmark showed that patients treated with acupuncture demonstrated improvement in both subjective and objective measures of knee function and a 50 percent reduction in anti-inflammatory drug use after six treatments.¹⁹ Thus, when acupuncture and Western therapies are used to complement one another, patients suffering from pain may benefit maximally while simultaneously diminishing the undesirable side effects of the analgesic drugs.

Biomedical researchers, including Nobel laureates, have elucidated possible mechanisms to objectively explain acupuncture. Millions of Americans each year report satisfaction with care and a very low incidence of adverse side effects. There is evidence that acupuncture can improve healing when used in concert with Western medicine. Additionally, acupuncture treatments may lower the cost of medical care if used to complement Western therapies. However, the widely varying requirements for licensure in individual states have caused much confusion among providers.

It would be extremely beneficial to individual patients, as well as the overall U.S. health-care system, if quality acupuncture treatment could be available to patients everywhere. As with any other type of health care, patients must be informed of the benefits, risks, expected prognoses and treatment options. Safety prac-

tices to minimize risks must be mandated by each state, and use of acupuncture needles should follow FDA regulations, including use of sterile needles. States must also adequately define licensure and accountability so that there is a system for redress of patient grievances and control over practitioners. Most importantly, with more and more patients choosing to complement conventional therapy by seeking treatment from practitioners of multiple alternative modalities, it is essential that both acupuncturists and physicians be aware of each others' work. Patients and providers must share the responsibility to facilitate communication in order to maximize patient well-being.¹³

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Biomagnetic Therapy:

Does the Current Evidence Stick?

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Biomagnetism is playing an ever-increasing role in health care in many countries around the world. Today, there is a growing awareness in the United States of the use of magnetism for therapeutic purposes, despite the lack of strong scientific evidence regarding either its safety or efficacy. The subject of discussion is the use of static magnets, as opposed to electromagnets. In electromagnets, the movement of charged particles (electrons) through conducting channels, or coils, creates a magnetic field. Static ferrous magnets do not require replenishing because they have permanent magnetic fields, like those used in compasses and refrigerator magnets.^{1,4}

Cleopatra, wishing to prevent aging, reportedly wore a lodestone (natural magnetic rock) on her forehead while she slept. In addition to the ancient Egyptians, ancient Chinese, Greek and Indian cultures used magnets for therapeutic purposes. The word magnet was first coined by the Greeks. In fact, the first person in recorded history to discuss the therapeutic benefits of magnets is believed to be Aristotle. Two famous German scientists, Paracelsus (15th century), and later, Mesmer (18th century), studied magnetic therapy. Both men controversially, yet successfully, introduced this form of healing to the public.

The popularity of magnet therapy in the United States began to rise during the 1800s and soared in the post-Civil War era. Sears-Roebuck advertised magnetic jewelry in its catalog for the healing of virtually any ailment. An Austrian psychoanalyst by the name of Wilhelm Reich emigrated to the United States in 1939 and researched the effects of electromagnetism on humans. (Interestingly, Reich, a former student of Sigmund Freud, died in prison after ignoring an FDA order to cease his movement against nuclear pollution.) Today, Germany, Japan, Israel, Russia and at least 45 other countries consider magnetic therapy to be an official medical procedure for the treatment of numerous ailments, including various inflammatory and neurological problems.⁵

The medical definition of a magnetic north pole is the pole which attracts the arrowhead of a compass. When one uses a gauss meter, the meter arrow will move toward the negative sign when overlying the north pole, which is therefore also designated as the “negative” pole.

There are generally two different methods of magnetotherapy in use at this time. The first involves exposure to only the north pole with high gauss strength (2000-4000). The second and more widely-used and accepted method involves the use of low gauss

strength during simultaneous exposure to both north and south poles. The latter bipolar method often employs thin, flexible magnetic pads that may be directly applied to an area of the body in a bandage-like fashion. Treatment duration depends on the persistence of symptoms. Some suggest continual application (24 hours a day) until symptoms are relieved. For this reason, the current trend is to market magnets that are as unobtrusive and comfortable as possible.⁴

The exact reason for the therapeutic effects of magnetic therapy is currently unknown. However, several theories have been suggested. Some believe that the exclusive use of negative (north) polarity promotes alkalinity in the body and therefore helps to maintain the body's normal pH of 7.4 (and normal metabolic function) in the face of acute, maladaptive responses (immunologic, non-immunologic or degenerative conditions) which may promote acidemia.⁴

The principle of the bipolar magnetic effect, on the other hand, involves a completely different theory based on the Hall Effect.⁴ Upon exposure to a magnetic field, charged particles moving within a wire are deflected from a straight path down the wire depending on the orientation of the field vector. In humans, blood is thought to be an electrical conductor. Flow of electrolytes forms a current throughout the body within the bloodstream. When these ions pass under a magnet, separation occurs based on charge: positive ions move towards the negative (north) pole while negative ions move towards the positive pole. Ions thus deflected encounter and push against the vessel wall, creating some amount of vessel expansion. Vasodilatation results in increased delivery of oxygen and nutrients to the damaged cells, as well as enhanced removal of metabolic byproducts and toxins. Reports indicate that static bipolar magnets help blood vessels expand through this natural effect on charged particles in the blood. Small vessels are reportedly widened as the ions crisscross back and forth between north and south poles of the magnet. Small “eddy currents” also occur in the bloodstream due to the ion separation. These currents, similar to those found in a river, widen the vessel diameter just as eddy currents in a river push the banks outward.¹ Additionally, histamine and prostaglandins, compounds believed to stimulate the pain-spasm cycle, may be removed from the area by this increased blood flow, thereby interrupting the pain cycle.²

A second theory for the effectiveness of bipolar magnetic therapy has been championed by Vincent Ardizzone, who designed the “checkerboard pattern” of bipolar magnets (see below). He suggested that bi-

polar magnets are able to alter the ionic balance of the pain neuron. After a pain neuron has been chronically stimulated, it may develop a resting membrane potential above the usual -70 mV (for instance, around -60mV). Subsequently, it is easier to surpass the "firing threshold" (around -50mV), depolarize the neuron and send the painful stimulus to the brain. Ardizzone's theory suggests that the ionic (voltage) pattern created as a result of the magnetic field/Hall Effect helps reestablish the proper resting membrane potential of the axon fiber.⁴

Not all magnets are created equal. The design and strength of the magnet are key factors in maximizing therapy. While the magnetic field of the earth is less than 10 gauss, magnets sold for therapeutic purposes generally range from 300 to 500 gauss. Magnetic resonance imaging (MRI), for comparison, introduces a strong magnetic field in excess of 10,000 gauss. Two magnets with identical strength may perform differently depending on their design. Standard magnets are reported to be maximally effective when blood passes through vessels directly perpendicular to a line connecting the north and south poles, as opposed to blood vessels that pass at an angle or parallel to the magnetic poles. This promotes the sideways deflection of ions and the subsequent vasodilatation described earlier. Consequently, one reportedly-effective magnet design uses concentric circles of alternating polarity.¹ The concentric design supposedly allows maximal penetration to the capillaries and thus increased blood flow to the damaged tissue regardless of the capillary's orientation. According to one expert on concentric magnets, Jack Scott, Ph.D., "Magnets applied to muscles after a hard work-out should increase blood flow and speed recovery."¹ Dr. Scott has been an adviser to the U.S. Track and Field team for the past four Olympic Games.

Researchers at Baylor University Medical Center recently conducted a double-blind study on the use of concentric-circle magnets to relieve chronic pain in 50 post-polio patients. Active as well as placebo magnets ranging from 300-500 gauss were placed on the affected area of each patient for 45 minutes. A significant number of patients (76 percent) reported less pain when using the active magnets as opposed to those who reported less pain while using a placebo magnet (19 percent).³

It has been suggested that magnets may be used at any time during sports training and in recovery from injury. However, exceptions to this rule have been noted in the time period immediately following an injury. Sports-medicine physicians suggest using ice to reduce the swelling through restriction of blood flow. Once swelling is under control, magnets may be used to bring more blood to an area for faster healing. Magnetic application to an acute injury less than 24 hours

old that involves bleeding is not recommended because the clotting process may be delayed. Finally, pregnant women are advised against using magnetic therapy.^{1,4}

Not all forms of magnetism are free of side effects. For reasons not yet understood, the AC electromagnetic field from a power line is potentially harmful, whereas the pure DC magnetic field from a solid state magnet is possibly therapeutic. There is controversial evidence of negative effects, including cancer, stemming from high-power, pulsating magnetic pollution and high-power transmission lines. However, it is again important to keep in mind the difference between electromagnetic fields and pure magnetic fields.⁴

Another risk that is worth mentioning involves the ingestion of small magnets by children. Bowel walls fistulate between the steady magnetic attraction between two or more beads. Erosion and perforation of the bowel wall may also occur. A report in the *Journal of Pediatric Surgery* describes a three-year-old girl who swallowed multiple magnetic beads taken from her parent's therapeutic necklace. It took less than two weeks to develop a fistula between the stomach and jejunum.⁶

Although there are countless testimonials in fitness magazines, internet sites and various books vouching for the effectiveness of this age-old form of alternative therapy, there is a profound lack of overall proof of the legitimacy of magnetic therapy in peer-reviewed medical literature. A recent note in the *Mayo Clinic Health Letter* acknowledges this incongruity: "While research may someday find magnetic therapy beneficial, to date there's little medical evidence to back up health claims, and the therapy is still considered experimental."⁷

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The Patient-Doctor Dialogue on Alternative Medicine

by Marlene Mancuso, Mt. Sinai School of Medicine

The patient and doctor meet for the first time, exchange introductions and greetings, and sit down face-to-face. The words that they share will lay down the mortar upon which their subsequent relationship will be built. The narrative and details that the patient supplies about his/her lifestyle, previous health history, family health history and intimate concerns are as indispensable to the physician as all the specialized knowledge learned in medical school. The goal of this investigation includes clinical findings, such as blood pressure and lung sounds, as well as exploration of the individual patient's values. This brings us back to the doctor and patient sitting face-to-face. The doctor and patient must understand each other clearly and completely in order for their relationship to be beneficial. Open communication is the foundation upon which successful health care depends.

In 1993, Dr. David Eisenberg and colleagues estimated that of the 60 million Americans who used alternative medical therapies in 1990, more than 70 percent of them never mentioned it to their physicians. What follows is an interview which should lend some insight into the dynamics of patient-doctor communication regarding alternative medicine.

The interviewee, Mrs. Goodwyn, has had an appreciation of alternative medicine for about 20 years. Recently Mrs. Goodwyn faced the challenging diagnosis of breast cancer. She chose a combination of traditional and complementary medicine to cope with her illness.

Q: When did your interest in alternative medicine begin?

A: In the 70s, my oldest son had terrible eczema and my husband and I learned that it could be controlled through a change in diet. This brought an appreciation for the relationship between food and health. The religious community we were involved in also played a significant role in our lives. I began to study health, meditation and yoga.

Q: What other alternative therapies do you use?

A: My family and I use nutritional supplements, like echinacea to enhance the body's cleansing process. I also use homeopathic and Bach-Flower remedies.

Q: Why do you use these remedies instead of more conventional options?

A: I prefer the ideology. Allopathic medicine seems to cure the condition by working against the condition. Homeopathic medicine looks at the condition, say a

fever for example, and works with it. For example, ginger heats up the body so that a fever can accomplish its purpose and then the body cools down. Also, I prefer ideologies with a decided mind-body connection.

Q: In what way, if any, has conventional medicine failed you?

A: It is natural that institutions want to perpetuate themselves, which is a different agenda than serving the good of the people. Allopathic medicine is an institution guided by the AMA. Unfortunately, sometimes the concern for self-preservation drives an institution to discourage open-mindedness to something unconventional, such as alternative therapies which might benefit many. Also the mystique that surrounds the doctor is unhealthy.

Q: I am aware that you do see conventional M.D.s. In your experience, have any of them brought up the topic of alternative medicine in their history-taking?

A: Not until the gynecologist who alerted me to the possibility that I had breast cancer. I know she even marked it in my chart because the next physician I saw said to me with a condescending and scornful attitude, "I see you use alternative medicine."

Q: Did you continue seeing this second doctor?

A: No. She referred me to a surgeon. I walked into the surgeon's office with a book on alternative medicine. The surgeon was great. She was supportive and very receptive.

Q: Did the surgeon discuss alternative therapies with you?

A: Not really. She did not have enough background. She just mentioned that many therapies were not proven or quantified.

Q: Did you seek information on your own then?

A: Yes. Before the surgery I saw a nutritionist who had dropped out of Yale Medical School after realizing that the type of health care he wanted to deliver was more consistent with an education in Chinese medicine. He gave me books to educate myself and facilitate my decision making. He never advised me not to remove the tumors, but guided me to information that would help me understand the details of my situation.

Q: What did you learn and decide to do?

A: I learned that exercise would help to create an environment in my body unfavorable to cancer. I also

learned of further modifications I could make to my present vegetarian diet. I decided not to take tamoxifen because I felt that changes in my lifestyle would be sufficient ammunition against the cancer.

Q: What did your physician think about your choices?

A: She said, "You look great. You will be great." I brought her back the information I had obtained and she was very supportive.

Q: What type of impact did this have on you?

A: This doctor's support was extremely important. I was at one of the most vulnerable and emotional points in my life. If I had to battle with my physician at this time it would have added a lot of anxiety that would have been detrimental to the progress of my treatment. In situations like these, people always wonder if they are doing the right thing, and a physician's supportive and open-minded attitude is so meaningful.

Q: What are some of the highlights and disappointments you have faced in your communication with traditional doctors about alternative therapies?

A: I was most pleased with the comfort level of a physician being able to say, "I don't know." I do not expect them to know everything, and they should not expect this of themselves. It is such a credible response to say, "I do not know, but let's find out." I have incredible respect for the doctor who said this to me. On the other hand, it is very distasteful to come upon a doctor who is dogmatic to such an extent that I am seen as an empty vessel. I have come across physicians who were completely ineffective and whom I would never see again because their belief was, "What you need to know is only what I tell you." These physicians did not understand the importance or the basic right of patients' involvement in their own care. This, of course, includes the right to choose alternative therapies.

Q: If you could give advice to future physicians what would it be?

A: If I communicate nothing else to young people but this I would be happy: I just want future doctors to understand and know that there is a bigger picture to always keep in mind. I would ask them to be receptive and to question things over and over again. Even if something seems upon first glance to be disagreeable, look further and investigate more. Be willing to learn and grow constantly. There are changes everyday to heed. I am not asking them to jump on the bandwagon and accept popular belief, but rather to listen to all the voices and check things out. I urge future physicians to be wary of institutional motives and to have the courage to question them. Unfortunately economic and managed-care interests are often being served when health and human life should be the primary concern. Attention needs to be drawn to certain situations where unconventional medicine may lend a favorable alternative to less desirable treatments.



Dr. Susan Silberstein's Hope for Cancer Patients:

A Comprehensive Resource Center for Cancer Education

by Joseph S. Ross, SUNY at Buffalo SMBS

In 1977, Dr. Susan Silberstein's husband died of a heart attack. The attack was precipitated by adriamycin, the medication he was taking as part of his chemotherapy treatment for terminal primitive neural ectodermal tumor, a rare form of cancer found in the spinal cord. At the time, doctors admitted that they did not fully understand the disease.

"The treatment was very experimental," Silberstein explains, "so I did my own research all over the world. I contacted doctors and hospitals across the United States, Canada and Germany. I gathered a tremendous amount of information, but I was not able to evaluate it in time to help my husband. I found there to be a significant consensus on nutritional programs and non-toxic therapies. But none of these alternative treatments were tried to help my husband. When he died, I decided that I wasn't going to bury all this information with him." In 1977, Silberstein founded the Center for Advancement in Cancer Education, a not-for-profit organization affiliated with the United Way.

The center's first goal is to improve quality of life for people diagnosed with cancer. "Survival should be good, no matter how long it lasts," she says. One of Silberstein's greatest frustrations is the lack of individuality with which many conventional doctors approach their patients. "Doctors need to respect the patient and the patient's quality of life. They should respect the patient's knowledge and input. A partnership between doctor and patient needs to be established so that an effective exchange of information takes place. There should be no *a priori* judgments about an individual's situation." She aims "to make the individual day of the individual patient better."

Her second goal is to change the paradigm of oncologic treatment. Silberstein seeks to shift the focus of cancer treatment from tumor-oriented therapies to programs that restore innate biological repair mechanisms and increase host resistance. She aims for "biological repair—working synergistically to enhance the body's natural immune defense system—since restoration of optimal immune function leads to the control and the future prevention of cancer in a majority of cases." The uniqueness of the Center for Advancement in Cancer Education lies in the density of information it can offer and the number of treatment approaches it can recommend in the spirit of "doing no harm." The center favors the inclusion of non-toxic programs, such as fever therapy and immunotherapy, along with lifestyle changes, such as balanced nutrition, appropriate exercise and psycho-emotional health, in order to

control the cancer and support the body in its attempt to remove the malignancy and prevent further disease processes.

Silberstein sees herself as a facilitator. When patients first come to the center, they fill out a detailed questionnaire and undergo an in-depth interview. She then works with each patient to develop the best possible treatment program. "It is the education of patients that is the most important," she says. Silberstein provides information and educational materials. She helps patients and their families to understand the choices they will need to make, to determine which approach is most appropriate, and to decide where they want to seek treatment.

Now, with the recent explosion in awareness of complementary and alternative medicine in the United States, the Center for Advancement in Cancer Education receives more telephone calls and information requests than ever. "So much of this new information being presented to the public is conflicting and it confuses people. There is a great need for facilities like ours."

Silberstein's third goal is "to educate young doctors." She believes that "there is a dynamite marriage that can happen between patients who know what's going on in their bodies and physicians who have a background in medicine. We want to see medical students and young doctors get the best information from all worlds, conventional and non-conventional alike, because only then will the patients get the best possible care."

Additional information can be found at this Web site:
www.lifeenrichment.com/cace_rch.htm
(site was accessible in January 1999)



Homeopathy

by Kristin Prevedel, Creighton University School of Medicine

Homeopathy embodies a form of medicine aimed at naturally stimulating the body in order to enhance the intrinsic processes of healing. Apart from common perceptions, homeopathy entails more than specially prepared tinctures to relieve physical ailments. It involves restoration of psychological and emotional imbalances as well. Homeopaths seek to treat the illness and heal the total person, not merely suppress the symptoms of a disease process.

As a system, homeopathy utilizes minute amounts of vegetable, mineral or animal substances to trigger the body's inherent defense mechanisms. It is based on the *Law of Similars*, a theory that asserts that a substance producing certain symptoms in a healthy person will help fight the cause of those same symptoms in an ill person. Homeopathy differs from mainstream medicine in that it views symptoms not as part of a disease, but as part of the healing process. It is believed that "disease" is the result of an imbalance in the body's vital force, and that the symptoms are part of the body's efforts to correct the imbalance. Symptoms are unique to both the insult as well as the afflicted. These responses are part of a larger effort to return to health and balance.

The literal meaning of homeopathy is "similar suffering." Although this concept has historical roots as far back as the 10th Century B.C., modern homeopathy evolved from the observations of Samuel Hahnemann, an eighteenth century German physician. Through multiple experiments on himself, Hahnemann concluded that large doses of quinine, a malaria remedy, caused malaria-like symptoms when given to a healthy person. Hahnemann hypothesized that if large amounts of a substance (like quinine) could induce a symptom complex in a healthy person, then small doses of the same might cure a person with that complex due to genuine illness.¹ This hypothesis gave birth to the notion that "like is cured by like," or the *Law of Similars*.

Hahnemann reasoned that precipitating symptoms with a homeopathic remedy could stimulate physiologic defenses to reassert the natural order and balance of the system. He found that only minute quantities of a substance were needed to trigger the healing system, which became known as the *Law of Infinitesimals*. Hahnemann diluted substances such as arsenic, mercury and belladonna (deadly nightshade) in water and alcohol until he believed he had achieved safe doses. The small concentration of material would be enough to promote healing without resulting in adverse reactions.

Today, more than 1,300 substances are recognized as homeopathic remedies. Preparation begins with a mother tincture which is made by mixing natural mineral, animal or plant extracts with water or alcohol. The remedies are then diluted so that 1 drop of original tincture is mixed with either 9 or 99 drops of an alcohol/water solution (usually 87% alcohol), creating a dilution of 1-to-10 or 1-to-100, respectively (other ratios are also commonly used). This mixture is vigorously shaken and further diluted by adding one drop to another nine or 99 drops of alcohol/water solution. According to Chris Meletis, N.D., naturopathic physician and medicinary director at the National College of Naturopathic Medicine, after approximately 24 dilutions usually there is not one molecule of the original homeopathic substance remaining in the solution.¹ The homeopathic mixture, however, often undergoes 1,000 or more dilutions, with vigorous shaking between each to enhance the solution's potency. Homeopaths assert that shaking the mixtures releases the energy pattern inherent in the material form of the substance into the diluent.

Homeopathic remedies are regulated by the Food and Drug Administration and manufactured by drug companies under strict guidelines. Many remedies are available over the counter at pharmacies and most health food stores. The most common forms are usually taken sublingually, which allows for rapid absorption into the system. However, homeopathic medicines are also available as ointments, gels, lotions, sprays and tinctures.² The remedies are labeled with a letter indicating the dilution ratio, for instance, an X or C to represent dilutions of 10 or 100, respectively. A preceding numeral (e.g., 6X, 30X or 30C) indicates the number of serial dilutions performed in the preparation of the mixture. Therefore, the mother tincture of a 30C solution has received 30, 1:100 dilutions.

It is believed that the constitutions of homeopathic remedies are extremely sensitive to subtle influences. For instance, residues from toothpaste, coffee or food may interfere with a remedy's specific action. Other environmental conditions that may neutralize or contaminate remedies are odors, light, heat or cold, energy fields (metal detectors, computers), recreational drugs, other therapies (acupuncture, herbs) or trauma. Furthermore, individual homeopathic medicines are usually not taken in combinations. Although some remedies are complementary and possibly synergistic, others may antagonize the desired effects.³ Finally, the response to specific treatments varies among individual patients.

Homeopathy is used to treat both acute and chronic illnesses and even hereditary conditions. In the classical model of therapy, treatment of acute conditions involves individualizing a single remedy to each person's unique pattern of symptoms. Chronic conditions often require "constitutional care" managed by an experienced homeopathic practitioner. This form of treatment entails detailed analysis of a person's genetic and personal health history, body type and present physical, emotional and mental status.

Currently, the most popular uses of homeopathy are for ailments such as diarrhea, flu, hay fever, headache, menstrual and menopausal symptoms, arthritis and pain. In searching for the appropriate treatment, symptoms are matched to a specific remedy. Different symptoms of the same illness may warrant different homeopathic treatments. For example, multiple remedies exist for treatment of flu-like illnesses. If symptoms consist of aching, weakness and fatigue, with dizziness, trembling and chills, the appropriate remedy is Gelsemium. However, if a person has thirst with chills and fever, is sensitive to light, has runny eyes and nose, and is weak and exhausted, then *Eupatorium perfoliatum* is the remedy of choice.

Homeopathy is used to relieve myriad other conditions, including insomnia, jet lag, motion sickness and food poisoning. Minor burns, eye injuries, bruises and insect bites can also be treated with homeopathic remedies. The above are merely a small sampling of the broad applications of homeopathy. Additionally, homeopathy is also intended to improve an individual's overall level of health, thereby enhancing resistance to future physical and psychological ailments, whether acute or chronic.

Practitioners receive professional training that is approved by the Council on Homeopathic Education (CHE). The certifications given to practitioners indicate training in homeopathy, but are not licenses to practice. Three states (Arizona, Connecticut and Nevada) provide licensure for independent practice, while others allow providers to practice homeopathy as a specialty under another medical license (e.g., M.D. or D.O.). There are three types of homeopathic certification:

- *Diplomate in Homeotherapeutics* (DHt)—Available only to medical and osteopathic physicians.
- *Diplomate of the Homeopathic Academy of Naturopathic Physicians* (DHANP)—Available only to naturopaths who have received basic instruction as part of their N.D. training.
- *Certification in Classical Homeopathy* (CCH)—Available to any health-care professional.⁴

Unlike many conventional medical physicians, homeopaths do not seek to treat specific pathologies. Instead, they treat the whole person based on emotional, physical and mental symptoms. The diagnosis is based on a health history that considers the patient's

constitutional type, a categorization that includes aspects from personality and food preferences to fears and physical appearance. This holistic approach may also incorporate the patient's diet, activity level, the time of year, the weather, and the patient's reactions to the seasons. A homeopath may also use conventional diagnostic methods such as lab tests and X-rays. The elaborate, personalized interview, coupled with a highly individualized diagnosis and treatment, provides a level of specialized care that is often unavailable in mainstream medicine.

Homeopathic research in the United States is hindered by lack of funding from the government, universities and pharmaceutical companies. Dr. George Lundberg, former editor of the *Journal of the American Medical Association*, stated that the most critical element lacking in assessment of the value of alternative medicine (including homeopathy) is "controlled clinical testing aimed at measuring the effectiveness of therapies for specific conditions."⁵ Today, U.S. researchers are slowly beginning to examine the scientific validity of homeopathy. In 1994, researchers from the School of Public Health and Community Medicine at the University of Washington investigated the use of homeopathy in treatment of acute childhood diarrhea in Nicaragua. With administration of homeopathic medicine, researchers found a decrease in the duration of diarrhea. These results suggest that homeopathic treatment may be useful in treatment of this acute childhood illness.⁶ Additionally, an analysis of the 26 best studies published on homeopathy recently appeared in the medical journal *Lancet*. The report showed homeopathic remedies to be 66 percent more effective than no treatment at all. However, the analysis could not demonstrate that homeopathy was effective for any specific condition.

European researchers have an extensive history of basic scientific and clinical studies that examine the efficacy of homeopathic remedies. Some of these studies involve analysis of the effects of microdoses on cells and tissue cultures. Other studies are clinical research involving treatment of specific conditions. A research team in Romania examined the use of zincum metallicum CH5 in the treatment of patients with liver cirrhosis. They found that patients with decreased serum zinc levels resumed normal values after 30 days of treatment.⁷ Another study published in Poland evaluated the clinical efficacy of Vertigoheel in the treatment of vertigo of various etiologies. With treatment, the authors found regression of clinical symptoms in the majority of cases.⁸ Finally, a study by researchers in Great Britain evaluated the effect of homeopathy on pain and other pathological reactions after acute trauma (e.g., bilateral oral surgery). They found no positive evidence for the efficacy of homeopathic treatment of pain or other inflammatory events after acute soft tissue and bone injury inflicted by surgical intervention.⁹

Despite a lack of extensive research and clinical trials for the majority of remedies, many health-care practitioners and patients firmly believe in the power of homeopathy. Patients benefit from individualized care that is aimed at treating the whole person, not merely the signs and symptoms. Empathetic doctors who listen to and spend time with their patients are also an important part of homeopathic medicine. This unique approach to healing seeks a natural balance between rational therapeutics and compassionate patient care.

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Spirituality in Medicine: The Healing Within

by Adam Dimitrov, University of Miami School of Medicine

*The healer knows
We heal no one
We cure no one;
To attempt a cure
Denies the truth:
Disharmony sown in the spirit
Reaps imbalance in the flesh.*

*To regain the point of balance
Only open your heart,
Merely offer your life;
Allow the Love to heal,
Allow the weak to grow;
Say "I am the healer,"
You step out of the flow.*

*For the Universe flatters no one,
But merely offers its Life
When you offer your own.*

From *The Tao of Healing*
by Haven Trevino

Throughout medical history, spirituality and medicine have been partners in a complicated relationship. Historians recount the dual duty of ancient priests as that of religious figures as well as local healers. Both the Old and New Testaments of the Bible contain accounts of healing brought through spiritual intercessions. Some argue that Jesus's primary activity as described by the Bible is that of healer. The Gospel writer Luke is also documented as being a physician by profession.¹

For centuries, the link between physical healing and spiritual intervention was viewed as *sine qua non*. That paradigm remained strong within the Western world throughout much of the Medieval Period. However, the Renaissance and Enlightenment brought that relationship to a bitter halt. The thinking of the 17th Century leveled high logical standards against all aspects of human society and culture. Religion and spirituality were of little use in the realm of observation and experimentation.

Religion survived and remained an important part of Western culture; however, the association between medicine and spirituality gradually dissolved. The practice of medicine was "free" to view the human body as purely physical, divorced of the trappings of an undetectable, non-quantifiable force. Soon came great advances in patient care including Joseph Lister's anti-

septic technique and the discernment of the human circulatory system as described by William Harvey in his revolutionary work *De Motu Cordis*.³ Subsequently, patients were also perceived as scientific objects, to be acted upon by a physician whose knowledge of medical science determined the course of action. In a sense, the identity of the patient was less important than the disease process. The patient-doctor relationship no longer involved a cooperative healing interaction, but rather a setting in which the physician predominantly determined what was best for the patient. This new method of healing, governed by physical observation and scientific reasoning, rendered spirituality all but meaningless with respect to health.

In a time when health care is increasingly complex and expensive, Americans have shown an inclination toward alternative or complementary therapies. In part, that movement has also asserted the importance of the mind-body-spirit connection for both patients and physicians. More physicians today are considering the spiritual aspects of well-being on the path to better health. That trend signifies, according to Dale A. Matthews, M.D., Associate Professor of Medicine at Georgetown University, "an historic reconciliation between medicine and spirituality." Supporting this observation, Jan Ziegler writes, "It is not as if they were always apart. Through the centuries, the history of

medicine was the history of religion. But then came the discovery of pathogens; and, suddenly, *medicine* was *biomedicine*.”⁴ [emphasis added]

It is important to draw a distinction between the terms religion and spirituality. Zeigler states that religion (at least as scientists use the term) “implies traditional beliefs, attitudes and practices that are part of an organization.” Spirituality may involve particular elements of religion, but usually refers to “an individual’s views and the related behaviors that express relatedness to something greater than the self.”⁴ Therefore, an individual may express a strong “spirituality” despite being unaffiliated with a particular established religion.

Researchers working on the link between one’s spirituality and health status have found it difficult to measure an individual’s degree of spirituality. A number of groups have worked to devise objective questionnaires that can give research a reliable measurement. At the Department of Community Health and Family Medicine at the University of Florida, Robert L. Hatch, M.D., headed a study that led to the creation of the *Spirituality Involvement and Beliefs Scale* (SIBS). This instrument was designed to be widely applicable across religious traditions, to assess actions as well as beliefs, and to be easily administered and scored. SIBS uses terms that avoid cultural-religious bias, and despite the need for additional testing, appears to have good reliability and validity.⁵

Despite the difficulty in assessing a patient’s degree of spirituality, researchers have been quite successful in connecting improvements in certain individuals’ health to a level of spiritual expression. Duke University investigators recently found that elderly churchgoers have a healthier immune system than those who don’t attend religious services. Those who attended church weekly or more often were significantly less likely to have been admitted to the hospital, and of those who were admitted, hospital stays were remarkably shorter (11 versus 25 days) than their less vigilant counterparts. A number of factors were controlled, including sex, race, age and education. The study concluded that “participation in and affiliation with a religious community is associated with lower use of hospital services by medically ill older adults, a population of high-users of health care services.”⁶

Perhaps the most celebrated 20th century prayer study was conducted in 1988 by Randolph Byrd, M.D., a staff cardiologist at U.C. San Francisco School of Medicine. Dr. Byrd randomized 393 patients in a coronary care unit to either a group receiving intercessory prayer (that is, a group being prayed-for) or a control group. In this study, none of the patients, physicians or nurses knew who was receiving prayer. The patients were prayed-for by volunteers who never entered the hospital. The results were highly significant. Those patients receiving prayer required less ventilatory sup-

port, fewer endotracheal intubations and fewer diuretics and antibiotics. Prayed-for patients also suffered from less pulmonary edema and required CPR less often than the control subjects.⁷

One individual rapidly becoming a household name is Dean Ornish, M.D. Dr. Ornish has written a number of books on health, diet, stress and the spirit, including *Love and Survival: The Scientific Basis for the Healing Power of Intimacy* and *Eat More, Weigh Less*. However, he is most recognized for his highly publicized program for reversing heart disease. Dr. Ornish conducted a study with cardiovascular patients utilizing a regimen consisting of diet, light exercise, love and stress management through such techniques as stretching, controlled breathing, meditation and prayer. The program has been studied a number of times, including a study by the National Institutes of Health. It proved so successful that some insurance companies began to cover Dr. Ornish’s program as an alternative to future bypass surgery. His program remains the only one known to reverse vascular damage without the use of drugs or surgery.^{8,9,10} Dr. Ornish recently published the results of a five-year follow-up study conducted on a number of patients adhering to his program. Ornish found that even more regression of coronary atherosclerosis occurred after five years on the program than after only one year.¹¹

Additional studies involving spirituality have produced significant data. One study found that religious devotion appears to act as a buffer in stressful times and that individuals who actively partake in the activities of their religion are less likely to have depressive symptoms.¹² Another experiment examined the alleged ability of humans to transmit “positive energy fields” (positive intentionality) across long distances.¹³ More medical research is certainly needed in this field to further understand the healing power of spirituality and to perhaps touch upon the mechanism by which it improves health. However, enough has been offered to date to support the inclusion of spiritual issues in the patient’s health care plan.

How does acknowledgment of the importance of spirituality in patient care affect the physician or physician-in-training? For one thing, it would seem to demand integration of the issue into medical school curricula. In 1993, only three medical schools in the United States offered courses on religious and spiritual issues; there are now close to 30. A number of medical schools have received grants to sponsor courses informing future physicians of the role of religion and spirituality in the lives of patients.¹⁴ Although the contemplation of spiritual and religious issues has been increasingly integrated into the curriculum of various medical schools, more needs to be done to ensure that all medical schools present their students with this important aspect of the healing process.

Secondly, physicians must be trained to compe-

tently and comfortably take a patient's "spiritual history." Recent surveys reveal that nearly 80 percent of Americans believe in the power of God or prayer to improve the course of illness. Additionally, nearly 70 percent of physicians report inquiries for religious counseling for terminal illness; yet, only 10 percent of physicians ever inquire about a patient's spiritual beliefs or practices.¹⁴ Through proper training, physicians will be able to calm their discomfort on approaching a patient with such questions and may unveil a desire by the patient for the physician to acknowledge particular religious concerns. Shimon Waldfogel, M.D., Ph.D., from the Department of Psychiatry and Human Behavior at Jefferson Medical College presents the following questions which may be of use to the physician engaged in a spiritual assessment:

- Tell me of your belief in God or a higher power.
- How important is your religious and spiritual identification?
- Tell me about your religious and spiritual practices, such as prayer or meditation.
- Do you belong to a religious or spiritual community?
- What aspects of your religion or spirituality would you like me to be aware of as your physician?¹⁵

Spirituality, as an important determinant in the healing process, has begun to return to medical practice, though time will tell if the movement will escalate to mainstream status or wither away as it did three centuries ago. Emphasizing technology and research, biomedicine has allowed people to live prosperous lives and will no doubt produce great cures in the future. Despite the benefits of objective medicine, one can easily fathom the distance created between the patient and physician which is typified by the tendency of modern physicians to ignore patients' spiritual needs. Spirituality is an important aspect of many people's lives. As studies have suggested, it might be very helpful for a physician to recognize and facilitate spiritual expression in the course of treatment. To what extent the physician should participate in the spiritual life of his or her patients has yet to be determined; it seems unlikely that each physician could be capable of meeting the spiritual needs of every patient. In such cases, appropriate referral to a "spiritual professional" would certainly be the most appropriate course of action.

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Ayurvedic Medicine

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Ayurveda is a combination of two words from Sanskrit that is literally translated as "science of life or living." Ayurvedic medicine is an ancient Hindu system of healing and health promotion. Its roots exist in the *Rig Veda*—a collection of 1,017 hymns dating from the second millennium B.C. and the *Atharva Veda* (1400 B.C.).¹ "The Ayurvedic worldview is based on Hindu conceptions of humanity in relation to the universe."^{2:75} Body, mind and spirit are inextricably linked in the Ayurvedic approach to health and healing.

Ayurveda explains physiology in terms of five theoretical constructs: *Pancamahabhutas* (eternal substances), *Trisodas* (Humors), *Sapta Dhatus* (basic tissues), *Agnis* and *Malas* (excretions). *Pancamahabhutas* "are the 'generic essences' of physical energy represented by sound, touch, color, taste and smell."^{1:18} They combine to produce the five elementary principles of Earth, Water, Fire, Air and Ether. These enter the body through food and are reconstituted in the individual's physiology. In the body, the five elements take the form of three humors (the *Trisodas*). These are wind (*vata*), bile (*pitta*) and phlegm (*kapha*). The three humors form the three types of psychophysiological constitutions (described below), the mixture of which in a particular person is determined at the moment of conception. Health is maintained if these humors are in balance; loss of this balance leads to disease. Healing in the Ayurvedic tradition is based on a restoration of balance among the humors.

The *Sapta Dhatus* are the seven basic tissues which form the body. These are defined as plasma, blood, flesh, fat, bone, marrow and semen. In keeping each of these tissues healthy, it is necessary to balance the three humors, which are believed to exert direct control over each tissue. Again, an imbalance among humors is the root cause of disease in the Ayurvedic tradition.

The *Agnis* are the 13 digestive enzymes. They function in the stomach, liver and seven basic tissues of the body. If their functions are impeded, unprocessed food decomposes in the GI tract, creating *ama* which blocks the digestive tract, is chemically transformed into toxins, and thus injures internal organs. Additionally, there are three basic secretions or *Malas*. These are urine, feces and perspiration. They are waste products but also serve functions in support of the body.

THE DOSHAS. The Doshas are the three psychophysiological governing factors. They are composed of related anatomical structures and physiological processes; it is the balance among them which maintains health. Almost all individuals have one or two doshas that predomi-

nate—a blueprint with specific amounts of the three doshas is determined at conception—leading to a certain body type and expression of the personality characteristics of that dosha. The three doshas are *Vata*, *Pitta* and *Kapha*.³

VATA. Vata (wind) includes the nervous and endocrine systems. Vata is responsible for communication both within and without the individual. Vata also controls movement within body and mind—thus, Vata controls circulation, breathing, digestion and musculoskeletal movements. Vata is further responsible for the mental functions of imagination, sensitivity, spontaneity and resilience, and the emotions of exhilaration, fear, insecurity and doubt. It is related to the element of air. It is the predominant dosha; it coordinates Pitta and Kapha and governs all physical processes.

The predominantly Vata body is lean; they have cold, dry skin. A Vata person will move quickly and have an active imagination. They will learn quickly. These are the people who seem to always be moving and who cannot gain weight no matter what they eat. According to practitioners, various doshas change with age, season, diet, time of day, amount of exercise, amount of rest and emotions. Vata is increased by old age, fall and early winter, evening; dry, frozen or fried foods; excess exercise, lack of rest and emotions of fear and insecurity.

PITTA. Pitta (bile) includes gastric and cellular enzymes and hormones. Pitta structures and functions are responsible for all the digestion, absorption, assimilation, heat regulation, sweating and metabolism going on in the body and mind.^{13:13} Pitta also controls complexion and vision, the mental capacities of intelligence, confidence and organization, and the emotions of joy, excitement, courage, anger and jealousy. It is related to the elements of fire and water.

The predominantly Pitta body has warm, soft skin; it may have flushed skin and light hair. Pitta people are sharp and outspoken, articulate and precise. They have voracious appetites but do not gain weight very easily. Pitta is increased by the external elements of youth and middle age, mid-day and summer. It is also increased by foods that are pungent, hot and spicy, and the emotions of anger and hatred.

KAPHA. Kapha (phlegm) is responsible for growth, stability, lubrication and storage. Its bodily component is the musculoskeletal system, including joints. Kapha controls processes of growth and wound healing, the

mental processes of memory, faith and forgiveness, and the emotions of love, serenity, patience, sympathy, greed and lethargy.

The predominantly Kapha body type gains weight easily. They have a large frame with wide hips and shoulders. They have thick, cool skin, which can be pale and sometimes oily. They move slowly but gracefully and seem imbued with a sense of calm. They are affectionate and do not express opinions strongly. Kapha is increased during childhood up to puberty, in the late winter and spring, and during the morning hours. It is also increased by sweets and dairy products, by excessive rest, and by emotions such as greed.

Diseases are described based on their origin: external, internal, mental or natural. They are further classified as curable, relievable, or incurable. Disease is caused by humoral derangements which are in turn caused by internal, external or supernatural factors. "Balance of physical, sensory and mental dispositions [is] vital.... There is hardly a state of disequilibrium of the humor in which the authors of Ayurvedic texts do not implicate jealousy, excessive desire, laziness, and so on. By the same token, outside influences like dietetic input may alter psychological states."^{2:73}

Imbalances of the various doshas have various physical and psychological symptoms. For instance, Vata increase is manifested through weight loss, decreased energy, pain, muscle spasms, back and joint pain, dry or chapped skin and lips, constipation or irritable bowel, hypertension, cold intolerance and menstrual cramps. It is manifested psychologically by an overactive mind, inability to relax or concentrate, anxiety, restlessness, depression, insomnia and anorexia. Pitta increase is manifested in increased hunger/thirst, heartburn or ulcers, heat intolerance or hot flashes, rashes or other skin conditions, body and breath odors. Emotionally, it manifests with hostility, irritability, anger, impatience and aggression in word and deed. Kapha increase is manifested by mucus production (chest/throat/nasal/sinus congestion), frequent colds, allergies, intolerance to cold and damp, obesity and hypercholesterolemia, edema, cysts, and diabetes. Psychologically, increased Kapha manifests as lethargy, dullness, depression, oversleep and drowsiness, procrastination, greed and overattachment.^{3:23-24}

"Diagnosis is based on etiology, prodromal symptoms, manifestations of the disease, pathogenesis and response to treatment. A physician is advised to take into account the reliability of the patient as a historian and not be too quick to conclude from gross observation. A patient is to be examined in terms of his constitution, the quality of bodily substances (Dhatus), physical stature, psychological disposition, appetite, stamina and age. Most diagnostic categories presented by the authors of Ayurveda are based on symptoms, for example, fever, swelling, fainting, paralysis and delirium. The classification is further elaborated in terms of

anatomy, meaning the involvement of different body parts and the three humors."^{2:82}

Treatment in Ayurvedic medicine aims to correct humoral imbalances by treating the body, mind and spirit of the patient. Treatment has four components: cleansing, neutralization of deranged humors, proper diet and adherence to a treatment regimen that includes conduct, diet and personal hygienic practices. "Purgation, emesis, unction [application of fats], sudation [effusion], bloodletting and enemas are the principal procedures, preparing the patient for the administration of beneficial medications. The idea appears to be that first a patient needs to have poisons removed, channels opened up, passages oiled and body parts loosened.

Once the body is thus taken apart, it is ready for the substances and techniques that put it back together. Ayurvedic pharmacopeia is extensive, including fruits, bark, leaves, roots and animal products. There is no prohibition against meat-eating. The flesh of birds, fish and domestic and wild animals may be prescribed.... The basic principle governing treatment is to prescribe something that fills a deficiency in the patient (for example, meat for a patient who is wasting) and that is contrary to the cause of aggravation (for example, unction for dryness)."^{2:82}

Dietary prescription in Ayurveda is based on the concept that different foods and tastes can either increase or decrease the levels of the doshas. The six tastes are defined as sweet, sour, salty, bitter, pungent and astringent. In general, sweet tastes increase Kapha while decreasing Vata and Pitta. Sour and salty tastes increase Pitta and Kapha while decreasing Vata. Bitter and astringent tastes increase Vata while decreasing Kapha and Pitta. Pungent tastes increase Vata and Pitta while decreasing Kapha.

"Vata predominant constitutions should select a diet which is calming, strengthening, grounding, and nourishing. Their food should be warm, moist, and heavy. They should choose sweet, sour and salty tastes. Pungent, bitter and astringent tastes should be avoided. Meals should be small and frequent but regular. Food should be taken warm, steamed or cooked. They should avoid fast food, instant food and junk food. Before eating, the Vata person should make sure that she is not nervous, anxious, afraid or worried. She should concentrate on eating and avoid watching television, conversation, laughing or reading during meals."^{3:31}

"Pitta-predominant constitutions should choose a diet which is cooling, slightly heavy and a little dry. They should select sweet, bitter and astringent tastes and avoid sour, salty and pungent tastes since these increase Pitta. Foods which are cool, raw, very lightly spiced and cooked with little oil are balancing for Pitta. They should avoid foods which are fried and overcooked. Before eating, Pitta constitutions should make sure that they are not angry, irritable or upset. Three regular

meals are usually sufficient. Pittas should avoid eating late at night.”^{3:34}

“Kapha predominant constitutions should choose a diet that is warming, light and dry. They should avoid food that is cold, heavy and oily. Recommended tastes are pungent, bitter and astringent, and they should avoid sweet, salty and sour tastes. Kapha constitutions benefit by taking more spices and herbs. Kapha individuals need to eat less in quantity and with less frequency. They should not have more than three meals a day with the main meal at noon. The other two meals should be light. It is better for a Kapha body type not to eat in the evening, especially heavy items. Fasting seasonally or one day a week is helpful in keeping the Kapha under control. Avoiding breakfast is another healthy idea for them. Sleeping after eating should be avoided.”^{3:37}

“Along with diet, various methods of personal hygiene are deemed essential for the maintenance of positive health. *Collyrium* [eye wash] applications are recommended for the care of the eyes; fragrant cigars are to be smoked ‘for the elimination of *doshas* from the head’; oral hygiene, including tooth-brushing, tongue-scraping, gargles, chewing of fruits, fresh leaves, flower stalks and cinnamon extracts, is necessary to ‘strengthen the jaws, gums, and give depth of voice’; oiling of the head, nostrils, ears, skin, and full body massage will slacken ‘the onslaught of aging’; bathing is important to cleanse, remove fatigue, stimulate the libido, and to enhance *ojas* [immunity]; wearing clean apparel adds to bodily charm, pleasure and grace; using scents and garlands to stimulate the libido, produce charm with aroma, enhance longevity, and prevent inauspiciousness; wearing of gems and ornaments signifies prosperity, auspiciousness, longevity, grace, and prevents dangers from snakes and evil spirits; caring for hair and nails augment libido, longevity, cleanliness and beauty; wearing footwear, carrying an umbrella and using a walking stick offer protection against the elements, reptiles and enemies.”^{1:28-29}

Additionally, good hygiene includes neither suppressing nor provoking natural body urges such as elimination, sneezing and sleep. Hygiene also includes the substitution of positive emotions for negative ones, “because feelings of fear, anger and greed produce toxins that aggravate the bodily humors and weaken the internal organs.

As a holistic system, Ayurvedic medicine does not easily lend itself to the double-blind, placebo-controlled trials that are the gold standard of Western scientific verification. Most current research into the effectiveness of Ayurvedic medicine is focused on specific herbal remedies treating specific conditions. This approach, unfortunately, is limited from the Ayurvedic perspective in that the treatment effectiveness cannot be considered without preparing and supporting the body with the appropriate dietary and hygienic practices.

Nevertheless, several studies are under way in the U.S., Europe and India to examine the efficacy of Ayurvedic treatments in a variety of conditions. In the meantime, Ayurvedic physicians continue to treat patients both here and abroad using these ancient principles and practices.

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Therapeutic Touch

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Patients expect their healers to perform a physical exam, no matter how cursory. The power of touch is reflected in the feelings of reassurance, calmness and intimacy between the healer and patient. As a remedy itself, healing by the “laying on” of hands has an ancient history. The earliest recorded evidence of energetic healing was written 2,500–5,000 years ago. Hippocrates described a *biofield* (a biological energy) that was a force flowing from people’s hands. Later, Pythagoras claimed the existence of a luminous *vital energy* capable of producing cures. Egyptians believed in energy centers within the human body and the extension of energy, which they termed *ka*, beyond the physical world.¹ This biofield has been given many other names in various cultures ranging from the Native Americans and Polynesians to peoples of the Far East. In Christian religious tradition, the New Testament makes up to 41 references to Christ’s ability to heal. St. Patrick of Ireland healed the blind and St. Bernard of France healed the blind, deaf, mute and lame. At one time, royalty in France and England reportedly had healing powers, curing goiter and throat conditions.¹

Ancient Indian cultures believed that a universal energy—*prana*—flowed in humans in relation to the spine and head and activated the life force moving through all living forms. Specific breathing techniques, meditation and yoga enhanced this life force. The Chinese named a similar life-force *chi* (sometimes spelled *qi*). To them, a healthy person was in a state of balance with the universal *chi*.¹ Additionally, each human body had its own energy field that was a localization of the universal energy.² The human energy field had various hierarchical layers, many texts describing up to seven or more. Four levels are presented below; each is said to penetrate through the body and extend outward from the body. Successive levels have a “higher frequency” or “higher octave.” The levels with higher frequency extend farther into the universe than those of lower frequency.³ The following layers are described from the lowest to highest:

- 1) Vital (*etheric field*)—most closely associated with the physical body and interfaces with the emotional dimension. This layer is most associated with energy-balancing healing work.
- 2) Emotional—holds the individual’s affective, feeling energy.
- 3) Mental—embodies thinking patterns and visual imagery.
- 4) Intuitive (*astral body*)—spiritual dimension of the individual.

In Ayurvedic medicine practiced in India, one central concept of healing is through the activation of *chakras* which can be thought of as human energy vortices. They are receptors for the inflow of energy from the universal energy field and appear to aid the communication between the various energy layers of the body and ensure that energy is flowing

to all parts of the human system. Seven major chakras are identified that work with the universal energy to affect physiologic functions, as well as the psychological, mental and spiritual dimensions of human life.¹ The seven chakras are named below with a very brief description of their influences.

ROOT CHAKRA is located at the base of the spine. Associated with kinesthetic, proprioceptive and tactile senses. Supplies the body with vital life energy and supplies energy to the spinal column, the adrenal glands and the kidneys.

SACRAL CHAKRA is located just below the umbilicus. Related to sensuality and sexuality and supplies the sex organs and immune systems with energy.

SOLAR PLEXUS CHAKRA is located near the solar plexus at the base of the sternum. Supplies energy to the stomach, liver, gall bladder, pancreas, spleen and nervous system. Associated with our intuition, identity and connection to the universe and others.

HEART CHAKRA is located in the center of the chest. Brings energy to our heart, circulatory system, thymus, vagus nerve and upper back. Through this chakra we sense love and strive to live a healthy balance between love and will.

THROAT CHAKRA is located in the middle of the neck. Associated with the senses of hearing, tasting and smelling. Supplies energy to the thyroid, the bronchi, lungs and alimentary canal.

BROW CHAKRA is located in the middle of the forehead. Supplies energy to the pituitary, lower brain, left eye, ears, nose and nervous system. Associated with sight, conceptual understanding and the process of carrying out ideas.

CROWN CHAKRA is located above the middle of the head where the fontanel closes. Supplies energy to our upper brain and right eye. Related to the integration of personality with spirituality. Supplies energy to the pineal gland. This is the highest energy vortex in relation to the physical body; it works with all the chakras.^{1,3}

It is interesting to note that the caduceus, the symbol of the Western medical profession, has its origin from the chakra descriptions. The points of contact of the two intertwining snakes on the rod, which symbolizes the spinal cord, are the loci of the first five chakras in contact with the vital energy level. The wings above the snakes’ heads represent the energy spirals of the sixth chakra. Finally, the upward spiral of the snakes signifies the direction of the flow of energy that connects the universal and the bodily energy fields.²

Blockages of these chakras result in depletion of energy in the physical, emotional or mental dimensions associated with each. For example, a blockage of the root chakra can result in dysfunction in the physical energy layer, causing fatigue or ailments of the lower back, hips, legs and perineum. A blockage may affect the emotional layer resulting in apa-

thy or fear. If the patient is exhibiting poor concentration, confusion, passivity or lack of motivation, the mental layer may be affected.¹

A healer assesses the energy fields as they relate to a patient's illness. Some dysfunctions can be detected before the presence of physical manifestations. It should be noted that all layers are affected by blockage at a particular chakra. Disruption in the energy field may be sensed as a difference in temperature or a tingling sensation. While assessing and releasing a blockage, an Ayurvedic healer does not drain his or her own energy resources. The healer is a conduit for the universal energy, aiding in the movement of higher energy to a person suffering from depletion.¹

THERAPEUTIC TOUCH

Therapeutic Touch (TT) is probably the most recognized clinical approach to energy healing used in hospitals and nursing facilities in the United States today. Developed in the 1970s by Dora Kunz, an energy healer and clairvoyant, and Delores Krieger, Ph.D., R.N., a professor of nursing at New York University, TT methodology was influenced by yoga, Ayurvedic and Chinese healing philosophies. TT is founded on three fundamental beliefs:

- 1) *Universal healing energy is available to all.*
- 2) *Our interconnectedness enables us to help one another.*
- 3) *What we think and feel can affect our physical health.*^{4:25}

Additionally, two principles guide the TT process, compassion and intentionality. A practitioner's compassion emphasizes the desire to help, but without any expectations for a certain outcome. The intention of the healer is to consciously direct the healing properties of the universal energy to the patient's energy deficit.⁵

TT is used to promote the acceleration of the healing process by transferring energy through the practitioner, boosting the patient's intrinsic healing system. The energized body is then capable of recuperation to its naturally healthy state. Conceptually, healing is not the objective of TT, but rather the supplementation the life energy needed for a body to heal itself.² As a meditative process, TT has five phases:

- 1) Centering the consciousness—finding an inner reference of stability. Energetically, the healer becomes in tune with the universal energy flow.
- 2) Assessment—sensing of the energy flow and differences in the balance of this flow within the patient's body.
- 3) Balancing the Energy Field—"unruffling" the field helps to remove the patient's energy block and restore the energy to flow freely and regain its rhythm. That is accomplished by movement of the healer's hands down and away from the body in a sweeping motion.
- 4) Directing Energy—transmission of energy to help the patient "repattern" his or her own energies for healing. This is when the healer's hands will actually touch the body in a specific area, held in

place for three to five minutes, until a change (fullness or warmth) is perceived by the practitioner.

- 5) Closure—ending treatment. This step occurs when there are no longer any perceived defects in the energy field and a sense of balance is felt.^{1,2}

Despite the name, *Therapeutic Touch* does not involve a great deal of touching. More often, the practitioner's hands are held palm down, hovering two to six inches above the patient's body. A sweeping motion is used to move the healer's hands from the patient's head to toe as the healer steps through the phases of treatment. Usually a session lasts for 20 to 30 minutes.⁶ The Nurse Healers-Professional Associates, Inc.—the organization that supports TT practitioners—recommends that Therapeutic Touch can be practiced by anyone who has successfully completed a beginner's TT workshop, but within professional practice guidelines. They also suggest that TT be used on any patient who might be able to benefit from it.¹

The purported effects of TT are wide ranging. Dr. Krieger's experience has found that relaxation, feelings of well-being, relief of pain and the acceleration of the body's healing process are the most common and reliable effects. Symptomatic relief has been achieved in conditions related to circulation (edema), the musculoskeletal system (arthritis), some thyroid diseases, and the pain of labor and delivery.⁴ While patients with genetic disease or a congenital disorder may show some symptomatic improvement, the underlying disease is unaffected. Cancer and HIV patients may also experience relief of symptoms, such as cessation of pain, but not a remission of the disease.⁴

Many studies have been done to try and explain the effect of TT scientifically. The *Nurse Healers-Professional Associates Cooperative 1995 Therapeutic Touch Bibliography* includes over 200 citations of books, journal articles and dissertation/thesis abstracts.⁵ A review done at the Medical University of South Carolina examined the quantitative research conducted on TT from 1985 to 1995. The study found evidence to support the practice of TT to reduce levels of pain or anxiety. However, additional claims made by practitioners have not been supported and some of the more declarative findings have yet to be validated by independent review.⁷ Currently, there seems to be no strong evidence to support the use of Therapeutic Touch for anything other than symptomatic pain relief.

"A Close Look at Therapeutic Touch," appearing in the *Journal of the American Medical Association* (1998; 279:13), concluded that the claims of TT are unfounded, and its use is not justified in a professional setting, despite studying the therapy outside of normal practice parameters.⁸ The intent of the experiment was to investigate the claim that a healer could sense the Human Energy Field (HEF). Twenty-one TT practitioners of varying years of experience were tested. The author hovered her hand over one or the other of the practitioner's hands. The subject was asked to identify which hand was being covered, presumably by sensing the author's HEF. The practitioners identified the correct hand only 44

percent of the time. In a strongly written conclusion, the authors stated that, based on statistical and logical grounds, the TT practitioners had no ability to detect the HEF. However, several points should be considered in reviewing this article.

The methodology of the experiment may be called into question regarding the consistency of the distance between the experimenter's and subjects' hands. The authors also did not acknowledge the findings of 28 prior quantitative studies completed on TT, though they discounted 46 others for lack of adequate data. As it was designed, the experiment did not account for the appropriate conditions during which HEF could be detected by those expressing proper intention. Previous studies produced findings that untrained college students could detect another person's energy field. More recently, researchers also concluded that college students could sense another's intention to interact with them.^{9,10,11}

A pilot study by Olson and others evaluated the effectiveness of TT in reducing the adverse immunological effects of stress on a sample of medical and nursing students taking professional board exams.¹² Three hypotheses were tested:

- 1) Highly anxious students who undergo TT will have less decrement in levels of IgG, IgA, and IgM than those students that do not.
- 2) Students that undergo TT will also have greater T lymphocyte response to mitogens than students who do not.
- 3) Students who were highly anxious before their board exams and undergo TT will have a greater response to the *Haemophilus influenzae* vaccine than those who do not have TT. This vaccine was used to evaluate the ability of the subject to mount a general immune response.

The authors used the *Spielberg State-Trait Anxiety Inventory* to determine level of stress. The study results showed a significant difference for IgM and IgA levels, but not for the subclasses of IgG, for those exposed to Therapeutic Touch. T lymphocytes were analyzed for CD25 positivity (IL-2 receptor expression), DNA content and apoptosis. The CD25 and DNA scores changed in the expected direction, but not in significant degrees. However, T lymphocytes of the TT group showed a significantly lower rate of cell death. No differences were found in the titers of antibodies to the *H influenzae* vaccine. One possible explanation for the latter finding was that the degree of stress might not have been sufficient to cause immunosuppression. The authors cautioned that due to small sample size, the results should be interpreted carefully. Many reasons could explain the change of immunoglobulin levels; for example, the nutritional status of the subjects. Better control of this variable may yield more conclusive results. Another problem cited by the authors was the presence of a caring person, a variable that was not controlled. The authors conclude that no causal relationship between TT and immunologic changes was demonstrated.

The effect of non-contact TT on surgical wound heal-

ing was examined in one random, double-blind study. The author hypothesized that subjects treated by TT would have a faster rate of wound healing than subjects who did not receive treatment. Forty-four subjects were administered full-thickness wounds with a skin biopsy instrument by a doctor who was not aware of the objective of the experiment. The wounds were dressed with gas-permeable dressings. The subjects in the TT group were not aware of receiving TT treatment; the practitioner was kept behind a door and only the subjects' arms were placed through an opening. The wounds were subjected to a five-minute treatment session with the first treatment beginning one-half hour after the wounds had been made and then daily treatments thereafter. Measurements were taken on days 0, 8 and 16 of the experiment for both the TT and non-TT groups. Results showed a significant acceleration in the rate of wound healing for the TT group on day eight. Thirteen out of 23 TT subjects were completely healed on day 16 as compared to none of the 21 control subjects. On average, the treated group had significantly smaller wound sizes than the untreated groups. The author of the study confidently accounts for any influences on the wound healing due to the placebo effect by the design of the research study. The study concludes that TT can be an effective healing modality on full-thickness human dermal wounds.¹³

The scope of the studies of TT are wide-ranging, from trying to explain a possible physical basis for the healing touch¹⁴ and measuring the variable energizing effects of TT¹⁵ to how TT affects various patient populations. Most studies to date are pilot studies that need further replication with larger samples. Future research should include the following:

- 1) validation of the energy exchange process;
- 2) determination of protocols for administration of TT and definition of conditions amenable to TT;
- 3) controls for placebo effect;
- 4) variations in the technique of TT, practitioners' experience, length of treatment (five minutes in some studies versus the usual 20- to 30-minute sessions performed in practice);
- 5) consistency of methodology; and
- 6) validation of pain relief and accelerated healing effects of TT.^{5:60}

THERAPEUTIC TOUCH RESOURCES

Practitioners, teachers, and workshops

Nurse Healers Professional Associates, Inc.
P.O. Box 444
Allison Park, PA 15101
(412) 355-8476

Invitational workshops for health professionals

Orcas Island Foundation
Route 1 Box 86
Eastsound, WA 98245
(360) 376-4526

Pumpkin Hollow Farm
Route 1 Box 135
Craryville, NY 12521
(518) 325-3583

Books

Therapeutic Touch: How to Use Your Hands to Help or Heal, Dolores Krieger, PhD, RN

A Doctor's Guide to Therapeutic Touch, Susan Wager, M.D.

Healing Touch: A Resource for Health Care Professionals, Dorothea Hover-Kramer, EdD,
RN

Websites

Training

<http://www.metroplexweb.com/centerofhealing/>

Organizations

<http://www.healingtouch.net/>
Touch Research Institute: University of
Miami School of Medicine—Most studies
done to date are on the benefits of massage
<http://www.miami.edu/touch-research/>
Opinions and views on Healing Touch and
Therapeutic Touch

<http://www.parascope.com/articles/1196/touch1.htm/>

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