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Complementary and Alternative Medicine in Psychiatry The science and art of “healing” as well as the concept of “illness” have always been significantly influenced by the cultural context in which they developed. What most Western medical practitioners conceive of as “health care” is actually quite in its infancy compared with many practices aimed at curing or ameliorating illness that developed across the world for many centuries past. Major advances in biomedical research and in the scientific method in general over the past century have brought that discovery of revolutionary medical interventions that have saved countless lives, most notably through the treatment of infectious illnesses. Yet, many practitioners and patients alike sense that the biological and reductionist concepts of illness and its treatment that have come to guide much of Western medical care often minimize the role of psychosocial factors in health and wellness. Psychiatry itself, supposed champion among medical fields in addressing psychosocial etiologies of illness, has also become increasingly biological in its focus. Although this approach has undoubtedly benefited persons with mental illness and has increased public awareness that the brain is no less a physical organ than the heart or kidney (susceptible to maladies at times through no fault of the person suffering mental illness), some mental health practitioners worry that the “listening care” in psychiatry will become increasingly marginalized. After all, addressing psychosocial aspects of health is almost always more time-consuming than biological interventions and thus, in a short-sighted vision of health outcomes, often seems inefficient and expensive. The term complementary and alternative medicine (CAM) refers to the various disease-treating or disease-preventing practices whose methods and efficacies differ from traditional or conventional biomedical treatment. Other terms used to describe these therapeutic approaches are integrative medicine and holistic medicine. This is not a new concept in psychiatry. The idea of emphasizing the whole

patient and the need to evaluate psychosocial, environmental, and lifestyle factors in health and disease is subsumed under the heading of psychosomatic or mind-body medicine. Traditional medicine, as practiced in the United States and elsewhere in the Western world, is based on the scientific method—the use of experiments to validate a hypothesis or determine the probability of a theory being correct. Traditional medicine presumes that the body is a biological and physiological system and that disorders have a cause that can be treated with medications, surgery, and complex technological methods to produce a cure. Traditional medicine is thus also referred to as biomedicine or technomedicine. Traditional medicine is also known as allopathic medicine. The term allopathy, derived from the Greek word *allos* (“other”), refers to the use of outside agents or medications to counteract the signs and symptoms of disease; for example, antipyretics to treat fever. Allopathy is the type of medicine taught in medical schools in the United States. Samuel

Hahnemann (1755–1843), a German physician, coined the term to distinguish this form of medicine from homeopathy (derived from the Greek word *homos* [“same”]), in which specially formulated medicinal remedies, different from allopathic medicine, are used. Allopathy is the most prevalent form of medicine practiced in the Western world. (Homeopathy is discussed more fully later in this chapter.)

NATIONAL CENTER FOR COMPLEMENTARY MEDICINE AND ALTERNATIVE MEDICINE The widespread adoption of CAM practices led the US government to establish the National Center for Complementary Medicine and Alternative Medicine (NCCAM) within the National Institutes of Health (NIH). NCCAM’s mission is to evaluate the usefulness and safety of a broad range of unrelated, nonorthodox healing practices and provide scientific explanations for their possible effectiveness, train CAM researchers, and disseminate information to the public. NCCAM has proposed changing its name to the National Center for Research on Complementary and Integrative Health Care (NCRCI). An NCCAM study in 2011 revealed that close to 40 percent of Americans used some form of CAM within a 12-month period. When prayer was included, the percentage rose to more than 60 percent. Prayer for one’s own health was most prominent, followed by prayer by others for one’s own health, natural products, deep-breathing exercises, group prayer, meditation, chiropractic care, yoga, massage, and diet-based therapies. Echinacea, ginseng, Ginkgo biloba, garlic supplements, glucosamine, and St. John’s wort were among the most common natural products used. Back, head, and neck pain were the most common conditions treated. The CAM practices were most likely to be embraced by those with more education, women, former smokers, and those who had been recently hospitalized. Most users of CAM practices believed the greatest benefits were achieved in combination with conventional treatment. NCCAM conducts clinical trials at the NIH and academic research institutions to investigate the benefits of various CAM practices on a spectrum of diseases and disorders, ranging from psychiatric conditions to cancer, osteoporosis, and multiple sclerosis, among others. Some completed studies have validated the following: acupuncture is beneficial to treat functional impairment and osteoarthritic pain of the knee; no prophylactic benefit was found for low-dose Echinacea augustifolia in the prevention of cold symptoms; combined glucosamine and chondroitin sulfate supplements do not provide significant relief for osteoarthritic pain in most cases, but does benefit a smaller subset with more severe pain; and St. John’s wort (*Hypericum perforatum*) is no more effective for treating major depression of moderate severity than placebo. St. John’s wort is being further investigated as a treatment for posttraumatic stress disorder (PTSD), anxiety, and minor depression (see “Herbal Medicine” below). The NCCAM has compiled a classification of alternative medical practices designed to support research (Table 24-1). Including a practice in the classification does not imply

an endorsement of the method. Indeed, many complementary and alternative health practices are based on no known scientific principles and are considered quackery. Table 24-1 Complementary and Alternative Medicine Practices

Many systems of treatment discussed in this chapter are centuries old, and it would be presumptuous for traditional biomedical practitioners to dismiss them lightly as worthless. Nevertheless, without rigorous scientific evidence to the contrary, physicians must approach many of these treatments with skepticism. The influence of the mind on the body and the effect of psychological factors in health and disease are well known to physicians, especially to psychiatrists. Suggestion is a potent remedy, and the well-established placebo effect, in which an inert substance is effective in curing a disorder, serves to confirm the importance of mind-body interaction in health and disease. Currently, more than half of the medical schools in the United States offer some form of complementary and alternative medicine education. Several have developed centers for alternative medicine research, with professors of mind-body or integrative medicine drawn largely from the ranks of such traditional specialties as internal medicine and psychiatry. This trend is likely to continue, with the goal of determining which of the many existing alternative medical systems have scientific merit. Only when and if they can withstand rigorous clinical trials can these techniques be integrated into traditional medicine. Listed below in alphabetical order are some of the most visible complementary and alternative health practices that have been used in the treatment of (broadly defined) psychiatric conditions. The discussion of therapies should not be considered definitive; new therapies continue to emerge. The number of alternative healing practices available in the United States is unknown and probably soars into the hundreds and their practitioners into the tens of thousands, and there are no national standards set to credential such practitioners. **ACUPRESSURE AND ACUPUNCTURE** Acupressure and acupuncture are Chinese healing techniques that are mentioned in ancient medical texts dating back to 5000 B.C. and continue to be an important medical

intervention in the East. A basic tenet of Chinese medicine is the belief that vital energy (qi or chi) flows along specific pathways (meridians) that have about 350 major points (acupoints) whose manipulation corrects imbalances by stimulating or removing blockages to energy flow. Another fundamental concept is the idea of two opposing energy fields (yin and yang) that must be in balance for health to be sustained. In acupressure, the acupoints are manipulated by the fingers; in acupuncture, sterilized silver or gold needles (some the diameter of a human hair) are inserted into the skin to varying depths (0.5 mm to 1.5 cm) and are rotated or left in place for varying periods to correct any imbalance of qi. In the West, acupressure and acupuncture are explained on the basis of nerve stimulation that releases endogenous neurotransmitters, endorphins, and enkephalins to help cure illness. The benefits of acupuncture have been validated in a variety of conditions, most notably pain management, postoperative nausea and vomiting, osteoarthritis of the knee, fibromyalgia, and headaches. Other conditions treated with these techniques are asthma, dysmenorrhea, cervical pain, insomnia, anxiety, depression, and substance abuse, including smoking cessation (see the description of moxibustion below). Most pain management clinics in the United Kingdom use acupuncture treatment. A variation of acupuncture, which uses mild electric current to augment therapeutic effects (electroacupuncture), is most often used for analgesia or during surgery. Acupuncture applied to the ear (auriculocupuncture) is also common. **ALEXANDER TECHNIQUE** The Alexander technique was developed by F. M. Alexander (1869–1955), who was born in Tasmania and eventually became a well-known stage actor. After developing aphonia, he

experimented on himself by changing his body posture and eventually regained his voice. Alexander developed a theory of the proper use of body musculature to help alleviate somatic and mental illnesses. Alexander's approach is an educational process that reduces habitual, unnecessary muscular tension in everyday movements (i.e., unintentionally straining the neck while sitting at a computer) by improving sensory awareness and conscious control of these maladaptive physical habits (Fig. 241). Treatment improves cardiovascular, respiratory, and gastrointestinal functioning as well as mood. A small, devoted group of Alexander practitioners is found in the United States and throughout the world. The Alexander technique holds promise as an approach to pain management; it has been shown to be effective in treating chronic back pain in several recent independent studies (Fig. 24-1).

FIGURE 24-1A. Position of pelvis, back, neck, and head in slumped position. B. Standing in hunched position (left) and well balanced (right). (From Barlow W. *The Alexander Principle*. London: Gollancz; 1973, with permission.)

ANTHROPOSOPHICALLY EXTENDED MEDICINE Anthroposophically extended medicine is a form of healing developed by the Austrian philosopher Rudolf Steiner (1861–1925). The healing process involves the use of conscious understanding, which Steiner called anthroposophy, or the “wisdom of life.” Anthroposophy focuses on mental exercises that enable persons to find a balance between mind and body to ensure health maintenance. Steiner founded a school of thought represented in this country by the Rudolf Steiner School, which teaches children these concepts as they apply to civilization, besides a standard educational curriculum.

AROMATHERAPY Aromatherapy is the therapeutic use of plant oils. Named by the French chemist Maurice René-Maurice Gattefossé in 1928, aromatherapy is one of the fastest growing alternative therapies in the United States and Europe. The essential oils of plants are organic compounds that are benzene derivatives. Aromatic substances were used in ancient civilization as both medicines and perfumes. Today, plant oils are inhaled using atomizers or are absorbed through the skin using massage (aromatherapy massage). Plant oils have many therapeutic effects—analgesic, psychological, antimicrobial—some of which have been demonstrated scientifically. One NCCAM study, for example, found the scent of lavender helped promote sleep. Aromatherapy is used to reduce stress and anxiety and to alleviate gastrointestinal and musculoskeletal disorders. In psychiatry, olfactory stimulation has been used to elicit feeling tones, memories, and emotions during psychotherapy. Aromatherapy can cause skin irritation or allergic reactions in

some people. Table 24-2 lists the essential oils and their effects.

Table 24-2 Common Aromatherapies

Pheromones are chemical substances secreted and smelled by humans, which affect their physiological and behavioral responses, usually related to sex. Women who are exposed to the smell of androstenol, which occurs in male underarm sweat, show increased social exchanges with men, heightened sexual arousal, and improved mood. Androstenol also affects the length and timing of the menstrual cycle as a result of changes in the level and release of gonadotrophic-releasing hormone (GnRH) and luteinizing hormone (LH). Female pheromones, known as copulins, are present in female underarm sweat and in vaginal secretions. Males perceive the odor of copulins as most pleasant during the woman's ovulatory cycle when such odors are most volatile. The synchronization of the menstrual cycle of women living together (a welldocumented phenomenon) is also related to the effect of copulins. Olfactory sexual signaling is being investigated extensively, and whether these studies show therapeutic potential remains to be seen.

AYURVEDA Ayurveda means “knowledge of life.” The technique originated in India about 3000 B.C. and is believed to be one of the oldest and most comprehensive medical systems in the world. Ayurveda is similar to Chinese medicine in its beliefs about energy points on the body and a vital force (prana) that must be in balance to maintain health. Ayurveda practitioners diagnose illness by examining the pulse, the urine, and the heat or coldness of the body. Treatment relies on diet, medicines, purification, enemas, and bloodletting. (See also “Tibetan Medicine” below.)

BATES METHOD The Bates method, designed to treat vision problems, was devised by William H. Bates. It is aimed at naturally strengthening the eye muscles and includes the following basic exercises: splashing closed eyes 20 times with warm water, then 20 times with cold water; alternately focusing on near and distant objects; focusing on an object while gently swaying the body; remembering objects in the mind’s eye to facilitate the actual perception of these objects in reality; and closing the eyes, cupping them with the palms of both hands (without touching the eyes), and focusing on pleasant thoughts. Bates practitioners claim that persons who need glasses to correct refraction errors will not need them if these methods are followed rigorously.

BIOENERGETICS Bioenergetics, based on the belief that dammed-up energy produces maladaptive behavioral patterns, evolved from the work of the Austrian psychoanalyst Wilhelm Reich (1897–1957), who studied with Sigmund Freud. Reich believed that energy fields were propelled by sexual impulses called ergs and that satisfactory orgasms indicated healthy bodily functioning. Modern-day practitioners look for areas of muscular tension in the body that are thought to be associated with repressed memories and emotions. Therapists try to bring these repressions to consciousness through a variety of relaxation techniques, including massage.

CHELATION Chelation therapy is a traditional medical procedure used to treat accidental poisoning with heavy metals, such as lead, arsenic, and mercury. A chelating agent (ethylenediaminetetraacetic acid [EDTA]) is infused into the bloodstream and binds to the metal, which is then excreted from the body. As an alternative medical practice, chelation therapy is used as a form of preventive medicine to remove lead, cadmium, and aluminum from the body. These substances are presumed by some to be associated with premature aging, memory loss, and the symptoms of Alzheimer’s disease. Chelation therapy has also been used to treat atherosclerosis and coronary artery disease. One NCCAM study showed that chelation treatments reduced cardiovascular events such as

heart attacks and death in patients with diabetes; however, chelation therapy is not yet approved by the U.S. Food and Drug Administration (FDA) as a treatment for this condition.

CHIROPRACTIC Chiropractic is concerned with the diagnosis and treatment of disorders of the musculoskeletal system, especially those of the spine. It was developed by a Canadian, Daniel David Palmer (1845–1913) (Fig. 24-2), who moved to the United States in 1895. Palmer believed that disease could be attributed to spinal misalignment, leading to abnormal nerve transmission.

FIGURE 24-2 Daniel David Palmer (1845–1913), the founder of chiropractic. (Reprinted with permission from Shealy CN, ed. *The Complete Family Guide to Alternative Medicine: An Illustrated Encyclopedia of Natural Healing*. New York: Barnes & Noble Books; 1996:39.) Chiropractors diagnose illness by clinical examination and X-ray. Treatment involves manual manipulation of bones, joints, and musculature to restore biomechanical function. Chiropractic is the largest independent alternative health profession in the Western world, with more than 50,000 chiropractors in the United States. They are recognized by government and insurance agencies and treat more than 20 million persons in the United States annually.

COLONIC IRRIGATION Colonic irrigation is a technique known since antiquity that consists of flushing the intestinal colon with large quantities of water, sometimes with minerals or other substances (e.g., coffee) added. It is a method used to eliminate

autointoxication, a concept originating from the Pasteur Institute in France in 1908 that holds that retained fecal matter and undigested food ferment in the bowel producing toxins that cause

disease. Special colon hydrotherapy machines force fluids via the rectum to clean the colon of this matter, thus eliminating such toxins. Colon cleansing using powerful laxatives and enemas is an alternative way of achieving the same result. Anecdotal reports of improved general health as a result of such practices are common; however, there are risks of electrolyte imbalance and intestinal perforation. The practice is poorly regulated, although some states attempt to monitor therapists and equipment.

COLOR THERAPY In color therapy, different colors are thought to affect mood, and this has been used to address specific health problems. For example, blue is believed to be sedating, and red, excitatory. A Swiss psychologist, Max Lüscher, devised a color test in which a subject's mood at a particular time is determined by exposing the subject to various colors. Lüscher also experimented with the effect of color on the autonomic nervous system and found that pure red is sympathomimetic and can cause an increase in blood pressure, heart rate, and respiration. Blue is parasympathomimetic and produces the opposite effects.

DANCE THERAPY Dance therapy was formally recognized in 1942, with the hiring of pioneer dance therapist Marian Chace (1896–1970) at St. Elisabeth's Hospital in Washington, D.C. The terms dance and movement are used synonymously; however, each actually describes a point of view. Movement encompasses the world of physical motion, whereas dance is a specific creative act within that world. The American Dance Therapy Association defines dance therapy as "the psychotherapeutic use of movement which furthers the emotional and physical integration of the individual." Dance therapy sessions have four basic goals: the development of body awareness; the expression of feelings; the fostering of interaction and communication; and the integration of the physical, emotional, and social experiences that result in a sense of increased self-confidence and contentment.

DIET AND NUTRITION Nutritional methods to prevent or cure disease have an important place in modern medicine, and their efficacy has been proved by scientific evidence. The federal government has established recommended daily allowances (RDAs) to meet the nutritional needs of average persons in the United States. Table 24-3 depicts the recommendations for a 40-year-old sedentary man. Whole grain, lean meat, and green vegetable consumption are encouraged, and excess intake of unrefined sugar products is discouraged. Critics have faulted the federal guidelines for being unduly influenced by the meat and dairy industries. Nutritional experts and dieticians have developed alternate recommendations, especially for children, adolescents, diabetics, and pregnant women.

Table 24-3 United States Department of Agriculture Food Guide for a 40-Year-Old Sedentary Male

Many alternative diets exist, and specific vitamin and mineral supplementation programs have been developed to deal with specific diseases or bodily processes. Diets low in fat have been recommended for the treatment of cardiovascular disease and diabetes. The Pritikin diet developed by Nathan Pritikin is extremely low in fat (less than 10 percent of daily calories), high in complex carbohydrates, and high in fiber. The Ornish diet, developed by physician Dean Ornish, is vegetarian: No meat, poultry, or fish is allowed, and only 10 percent of calories are obtained from fat. The low carbohydrate, high protein diet developed by Robert Atkins, M.D. (1930–2003) has proved effective in short-term weight loss, most likely because of increased compliance. Concern exists around the risk of ketoacidosis and the lack of long-term studies on health. This diet has also been used to treat refractory childhood epilepsy. All of these diets include an exercise program, a component proved to increase cardiac performance. Studies have shown that weight loss alone can

reduce cholesterol, decrease blood pressure, and eliminate the need for drugs in newly diagnosed cases of adult-onset diabetes. Diets from other cultures may have certain health benefits. In Asia, diets are low in fat, and there is a low incidence of cardiac disease; diets in Mediterranean countries are high in olive oil, garlic, and grains and are associated with a low incidence of colon cancer and cardiac disease. Food allergies have been implicated in many conditions: arthritis, asthma, hyperactivity, and ulcerative colitis, among others. **DIETARY SUPPLEMENTS** In addition to herbs (discussed below), a variety of dietary supplements are used to promote health. Dietary supplements are products that contain vitamins, minerals, or amino acids. In many cases, the supplement is actually an extract, metabolite, or combination of those. They are intended to supplement a healthy diet; they do not comprise a diet or meal. Nutritional supplements have long been familiar to Americans in the form of multivitamins, but they are now available in a vast array of other

compounds that can be purchased in grocery stores, pharmacies, health food stores, and over the Internet. Annual sales of dietary supplements in the United States exceeds \$20 billion. Of Americans, 75 percent currently use some form of nutritional supplement on a regular basis. Although medicinal benefits are well documented in some supplements, especially vitamins, others vary greatly in safety and consistency. As a general rule, supplements should not be taken by pregnant or lactating women. In psychiatry, nutritional supplements are being used to treat a wide spectrum of illness including cognitive, mood, psychotic, sleep, and conduct disorders; however, little scientific evidence currently supports their efficacy. Table 24-4 lists some of the more common supplements being used to treat psychiatric illness. Table 24-4 Some Dietary Supplements Used in Psychiatry

Nutritional status has long been deemed important in mental health, and vitamin deficiencies can produce psychiatric symptoms. Severe niacin deficiency results in pellagra with its characteristic triad of skin lesions, gastrointestinal disorders, and psychiatric symptoms. The psychiatric symptoms include irritability and emotional instability progressing to severe depression and then to disorientation, memory impairment, hallucinations, and paranoia. Folic acid deficiency is associated with depression and dementia, whereas vitamin B12 deficiency is associated with cognitive impairment, depression, and other affective symptoms. Severe malnutrition can result in apathy and emotional instability. In 1968, the eminent chemist and Nobel Prize-winner Linus Pauling coined the term orthomolecular to refer to the connection between the mind and nutrition. In his book *Orthomolecular Psychiatry*, research articles were compiled supporting the notion that taking many times the recommended minimal daily dose of vitamins is useful in the treatment of schizophrenia and other psychiatric disorders. As mentioned, some severe vitamin deficiencies can result in syndromes with a psychiatric component; however, empirical data and an American Psychiatric Association (APA) task force failed to find evidence supporting the notion that schizophrenia and other disorders respond to vitamin therapies. Thiamine, Vitamin B12, and Folate In industrialized societies, severe vitamin deficiencies are rarely encountered except in certain populations. Those who are elderly, alcohol dependent, or chronically ill or who have certain types of gastrointestinal surgeries are at greatest risk. Among the forms of vitamin deficiency most commonly encountered in the emergency room is acute thiamine depletion from alcohol dependence. Whereas the chronic forms of thiamine deficiency that lead to beriberi are rarely seen in the Western world, the fulminant depletion of already low stores of thiamine results in Wernicke's encephalopathy and Korsakoff's syndrome. Wernicke's encephalopathy classically

presents with the triad of ataxia, ophthalmoplegia, and mental confusion, but confusion and a staggering gait are perhaps most common. Although Wernicke's encephalopathy is an acute process, Korsakoff's syndrome may be the permanent residue of this encephalopathy. Patients with Korsakoff's syndrome exhibit a well-circumscribed retrograde and anterograde amnesia that results from destruction of the mammillary bodies, and psychotic symptoms are also reported. Wernicke's encephalopathy is a medical emergency that responds to short-term treatment with 50 mg of thiamine intravenously followed by 250-mg intramuscular injections daily until a normal diet is attained. The treatment of uncomplicated acute thiamine deficiencies usually involves 100 mg given orally one to three times a day. Vitamin B12 deficiency or pernicious anemia is often seen in elderly adults, patients who have had gastric surgery, and malnourished depressed patients. The most typical psychiatric presentations include apathy, malaise, depressed mood, confusion, and memory deficits. Vitamin B12 concentrations of 150 mg/mL of serum are sometimes associated with these symptoms. Vitamin B12 deficiency is a more common cause of reversible dementia and is typically assessed in dementia evaluations. The treatment of pernicious anemia usually involves daily intramuscular injections of 1,000 mg of vitamin B12 for approximately 1 week, followed by maintenance doses of 1,000 mg every 1 to 2 months. Folate deficiency has been associated with depression, paranoia, psychosis, agitation, and dementia. Folate deficiency can result from anorexia in depressed patients and can also contribute to depression by interfering with the synthesis of norepinephrine and

serotonin. Folate deficiency has been associated with anticonvulsant use, particularly phenytoin (Dilantin), primidone (Mysoline), and phenobarbital (Solfoton), and the sex steroids, including oral contraceptives and estrogen replacement. The most common cause of folate deficiency is the malnourishment associated with alcoholism. Many folate deficiencies respond to 1 mg of folate orally per day; however, some more severe forms may require dosages of 5 mg up to three times a day. Folate deficiency in pregnancy is associated with neural tube defects (e.g., spina bifida, anencephaly). Mr. S was diagnosed with dysthymic disorder by a psychiatrist in his early 20s and was started on sertraline (Zoloft). After 4 weeks Mr. S's mood improved dramatically, but he experienced night sweats and reduced libido. Over the ensuing years he was tried on paroxetine (Paxil), citalopram (Celexa), and fluoxetine (Prozac). Although his mood improved, his sex drive did not. Mr. S heard about an integrative mental health clinic that offered conventional medications, herbal medications, acupuncture, and Reiki. Mr. S was interviewed by a Western physician who had also studied Chinese medicine. The Chinese pulse diagnosis of stagnant liver qi was consistent with his Western diagnosis of moderate depressed mood. The doctor ordered a thyroid panel, red blood cell (RBC) folate, and B12 levels and suggested an integrative treatment plan including supplementation with folate, B12, omega-3 fatty acids, and S-Adenosyl-L-methionine (SAME), regular exercise, and acupuncture. The initial treatment plan consisted of daily exercise, SAME (titrating to 400 mg twice daily), folate 5 mg, B12 800 µg, and omega-3s (eicosapentaenoic acid [EPA] 2 g per day). Three weeks later, Mr. S was frustrated at his lack of progress, remained depressed, and had not started to exercise. His RBC folate level was low, and the other studies were within normal limits. Mr. S had been taking an inexpensive generic brand of SAME and had stayed at 200 mg per day. He was encouraged to follow the original treatment plan. Two weeks later, Mr. S appeared brighter. He was exercising daily and taking the B vitamins and a quality brand of SAME at 400 mg twice daily without significant adverse effects. (Adapted from James H. Lake, M.D.) ENVIRONMENTAL MEDICINE The field of environmental medicine began to emerge in the 1950s when physicians such as Theron Randolph, professor of allergy and immunology at

Northwestern University School of Medicine, began to examine some persons' allergic reactions to various foods. Other workers studied the effects on the body of pollutants in water and air, and eventually the field expanded to include the total environment in which humans exist. As a result, environmental medicine now concerns itself with issues such as food additives; electromagnetic fields from electric utility wires; fertilizers and hormones used in food production; microwaves from appliances such as microwave ovens, television sets, and cellular telephones; and nuclear radiation. Practitioners of environmental

medicine believe that many persons are extraordinarily sensitive to environmental contaminants that can trigger a disease process. Some issues are highly controversial. For instance, despite claims to the contrary, studies fail to demonstrate a higher incidence of cancer in persons exposed to electromagnetic fields; however, a correlation exists between higher cancer rates and living near oil refineries and chemical plants. Environmental medicine is a form of preventative medicine that focuses on increased individual awareness of environmental hazards and the control or elimination of these hazards. (See also "Naturopathy" below.)

EXERCISE Exercise improves quality of life through better physical function, reduced morbidities, and improved mental health. The positive effects of exercise on immune system functions are well documented. These benefits extend to the cognitive and emotional realms and, thus, validate the mind-body connection that is central to many CAM physical practices—yoga, tai chi, qi gong. Exercise has been shown to ameliorate depression, anxiety, and PTSD; improve cognitive function and self-esteem; and reduce psychotic symptoms in schizophrenic populations. These effects can be accounted for neurochemically, because exercise promotes secretion of neurotransmitters, such as serotonin, adrenaline, and endogenous opiates. Studies have also associated weight loss with increased social interaction, distraction from stress, recreational enjoyment, and mastery of challenge. Exercise offers many benefits to people with serious mental illness because they more likely suffer from serious medical conditions, such as obesity, diabetes, and hypertension; live sedentary lifestyles; and smoke. Studies of adults with schizophrenia have shown a moderate exercise program reduces body mass index, improves aerobic fitness, raises self-esteem, and results in fewer psychiatric symptoms. Exercise may prove useful in remediating the weight gain from antipsychotic medications and improve compliance. Although presently underused, exercise holds significant potential benefit as a therapeutic intervention in the mental health care setting. A structured aerobic exercise program consisting of 45-minute sessions three times per week showed significant gains in cardiovascular fitness, self-esteem, and quality of life and in altering mood and depression. Unstructured programs benefited those who adhere to the exercise regimen. No drawbacks are found to moderate exercise, and the health gains are significant.

FELDENKRAIS METHOD The Feldenkrais method was developed by Moshé Feldenkrais (1904–1984), a Russianborn physicist who developed a theory evolved from Freud's work. Feldenkrais thought that the body should be emphasized as much as the mind and that proprioception (somatic sensations from muscles and other organs) can influence behavior. He believed that posture and the positions of the body reflected conflict; therefore, retraining the body was part of his treatment program. Practitioners of the Feldenkrais method are active throughout the world. Those learning the Feldenkrais method are referred to as students rather than patients, to reinforce the view that the work is primarily an

educational process. Lessons generally last from 30 to 60 minutes and consist of structured movement that involves thinking, sensing, moving, and imagining. The method has been used in central nervous system disorders, such as multiple sclerosis, cerebral palsy, and stroke. Older

persons who use the method claim that they retain or regain their ability to move without strain or discomfort. **HERBAL MEDICINE** Herbal medicine relies on plants to cure illnesses and to maintain health. Probably the oldest known system of medicine, it originated in China about 4000 B.C. Ancient texts of Chinese medicine are still in use, and modern Chinese medicine relies on herbs in addition to other methods, such as acupuncture, massage, diet, and exercise, to correct imbalances in the body. A Greco-Roman medical text by Pedanius Dioscorides, *De Materia Medica*, describes the use of more than 500 plants and herbs to cure disease. The decline of herbal medicine in the late 20th century was related to scientific and technological advances that led to the use of synthetic pharmaceuticals; nevertheless, according to some estimates, at least 25 percent of current medicines are derived from the active ingredients of plants. The examples are many: digitalis from foxglove; ephedrine from ephedra; morphine from the opium poppy; paclitaxel (Taxol) from the yew tree; and quinine from the bark of the cinchona tree. Herbal medicine is becoming more and more popular. Approximately \$4 billion a year is spent in the United States on herbal medicines, which are classified as dietary supplements. Western herbalists use plants to treat various disorders related to the respiratory, gastrointestinal, cardiovascular, and nervous systems; as with most prescription medicines, these plants contain active compounds that produce physiological effects. As a result, they must be used in appropriate doses if toxic results are to be prevented. They are not subject to FDA approval, and no uniform standards exist for quality control or potency in herbal preparations. Indeed, some preparations have no active ingredients or are adulterated. Herbal supplement producers need only prove safety and truth in labeling, not efficacy, to be sold. The herbal industry attempts to regulate itself through organizations such as the Council for Responsible Nutrition and the American Herbal Association, but according to the Federal Trade Commission, fraudulent practices and false advertising still exist. In 2003, the FDA banned ephedra (ma huang)-based diet products because of significant risk to cardiovascular health. There is now a Physicians Desk Reference for both herbal products and nutritional supplements. One herb that has caught the attention of Western psychiatry is St. John's wort (*Hypericum*) for the treatment of major depressive disorders (Fig. 24-3). St. John's wort has been used in folk medicine for hundreds of years and is still commonly used in Europe. In Germany, several million prescriptions for *Hypericum* are obtained annually and covered by insurance for the treatment of depression, anxiety, and sleep problems. Studies have compared St. John's wort with placebo, tricyclic drugs, and selective serotonin reuptake inhibitors (SSRIs) and found that *Hypericum* extracts were more effective than placebo in the treatment of mild to moderate depression. Many of these studies lacked rigor in the diagnosis of depression, sample size, and the assessment of efficacy. NCCAM sponsored studies and other researchers are working to determine the

active ingredients, effective dosing, and toxicities associated this plant and other biologically derived supplements using spectrographic and other scientific analyses. **FIGURE 24-3** St. John's wort (*Hypericum perforatum*). Mrs. J, a 68-year-old retired schoolteacher in good health, was experiencing anhedonia after the death of her spouse and was started on a low-dose SSRI by her psychiatrist. After several weeks, her symptoms began to improve. One morning, while at the local health food store, she inquired if there were any natural products that improved mood. The store manager informed her that St. John's wort "works just like an SSRI." The patient proceeded to take the recommended daily dose of three capsules that day, each containing 300 mg of 0.3 percent Hypericin. Later that evening, she began to feel anxious and could not fall asleep. After several hours of doing needlework to pass the time, she began to sweat profusely. She became concerned

for her health when she felt her heart racing. She drove herself to the emergency room of a local hospital. On examination, she was observed to be extremely anxious and hyperactive, tachycardic, and mildly hypertensive. She was given a short-acting, fast-onset benzodiazepine. After 4 hours, the patient reported feeling calm and her vital signs had returned to baseline. The emergency room physician informed Mrs. J that although she had only taken a single daily dose of St. John's wort, she had most likely experienced the side effects of an interaction between the plant extract and the SSRI. Known interactions include a manic reaction and serotonin syndrome. The patient agreed to discontinue the St. John's wort. She was discharged and a follow-up appointment was scheduled with her psychiatrist to discuss treatment options.

Psychoactive Herbs Many phytomedicinals (from the Greek phyto, meaning "plant") have psychoactive properties that are used, or have been used, to treat a variety of psychiatric conditions. Adverse effects are possible, and toxic interactions with other drugs can occur with all

phytomedicinals. Clinicians should always attempt to obtain a history of herbal use during the psychiatric evaluation. Adulteration is common, and no consistent standard preparations are available for most herbs. Safety profiles and knowledge of adverse effects of most of these substances are lacking; many, if not all, of these herbs are secreted in breast milk and are contraindicated during lactation and should be avoided during pregnancy. Many cultures have used hallucinogens, including mescaline, psilocybin, and ergots, for thousands of years to gain spiritual and personal insight. Lysergic acid diethylamide (LSD), synthesized in the 1930s, was marketed to psychiatrists and other practitioners in the late 1940s under the trade name Delysid as a tool for understanding psychosis and for facilitating psychotherapy. Using LSD reportedly helped patients capture repressed memories and deal with anxiety, and it allowed patients to gain insight through an analysis of the primary process induced by the hallucinogen. Oral doses of 150 to 250 mg were administered occasionally by psychiatrists throughout the 1950s and early 1960s to facilitate psychotherapy with some patients. In the 1960s, Timothy Leary advocated the widespread use of hallucinogens, but the drugs were outlawed as class I controlled substances in 1965. Although no longer used for therapeutic purposes in the United States, LSD has fulfilled part of its early promise as a probe for psychosis. More recent understanding of the pharmacology of LSD and its affinity to serotonin (5-hydroxytryptamine [5-HT]) type 2 (5-HT₂) receptors has supported the interest in developing serotonin-dopamine antagonists (atypical antipsychotics) with the 5-HT₂-receptor blocking properties. Recently, studies using methylenedioxymethamphetamine (MDMA, "ecstasy") have been approved by the NIH to determine whether psychotherapy is facilitated when the patient is under the influence of the drug, which can affect interpersonal relationships positively by promoting feelings of empathy. It is important not to be judgmental in dealing with patients who use phytomedicinals. They are used for various reasons: (1) as part of their cultural tradition, (2) because patients mistrust physicians or are dissatisfied with conventional medicine, or (3) because they experience relief of symptoms. If psychotropic agents are prescribed, the clinician must be extraordinarily alert to the possibility of adverse effects as a result of drug-drug interactions, because many phytomedicinals have ingredients that produce physiological changes in the body. More than 200 herbal drugs are in use; only those with psychoactive properties are listed in Table 24-5.

Table 24-5 Phytomedicinals with Psychoactive Effect

HOMEOPATHY Homeopathic healing was developed in the early 1800s by Samuel Hahnemann, a German physician (Fig. 24-4). It is based on the concept that self-healing is a basic characteristic of human life and that special medications can aid this inherent process. The homeopathic

pharmacopoeia is unique in several ways. First, it contains more than 2,000 medications, including those from plants, such as aconite, ergot, and hellebore; minerals, such as silver, copper, gold, and iodine; and animals, such as snake and jellyfish venom and tissue extracts. Second, medications are prepared as tinctures (i.e., mixed with 95 percent grain alcohol) or as pills with lactose fillers. Finally, medications are dispersed in infinitesimally dilute solutions, such as 1 to 1,020,000, which prevents the medication from being detected by conventional chemical methods. Homeopaths claim that the therapeutic effect is based on “molecular medicine.” FIGURE 24-4 Samuel Hahnemann (1755–1843). (From the New York Academy of Medicine, New York, NY, with permission.) Hahnemann based his drug treatment on the following assumptions: medical substances elicit a standard array of signs and symptoms in healthy people, and the medicine whose effect in normal persons most closely resembles the illness being treated is the one most likely to initiate a curative response. Thus, a medication that produces nausea would be used to treat nausea, except that it would be given in dilute amounts. This law of similars—*Similia similibus curantur* (“Let like be cured by like”)—led to coining of the word homeopathy (“similar experiences”). In traditional medicine, such highly dilute substances are considered to have no effect, and no pharmacological research studies demonstrate otherwise. Homeopathic medical schools are no longer found in the United States (the last one was Hahnemann University Medical School, which closed in 1994); nevertheless, the practice of homeopathy is increasing in the United States and around the world. In Europe, homeopathy is extraordinarily popular. Homeopathic medicines are sold over the counter in the United States. Homeopathic remedies sold in the United States must meet the standards of monographs in the Homeopathic Pharmacopoeia of the United States (HPUS), which was recognized in the Food, Drug and Cosmetic Act with authority equivalent to that of the United States Pharmacopoeia (USP). To date, no NCCAM studies have been done on homeopathic

methods.

LIGHT AND MELATONIN THERAPY Light therapy is based on the concept that humans are subject to circadian rhythms (from the Latin words *circa* [“around”] and *dies* [“day”]) that affect physiological processes in predictable ways. There are 24-hour cycles of rest and activity that include changing levels of corticosteroids, electrolyte excretion, and physiological processes; for instance, blood pressure is higher during the day than at night. By varying light exposure, circadian rhythms can be altered. The concentration of the hormone melatonin, produced by the pineal gland, is highest in the bloodstream at night and is low or absent during the daylight. Melatonin is believed to regulate sleep, and exogenous melatonin (available over the counter) produces drowsiness in normal people. Artificial bright-light therapy (over 2,500 lux) is a proven method used to treat depressive disorder with seasonal pattern, which is seen during the winter months when daylight hours are reduced.

MACROBIOTICS Macrobiotics (from the Greek words *makros* [“long”] and *bios* [“life”]) is a health practice that focuses on living in harmony with nature, using mainly a balanced diet. Macrobiotics became associated with the biblical patriarchs, the Chinese sages, and the Ethiopians of Africa, who were said to live 120 years or more. In 1797, a German physician and philosopher, Christoph W. Hufeland wrote an influential book on diet and health, *Macrobiotics or the Art of Prolonging Life*. Macrobiotic foods are classified as yin (cold and wet) and yang (hot and dry); the goal is to keep yin and yang in balance. The diet consists of 50 percent grain products, 25 percent cooked or raw vegetables, 10 percent protein, 10 percent vegetable or fish soup, and 5 percent teas and fruits. Prolonged use of the diet can result in vitamin and mineral deficiencies.

MASSAGE Massage is a treatment that involves manipulation of the soft tissues and the surfaces of the body. It was prescribed for the treatment of diseases more than 5,000 years

ago by Chinese physicians, and Hippocrates considered it to be a method of maintaining health. Massage is believed to affect the body in several ways: it increases blood circulation, improves the flow of lymph through the lymphatic vessels, improves the tone of the musculoskeletal system, and has a tranquilizing effect on the mind. Massage techniques have been described in various ways: stroking, kneading, pinching, rubbing, knuckling, tapping, or applying friction. Massage is most often done with the hands and fingers, but vibrating machines and electrical stimulation are also used. The different types of massage therapies that have evolved over the years are more similar than different. These include Swedish, Oriental, Shiatsu, and Esalen massages. Studies have proved massage useful to reduce anxiety and pain perception. Most persons who experience massage find it physically and mentally restorative. NCCAM studies have shown massage to be of benefit in the treatment of pain, especially pain related to joint disease.

MEDITATION Meditation is a technique that involves entering a trance state by focusing thought on a word or sound (a mantra), an object (e.g., a burning candle), or a movement (e.g., an oscillating disk). During the trance, the person experiences a state of calm. A meditative trance has physiological effects, all associated with decreased anxiety: heart and respiratory rates slow, blood pressure decreases, and alpha brain waves increase. Transcendental meditation (TM), developed by the Indian mystic Maharishi Mahesh Yogi, was introduced into the United States in the 1950s. TM uses mantras based on personal characteristics to induce a trance state. In the 1960s, a physician, Herbert Benson, developed the relaxation response, which used mantras and breath control as a treatment for stress and stress-related disorders. Mindfulness Meditation Mindfulness meditation is derived from Buddhist practices of meditation and refers to paying attention to the present and being aware of the present using all sensory modalities. As thoughts flow through the mind during meditation, they are viewed nonjudgmentally, accepted for what they are, reflective of our “true nature.” It is a process of self-exploration and self-inquiry. NCCAM studies have shown changes in brain, particularly left side anterior activation during meditation also associated with significant improvement in subjective and objective symptoms of anxiety and panic. One study reported improvement in women with irritable bowel syndrome. Mindfulness Therapy The concept of mindfulness and has been translated into a type of psychotherapy in which therapist and patient focus are on the here and now rather than past events. Patients are encouraged to become aware of how they are feeling and what they are thinking in the moment. As they examine their experienced emotion about current events or conflicts, insights leading to change in behavior or attitudes occur. **MOXIBUSTION** Moxibustion is based on theories of Oriental medicine in which energy forces are balanced by applying heat to stimulate specific acupoints. The heat is generated by burning dry mugwort leaves (*Artemisia vulgaris*, known as moxa). Heat is applied either directly or indirectly. In the direct method, dried moxa is rolled into small cones and placed on the skin. The tops of the cones are lit, but they are extinguished as soon as heat is felt. In the indirect method, a burning cigar-like moxa is held near the skin at acupoints. Moxibustion is used in musculoskeletal disorder, arthritis, asthma, and eczema. As with many other alternative therapies, however, no scientific clinical trials are available to show its effectiveness. **NATUROPATHY**

Naturopathy is a health care system intended to ensure a healthy mind and body based on maintaining healthy nutrition, pollution-free air and water supplies, and exercising regularly. The treatment is based on the belief that the body has the power to heal itself; it requires the patient's active participation in the health maintenance program. Naturopathy developed in Germany in the later 19th century under the guidance of Benedict Lust, who prescribed hydrotherapy (alternating

hot and cold water) as a form of natural healing. Lust came to the United States, became an osteopathic physician, and founded the American School of Naturopathy in 1902. Since then, naturopathic medicine has grown into a major form of health care, which uses an eclectic group of methods in addition to hydrotherapy. These methods include eating specialized diets, homeopathy, breathing ionized air, using fomentations (the application of hot and cold compresses), taking colonic irrigations and enemas, drinking pollution-free water, eating foods grown organically, and using massage therapy, herbs, and rest therapy. Naturopathic physicians are licensed in several states (Alaska, Connecticut, New Hampshire, among others), but because no standard regulation of the field exists, persons with minimal or no educational background set up practices.

ORIENTAL MEDICINE Oriental medicine is a broad term covering the traditional medicines of China, Korea, Japan, Vietnam, Tibet, and other Asian countries. In general, the techniques of Oriental medicine were first developed in China and include acupuncture, moxibustion, herbology, massage, cupping, gwa sha (scraping away toxins), breath work, qi gong (see below), and exercise (tai chi). Chinese medicine is a coherent and independent system of thought and practice based on ancient texts. It is the result of a continuous process of critical thinking, extensive clinical observation, and testing, and it represents a thorough exposition of material by respected clinicians and theoreticians. It is rooted in philosophy, logic, sensibility, and habits of civilization foreign to Western civilization and, therefore, is difficult for Western physicians to understand. The basic theory is that a life force, called chi energy, flows in us in a harmonious, balanced way. This harmony and balance signify health. When the life force does not flow properly, disharmony and imbalance, or illness, result.

OSTEOPATHIC MEDICINE The scope of osteopathic medicine is similar to allopathic medicine and is best indicated by the fact that doctors of osteopathy (DO) are licensed to practice in every state and are accepted into medical, surgical, and psychiatric residency programs and the military on the same basis as medical doctors (MD); they are qualified to practice in every branch of clinical medicine and take the same licensure examinations as MDs. Their medical education is identical to that of MDs, except that they have additional training in disorders of the musculoskeletal system, in which DOs consider themselves more knowledgeable than MDs. As of 2012 there were 29 osteopathic medical schools in the United States. Approximately 82,000 osteopaths treat about 30 million patients each year. Osteopathy was developed by Andrew Taylor Still, M.D. (1828-1917), who founded the

American School of Osteopathy in Kirksville, Missouri (now Kirksville College of Osteopathic Medicine), in 1892. Disease is viewed in the same way as in allopathic medicine; however, special emphasis is placed on proper musculoskeletal alignment as a prerequisite for health maintenance. Osteopaths may rely on the manipulation of body parts, particularly the craniosacral spinal axis, as part of a treatment plan. Osteopathic manipulation therapy is perceived as an adjunct, not a substitute, to traditional medical, surgical, and pharmacological intervention.

OZONE THERAPY Ozone, which acts as an antioxidant and disinfectant, is used conventionally for water purification, odor control, and air purification. Ozone therapy is based on the assumption that most illness is caused by viral and bacterial infection; ozone is used to treat medical conditions that range from influenza to cancer and acquired immunodeficiency syndrome (AIDS). The first ozone generators were developed by Werner von Siemens in Germany in 1857, and ozone was used therapeutically to purify blood shortly thereafter in Germany and other European countries. Ozone therapy introduces ozone into the body in various ways. These include drinking ozonated water; ozone limb bagging, in which ozone is pumped into an airtight bag that covers an arm or leg; breathing ozone bubbled through olive oil or topically applying ozonated olive oil; insufflations, in which a catheter

is inserted into the rectum or vagina with ozone administered at a slow flow rate; and autohemotherapy, in which a person's own ozonized blood is reintroduced into the body. PAST LIFE MEDICINE In past life medicine, the healing process is aided by contact with spiritual beings that are believed to have the ability to reverse illness and maintain health. The spirits are approached through the use of altered states of consciousness, so-called channeling, higher states of awareness, and transmissions from spiritually evolved beings. Past life regression using hypnosis allows a person to experience past life events (via imagery). A 40-year-old man, in good health, with an obsessive fear of death was referred to an integrative psychiatrist to deal with his preoccupations about dying. The patient was placed in a trance state under hypnosis and asked to imagine and describe a past life. He described himself as an itinerant silk merchant living in 16th-century France. He was married, had eight children, and was content with his life. He was asked to describe his death and proceeded to do so. He was 90 years old when he died, surrounded by his family who were at his bedside. He knew he was dying and described the process as a "peaceful falling away." Following the session, his fears about dying diminished; when he became anxious about death, he remembered the past life narrative and was able to relax. PRAYER

The pervasive interest in faith healing, the curative anecdotes of television evangelists, and the millions of hopeful individuals visiting religious shrines in search of relief give witness to the continuing interest in, and prevalence of, prayer and spirituality in the process of healing. Some religious groups specifically recommend against standard psychiatric therapies and offer their own approach as the only valid alternative for mental and spiritual health. Others view prayer as a form of distant healing defined by the psychic Elizabeth Targ as any purely mental effort undertaken by one person with the intention of improving the physical or emotional well-being of another. Some advocate the use of shared prayer, silent prayer, and distant or "intercessory" prayer (praying on behalf of someone else for a specific purpose) to benefit patients. Studies to date are inconclusive, however, on the impact of prayer on medical outcomes. Surveys indicate that 92 percent of a sample of inner-city homeless women reported one or more spiritual or religious practices. Some 48 percent reported that prayer was significantly related to less use of alcohol or street drugs or both and fewer perceived worries and depression. Recent epidemiological research indicates that religious beliefs and practices are negatively correlated with substance abuse and positively correlated with health status. Also 12step programs have a long history of successfully incorporating prayer and spirituality in the treatment of addictive behavior. Personal belief in religion and active attendance at worship has been correlated with a moderately decreased incidence of depression and hypertension. QI GONG Chinese qi gong has been practiced for more than 2,000 years. Translated directly, qi gong means the skill or work (gong) of cultivating energy (qi). It is a Chinese exercise system that attracts and directs the vital life energy (see "Oriental Medicine" above), enabling practitioners to build up their health, prevent illness, and increase vitality. "Still" qi gong is practiced as a motionless meditation with the emphasis on breath and intentional thoughts. "Moving" qi gong involves external movements under the conscious direction of the mind. Electroencephalogram studies have detected measurable differences in the brain patterns of practitioners. Purported benefits include increased autoimmune cell production, reduced hypertension, and decreased incidence of falls in the elderly. REFLEXOLOGY Reflexology is the gentle massaging of the feet, hands, and ears to stimulate the body's natural healing power. It is used to alleviate tension by clearing crystalline deposits under the skin that may interfere with the natural flow of the body's energy. Reflexologists believe that all body parts can be mapped out on the soles or sides of the feet; for instance, the tip of the second toe represents the eye. Applying

pressure to a particular area of the foot can relieve disorders related to the represented body parts. NCCAM studies have shown some benefit from reflexology in patients with irritable bowel syndrome. REIKI

Reiki is a Japanese word with the general meaning of “healing.” (Rei means “universal” or “spiritual,” and ki is “life force energy.”) It was developed by Mikao Usui in 1922 (Fig. 24-5). The two degrees of Reiki healing are as follows. First-degree Reiki practitioners use light, nonmanipulative touch to the head and torso to precipitate a flow of healing energy, called Reiki, drawn and into the patient according to the recipient’s needs. Second-degree healing enables practitioners to access this energy for distant healing when touch is impossible. Reiki treatment typically creates an almost immediate feeling of relaxation, which may reduce the biochemical effects of prolonged stress. First-degree Reiki is easily learned and is a method that patients use to decrease stress, anxiety, insomnia, and pain. Reiki is also used in hospices for pain management, to support a peaceful death, and to provide emotional support for family members. It is also beneficial in cardiovascular disease as a means to lower blood pressure and reduce cardiac arrhythmias. The mechanism of action is unknown, however, the autonomic nervous system is involved, especially parasympathetic impulses. FIGURE 24-5 Mikao Usui (1865–1926), a Japanese philosopher who was the founder of Reiki healing. ROLFING Rolfing is a type of massage that was developed by an American biochemist, Ida Rolf (1896–1979), to relieve tension in muscle, connective tissue, and fascia, which she believed caused musculoskeletal diseases, such as arthritis and fibromyalgia. Therapy consists of deep, sometimes painful, massage to produce flexible planes between muscle groups throughout the body. Rolf discovered that she could achieve remarkable changes

in posture and structure by manipulating the body’s myofascial system; as various parts of the body are massaged, past memories and emotional states are often released. In this sense, Rolfing is a psychophysiological experience. No NCCAM studies on Rolfing have been performed. SHAMANISM A shaman (Fig. 24-6) is an individual who is believed to have the power to heal the sick and communicate with the spirit world. Individuals having this designation can be found in many parts of the world, including American aboriginal groups (Native Americans and Alaskan natives). Qualifications of a medicine man (or woman) are determined by a series of initiatory trials and teaching and “certification” by qualified, recognized elders. Shamanistic practices often include cleansing ceremonies, such as fasting or sweating, and so-called vision quests, which are accompanied by hallucinations. The ceremony is sometimes facilitated by rhythmic sounds, dancing, physical pain or privation, and the use of “spiritual herbs.” Through this process, the shaman escorts the soul of the dying to the afterlife. Shamanistic practices are also used to provide solutions to insolvable personal or social problems.

FIGURE 24-6 Wooden statue of shaman. North Pacific coast. SNOEZELEN This is a term for a system of multisensory stimulation (e.g., lighting effects, tactile surfaces, meditative music, and smell of essential oils) generally conducted in special rooms for 30 to 60 minutes per session. Snoezelen originated in the Netherlands in the field of learning disability and autism with children but has been adapted for use in dementia. Snoezelen may also improve behavioral disturbances such as apathy, mood, and restless or repetitive behaviors. One study showed Snoezelen to be comparable to “reminiscence therapy” (e.g., using newspapers of nostalgic items to allow a person to talk about old memories) for acute agitation in dementia. Lack of widespread availability and

potentially high costs for maintaining the therapy may limit its applicability. **SOUND AND MUSIC THERAPY** Sound therapy is an ancient technique in which sounds (e.g., chants, bell rings, or drum beats) are used to create vibrations in the body and believed to have healing powers. Practitioners claim that a sense of relaxation can also be achieved. Sound therapy is used in Ayurveda to promote health, with claims of reducing tumor growth by using certain sounds known as Sama Veda. Music therapy uses the sound of musical instruments, such as the flute, to achieve similar results. In the Bible, David attempted to treat King Saul's depression by playing the harp. The effect of music and sound on psychophysiological processes is under investigation at various academic centers. **TAI CHI** Tai chi, or tai chi chuan, is one of the most popular Asian movement arts used in the West. This ancient Chinese technique is designed to increase the life force in the body through a series of slow circular movements. It is a moving form of meditation and is based, as are other Chinese methods, on the search for perfect balance between yin and yang energies. The practitioner performs sequences of movements that last from 5 to 30 minutes. A session may last a couple of hours and is typically performed in early morning. The practitioner is expected to focus on breathing and its precise synchronization with the movements. Tai chi chuan is believed to help mainly stress-related problems and conditions and so is primarily used to treat anxiety, depression, muscular tension, high blood pressure, and other cardiovascular conditions. NCCAM studies have shown improvement in exercise tolerance in patients with cardiovascular disease who practice tai chi. **THERAPEUTIC TOUCH** Therapeutic touch is the technique of healing with hands. It was developed by a nurse, Dolores Krieger, in the 1970s. Energy is believed to be transferred by laying the hands

over specific parts of the body to aid in the process of healing. Therapeutic touch has gained popularity in the nursing profession, as well as among some physicians. NCCAM studies have shown therapeutic touch to be of value in patients with chronic neck pain. **TIBETAN MEDICINE** The Tibetan health system dates to about the 7th century A.D. The Tibetan king Songsten Gampo is credited with its creation from the synthesis of various, more ancient sources. It has elements of Arabic, Indian, and Chinese health systems. In Tibet, its practice is closely related to religion and magic. Disease is believed to be the result of imbalance between the three components or humors of the living organism: wind (breathing and movement in general), bile (related to digestion and temperament), and phlegm (related to sleep, joint mobility, and skin elasticity). Imbalance can be caused by ignorance of health principles, environmental assaults, or improper diet. Treatment consists of restoring the balance between the different humors through the use of herbal medicine and accessory therapies, such as massage, moxibustion, acupuncture, appropriate diet, religious rituals, and purification techniques. **TRAGER METHOD** The Trager method, developed by Milton Trager, a Chicago physician, is a technique of movement reduction to aid individuals suffering from polio and other neuromuscular disorders. The client, typically in 60- to 90-minute sessions, is instructed to relax all conscious muscles and to allow the unconscious to choose natural, less restrictive body movements, as guided by the practitioner. This method is particularly suitable to individuals with back pain and severely restricted movement. **YOGA** Yoga ("yoking" or "union" in Sanskrit) is a comprehensive philosophical system with the goal of preparing an individual to unite with the supreme being. The technique of early yoga seeks to bring into balance all the disparate aspects of body, mind, and personality. Early evidence of yoga practice dates back to 5,000 years ago in India, and it has been practiced as a religion and health system ever since. The West grew familiar with yoga through the practice of Hatha Yoga and an emphasis on the physical collection of asanas (postures). The other aspects of the system, pranayama (breathing exercises) and dhyana

(meditation), and other forms of yoga are gaining adoption. Recent studies in people with chronic low-back pain suggest that yoga poses may help reduce pain and improve function. Other health benefits such as reducing heart rate and blood pressure and reducing anxiety and depression have been reported. According to the 2007 National Health Interview Survey (NHIS), yoga is the sixth most commonly used complementary health practice among adults. More than 13 million adults practice yoga. There are many training programs for yoga teachers throughout the country. These programs range from a few days to more than 2 years. Standards for teacher

training vary and certification differs depending on the style of yoga. **INTEGRATIVE PSYCHIATRY** A new type of psychiatry, called integrative psychiatry, selectively incorporates elements of complementary and alternative medicine into practice methods. It emphasizes treatment rather than diagnosis and views the patient holistically, taking into account not only mind-body issues and interactions but spiritual values as well. Integrative psychiatry is also concerned with prevention of illness, emphasized by having the patient pay attention to lifestyle factors such as diet and exercise. Stress reduction involves use of yoga, meditation, or other relaxation exercises. Attention is paid to stress factors related to work and interpersonal relationships. **History** At one time, hypnosis and biofeedback were considered alternative therapies out of the mainstream of traditional psychiatric practice. These modalities are now incorporated into standard psychiatric practice. Hypnosis, for example, is used by psychiatrists for a variety of disorders, and dynamically oriented psychiatrists use hypnotherapy in their work to enable a patient to recover feelings and memories that are repressed and not otherwise available for analysis. In the middle of the 20th century, workers such as Paul Schilder, in his book *The Image and Appearance of the Human Body*, described how one's physiology and physiognomy could be influenced by psychological experiences during various developmental stages. More recently, mainstream psychiatrists, such as Brian Weiss, have described their use of past life regression as a therapeutic method and a means of accessing unconscious material. **Methods** Any of the complementary methods described in this section can be integrated into standard psychotherapeutic practice, although some lend themselves better than others. For example, during a Reiki treatment, a patient tends to be in a relaxed state and may have feeling tones, images, or thoughts that would not ordinarily be discussed. In an integrative therapy session, those mental and physical phenomena would be verbalized and subject to analysis and interpretation. Similarly, a patient having past life regression may have an elaborate narrative about his or her past life that would be carefully examined by the integrative psychiatrist for its relevance to current life experiences. Most integrative psychiatrists view past-life narratives as dynamic representations of the patient's unconscious wishes and fears; some view them as representations of actual past lives. In either case, the material is used to help patients gain greater insight and understanding of themselves in their current life. Complementary and alternative techniques that involve body manipulation (e.g., craniosacral manipulation, massage, or the Alexander technique) lend themselves to integrative psychiatric therapy. As mentioned, the image persons have of their body and the way in which the body is held (e.g., stooped posture) are heavily influenced both by genetics and by life experiences. Depressive facies, Veraguth's folds, and other physiologic correlates of mood have long been recognized in the psychiatric literature. The integrative psychiatrist uses this and other bodily markers as a way to gain access to previously

unrecognized neurotic conflict. Patients with somatic symptom disorders or dysmorphophobia are often helped by such approaches, as are patients with eating disorders who have major body

image distortions. Any technique that involves manipulation of a body part can potentially elicit an image, thought, or feeling related to the experience. A patient experiencing a back rub may have myriad associations to the experience that are examined in the session. Some patients cannot tolerate being touched, a trait that is almost always related to some past traumatic experience. Body manipulation can be geared to correcting abnormalities. In the Alexander technique, careful attention is paid to posture and body alignment. As the corrective procedures unfold, patients may gain understanding and insight into what caused the defective or inefficient postural attitude in the first place. Finally, spiritual beliefs derived from Judeo-Christian, Native American, and Eastern religious thought can be integrated into traditional psychotherapy. Workers such as Alan Watts incorporated Zen Buddhism into Western psychotherapy more than 50 years ago. Psychiatrists are working with Native American healers to help patients diminish anxiety, especially regarding death and dying. Other Issues Ideally, the psychiatrist practicing integrative therapy should be schooled in one or more of the complementary methods he or she plans to employ. In some cases, a complementary practitioner may work in conjunction with the psychiatrist, especially if the psychiatrist is not schooled in a particular method. At times, patients may be expert in a field (e.g., yoga) and seek out the integrative psychiatrist to enlarge on their experience. Integrative psychiatrists may use psychoactive herbs and homeopathic medicinals alone or in conjunction with traditional psychopharmacologic agents, mindful of the possibility of adverse drug-drug interactions. Ethical Issues The same standards that apply to traditional psychiatric practice and psychotherapy apply to integrative psychiatry. Because some of the techniques involve a laying on of hands or place the patient in a more dependent and vulnerable state than traditional psychotherapy techniques, boundary issues must be carefully evaluated. Currently, no standards of practice exist for this method other than those to which physicians have always been held, including doing no harm. As in complementary and alternative medicine generally, careful outcome studies are needed if this new amalgam is to prove its worth. REFERENCES Barry DT, Beitel M, Cutter CJ, Joshi D, Falcioni J, Schottenfeld RS. Conventional and nonconventional pain treatment utilization among opioid dependent individuals with pain seeking methadone maintenance treatment: A needs assessment study. *J Addict Med.* 2010;4:81. Bystritsky A, Hovav S, Sherbourne C, Stein MB, Rose RD, Campbell-Sills L, Golinelli D, Sullivan G, Craske MG, Roy-Byrne PP. Use of complementary and alternative medicine in a large sample of anxiety patients. *Psychosomatics.* 2012;53:266. Davidson JR, Crawford C, Ives JA, Jonas WB. Homeopathic treatments in psychiatry: A systematic review of randomized

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