

Separation or Synthesis: A Holistic Approach to Therapeutics

Kathi J. Kemper, MD, MPH*

IMPORTANT POINTS

1. As health care has become more complex and technical, a separation has arisen between providers who call themselves mainstream, scientific, or traditional and those who describe themselves as natural, alternative, or unconventional. This polarization results in fragmented care for patients who seek help from multiple providers.
2. A comprehensive model can group therapies into four categories: Biochemical, Lifestyle, Biomechanical, and Bioenergetic. This comprehensive model offers a systematic integration of existing therapies and provides an organized approach to thinking about various treatments that may result in better communication and better patient care.
3. Biochemical therapies include medications, herbs, and nutritional supplements.
4. Lifestyle therapies include nutrition, exercise, environmental therapies, mind-body regulation, and counseling.
5. Biomechanical therapies encompass massage, spinal manipulation, and surgery.
6. Bioenergetic therapies include acupuncture, laying on of hands, prayer, and homeopathy.

Over the past 50 years, health care has grown more complex and specialized. Health-care institutions now are staffed with an array of specialist physicians, social workers, psychologists, therapists, and nutritionists as well as general practitioners and nurses. The types of providers outside of the hospital are even more numerous and diverse: physicians; nurses; nurse practitioners; chiropractors; counselors; acupuncturists; herbalists; spiritual healers; and purveyors of nutritional supplements, aromatherapy, crystals, and more.

Intent on distinguishing their "products," providers focus on differences, polarizing into distinct camps such as "mainstream or traditional" versus "alternative or unconventional." Although these dichotomies are simple, they also can mislead. The definition of "alternative" is very dependent on the definition "mainstream"; acupuncture may be an alternative in one setting, but it clearly is traditional within Asian communities. Therapies that once were considered unconventional, such as hypnosis and meditation, have moved

into many mainstream medical settings. (See Sugarman article "Hypnosis: Teaching Children Self-regulation" in the January 1996 issue of *Pediatrics in Review*.)

The public wants health care that is low-cost, safe, effective, and personalized. Practitioners of "natural" therapies often are viewed as more humanistic and less technological than busy physicians. According to one study, in 1990, alternative med-

ical therapies were used by nearly one third of Americans.¹ Those who sought alternatives generally were more educated and economically comfortable than those who relied solely on mainstream medical care. Even among parents who seek care for their children at university teaching clinics, more than 10% also consult alternative providers, such as chiropractors, homeopaths, naturopaths, and acupuncturists.² Use of alternative care is most common among those suffering from serious, chronic, or incurable diseases such as cystic fibrosis.³ Pediatricians need to appreciate that many of their patients may be using alternative therapies or providers and to understand the basis of and scientific evidence for the use of therapies other than those espoused in traditional medical training.

To help heal the separation between polarized practitioners, I offer a model that integrates and synthesizes a wide range of therapies without supporting the effectiveness of any single one or group. Proof of effectiveness must come from properly conducted and analyzed clinical trials. The model may be considered holistic, although that term often has been usurped by marketers promoting a particular product line. Practitioners of any therapy are holistic to the

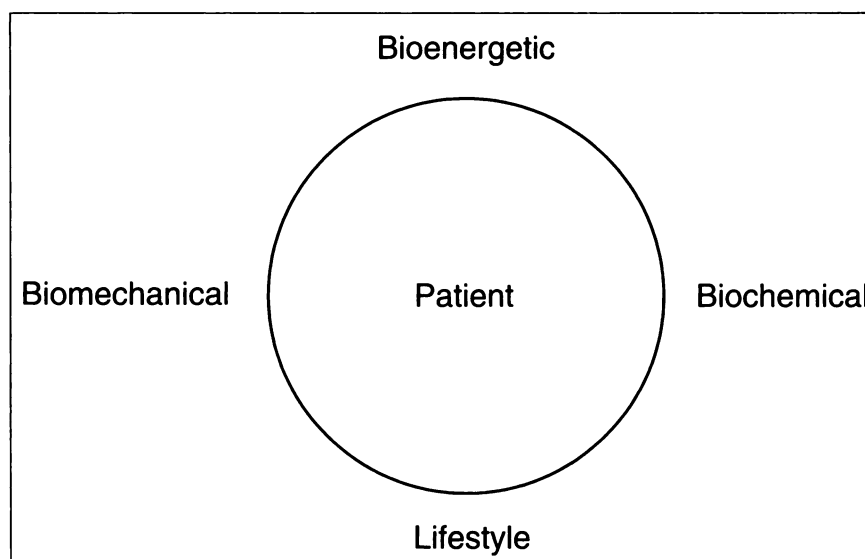


FIGURE. The therapeutic wheel.

*Editorial Board

extent that they consider their patient's condition in the context of that person's beliefs, family, culture, and community.

The model takes the form of a wheel, with the patient at the center and the different types of therapy falling on the rim (Figure). Although some therapies cross categories, for the sake of simplicity, all of the primary healing modalities are described on one of four sides of the wheel: Biochemical, Lifestyle, Biomechanical, and Bioenergetic.

Biochemical Therapies

All of these therapies share a common mechanism of action—biochemistry. The three primary biochemical therapies are medications, herbal remedies, and nutritional supplements. Whether a biochemical therapy is a manufactured, purified chemical product (such as a medication or a vitamin) or a homegrown herb (such as peppermint tea), its effectiveness depends on biochemical interactions among the patient, the remedy, and environmental factors (such as bacteria, temperature, and pH). The best scientific model for evaluating the effectiveness of all biochemical therapies is the randomized, double-blind, controlled clinical trial.

MEDICATIONS

For many patients, medications are recognized as beneficial and even lifesaving; for others, their use signals a defeat. Concern about medication errors, side effects, costs, addiction, and the "evils" of technology have turned many middle-class patients away from medication in search of more natural or organic remedies. Some patients are reassured by the knowledge that many medications (such as digoxin and paclitaxel) are derived from herbs. Unlike many natural products, medications are required by the Food and Drug Administration (FDA) to be tested thoroughly for purity, potency, and effectiveness before they can be marketed.

HERBAL REMEDIES

Herbal, botanical, or phytotherapy medicines contain complex chemical

combinations. The active ingredient has not been identified in many herbal remedies. Despite the lack of knowledge of their precise mechanism of action, some herbal remedies have proven effectiveness and related side effects. Double-blind controlled studies have documented the effectiveness of herbal tea in calming infant colic,⁴ feverfew leaves in preventing migraine,⁵ and valerian as a soporific.⁶ On the other hand, an American infant contracted botulism from home-grown chamomile tea.⁷ Because herbs are natural products, their potency and purity vary. In many countries they are not regulated as medications are, so standardization and quality control vary.

NUTRITIONAL SUPPLEMENTS

Nutritional supplements can prevent and treat a variety of ailments. Folic acid supplements taken during pregnancy appear to reduce the risk of

integral to healing traditions worldwide. They include nutrition, exercise, and environmental and mind-body therapies. All are regulated primarily by the patient, with occasional professional advice. All lifestyle therapies can be evaluated in comparative studies, but a double-blind approach is not practical for most.

NUTRITIONAL THERAPY

This form of therapy is especially important for patients suffering from chronic conditions and those recovering from major trauma. Anyone, regardless of training, can offer nutritional advice. For everyday problems, such as constipation, commonsense approaches such as extra servings of fruit and bran muffins, are effective and inexpensive. Complex or severe problems, such as recovery from a major burn, may require the help of a trained nutritionist.

Pediatricians need to appreciate that many of their patients may be using alternative therapies or providers.

neonatal neural tube defects.⁸ Pyridoxine may reduce the symptoms of premenstrual syndrome.⁹ Garlic supplements can reduce serum cholesterol levels.¹⁰ As with medications, high doses can have side effects. Iron overdoses can be fatal, and garlic poultices can cause severe skin irritation. No specific license is required to recommend nutritional supplements, and there are many deceptive claims about the benefits and hazards of these products.

When inquiring about what treatments the family already has tried for a child's ailment, the physician can easily include herbs and nutritional supplements after asking about medications. The use of nutritional supplements as remedies leads naturally into a discussion of health effects of nutrition, which falls on the second side of the therapeutic wheel: Lifestyle therapies.

Lifestyle Therapies

Lifestyle therapies have potent, commonsense health benefits and are

EXERCISE

A proper balance of exercise and rest is basic to maintaining and restoring health. Exercise therapy can range from physical therapy following an injury to yogic breathing exercises to help with asthma.¹¹ Exercise can improve flexibility, strength, and cardiovascular fitness; combat stress; lift layers of depression; and build self-esteem. However, without proper attention to the individual participant's developmental stage and physiology, injuries (from overuse, collisions, head trauma) and other illnesses (such as angina, heat stroke, and asthma) can occur.

ENVIRONMENTAL THERAPIES

Specific examples of environmental therapies include air filters to remove airborne allergens, phototherapy to treat newborn jaundice, "white noise" to soothe infant colic, ice packs to minimize swelling associated with sprains, and mist for croup. No formal degrees or licenses are required to recommend environmental therapy.

Much of the wisdom about environmental therapies is based on practical experience.

MIND-BODY THERAPIES

Mind-body therapies encompass behavior management, meditation, hypnosis, biofeedback, professional counseling, and support groups. Relaxation techniques have proven useful in managing headaches, hypertension, chronic pain, asthma, and chronic diarrhea. Hypnosis and biofeedback therapy have been used effectively to treat pain, chronic headaches, phobias, and behavioral problems. Treatment by counselors, behavioral therapists, psychologists, and psychiatrists can be helpful in addressing the beliefs, thoughts, and emotions that affect physical health as well as mental illness. Patients who suffer from chronic illnesses such as cancer can gain psychological benefit and even prolonged survival from peer support groups.¹² Although many mind-body therapies are initiated with professional assistance, their aim is a change in habitual thinking, feeling, and reaction patterns characteristic of a person's psychoemotional lifestyle.

Mind-body techniques usually consist of some period of prolonged interaction between the patient and the practitioner. Although this interaction occurs primarily at the level of the mind and emotions, it leads conceptually to a more physical type of interaction—massage or bodywork, which is the first type of therapy on the next side of the therapeutic wheel: Biomechanical therapies.

Biomechanical Therapies

Biomechanical therapies affect larger tissues and organs by stimulating, realigning, moving, or removing them. The three primary techniques are massage, spinal manipulation (chiropractic and osteopathic adjustments), and surgery. Like lifestyle therapies, biomechanical therapies can be evaluated in comparative trials, and it may be possible to conduct blind investigations for the patient, although it would be difficult to hide the overall form of the therapy (massage versus an environmental change,

surgical versus medical therapy), and it is impossible to conduct a blind study from the viewpoint of the biomechanical practitioner, such as a surgeon.

MASSAGE

Massage or bodywork techniques range from Swedish massage to Rolfing, deep tissue massage, and physical therapy. Massage contributes to relaxation and well-being by stimulating blood flow and stretching and relaxing connective tissue and muscles. Massaging one part of the body can distract the patient from pain occurring elsewhere in the body. The close personal interaction during massage also enhances the sense that the patient is cared for. Randomized, controlled trials have supported the use of massage in preterm infants and depressed teenagers.^{13,14} Massage has very few adverse effects.

Double-blind controlled studies have documented the effectiveness of herbal tea in calming infant colic and feverfew leaves in preventing migraine

SPINAL MANIPULATION

Chiropractic therapy and osteopathic manipulation were invented in the late 19th century by Americans who believed that many ailments were due to impingement of nerves and could be cured by spinal realignment. Spinal manipulation therapy is used by about 10% of American adults. It may benefit adults suffering from back pain, but it has not been examined in controlled trials for treating other conditions. Nevertheless, the repeated hands-on contact between patient and clinician probably enhances the sense that the patient is cared for, contributing to an overall sense of ease and well-being. Chiropractors are not licensed to prescribe medications or to perform surgery; however, osteopathic physicians have the same prescriptive and practice privileges as medical doctors (MDs).

SURGERY

Surgery has been practiced since ancient times to reduce fractures,

lance boils, and deliver babies.

Included under the rubric of surgical treatments are blood transfusions and bone marrow transplants (adding or replacing tissue). Surgery generally is the most invasive of the biomechanical therapies because the provider often breaches the integrity of the patient's skin. In this respect, it appears similar to the first of the bioenergetic therapies, acupuncture, in which needles pierce the skin at specific points to promote healing.

Bioenergetic Therapies

Bioenergetic therapies are based on the principle of an invisible energy or spirit that animates, flows through, and surrounds the body, connecting the individual to others and the universe. They aim to restore a harmonious balance of energy, which, in turn, improves functioning. These therapies are not based on the known

scientific laws that govern everyday life, but they have demonstrated efficacy in scientifically conducted studies under diverse circumstances. As with biomechanical therapies, it may be possible to blind the recipient to the precise nature of the therapy (eg, sham versus true acupuncture), but it is difficult to blind the provider except for biochemical-like therapies, such as homeopathy.

ACUPUNCTURE

Acupuncture effectively reduces pain in both animals and humans.^{15,16} Like surgeon's knives, acupuncture needles penetrate the body. However, unlike surgery, in which healing is effected through the rearrangement of tissues, the aim of acupuncture is to restore proper energy flow. Acupuncture points also can be stimulated with vigorous massage (shiatsu), tiny hammers, heat (moxibustion), lasers, or electrical currents. Acupuncture can help reduce pain, migraine headaches,¹⁷ nausea associated with

pregnancy,¹⁸ and addictions to tobacco and opioids.¹⁹ Acupuncture treatment is complex and requires extensive training.

THERAPEUTIC TOUCH

The practice of transmitting healing energy from the therapist's hands to the patient's body is ancient and widespread. The technique formally called Therapeutic Touch was developed by Dr Dobres Krieger, a nursing professor at the New York University. Its practitioners do not actually touch

Massage in preterm infants has shown, in random controlled trials, an increase in weight gain.

the body; rather, they work in the energy fields surrounding it. Noncontact therapeutic touch has been shown to decrease anxiety and pain.^{20,21} Laying on of hands, the Chinese technique known as Qi Gong, Reiki, and Healing Touch all are variations on this same theme. Therapeutic touch has proven useful in the treatment of pain, high blood pressure, anxiety, headache, and wound healing. Although training is available, certification and licensure are not required to practice Therapeutic Touch or other similar therapies.

PRAYER

Healing prayer seeks to direct an unseen power toward healing the visible condition of the patient. Ritual aims to restore balance between the patient, the community, and the larger universe. In one study, intercessory prayer (in which the patients did not know they were the beneficiaries of such prayer) reduced complications among individuals admitted to coronary care units.²² Effective prayer does not require formal training or licensure, although many practitioners (such as shamans) undergo extensive training and initiation. Prayer has proven effective for numerous conditions in numerous studies.²³ It does not always cure, but it often brings a sense of peace and healing to both the person praying and the patient.

HOMEOPATHY

Homeopathy was invented by a German physicist and chemist at the end of the 18th century when the other medical practice, allopathy, had little to offer patients except bleeding, sweating, and purging. Although homeopathy is disparaged by most American physicians, it is used widely in India and Europe. Homeopathic practitioners do not claim that their remedies work biochemically because they recognize that too few molecules are present to have a biochemical effect; instead, they discuss the

impact of remedies in terms of the interaction between the energy of the substance (imparted to the diluent in the process of preparing it) and the patient's condition. Double-blind, randomized, controlled studies have provided evidence of homeopathy's effectiveness in treating hayfever and asthma.²⁴ A recent double-blind, controlled study indicated that homeopathic remedies were significantly more effective than placebo in reducing diarrhea among infants too young to understand the power of suggestion.²⁵ Many people who have no formal training prescribe homeopathic remedies, and remedies can be purchased through mail order catalogs and at many health food stores. Although the remedies themselves are probably safe, there is some danger that an untrained practitioner may not recognize a serious illness and the need for other types of therapy.

Because homeopathic remedies come in the form of liquids or pills, they look like medications, the therapy on the first side of the therapeutic wheel, Biochemical therapies. This completes the therapeutic wheel. Many healing traditions now called holistic (such as traditional Chinese medicine or Ayurvedic medicine) actually draw on therapies from several sides of the wheel (herbs, diet, exercise, mind-body practices, massage, acupuncture, etc).

Conclusion

This model classifies therapies as biochemical, lifestyle, biomechanical, or bioenergetic, although some techniques probably overlap more than one category. When stressing the benefits of a biochemical therapy, a practitioner may elicit the additional benefits of mind-body interactions. No single therapy is holistic or appropriate for every patient or every condition. This model does not purport to claim therapeutic equivalence for all options; medicine may not be as effective as surgery for a particular condition, set of patients, and set of circumstances (availability of skilled personnel and other resources). Several of the therapies in this model (such as chiropractic) have not been evaluated scientifically for many childhood ailments, and their effectiveness (or lack thereof) remains speculative.

This model provides a paradigm for considering a comprehensive range of treatments. Holistic care is based on understanding the patient's condition in the context of his or her beliefs, values, family, culture, and community as well as data about the costs, side effects, and benefits of specific therapies. Based on this model, many pediatricians already may correctly call themselves holistic practitioners.

More than a theoretical model is needed to improve communication among different kinds of practitioners and among practitioners and patients. Practitioners must remain open-minded when asking families about the types of therapies they have tried or are considering trying. By listing one or two therapies from each of the four categories presented in the therapeutic wheel, practitioners let patients know that they are aware of a range of remedies that families might consider without necessarily endorsing or condemning any. Ongoing education and additional research to assess the cost and effectiveness of a variety of therapies are needed. This model can provide a basis for patient-centered collaboration and ongoing education rather than polarized competition.

REFERENCES

- Eisenberg DM, Kessler RC, Foster C, et al. Unconventional medicine in the United States. *N Engl J Med*. 1993;328:246-252
- Spiegelblatt L, Laine-Ammara G, Pless IB, Guyver A. The use of alternative medicine by children. *Pediatrics*. 1994;94:811-814
- Stern RC, Canda ER, Doershuk CF. Use of nonmedical treatment by cystic fibrosis patients. *J Adolesc Health*. 1992;13:612-615
- Weizman Z, Alkiranawai S, Goldfarb D, et al. Efficacy of herbal tea preparation in infantile colic. *J Pediatr*. 1993;122:650-652
- Johnson ES, Kadam NP, Hylands DM, et al. Efficacy of feverfew as prophylactic treatment of migraine. *Br Med J*. 1985;291:569-573
- Lindahl O, Lindwall L. Double-blind study of a valerian preparation. *Pharmacol Biochem Behav*. 1989;32:1065-1066
- Berkowitz CD. Homeopathy: keeping an open mind. *Lancet*. 1994;344:701-702
- Rieder MJ. Prevention of neural tube defects with periconceptional folic acid. *Clin Perinatol*. 1994;21:483-503
- Kleijnen J, Ter Riet G, Knipschild P. Vitamin B6 in the treatment of premenstrual syndrome—a review. *Br J Obstet Gynecol*. 1990;97:847-852
- Warshafsky S, Kamer RS, Sivak SL. Effect of garlic on total serum cholesterol. A meta-analysis. *Ann Intern Med*. 1993;119:599-605
- Nagarathna R, Nagendra HR. Yoga for bronchial asthma: a controlled study. *Br Med J*. 1985;291:1077-1079
- Spiegel D, Bloom J, Kraemer AC, Gottheil E. Effect of psychosocial treatment on survival of patients with metastatic breast cancer. *Lancet*. 1989;2:888-891
- Wheeden A, Scafidi FA, Field T, et al. Massage effects on cocaine-exposed preterm neonates. *J Dev Behav Pediatr*. 1993;14:318-322
- Field T, Morrow C, Valdeon C, et al. Massage reduces anxiety in child and adolescent psychiatric patients. *J Am Acad Child Adolesc Psychiatr*. 1992;31:125-131
- Lu DP, Lu GP. Acupuncture anesthesia/analgesia for pain and anxiety control in dental practice. *Compendium*. 1993;14:464-468, 470-472
- Klide AM. Acupuncture analgesia. *Vet Clin North Am Small Anim Pract*. 1992;22:374-379
- Hesse J, Mogelvang B, Simonsen H. Acupuncture versus metoprolol in migraine prophylaxis: a randomized trial of trigger point inactivation. *J Intern Med*. 1994;235:451-456
- Bellumomini J, Litt RC, Lee KA, Katz M. Acupressure for nausea and vomiting of pregnancy: a randomized, blinded study. *Obstet Gynecol*. 1994;84:245-248
- Brewington V, Smith M, Lipton D. Acupuncture as a detoxification treatment: an analysis of controlled research. *J Subst Abuse Treat*. 1994;11:289-307
- Gagne D, Toye RC. The effects of therapeutic touch and relaxation therapy in reducing anxiety. *Arch Psychiatr Nurs*. 1994;8:184-189
- Kramer NA. Comparison of therapeutic touch and casual touch in stress reduction in hospitalized children. *Pediatr Nurs*. 1990;16:483-485
- Byrd RC. Positive therapeutic effects of intercessory prayer in a coronary care unit population. *South Med J*. 1988;81:826-829
- Dossey L. *Healing Words: The Power of Prayer and the Practice of Medicine*. New York, NY: Harper Collins; 1993
- Reilly D, Taylor MA, Beattie NG, et al. Is evidence for homeopathy reproducible? *Lancet*. 1994;344:1601-1606
- Jacobs J, Jimenez LM, Gloyd SS, et al. Treatment of acute childhood diarrhea with homeopathic medicine: a randomized clinical trial in Nicaragua. *Pediatrics*. 1994;93:719-725

PIR QUIZ

- Of the following conditions, the one that can be treated *most* appropriately primarily by lifestyle therapy is:
A. Acute otitis media.
B. Crohn disease
C. Pulmonary hypertension.
D. Systemic hypertension.
E. Urolithiasis.
- Of the following conditions, the one that can be treated *most* effectively with biomechanical therapy is:
A. Acne.
B. Autoimmune thyroiditis.
C. Depression
D. Primary enuresis.
E. Retinitis pigmentosa.
- Of the following conditions, the one that can be treated *most* effectively with bioenergetic therapy is:
A. Acne.
B. Conduct disorder.
C. Inflammatory bowel disease.
D. Migraine headache.
E. Schizophrenia.
- Of the following conditions, the one that can be treated *most* effectively with biochemical therapy alone is:
A. Attention deficit hyperactivity disorder.
B. Chronic recurrent abdominal pain.
C. Intussusception.
D. Streptococcal tonsillopharyngitis.
E. Tension headache.