

Energy Medicine in the United States: Historical Roots and the Current Status

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Brief Historical Perspective of Subtle Energies and Energy Medicine

The field of energy medicine has a long history in the United States dating back almost two centuries. During the 19th century, there was a widespread interest in electrotherapy devices and many were sold in mail order catalogs. An overview of the development of the field of electrotherapy can be found in Dr. James Oschman's book, "Energy Medicine: The Scientific Basis" (Oschman, 2000). Little academic research was done in this field in the United States after the Flexner Report of 1910 led to the overhaul of medical school education and research. Electrotherapy was declared scientifically unsupportable and was legally excluded from clinical practice. One of the few researchers who did excellent work was **Dr. Harold Saxton Burr** at Yale University who investigated energy fields in living systems from 1932 to 1956. He called these L fields. His work was considered out of step with research conducted in mainstream medicine and biology of his time and few researchers continued his work.

Another pioneer who was active in the early part of the 20th century was **Albert Abrams M.D.** He became Professor of Pathology at Cooper College in San Francisco in 1893 and was also elected vice-president of the California State Medical Society in 1889. In 1916 he published *New Concepts in Diagnosis and Treatment* in which he described the Electronic Reactions of Abrams (ERA). This might be considered as the beginning of subtle energetic diagnostic methods. According to ERA, all diseases have their own "vibratory rate" which can be measured, and also treated, with unique electronic boxes developed by Abrams.

According to his theory, one could cure disease by "transmitting" back to the diseased tissue the same subtle vibratory rate it was "transmitting." This would neutralize the abnormal vibrations and allow the tissue to exhibit healthy vibratory rates, thus potentially eliminating the disease. Abrams also believed that drugs worked when they had the same or similar "vibrations" as the disease they cured. In this approach to disease his thinking was somewhat analogous to the teachings of **Samuel Hahnemann** (1755 – 1843), the founder of homeopathy. However, Abrams' methodology always involved a trained person performing auscultation in conjunction with his specific devices such as the reflexophone, and later the oscilloclast. Abrams work was one of first attempts in the 20th century to apply the subtle energy domain to medicine and later led to the development of "radionics." That term was chosen since it was (wrongly) thought that the process involved the newly discovered radio waves (Russell, 2004).

3500 practitioners were using Abrams machines at the height of his popularity in 1923. The medical establishment of his time tried to discredit his methods because they could not explain how a simple box with resistors could be used to come up with any valid results. However, no formal investigation of Abrams' methods was ever undertaken by the American Medical Association (AMA). After his death in 1924, many practitioners continued using his devices and further development was carried out by George de la Warr in the United Kingdom and Dr. Ruth Drown. Drown was the last major ERA practitioner in America. The field of radionics cannot be understood as acting though traditional transverse electromagnetic waves, but may be classified as a division of vibrational medicine that has become popular through the publications of the late **Richard Gerber M.D.** who wrote extensively about it (Gerber, 1988; Gerber, 2000).

Nicola Tesla, the inventor of modern alternating current technology, also had promoted the use of high frequency currents developed by his Tesla coil devices for healing. In a paper delivered at the 1898 annual meeting of the American Electro-Therapeutic Association in Buffalo, NY entitled *High Frequency Oscillators for Electro-Therapeutic and Other Purposes*, he stated: “When a person is subjected to the action of such a [force magnifying] coil, the proper adjustments being carefully observed, luminous streams are seen in the dark issuing from all parts of the body... soon after the person perspires freely.”

Tesla described a unique type of radiation created by his unique coil designs that appeared to differ significantly from the conventional transverse electromagnetic waves described by Heinrich Hertz. Tesla radiations are considered to be analogous to longitudinal waves, similar to sound waves, and have also been called non-Hertzian waves. These coil designs worked by producing a broad spectrum of high frequency emissions which appeared to create beneficial resonance conditions within living tissues. One person who applied this technology with unique antenna designs was the Russian radio engineer Georges Lakhovsky who worked in Paris with doctors successfully curing cancer in the 1930s. He also immigrated to the United States and received patents for his medical applications. The beneficial application of Tesla technologies to medicine were also described by Dr. Gustave Kolischer on September 6, 1932 at the American Congress of Physical Therapy in New York: “Tesla's high frequency electrical currents were bringing about highly beneficial results in dealing with cancer, surpassing anything that could be accomplished with ordinary surgery.”

There was also widespread interest in unusual scientific phenomena including dowsing, radiesthesia and kindred divining phenomena, and psychical research. Extensive investigations were carried out by **Joseph Banks Rhine** (1895 –1980) who was a pioneer of parapsychology in the United States. Rhine founded the parapsychology laboratory at Duke University, established the Journal of Parapsychology (www.rhine.org/journal.shtml#GENERALINFO), and created the Foundation for Research on the Nature of Man in 1962 which was renamed the Rhine Research Center (RRC) in 1995 (see later). The RRC comprises two subsidiaries: The Institute for Parapsychology and the Parapsychology Press. J.B. Rhine also initiated the Parapsychological Association (www.parapsych.org). These unusual phenomena were summarized as early as 1949 by the biometeorologist **S.W. Tromp** in his landmark book *Psychical Physics* which offered the first scientific compendium of the living organic biofield, the geophysical field, and the effects of various atmospheric influences and electromagnetic

fields on living systems. All this work may be considered foundational for the later development of energy medicine.

The specific term “energy medicine” appears to have its origin in the late 1980s. The John E. Fetzer Foundation (www.fetzer.org) of Kalamazoo, MI sponsored an international **Energy Medicine Conference** held during February 27 – March 1, 1987 in Madras, India. Many American scientists attended this meeting with sponsorship from the Fetzer Foundation. Of the more than 60 presentations that were delivered at this conference, 28 appeared in the 1988 publication *Energy Medicine around the World* edited by **Dr. T.M. Srinivasan**. Almost half of the chapters in this first energy medicine book were authored by researchers from the United States. Dr. Srinivasan subsequently became an investigator for the Fetzer Foundation working with the Edgar Cayce Clinic in Phoenix, Arizona collaborating with Drs. Gladys and William McGarey and Harvey Grady to research various energy medicine phenomena. He also collaborated with Dr. Elmer Green from the Menninger Foundation in some of this research. In 1989, both men, together with Dr. Carol Schneider, founded the International Society for the Study of Subtle Energy and Energy Medicine (see below).

Dr. Elmer Green, considered by some to be one of the fathers of biofeedback, had a long-standing interest in psychic phenomena and psychophysiology. In 1970 he studied the Indian Swami Rama at the Menninger Foundation which subsequently led to a 1973 field trip to India to conduct physiological research on a variety of swamis, yogic adepts, Tibetan trance meditators and other people having unusual self-regulation skills. During the 1970s there was intense interest in biofeedback processes and subtle body energetic systems, including the yogic teachings on the chakras, the numerous energy vortices in the body described in Laya Yoga and other yogic systems. Dr. Green and his partner Alyce Green wrote about their expanded view of psychophysiological self-regulation in their book *Beyond Biofeedback* (1977).

From Eastern yogic traditions also comes the expanded concept of vitality or life breath called “prana,” and especially the concepts of multiple bodies beyond the flesh and blood physiological body, conceived in various systems as “layers” with names such as the etheric body, the astral body, the emotional body, the mental body, and other spirit bodies. A recent encyclopedia of the subtle energetic anatomy of human beings, including an attempt of some quantum physical explanations, has just been published by **Cyndi Dale** entitled *The Subtle Body* (2009).

From Taoist alchemy and Traditional Chinese Medicine (TCM) comes the principle of Chi or Qi, with its Cosmic and Microcosmic cycles and flows through the channels or acupuncture meridians in the body. The ideas of subtle energy in the form of life energy or “Chi” began to be more widely appreciated in America after President Richard Nixon’s visit to China in 1971. Accompanying President Nixon on his trip was journalist James Reston who fell ill with appendicitis, and was treated with acupuncture following an emergency operation. Impressed by its benefits, Reston wrote of his acupuncture experience following his return to the United States in the New York Times, sparking American interest in acupuncture and Traditional Chinese Medicine.

Since the 1970s, there have been an increasing number of American researchers active in the field of subtle energies and energy medicine. These include Professor William Tiller, Professor Emeritus from Stanford University, the late Robert Becker M.D., the late Professor Ross Adey M.D., Norman Shealy M.D., Professor Cyril Smith and Dr. Mae-Wan Ho both from the United Kingdom, and to name only a few of the more widely published researchers. Their contemporary work is described in more detail in the following sections.

The Unique Role of ISSSEEM

The International Society for the Study of Subtle Energy and Energy Medicine (www.issseem.org) has been continuously active in the field of energy medicine for almost two decades. This organization continues to play a formative role in developing the field of subtle energies and energy medicine through the publication of their journal *Bridges* and the peer-reviewed journal *Subtle Energies and Energy Medicine*.

ISSSEEM's mission grew out of the work of research partners Dr. Elmer Green and Alyce Green, and their co-workers at the Menninger Foundation then located in Topeka, Kansas and involving research into psychophysiological self-regulation. In 1969, scientific colleagues of the Greens joined together to found the Biofeedback Research Society, which later became the Biofeedback Society of America (BSA). In 1988, the BSA reidentified itself as the Association for Applied Psychophysiology and Biofeedback (AAPB), an organization that today describes itself as a “society for mind-body interactions in research, healthcare and education.”

In contrast to the mind-body approaches that were based on more behavioral and biomedical research into psychophysiological interactions, ISSSEEM represented an evolution in thinking and scientific inquiry to include a body-mind-spirit perspective. Today it is home to both researchers interested in exploring energy medicine in the context of transcendent and unitive experiences, both scientifically and personal, that also helps to advance the frontiers of the science of human consciousness. They define energy medicine as the diagnostic and therapeutic application of “energetic and information interactions resulting from self-regulation” or brought about by interactions between mind and body. In this context, energy is given an expanded definition beyond the familiar acoustic and electromagnetic energy fields that are known to impact human biology and psychology. In addition the term “subtle energies” was introduced to describe not-yet-measurable energies that seemed to affect both physiologic and physical mechanisms, perhaps through a system of subtle channels, layers or sheaths that interpenetrate the dense physical body. These subtle energy systems have been described for centuries in non-Western healing systems.

ISSSEEM promoted the idea that subtle energies and energy medicine are synergistic components in a new scientific field that had its roots in Eastern medical systems and the subtle anatomy described in Western esoteric traditions. As an educational society, ISSSEEM promotes the dissemination of theoretical perspective and experimental research from biomedical, physical and behavioral sciences. The annual conference of the society draws an international audience and is now held in Westminster, Colorado near Denver. There are now

18 volumes of ISSSEEM's journal in publication and it is hoped it will soon be available for online searches through the Index Medicus database at the U.S. National Library of Medicine.

Besides this journal dedicated specifically to energy medicine and subtle energy research, the Mary Ann Liebert publication, Journal of Alternative and Complementary Medicine (www.liebertonline.com/acm), has been publishing 15 volumes to date in this complementary medicine field. From time to time valuable research articles in energy medicine have appeared here. The Volume 10, No. 1 issue in February 2004 was specifically dedicated to the field of energy medicine and is an excellent journal worth having in any energy medicine library.

US Government Recognition of Energy Medicine

Today, energy medicine is officially recognized by the U.S. healthcare systems as a sub-specialty within the larger field of Complementary and Alternative Medicine (CAM). The National Center for Complementary and Alternative Medicine (NCCAM), a center within the National Institutes of Health (NIH), is the federal government's lead agency for scientific research on CAM. NCCAM's mission is "to explore complementary and alternative healing practices in the context of rigorous science, and to disseminate authoritative information to professionals and the public." NCCAM's budget has risen from 2 million dollars in 1993, when it was originally called the Office of Alternative Medicine, to \$121.6 million in 2008.

NCCAM classifies five domains within CAM as follows:

1. Whole Medical Systems such as homeopathic medicine, naturopathic medicine, Traditional Chinese Medicine (TCM) and Ayurveda;
2. Mind-Body Medicine such as meditation, biofeedback, or mental healing;
3. Biologically based practices such as herbs and specialty foods;
4. Manipulative and body-based practices such as chiropractic, osteopathy, and massage;
5. Energy Medicine.

According to NCCAM, energy medicine is divided into the application of "veritable" energy fields, those that can be measured for diagnosis and treatment, and "putative" energy fields (also called biofields) that have defied measurement to date by reproducible methods. Veritable energy include mechanical vibrations (such as sounds); electromagnetic forces, including visible light, magnetism, monochromatic radiation (such as lasers), and rays from other parts of the electromagnetic spectrum. In contrast, putative energies are based on the concept that a subtle form of energy (vital energy or life force) infuses living systems that has been known in traditional healing systems by many names such as prana, etheric energy, fohat, orgone, Odic force, mana, and homeopathic resonance. Further details can be found at: (nccam.nih.gov/health/whatisacam/energy/energymed.htm).

Examples of practices involving putative energy fields include Reiki and Johrei, both of Japanese origin, the Chinese practice of Qi Gong, Healing Touch and Polarity Therapy, Therapeutic Touch and related practices, distant healing, and intercessory prayers. Although these approaches are the most controversial of CAM energy medicine practices, they are gaining in popularity in the American marketplace and have become the subjects of

investigations at several academic medical centers. A recent National Center for Health Statistics survey indicated that approximately one percent of Americans had used energy medicine techniques, 0.5 percent had used veritable energy techniques, and 4.6 percent had used some kind of healing ritual (CDC Advance Data and Report #333, 2004).

Energy medicine as it is practiced and studied is not restricted to what NCCAM includes in Energy Therapies, but also overlaps with practices in the other four NCCAM fields listed above. Moving some form of “life energy” has been part of every traditional healing system since antiquity. Western scientific thought unfortunately removed the concept of “vitality” or “*élan vital*” from medical science in the 19th century and thus had difficulty reincorporating these ideas that form such a vital part of Eastern medicine systems. However, during the last three decades, Americans and Canadians have embraced the many therapeutic approaches offered by the proponents of these traditional healing movements.

Each year, almost half of Americans use some form of alternative therapy, typically as an adjunct or complementary modality to conventional Western medicine. Medical schools and hospitals are tentatively offering a few courses and programs now in CAM approaches. A much wider offering is available from a wide variety of alternative service providers which go under a wide variety of names including Humanistic, Holistic, Complementary, Integral, Quantum Integrative, Alternative, and Energy Medicine. The lack of agreement on commonly accepted terminology, standards of practice, lack of sufficient evidence-based outcomes research, philosophical and scientific foundations for practice, coupled with a generally hostile orientation from materialistically-based scientific skeptics has led to some measure of fragmentation in the CAM community and some confusion by the general public. This also applies to many modalities used by energy medicine practitioners. The table below gives some indication of the wide range of categories in general use in holistic medicine / CAM.

List of Specialties in Holistic Medicine / CAM (some involve aspects of energy medicine)		
Acupuncture/Acupressure	Health promotion	Orgonomy
Anthroposophy	Homeopathy	Qigong
Aromatherapy	Hypnotherapy	Polarity Therapy
Ayurveda	Healing Touch	Psychoneuroimmunology
Bioelectromagnetic therapy	Imagery	Psychotherapy
Biofeedback	Indigenous medical practices	Reflexology
Botanical medicine	Intuition practices	Reiki
Chiropractic	Massage	Relaxation/stress reduction
Craniosacral therapies	Meditation	Spiritual healing/ prayer
Creative Art therapies	Medical Acupuncture	Therapeutic Touch
Flower and gem essences	Mind-body therapies	Tibetan Medicine
Diet/ Nutrition/ Supplements	Naturopathy	Traditional Chinese Medicine
Environmental medicine	Nonlocal therapies	Yoga
Five Element Chinese Medicine	Osteopathic medicine	

Although CAM, also called Integrative Medicine by other groups, has made considerable inroads into conventional Western medical education in the United States, energy medicine, as such, is not widely known in medical schools. Nonetheless, energy medicine must always be considered when discussing CAM modalities since it forms a core discipline within the entire CAM field. In that context, consider the following U.S. statistics:

- The National Center for Complementary & Alternative Medicine (NCCAM) reports that more than 42% of Americans use alternative medicine to address their health and wellness concerns.
- In addition, Americans spent more than \$28 billion on these therapies in 1998, exceeding out-of-pocket spending for all USA hospitalizations.
- A 1994 published survey revealed that more than 60% of doctors from a wide range of specialties recommended alternative modalities to patients at least once. The same study also reported that 48% of those doctors used alternative modalities themselves.
- The Journal of the American Medical Association reported a 48.3% increase in total visits to alternative medicine practitioners between 1990 and 1998.
- Nearly 85% of U.S. medical schools offer elective courses in alternative and complementary medicine or include it in required courses.
- In 1993, the New England Journal of Medicine reported that more than 34% of all Americans have used some form of alternative medicine. A 1998 follow-up study showed that this figure had increased to 42% of all Americans.

As a result of these trends, several alternative educational institutions have arisen as well as specialty licensing boards in the CAM field. The most prominent of these operating in the United States are described in the next section.

Energy Medicine in Educational Institutions

There are 87 medical schools that have been identified as offering some curricula introducing Complementary and Alternative Medicine (CAM) to the allopathic medical students. Of these, only a very small number actually have some reference to energy medicine. These are:

University of Arizona: Integrative Medicine: Energy Medicine.

University of Maryland School of Medicine: Center for Integrative Medicine: Energy Therapies.

University of Vermont, Nursing College: Energy Medicine.

Bastyr University in Seattle, WA: Naturopathic medicine including homeopathy and acupuncture.

Ohio State University Medical Center: Energy Medicine (Reiki, Qi Gong, Therapeutic/Healing Touch and Polarity Therapy).

Among the 87 CAM curricula in the medical schools, which are mostly offered as elective courses to the medical students, there have been a few unique energy medicine offerings. For example, at Mount Sinai School of Medicine of the City University in New York, Joyce Shriver, Ph.D. was offering “The Power of Subtle Body: Innovative Qi Gong” and “The Science of Yoga.”

The University of Arizona in Tucson is noteworthy for having been funded for an NCCAM program grant at the Center for Frontier Medicine in Biofield Science under the direction of Dr. Gary Schwartz. Some characteristics of the biofield were investigated by a team of several researchers including Mikel Aiken, PhD, Ann Baldwin, PhD, Iris Bell, MD, PhD, Audrey Brookes, PhD, Katherine Burleson, MD, Maureen Campensino, PhD, Melinda Connor, PhD, Katherine Creath, PhD, Allan Hamilton, MD, Lewis Mehl-Madrona, MD, PhD, Cheryl Rittenbaugh, PhD, and Beverly Rubik, PhD.

Specifically, they investigated whether the biofield could be observed in cells, plants, animals and humans; what factors influence the direction, magnitude and stability of biofield effects; and whether biofields can be measured from living systems using state-of-the-art bioelectromagnetic and optical instruments. They concluded that significant advances in both biofield science and mind-body science can best occur when these two areas are systematically integrated. Moreover, recent advances in bioelectromagnetic and optical instrumentation have the potential to help address the important question “does it work in theory?” Contemporary findings and theories in consciousness studies and quantum physics (including parapsychology – see Radin, 2006) hold great promise. Their report is available from this source: http://lach.web.arizona.edu/CFMBS_Report.pdf

In California, there are several unique accredited graduate schools that offer graduate degrees in Integrative and Holistic Health. None of these have developed a specific course in energy medicine to date; however, they recognize the value of this emerging field as a distinct subspecialty within CAM. In addition, two unique programs in integrative healthcare and energy medicine have been created in the last decade, one at Holos University Graduate Seminary and the other at Energy Medicine University. These institutions offer prospective students some opportunities for a course of study in energy medicine or energy psychology. However, most people active in the energy medicine field obtain further training in workshops and seminars at various conferences such as ISSSEEM, Institute of Noetic Sciences and others.

The California Institute for Human Science (www.cihs.edu) was started by the Japanese researcher, yogic adept and electrical engineer Dr. Hiroshi Motoyama in Encinitas, CA. They offer graduate programs in various disciplines including Human Science. CIHS is also conducting research on *ki*-energy (Japanese word for chi or life energy) employing a measuring device called AMI (an apparatus for measuring the function of meridians and their corresponding internal organs) which Motoyama invented. The overall aim of the Integral Health Program is to prepare the student for original research of a distinctly holistic and integrative nature.

Their doctoral program in Integral Health has been designed to foster the following aims: (1) to present a course of study which allows for the development of a sophisticated grasp of convergences and divergences in Eastern and Western thought in medicine, science, religion, and philosophy, and for synthetic-integrative possibilities; (2) to provide training in a range of devices which yield physical data bearing upon manifestations of body-mind-spirit in operation; (3) to apply and expand scientific forms of investigation to incorporate study of "paranormal" aspects of human life, and to show how such phenomena can be assimilated into religious thought and philosophy; (4) to provide an opportunity for students with the appropriate

educational preparation to conduct a substantial research project which contribute to the synthetic goal of the field of Integral Health.

The California Institute of Integral Studies (www.ciis.edu) in San Francisco offers a Master of Arts in Integrative Health Studies. This program integrates Eastern, Western, and indigenous healing traditions, exploring personal, multi-cultural, and global definitions of health. It bridges traditional and contemporary mind-body-spirit perspectives and cutting-edge discoveries in the natural sciences.

Saybrook Graduate School (www.saybrook.edu) located in San Francisco has been offering graduate courses in humanistic psychology since 1971. The new dean of the Mind-Body Medicine doctoral program is Dr. James Gordon, a Harvard educated psychiatrist and a world renowned expert in using mind-body medicine to heal depression, anxiety, and psychological trauma. He is the Founder and Director of The Center for Mind-Body Medicine, a Clinical Professor in the Departments of Psychiatry and Family Medicine at Georgetown Medical School, and recently served as Chairman of the White House Commission on Complementary and Alternative Medicine Policy.

John F. Kennedy University (www.jfku.edu) has three campuses in the San Francisco Bay area including one in Berkeley. It has been offering a graduate degree in Holistic Health Education for 25 years. Its program explores the links among the physical, emotional, and spiritual aspects of health.

Holos University Graduate Seminary (www.holosuniversity.org) was founded by C. Norman Shealy, M.D., Ph.D. and has been in operation since 2002. This institution has graduated nearly 100 students and it offers a Master of Theology and Doctor of Theology research degrees in spiritual healing and energy medicine. Dissertations with full text are on the school web site. This institution located in Bolivar, Missouri also has unique fields of study in Integrative Healthcare, Medical-Counseling Intuition, Transformational Psychology and Spiritual Direction. Dr. Bernard Williams is President and Chief Executive Officer of Holos University Graduate Seminary.

Energy Medicine University (www.energymedicineuniversity.org) in Mill Valley, California was started by Francesca McCartney, PhD and has been in operation since 2006. It is the graduate degree school of the [Academy of Intuition Medicine](#) which was founded in 1984. It will graduate the first students in 2010. It will offer both a Master of Science and Doctor of Philosophy research degrees in Integrative Holistic Health. This new organization currently has fields of study in Integral Psychology, Medical Intuition, Bioenergetics, Biophysics, Organizational Transformation, Intuitive Counseling, Energy Psychology, Spirituality and Health. Dr. Bernard Williams serves as dean of the new university.

In addition, there are many Complementary and Alternative Training programs offered by a wide variety of institutions in the U.S. and Canada. The website Healthworld Online (<http://www.healthy.net>) lists 3,340 schools throughout the U.S. and 266 in Canada. These schools cover a wide range of disciplines ranging from acupuncture, massage, yoga, herbology, and chiropractic, to nutrition, feng shui, and zero balancing. Very few schools are directly

concerned with energy medicine as a separate discipline, and many interpret energy medicine from a subtle energy or putative perspective. California has the largest cross section of schools with 521 schools, colleges, and training facilities listed. Some of these institutions are licensed by the state, however a large number are private colleges, training facilities, or non-registered training centers.

Energy Medicine and Professional Associations

Although there are no formal bodies that certify energy medicine practitioners in the United States, professionals working in this field may be members of other professional associations. Some of these are listed below.

The American Board of Integrative Holistic Medicine (ABIHM) was founded in 1996 (www.holisticboard.org). The intention this board is the transformation of medical systems towards holism, combining science and compassion by creating, promoting and improving the standards for Integrative Holistic Medicine. They provide certification and maintenance of certification for physicians in Integrative Holistic Medicine and also seek cooperation with other professional and community groups who support Integrative Holistic Medicine. Energy medicine is considered one of six specialized areas within the science of holistic medicine as defined by this organization. The other five areas include biomolecular medicine, botanical medicine, ethno-medicine, homeopathic medicine, and manual medicine.

The American Holistic Nurses Association (AHNA) (www.ahna.org) is a non-profit membership association for nurses and other holistic healthcare professionals, serving more than 4,100 members and 160 local chapters/networks across the U.S. and abroad. In December of 2006, due to the efforts of AHNA, holistic nursing was recognized as an “official nursing specialty” by the American Nurses Association, with its own defined scope and standards of practice. The association offers endorsed programs in a variety of fields including Healing Touch, Integrative Healing Arts, Clinical Aromatherapy, Spirituality, Health and Healing and others. Energy medicine is just beginning to be recognized as a further valuable component of holistic nursing.

Energy Psychology: An Emerging Field

One uniquely new modality of treatment that has emerged in America and is being researched is called energy psychology (EP). Energy psychology is comprised of a set of physical and cognitive procedures designed to bring about therapeutic shifts in targeted emotions, cognitions, and behaviors (Gallo, 2004). It has been used as an independent psychotherapeutic approach, as an adjunct to other therapies, and as a self-care tool for emotional self-management. According to Dr. David Feinstein and his partner Donna Eden, energy psychology is considered to be a derivative of energy medicine (Feinstein & Eden, 2008), and postulates that mental disorders and other health conditions are related to disturbances in the body’s electrical energies and energy fields.

There are many reports on the beneficial use of energy psychology approaches in trauma recovery (Folkes, 2002; Feinstein, 2008b), psychotherapy (Gallo, 2002; Feinstein 2008a) and general psychology (Feinstein and Eden, 2008; Feinstein, Eden and Craig, 2005; Gallo 2004). More than two dozen variations of EP can be identified, with the most well-known being Thought Field Therapy (TFT), the Tapas Acupressure Technique (TAT), and the Emotional Freedom Techniques (EFT). Many of the variations adapt practices and concepts from acupuncture and acupressure; others borrow from yoga, meditation, qigong, and other traditional practices (Feinstein, 2008a).

There is an Association for Comprehensive Energy Psychology (ACEP – www.energypsych.org) that has been supporting this work for over 10 years. Dr. Greg Nicosia is the current president with Dr. Robert Schwarz serving as Executive Director. ACEP is an international nonprofit organization of licensed mental health professionals and allied energy health practitioners who are dedicated to developing and applying energy psychology methods for the treatment and relief of those suffering from emotional challenges such as addictions & compulsions, anxiety, depression, limiting beliefs, personality disorders, phobias, stress, and trauma. To date, only two peer-reviewed randomized control trials (RCTs) have been completed comparing the most well-established EP protocols with other modalities. These RCTs, however, meet American Psychological Association criteria establishing a form of EP as a “probably efficacious treatment” for specific phobias and another as a probably efficacious treatment for maintaining weight loss (Feinstein, 2008a). There are some researchers who believe that EP works through modification of the human biofield described in more detail by Rubik (Rubik, 2002).

Recently there has been considerable progress by suggestions that the science of epigenetics can explain a probable mechanism of action for energy psychological interventions and possibly energy medicine in general. (Church, 2007). Especially active in this area has been Dawson Church who has suggested that this new field be called “Epigenetic Medicine.” Epigenetic switching pathways turn the genes on or off based on environmental conditions, including emotions. It appears that there are over 100 genes in our body that are activated by thoughts, feelings and experiences. Those genes can be turned on or off deliberately through emotional responses and experiences, in as little as three seconds, thus dramatically affecting the immune system and modifying our resistance to disease. The cell biologist and former Stanford professor Dr. Bruce Lipton has also been active in this field with his very popular book *The Biology of Belief*. He lectures widely and believes that epigenetic signaling is a probable mechanism capable of explaining the effectiveness of many energy medicine modalities.

Another extensive body of teaching in applying the principles of subtle energy medicine was created by Donna Eden who often teaches this work with her husband David Feinstein. Her book *Energy Medicine* has been widely read and she has taught workshops for self-healing using the energetic methods developed by her for many years. Recently she has created a home study program and is working toward a certification program in this form of energy medicine. Further information can be found on their website: (www.innersource.net/energy_medicine/energy_medicine_main.htm).

Other Organizations interested in Energy Medicine

There are several other organizations that have their own research and educational agenda but are favorably disposed toward energy medicine, healing and the human biofield. Among the prominent organizations are the Institute of Noetic Sciences founded by astronaut Edgar Mitchell, Center for Frontier Science at Temple University, the Samuelli Institute, the Rhine Research Center, the Institute of HeartMath, the Foundation for Mind Being Research, the National Foundation for Alternative Medicine, and the Center for Neuroacoustic Research.

The Institute of Noetic Science (www.ions.org) is located in Petaluma, CA north of San Francisco and has conducted thirty years of groundbreaking research on human consciousness. It has a large membership and conducts annual conferences to share its research and educational outreach on selected topics of personal growth and shifts in human consciousness that are of interest to its membership. One part of its activities involves an integrated research and educational program that focuses on the interfaces between consciousness, science and society. This is a multidisciplinary, multimethodological, and multinational collaboration. Its three research areas, coordinated by director of research Dr. Marilyn Schlitz, are:

1. Extended Human Capacities and focuses on creativity, meditation, psi studies, subtle energies, states of consciousness including death, dying and beyond.
2. Integral Health and Healing including the investigation of biofields, distant healing, integral medicine, Mind Body medicine , extended survival, and placebo expectancy effects.
3. Emerging Worldviews which investigates integral intelligence, the science of wisdom, Gaia theory, transformative practices, cultivating spiritual awareness, and East /West /Indigenous Practices.

The Center for Frontier Science at Temple University (www.temple.edu/education/departments.html) was founded in 1987 after Richard J. Fox, then Chairman of the board of trustees, wanted to give scientists a chance to express ideas that were outside of mainstream science. One of its purposes was to examine new scientific claims that may lead to breakthroughs. The Center globally coordinates information exchange, networking, and education on frontier issues of science, medicine, and technology. The Center helps engender greater openness to scientific claims in various areas of science such as the relation between electromagnetic fields and life, the mind-matter interrelationship, complementary medicine, and novel energy technologies. Since 1989, the Center has hosted many public lectures. The Center's first director was Dr. Beverly Rubik and the current director is Nancy Kolenda. The Center publishes the journal **Frontier Perspectives** which contains many provocative articles including quantum physics, healing, bioelectromagnetics and other areas relevant to energy medicine.

The Samuelli Institute (www.samueliinstitute.org) is part of Samuelli Foundation in Alexandria, VA. Its mission is to transform health care through rigorous scientific exploration of healing using clinical, basic and health services research. Their four program areas involve integrative medicine; optimal healing environments; the Center for Research on Integrative Medicine in the Military (CRIMM); and brain, mind and healing. Many health issues are complex because they span across disciplines and can extend beyond science. The institute's approach is to take

into account the whole person including environment, belief systems, and general care needs - combining both allopathic and non-allopathic methods.

The Rhine Research Center (www.rhine.org) is a non-profit public educational organization licensed in the State of North Carolina that conducts research and public education and publishes the Journal of Parapsychology. It is interested in the field of parapsychology at large, including extrasensory perception (ESP), psychokinesis (PK), survival after death and near death experiences (NDE's), reincarnation, healing and others. A study of the human biofield is being carried out by Steve Baumann, Ph.D. and Bill Joines, Ph.D. A variety of detectors, including those that can measure charge accumulation and electromagnetic emissions, are being used to study bio-energy healers, meditators and people who claim unusual effects on electrical equipment. This is a continuation of work originally begun at Duke University that is being funded by a grant from the Bial Foundation.

The Institute of HeartMath (www.heartmath.com) in Boulder Creek, CA was founded by Doc Childre in 1971 as a non-profit research and education organization with a mission to study the physiological mechanisms by which the heart communicates with the brain and its influence on cognitive processing, perception, emotion and health. HeartMath is dedicated to improving health, performance and well-being at home and in the workplace by providing products and services that enable people to transform stress, better regulate emotional responses and harness the power of heart/brain communication. Their director of research is Rollin McCraty.

The foundation for Mind-Being Research (www.fnbr.org) located in Los Altos, CA was started by nuclear engineer and physicist William Gough in 1980 to explore the interface between science and consciousness. Its purpose is to assist in the evolution of integrated models that encompass the physical, mental and spiritual. The objective is to bring the new field of consciousness studies into wider recognition as a bona fide field of science. The Foundation nurtures a scientific, philosophical, and artistic community and has conducted monthly lectures and seminars including energy medicine.

The National Foundation for Alternative Medicine (www.nfam.org) in Washington, DC is currently working with a group of scientists to take a more targeted inventory of the broad array of energy medicine devices currently available in the marketplace. Their intention is to offer the public some objective background information to help interested parties to make more informed decisions as to the usefulness of various devices for healing and self-care.

The Center for Neuroacoustic Research (www.neuroacoustic.com) (CNR) in Encinitas, CA was created Dr. Jeffrey Thompson to research the application of sound in healing. The Center uses scientific testing procedures to observe the functioning of the body and brain guiding a precise use of sound to heal. Cutting edge, scientific sound technology, combined with a deep understanding of the ancient use of sound to heal and expand consciousness, has brought CNR the ability to balance the autonomic nervous system in real time. Advanced research equipment such as EEG brain-mapping, heart rate variability, stress monitors and others are making it possible to precisely measure the effects of specific sound frequencies in vibrational healing. Dr. Thompson's research and musical creations are increasingly being used by energy medicine practitioners.

There are many other organizations that have a specific interest in various energy medicine devices and technologies, many of whom seek to promote specific instrumentation or techniques. Due to the extensive nature of these devices and instrumentation, these have not been included in this introductory article. Many of these organizations have interesting articles on energy medicine which are usually the opinion of the authors. An example of such writings from the Institute of Technical Energy Medicine (ITEM), seeking to promote this field, can be found on their website (www.item-bioenergy.com/infocenter/index.html).

Pioneers in Energy Medicine and their Legacy

Over the last 20 years, the field of energy medicine has matured considerably due to the pioneering efforts of many dedicated researchers and educators. A few of the more noteworthy will be mentioned in this report (listed in alphabetical order) to highlight the growing scientific validity of this emerging medical field.

W. Ross Adey, M.D. (1922 – 2004), Professor of Anatomy and Physiology at UCLA, and later Loma Linda University, carried out extensive foundational research on cellular signaling influenced by electromagnetic fields. Ross Adey's career in medical science spanned 50 years and brought him international repute; his specific knowledge of the effects of electromagnetic fields on biological tissues earned him world renown. One of his revolutionary concepts suggested that brain tissues are sensitive to weak, sub-thermal intrinsic and environmental fields with biochemical, physiological, and behavioral effects. These low level fields induced brain tissue changes that were orders of magnitude below those associated with classic synaptic excitation. He is well remembered for his concept of the “Biological Window,” showing that low-level electromagnetic fields with specific amplitudes, frequencies and wave forms can induce electromagnetic resonances and tissue changes. By 1976 low level electromagnetic field effects had been shown to occur across the extremely low frequency (ELF) range, peaking between about 12 and 20 Hz. The effects were seen most clearly with the ELF signals amplitude modulated onto microwaves. He wrote extensively on the danger of widespread electromagnetic pollution from cell phones and other modern microwave radiation that is modulated by these low frequency fields.

Robert O. Becker, M. D. (1923 - 2008) was one of the first medical pioneers to study natural electrical currents in the human body and to caution about electropollution. Dr. Becker had been active in the field of bioelectromagnetics, publishing several outstanding overviews of this field as well as popular books that included, *The Body Electric: Electromagnetism and the Foundations of Life* and *Cross Currents: The Perils of Electropollution*. He showed how our human bodies and immune systems are being adversely affected by man-made electromagnetic fields from power lines, radar, microwaves, satellites, ham radios, video display terminals, and even electric appliances. In his books, Dr. Becker pointed out that radiation once considered safe, is now correlated with increases in cancer, birth defects, depression, and learning disabilities. His research funding was eliminated when he began to suggest that magnetic fields from 60 Hz power lines could adversely affect human health.

Mae-Wan Ho Ph.D. is the director of the Institute for Science in Society in the United Kingdom (www.i-sis.org.uk), an organization that is a source of information and reflection on issues related to genetic engineering in agriculture and medicine. However, her valuable contribution to energy medicine involves the characterization of the thermodynamics of organized complexity in living systems including the energy flow in living cycles, the liquid crystalline nature of living matter, and the application of quantum physics to life involving quantum entanglement and biological coherence. Following in the footsteps of quantum physicist Erwin Schrödinger's 1944 classic *What is Life?*, Ho wrote *The Rainbow and the Worm* lucidly describing the biophysics of organisms, thereby offering a solid foundation for the physics behind energy medicine. She is the only non-American in this listing.

James Oschman, Ph.D. is a well-known author who has described the biophysics of energy medicine and its application to therapeutics and human performance (2000, 2003). In 2009, Dr. Oschman was also the president of ISSSEEM. He was a student of Professor Albert Szent-Györgyi and helped to popularize his understanding of the energetic basis of biochemistry and all life processes (see below). He lectures extensively on the nature of the living matrix, the body's rapid communication system that displays semiconductor-like processes. He promotes the field of energy medicine internationally and has valuable resources available on his Nature's Own Research Association website. (www.energyresearch.us).

Elizabeth Rauscher Ph.D. (<http://elizabethrauscher.com>) is a theoretical physicist, researcher and inventor whose brilliant insights continue to offer a sound theoretical foundation for many subtle energy and energy medicine phenomena. With her late husband W.L. Van Bise, she invented a non-superconducting magnetic detector, external magnetic pacemaker, and pulsed magnetic pain control system. In her long career, she has authored more than 275 scientific papers and 6 books including a new model of relativistic physics in complex Minkowski space involving eight dimensions that expands on Albert Einstein's well-accepted theories. Her papers with Russell Targ specifically describe how 8-space can be used to give a scientific explanation for remote viewing, ESP and precognition. All these psi sciences have been studied by the U.S. government and selected academic institutions including the Stanford Research Institute (SRI) in California.

Royal Raymond Rife (1888 – 1971) was an American inventor who designed new optical microscopes to observe living pathogens at high magnifications. He developed "beam ray" devices could devitalize the pathogens by inducing destructive resonances. He worked with medical doctors to apply these devices to treat cancer and was hailed as a pioneer investigator in the 1930s. He believed that he could observe and render inert a number of living viruses which he thought were causal factors in several diseases. His work initially involved radio frequency devices but later was carried on with devices using audio frequencies without the benefit of microscopic examination of the pathogens. His work was never properly replicated by the modern medical establishment and remains controversial.

Paul Rosch, M.D. is the founder of the American Institute of Stress (www.stress.org) and a strong promoter of energy medicine. Dr. Rosch is Editor of Stress Medicine, Associate Editor of The International Journal of Emergency Mental Health, and International Journal of Stress Management. He has organized and presided over the annual [International Congress on Stress](#)

since 1988, which has featured state of the art presentations on all aspects of stress, as well as cutting edge research in relevant areas of Bioelectromagnetic and Alternative Medicine. He is also the co-editor of the 50 chapter book *Bioelectromagnetic Medicine* (2003) which provides an update on cutting edge presentations over the past decade at the International Congress on Stress and features research advances in Eastern Europe, Russia and the Orient that are not well known in the U.S. Included are state-of the art reviews on rTMS (repetitive transcranial magnetic stimulation), vagal nerve stimulation, cranioelectrical stimulation, electroporation millimeter wave therapy, pulsed and static magnetic field applications, theories of mechanisms of action and a new model of communication in the body based on electromagnetic signaling and the concept of an "electrical circulatory system."

Biophysicist **Beverly Rubik, Ph.D.**, the former Director of the Center for Frontier Sciences at Temple University, is now the director of the Center for Frontier Sciences in Oakland, CA (www.frontiersciences.org) with their laboratory in Emeryville, CA. Dr. Rubik has written extensively on the biofield hypothesis. She was the Chair of a 1992 National Institutes of Health panel that examined the efficacy of various bioelectromagnetic therapies. This was published in the 1994 report entitled, "Alternative Medicine: Expanding Medical Horizons" with a chapter entitled "Bioelectromagnetic Applications in Medicine."

Nobel Laureate **Albert Szent-Györgyi** (1893 – 1986) developed fundamental ideas about the application of the theories of quantum physics to the biochemistry, and later to cancer. He researched the subatomic properties of the protein fabric of the body and recognized that the living matrix behaved like a semiconductor. He recognized that almost all of the body formed an energetic continuum with molecules acting as vital "conductors" in the energetic dance of life. Late in life, Szent-Györgyi began to pursue free radicals a potential cause of cancer and aging. He came to see cancer as being ultimately an electronic problem at the molecular level. He inspired many researchers including Dr. James Oschman who continued to popularize his ideas.

William Tiller, Ph.D., Emeritus Professor of Materials Science from Stanford University, has published over 250 conventional scientific papers, 3 books and holds several patents (www.tillerfoundation.com). In parallel, for over 30 years, he has been pursuing serious experimental and theoretical study of the field of psychoenergetics which will very likely become an integral part of "tomorrow's" physics. In this new area, he has published an additional 100 scientific papers and four seminal books that detail his ground-breaking experiments with Intention Imprinted Electrical Devices. His new physics paradigm, which is backed by robust scientific experiments, is in part based on a newer, higher order electrodynamic model that suggests that consciousness and intention can affect material processes and biological assays.

The Future of Energy Medicine in Holistic Health

There are several other prominent and influential Western leaders emerging in the field of energy medicine. The **Rev. Rosalyn Bruyere**, founder of the Healing Light Center Church in California (www.rosalynbruyere.org), has influenced many of the healers in the United States including many of the nurses who have studied therapeutic touch as well as **Barbara Brennan**,

Ph.D. who directs the Barbara Brennan School of Healing (www.barbarabrennan.com) in Florida.

Other Western leaders in holistic medicine include: **Deepak Chopra, M.D.** (www.chopra.com) an advocate of meditation and quantum healing; **Dr. Jon-Kabat Zinn**, founder of a stress-reduction clinic at the University of Massachusetts and an expert on mindfulness meditation (www.mindfulnesscds.com/author.html); and, cardiologist **Dean Ornish M.D.**, an expert on reversing heart disease through diet, yoga and meditation. He created the Preventive Medicine Research Institute (www.pmri.org) and is a Professor at the University of California in San Francisco. His testimony to the U.S. Senate in 2009 on integrative healthcare can be found here: (http://help.senate.gov/Hearings/2009_02_26/Ornish.pdf). All these authors have found that calmness and self-knowledge gained through meditation may have therapeutic biological effects.

In the 1980s, **C. Norman Shealy, M.D.** (www.normshealy.com) grounded holistic and energy medicine into mainstream acceptability with his study and training of medical intuitives. His groundbreaking research with clairvoyant and author **Caroline Myss, Ph.D.** (www.myss.com) created the accepted definition of the term "medical intuitive." In the 1970s Dr. Shealy was one of the prime founders of the American Holistic Medical and Nurses Associations. Dr. Shealy created the first degree granting Energy Medicine Program within Greenwich University (now defunct). This program participated in a new academic paradigm for the study of biology and medicine based on energy-information. As described earlier, in 2002 Dr. Shealy founded the Holos University Graduate Seminary to provide graduate degrees in spiritual healing research.

In the 1990s, three mainstream doctors published books on the interaction of the human energy field and medicine. **Christine Northrop, M.D.**, wrote about energy anatomy in her best-selling book, *Women's Bodies, Women's Wisdom*. **Judith Orloff, M.D.**, wrote about clairvoyance in the practice of psychiatry in her book, *Second Sight*. Psychiatrist and neuroscientist **Mona Lisa Schultz, M.D.** wrote *Awakening Intuition*, which explains how to use the mind-body network for insight and healing.

Holistic Medicine in Mainstream Healthcare

In the past decade, holistic medicine has become a recognizable presence in the healthcare field. Holistic medicine modalities are being taught to hospital staff at California Pacific Medical Center, Health and Healing Clinic in San Francisco. Medical intuitives are sitting in surgery rooms at Stanford Medical Center in Palo Alto, California. Energy medicine documentation forms for medical insurance claims have been available on the Internet since January 1999.

Hospitals, surgery rooms, medical clinics, insurance companies, and burgeoning academic programs have begun to expand holistic/energy medicine into the currently established medical paradigm. Courses on the role of religious devotion and prayer in healing are currently being taught in approximately 50 U.S. medical schools. This is an historic development, a stunning

reversal of the exclusion of these factors from medical education for most of the twentieth century. In addition, conventional medical journals, such as the *Journal of the American Medical Association* (JAMA), are increasingly willing to publish studies involving unconventional therapies. JAMA's issue of November 11, 1998, was devoted exclusively to the field of alternative medicine.

New Integrative Medicine Initiatives

Ever since Barack Obama was elected as the U.S. President, there has been a widespread initiative to create a new healthcare system. Although the field of energy medicine has not been part of this dialogue, there are now emerging possibilities that are worth pursuing. On February 25-27, 2009 the National Academy of Sciences' Institute of Medicine (IOM) convened a summit that explored the science and practice of integrative medicine — health care that addresses together the mental, emotional, and physical aspects of the healing process — for improving the breadth and depth of patient-centered care and promoting the nation's health. The meeting reviewed the state of the science, assessed the potential and the priorities, and sought to identify elements of an agenda to improve understanding, training, practice, and other actions that might help improve the prospects for integrative medicine's contributions to better health and health care. Several energy medicine organizations see these positive developments as an opportunity to enlarge the health care dialogue to include energy medicine within the context of a possibly greater role for integrative medicine in the new medical system. There exists the possibility of considerable health care cost savings if the best diagnostic and treatment modalities in energy medicine were put to a large scale test. Further information is available at <http://www.iom.edu/?id=59924>

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