

# Development of a Healthcare Approach Focusing on Subtle Energies: The Case of Eden Energy Medicine

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## ABSTRACT

Eden Energy Medicine (EEM) is a hands-on healthcare approach providing assessments and interventions that focus on the body's electromagnetic and more subtle energy systems. More than 1600 certified practitioners have completed an intensive 2-year training program in the method, and these practitioners have brought the approach to hundreds of thousands of people in individual sessions and self-care classes.

In this article, the method's founders briefly trace its development and present illustrative case histories. They then address a number of questions that are pertinent for any approach to energy medicine from the perspective of their experiences advancing EEM.

Broader acceptance of energy medicine has been impeded by the field's emphasis on energies with purported properties not known in the energies that fall along the electromagnetic spectrum. Such assertions challenge conventional concepts within Western medicine.

The anomalies can, however, be explained by a framework that is informed by an understanding of subtle energies as conceived in healing systems from myriad cultures dating back thousands of years.

The authors present empirical evidence that supports the validity of the subtle energy concept, propose health-related implications of such energies, and present 9 discrete energy systems emphasized by EEM. They also review the clinical efficacy of energy medicine treatments.

Finally, they describe 6 advantages of an energy-informed approach to healthcare. Among these are an ability to address biological activities at their energetic foundations; the regulation of physiological processes with speed and precision; and the promotion of healing and prevention of illness with interventions that can be economically and noninvasively applied. (*Adv Mind Body Med.* 2020;34(3):25-36.)

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*Subtle doesn't mean delicate. In fact, science is beginning to suggest that the subtle—the as yet immeasurable—actually directs the measurable and forms our physical framework.*

Cyndi Dale  
The Subtle Body

Heated controversy can be found within the medical community about the nature or even the existence of the subtle energies described in numerous, time-honored healing traditions.<sup>1</sup> Meanwhile, informed interest in an invisible dimension of the physical universe that underlies and impacts health has been growing.<sup>2-4</sup> A landmark study

about energy medicine, *Subtle Energy & Biofield Healing: Evidence, Practice, and Future Directions*, was published in April 2020.<sup>5</sup> It estimates that approximately 174 000 healthcare professionals in the US provide services which include interventions that are described as impacting the body's subtle energies and that some 16 million people in the US receive these services.

Many of these practitioners have integrated energy techniques into conventional healthcare approaches. Others are identified with an organized healing system such as Reiki, Healing Touch, or Medical Qi Gong. This article describes the emergence of one of the more popular of these approaches, Eden Energy Medicine (EEM), and the ways whereby it has navigated some of the paradigm and institutional challenges that all therapies that use a subtle energy framework must face.

Our initial intention for this article was to address the skeptical but open-minded healthcare professional. We quickly realized, however, that the article would also have an audience on the opposite end of the spectrum, energy

medicine practitioners. These practitioners accept as obvious some of the premises that might be the most implausible for others. Attempting to address both audiences has been an interesting journey in itself, a microcosm of the debate about subtle energies that exists within the broader healthcare community.

In the paper, we (1) describe the origins of EEM, (2) present several clinical case examples, (3) discuss the nature of the energies involved in these cases, (4) make a distinction between the known properties of energies that fall along the electromagnetic spectrum and of those energies that aren't easily detected or measured by existing scientific instrumentation, (5) enumerate several postulated qualities of these more subtle energies that are relevant to healing, (6) present the nine energy systems that are used by EEM, (7) address questions of efficacy, and (8) review six advantages of an energy medicine approach.

## ORIGINS OF EDEN ENERGY MEDICINE

### Donna Eden

In 1959, at age 16, the first author (DE) was diagnosed with multiple sclerosis (MS). In her words:

While I was never fully confined to a wheel chair, I was periodically unable to walk. I intermittently experienced considerable pain and, not infrequently, would have *spells* come on without warning where I literally couldn't move for about 12 hours. At age 27, I had a heart attack and was told by several doctors that the systemic damage to my body was progressive and irreversible. I probably had only a few years remaining.

Independent of my health challenges, I had, for as long as I can remember, a capacity for sensing the body's energies more vividly and distinctly than most people, including an ability to see its energies as colorful fields, flows, and swirls. Much later, I learned that what I see corresponds with maps and descriptions found in ancient healing traditions. So I am not alone in this ability. I feel certain that the individuals who mapped these energies had a similar type of perception. In fact, the ability to respond to the direction and polarity of magnetic fields of extremely low intensity, well-established in homing pigeons and a variety of other animals, has now been detected in humans in laboratories at Cal Tech and the University of Tokyo.<sup>6</sup>

Back then, however, I had no knowledge of the ancient maps, and it had never occurred to me to use my facility with the body's energies in a healing context. Faced with deteriorating health and a grim prognosis, yet intent on raising my two young daughters, I focused my intuitive understanding of the body's energies on my illness. One of my first discoveries was that I could shift the energy flow in my legs by engaging their energies with my hands. This was consistently followed by a reduction in pain level.

I then devised and experimented with other procedures, such as making passes over my skin that moved the energies, circling my hand over certain spots, holding or rubbing on specific points, and engaging various postures or motions. I

found that I could increase the movement in energies that had been stagnant, as verified both by what I could sense and what I could see, and that this further reduced my pain. While some relief was almost immediate, it required about 6 months of daily, intensive work experimenting on myself, to find ways to systematically move the energies and get them into flow and balance before I was able to consistently walk well. It took about 2 years before I was relatively symptom-free.

Over the next couple of years, the most serious symptoms didn't return, although I would still on occasion have the spells where my nervous system seemed to give out and disable me for several hours. I would also periodically have weakness in my legs. By my mid-thirties, however, all my MS symptoms had subsided, and I have remained symptom-free for the past 40 years.

After my recovery, which my doctors hadn't considered possible, I was aware that I had learned a great deal during my healing. For instance, I realized that I had devised ways that could have substantially shortened the process from the 2 years I required, and I was figuring out how to teach what I had discovered to others. This, in fact, became my life's mission: to share these methods, particularly with those suffering from serious illnesses that hadn't responded to conventional treatments.

### Eden Energy Medicine

That was, in 1977, the birth of what has come to be known as "Eden Energy Medicine" (EEM). Donna began by offering one-on-one sessions. As of the time of this article, she has worked with an estimated 10000 clients in 90-minute sessions. As her approach took more form in her mind, she began teaching classes, which have been attended by more than 100000 people.

She initially also trained a few other practitioners in her method. They began reporting that her energy interventions were leading to positive outcomes, confirming that the effect was due to the method rather than any special abilities that might be specific to Donna. Following these encouraging reports, we initiated a formal training program in 2005 that has to date produced more than 1600 certified practitioners, who every week work with thousands of clients throughout the world.

### Case Histories

The primary reason for the popularity of EEM is that, even though no clinical trials have yet been published evaluating it, people find that it works. EEM can be applied on a self-help as well as practitioner-delivered basis, and reports of increased vitality and sense of well-being among people who continue to use the techniques for a period of time seem almost universal. In the hands of a skilled practitioner, EEM is a powerful adjunct to conventional medicine. Focusing on the body's energies rather than its physiology yields an invaluable complementary perspective. While efficacy research is only starting to be conducted, e.g.,<sup>7</sup>

the first step in establishing the effectiveness of a healthcare approach is to review case histories.<sup>8</sup> Hundreds of anecdotal accounts describe serious health conditions that have been alleviated, with the healing attributed largely to EEM. Three books have so far appeared describing the use of EEM after the authors overcame serious illnesses: reflex sympathetic dystrophy (RSD),<sup>9</sup> Lyme disease,<sup>10</sup> and cancer.<sup>11</sup> In the following section, we present 4 cases to provide a foundation for subsequent discussion of the energies that are the focus of energy medicine and of the ways energy methods can promote the healing process.

### **Case 1: Cancer and Scheduled Surgery**

Soon after opening her practice, Donna's credentials were fervently challenged by the husband of one of her first clients. Here is her recounting of that experience:

A woman with ovarian cancer came for a session with the hope that I (DE) could help her relax her body and prepare it for surgery that was scheduled in 5 days. She had been told to "get her affairs in order" because her immune system was so weak that her chances of surviving the surgery were limited. Metastasis was also suspected.

From looking at her energies, I had a very strong sense that the cancer hadn't metastasized. While the woman's energy was dim and collapsed close to her body, the only place that looked like cancer to me was in her left ovary. In addition, the texture, vibration, and appearance of the energy coming up through her ovary were responsive to my work with her. I could see and feel it shift, and by the end of the session, the pain that had been with the woman for weeks was gone.

I told her that her body was so responsive to what I had done that I wondered about the woman's plan to have surgery. I was concerned that her immune system might indeed be too weak, and I was confident that by working with her energy, not only would her immune system be strengthened, but also that the tumor's growth could be reversed. While I carefully made my statements with the strong disclaimers required to avoid arrest for practicing medicine without a license, the woman responded with horror to the implication that she cancel the surgery. I suggested that she at least delay the operation for 2 weeks. The woman scheduled a session with me for the next day and said she would discuss the surgery with her husband.

That evening I received a call from the woman's husband. He was outraged and threatening. He called me a quack. He said I was putting his wife's life in jeopardy by giving her false hope, and he told me I would never have another chance to confuse his wife. He made it clear that she wouldn't be coming back. When I began to respond, he hung up. I called back a short while later. The woman answered, and talking in hushed tones, she was clearly uncomfortable speaking with me. I said, "Okay, don't postpone the surgery, but please keep your appointment tomorrow. You don't have to pay. You have nothing to lose. I believe in what I am saying. In fact, I want you to bring your husband in with you. Find a way!" The

woman didn't believe he would come, but the next day, they both arrived for the appointment, with the offer to see her for free having quelled some of his suspicions that I was a charlatan out to make a buck.

I had the woman lie down on a massage table. My hope was to find a way to give this traditional and skeptical man, so poignantly fierce in his protection of his wife, an experience of healing energy that his senses couldn't deny. I could see a dark, dense energy at the site of his wife's left ovary, and it felt like my hand was moving through a muddy swamp. I asked the husband to place his hand a few inches above the area and begin to circle it, using a motion that tends to draw energy out of the body. To his great surprise, not only could he immediately feel that he was moving against something, within 2 minutes his hand was pulsing with pain. And to his utter amazement, his wife reported that her pain diminished as his increased.

By the end of the session she was again pain free, feeling better, and looking better. I showed them both, through the use of energy testing, that we had been able to direct healing energies from her immune system to the area of her cancer. I taught the husband a set of procedures to use with her every day. They decided to temporarily postpone the surgery and to ask for further medical tests before rescheduling it. After about 10 days of these daily treatments from him and 3 more sessions with me, the woman went through the additional testing. The tumor was gone.<sup>12(pp5-6)</sup>

### **Case 2: Lymphoma**

Tim Garton, a world champion swimmer, was diagnosed in 1989 at age 49 with stage 2 non-Hodgkin's lymphoma. A football-size tumor was surgically removed from his abdomen and followed by chemotherapy and radiation. By 1990, he was in remission, but due to the distress to his body caused by the tumor, surgery, chemotherapy, and radiation, he was told he would never again compete at national or international levels. Nonetheless, in 1992, he won the 100-meter freestyle FINA Swimming World Cup for his age category.

In 1999, he was diagnosed with prostate cancer, which again responded to aggressive treatment. In 2001, a lymphoma in Tim's neck was removed surgically. The following year, a growth on the other side of his neck was diagnosed as a fast-growing lymphoma that had become widespread, leading to concern that the lymphoma would metastasize back to his stomach. Various treatments, including bone-marrow and stem-cell transplants, weren't successful.

At that point, Tim enlisted the services of Kim Wedman, an energy medicine practitioner trained by Donna. Tim and his wife went to the Bahamas for 3 weeks and took Kim with them for the first week. Kim provided daily sessions lasting an hour and a half. These sessions included a basic energy-balancing routine, meridian tracing, a chakra clearing, and work with the electrical, neurolymphatic, and neurovascular points.

Kim also taught Tim and his wife a 20-minute, twice-daily, energy-medicine protocol, which they followed diligently, both during the week that Kim was there and for the subsequent 2 weeks. The protocol included a basic energy-balancing routine and specific interventions for the energy pathways that govern the immune system and that feed energy to the stomach, kidneys, and bladder.

Upon returning to his home in Denver, Tim scheduled a follow-up assessment with the same oncologist to determine how quickly the cancers might be spreading. The doctor had told him “we can do nothing more for you.” To everyone’s thrill and surprise, Tim was cancer-free. He remained so during the 4 years between that assessment and the time his case was originally reported.<sup>13(p.63)</sup> He had been checked with a positron emission tomography (PET) scan each year, with no cancer being detected. Tim’s subsequent cancer-related death at age 70 occurred 14 years after his work with Kim.

### Case 3: Multiple System Breakdown

Some illnesses have so many cascading symptoms that umbrella terms are used, such as “mixed connective tissue disease.” The following case describes the experience of one of EEM’s practitioners, who first came into EEM hoping to obtain help with this type of escalating condition, which she herself was experiencing. As illustrated in this case, malfunction in a single energy system can be at the root of numerous seemingly unrelated symptoms.

Twelve years prior to this account, the woman couldn’t walk up steps without pain shooting throughout her body. She was unable to hold a full-time job. Having just entered menopause, it was as if a culmination of lifelong, chronic health issues had somehow accelerated and morphed into a constellation of symptoms that were no longer tolerable.

She had suffered from a multitude of health issues most of her adult life—chronic back pain, irritable bowel syndrome (IBS), endometriosis, chronic headaches, temporomandibular joint (TMJ) problems, insomnia, seasonal and food allergies, anxiety, and the occasional panic attack. She carried around a special back-support pillow wherever she went, and her medications had their own suitcase when she traveled.

By the time she was forty, her lower-back issues were so bad that she had to manually move her leg to walk uphill. Unable to hold off surgery any longer, she underwent a laminectomy for an incarcerated nerve at L4/L5. When she awoke, she had excruciating pain down the sides of her legs that never went away. She tried physical therapy and hydrotherapy to ease the pain, but nothing did. A mother of 3 children under the age of 7, she was pushing a baby carriage and walking with a cane.

She went on Celebrex and Annaprox for the next decade. Around age fifty, together with hypothyroidism, she had developed alopecia, allergic reactions to her medications, and the pain in her legs had now spread to her hips, knees, ankles, and feet. She was diagnosed with an auto-immune illness called mixed connective tissue disease and was facing being in pain and on medication for the remainder of her life,

but treatment for her condition required medication, and she was allergic to any medication she took. She needed to find something she could do for herself that would address the pain without medication and didn’t involve having someone else “fix her” every few weeks for the rest of her life.

Serendipitously, she came across an internet video of Donna teaching. “Who is this woman?” she asked herself. Donna was like no one she had ever seen; she was older and yet was brimming with energy and enthusiasm. She reflected “I didn’t understand a word she said, but I was intrigued.” She went to Donna’s website and saw that Donna was presenting at a conference not too far from her the following weekend. She and her husband decided to register. By the end of the weekend, she had solved the mystery of both her lower-back and lateral leg pain and found out how they were interrelated.

Neurolymphatic reflex points are located on the back and front of the body, and when deeply stimulated, they activate the body’s lymphatic system. A build-up of lymph in the body can increase inflammation and pain. The lymphatic system, unlike the cardiovascular system, doesn’t have a pump. So stimulating the neurolymphatic reflex points is a primary way of dispersing lymph build-up. The neurolymphatic reflex points are connected to the body’s meridian system through another energy system called the Radiant Circuits. Known as the Extraordinary Vessels in Chinese medicine, the Radiant Circuits are part of the body’s innate healing mechanism and can move wherever healing is needed.

Working with the neurolymphatic points activates Radiant Circuit energies, which in turn balances the meridian, associated organs, and even the emotions governed by that meridian. In this case, L4/L5 on the lumbar spine and the lateral sides of the legs, which corresponded with the Large Intestine meridian. This explained why she was suffering with lateral leg pain postsurgery.

She finally had an answer to a decade-long mystery and a self-help tool that actually worked. What was even more impressive, because the Radiant Circuits link up and communicate with the meridians, the aura, the organs, and the emotions, the benefits of this technique are multifaceted. It also resolved her IBS and temporal headaches and balanced the emotions associated with the Large Intestine meridian. Pain-free for the first time in years, she went on to study EEM in depth. Today she is a full-time Advanced EEM Practitioner helping others heal themselves.

### Case 4: Chronic Pain

Pain is a powerful motivator. Many people seeking EEM services haven’t been able to overcome debilitating pain with conventional methods. Others have experienced some relief using pain medication but found the side effects to be more averse than the pain itself. The following case illustrates an application of EEM to chronic pain.

When the patient was 16 years old, she twisted slightly when diving into a pool and hit the water hard. For ten minutes afterward, she couldn’t feel the lower half of her

body. Slightly panicked and possibly in shock, she used her arms to paddle to the side of the pool and waited to see what would happen. Slowly the feeling returned to her body, and she was eventually able to climb out of the pool and hobble away. The lifeguard stopped her to ask if she was okay. She nodded and made light of the experience. After several weeks of soreness, she felt better and didn't tell anyone what had happened. Over the next 36 years, she was prone to intermittent back pain, but it was manageable.

In the summer of 2007, she overreached trying to pull something off a high shelf and experienced a searing pain in her back. In constant pain, she alternated visits to her primary care doctor, a chiropractor, and an orthopedist for months. An MRI showed that she had 3 herniated discs in her back's lower thoracic and lumbar region. The injury didn't appear to be recent. The doctors believed it traced back to the diving incident when she was a teenager, and she was referred to a back surgeon because of the persistent pain and a developing neuropathy in her right foot. She didn't go. As a nurse practitioner, she had seen the results of too many back surgeries that were less than successful.

A passing comment from an acquaintance pointed her in our direction. The woman reasoned that she had nothing to lose at that point. Conventional medicine hadn't helped, and she didn't want to pursue surgery. So she and her husband traveled to Virginia Beach the following weekend for a three-day workshop with us. She had no idea what to expect. Within 15 minutes of arriving, one of the teaching assistants noticed her discomfort and asked if she could help.

The assistant showed her how to tap on specific points on her ankles, and she felt tingling in her mostly numb right foot. She continued tapping around her ankles during the evening. When she stood up, she was amazed. Her back hardly hurt, and she could feel most of her right foot. She bought a copy of Donna's book *Energy Medicine*<sup>12</sup> at the conference bookstore, found a section on "Zone Tapping," and learned she could also tap on her wrists. She tapped all weekend, and her pain kept decreasing.

She was so impressed that she signed up for another workshop and read the book from cover to cover. She discovered that the muscles that hurt were related to the Bladder and Large Intestine meridians, so she learned to sedate those. By the time she arrived at the next workshop, the neuropathy and pain were gone. They haven't returned.

### Reflections

A distinguishing feature of EEM and other energy-oriented therapies, which was operative in each of the above cases, is that the approach focusses not on the illness or its symptoms but on the location at which the energies were blocked, scrambled, or otherwise out of harmony. The symptoms may guide the practitioner about where to look in assessing the state of the body's energies—with pain or a failing organ being particularly informative—but the medical diagnosis is secondary to the way the treatment is conceived. The target is systemic change brought about by balancing

and harmonizing the body's energies. While the approach will also often ease or completely alleviate symptoms or illness, the interventions are formulated with a different focus.

### THE ENERGIES OF ENERGY MEDICINE

How did the physical interventions used in each of the above cases bring about healing in conditions that weren't responding to conventional treatments? Mainstream medicine tends to view processes and outcomes through the lens of physiology; energy medicine views them through the lens of energy. Both frameworks are valid. And they meet at the most fundamental level.

Conventional medicine and energy medicine both recognize that the basic structure of life is comprised of atomic particles with continuously changing energies that are at the foundation of the chemical reactions in every cell of the body.<sup>14</sup> The healing process correlates with changes in the body's energies at multiple levels, ranging from the behavior of ions entering and leaving cell membranes to electrical impulses in the nervous system to the electromagnetic fields that surround every organ, even to changes in luminescence. The emission of low-intensity light—essentially an aura—by plants, bacteria, and animals, including humans, has been the subject of hundreds of published papers and has been shown to provide information about an organism and its state of health.<sup>15</sup>

The nervous system uses electrical signals to control the entire spectrum of human activity, including not only breathing, walking, speaking, swallowing, digesting, sleeping, thinking, and learning but also healing a wound, fighting an invading microbe, or reacting to other threats.<sup>16</sup> While nerve impulses are electrical signals, they differ from the familiar electricity that turns on an electric light, which is based on electrons, negatively charged particles flowing in a current. Instead, nerve impulses involve the action potential generated by the movements of positively and negatively charged ions across cell membranes.

Nerve impulses may be produced by stimuli—such as light, sound, or pressure, as in acupuncture—but they are in most cases triggered by signals sent from other neurons. With approximately 86-billion neurons in the human brain alone,<sup>17</sup> each connected to up to 10 000 other neurons, the nervous system is an incomprehensibly complex *energy* network operating on the *wiring* of the body's nerve cells.

Beyond the flow of electrical impulses from neuron to neuron are standing voltage gradients, which are electrical fields in the spaces between the cells that influence cell division, cell migration, and cell differentiation.<sup>18</sup> Organs also have measurable electromagnetic fields, with the heart's field being about 60 times greater in amplitude than that of the brain.<sup>19</sup>

Familiar diagnostic devices measure various facets of these energies. An electrocardiogram (ECG) measures the electrical activity and magnetic field of the heart. An electroencephalogram (EEG) measures the electrical activity

and magnetic field of the brain. A magnetic resonance imaging (MRI) device detects the energy that is released as specific areas of the body respond to a strong magnetic field.

Interventions into the electrical field surrounding the body have been shown to have therapeutic effects. Salamanders, which are able to regrow an amputated limb, can regenerate faster if an electromagnetic field is introduced into their water.<sup>20</sup> A number of medical devices are designed to provide therapeutic benefits by working directly with the body's energies. Bandages containing electrical nanogenerators facilitate wound healing<sup>21</sup>; pacemakers regulate cardiac activity by sending electrical impulses to the heart<sup>22</sup>; and transcutaneous electrical nerve stimulation (TENS) devices have been shown to reduce pain.<sup>23</sup>

If energy medicine practitioners were to limit their claims to having developed specialized techniques that enhance the activity of known electrical signals and electromagnetic fields, they would enjoy an easier dialogue with those who hold to a conventional medical perspective. But energy medicine practitioners also claim to work with energies that can't be readily detected by current scientific instruments, thus the term subtle energies. This poses a challenge to conventional medical models, with their reliance on what science is able to dependably detect and measure.

The case for introducing the concept of subtle energy into scientific discussion rests on identifying verifiable phenomena that can't be explained by the energies that have been mapped by conventional instruments. Anomalies, instances that aren't adequately accounted for by existing understanding, are the engine for paradigm change.<sup>24</sup>

Generally, anomalies are first ignored or explained away by those with a vested interest in the prevailing paradigm. In 1911, a prominent cardiologist said of one of the first medical instruments to measure activity in the body's energies, "I don't imagine that electrocardiography is likely to find any very extensive use in hospitals."<sup>25(p.100)</sup> Performing an electrocardiogram is today still the most commonly used cardiology procedure.

Perhaps the most notorious example in medicine is that of Ignaz Semmelweis, the Hungarian physician who suggested in 1847 that hand washing in the delivery room dramatically reduces mortality from infection.<sup>26</sup> Because germ theory wasn't yet accepted, Semmelweis could offer no acceptable scientific explanation for this finding, which conflicted with established medical opinions of the time, and he was widely shunned and sometimes ridiculed by the scientific community.

Germ theory was discounted because germs were invisible and means of detecting them unavailable. However, if an anomaly continues to appear and is verified, it eventually requires that a paradigm be updated or replaced. A variety of anomalies suggest that an undetected type of energy can perform functions that can't be adequately explained according to current understanding about the electromagnetic spectrum.

This article focuses on them at some length because as long as the underlying mechanisms presented to explain an

innovative treatment seem implausible, that treatment isn't likely to be embraced by the healthcare community. EEM has encountered this obstacle many times, and credible counterarguments to the materialistic paradigm is pertinent for all energy-medicine modalities.

### Subtle vs Electromagnetic Energies

The principle of parsimony is basic to all science: Choose the simplest explanation that fits the evidence. If several accounts have been proposed to explain a phenomenon, choose the one that requires the fewest assumptions. While this is usually applied as a criticism of overly-complex theories, it has an important corollary, which is that a reliable explanation must also fit *all* the evidence. Otherwise, the theory will be reductionistic, ignoring or dismissing important facts such as, in this case, the influences of subtle energies. Six postulated qualities of subtle energies that can't be explained by current understanding of the electromagnetic spectrum follow.

**Subtle Energies Can Persist Independently of the Biological Structures They Support.** More than a million people in the US—over 80% of individuals who have lost a limb—report phantom-limb pain.<sup>27</sup> Many describe distressing daily pain, yet the tissue, cells, and pain receptors are absent.

From the perspective of conventional medicine, "the underlying pathophysiology remains poorly understood."<sup>27</sup> It's typically but inadequately ascribed to reactivated memories from the brain's sensory cortex. In our view, the most reasonable explanation proposes the presence of an energy field at the site of the lost limb.<sup>28</sup> Successful treatments have, in fact, been reported that applied energy techniques in the area where the limb had been. One of Donna's cases illustrates this success.

A Vietnam veteran was experiencing debilitating pain in the area of his missing leg. Pain killers hadn't helped, although for a period he had become addicted to them. He broke the addiction but was still often in agony. That is when he came, grasping at straws no doubt, to have a session with Donna. She could see the energy field where his leg had been. The energies were severely contorted. She held the points in the area of the missing leg that she believed would correct the energy imbalance as if she were working with a physical leg.

The man and his partner looked on with some amazement since all they could see was that she was touching thin air. But within a few minutes, his discomfort went from intense to no pain. She taught his partner how to hold the points and invited them to return if needed. They called to say it was working: no pain. Whenever any unpleasant sensations arose, the points were held, and the pain abated.

Another vivid illustration of the concept that an energy field might remain after the biological structure with which it was associated has been removed is the phantom leaf effect in Kirilian photography. While skeptics have attributed the effect to moisture or other artifacts, tightened procedures still obtain the same results.

Also called corona discharge imaging, in Kirlian photography an object is placed on a photographic plate that is connected to a high-voltage source. An image is produced of the light emitted by the interaction of the electricity that was applied to whatever was on the photographic plate. Even if part of the leaf was cut away, the Kirlian image shows the entire intact leaf, a phenomenon known as the phantom leaf effect because of its similarity to phantom limbs.<sup>28</sup>

This suggests that the Kirlian image reflects not only the physical structure but an energy field that persists even in the area of the leaf's missing part. In the most systematic study of the phantom leaf effect—in which the leaf was cut prior to being placed on the photographic plate to ensure that the image wasn't due to moisture residue—unambiguous phantom images were obtained on 96 of 137 cut-leaf samples.<sup>29</sup>

**Human Thought and Intention Can Impact Physical Structures and Events.** The influences of mental activity on health are well established.<sup>30</sup> The placebo effect often plays a demonstrable role in the healing process,<sup>31</sup> and other effects of beliefs and mental activity have been extensively explored within the field of psychoneuroimmunology.<sup>32</sup> These effects are conceived within an established understanding of mind-body interactions, but other instances of thought and intention impacting the physical world are more anomalous.<sup>13</sup>

The Princeton Engineering Anomalies Research (PEAR) program, which operated for nearly 3 decades under the aegis of Princeton University's School of Engineering and Applied Science, studied the interaction of human consciousness and sensitive physical devices.<sup>33</sup> In hundreds of experiments, the investigators demonstrated that when a group of people, such as a crowd at a football game, is focused on the same event—particularly when strong emotions are activated such as at the moment of a touchdown—mechanical devices such as random number generators are affected.

While these effects are very small, they are statistically significant. The devices generate patterns that aren't random. Even more striking is the fact that such devices have responded to events happening hundreds of miles away, as reported by the PEAR affiliate known as the Global Consciousness Project.<sup>34</sup> Known properties of the electromagnetic spectrum can't explain such effects. The physical separation between the subjects and the devices renders as impossible the types of interactions described by conventional physics. Yet some kind of force or resonance has to be at play, and the most plausible guess is that subtle energies somehow act as the medium.<sup>35-37</sup>

A remarkable study, now replicated, of the impact of focused attention on social behavior was first carried out in 1973.<sup>38</sup> It led to the counterintuitive deduction that some sort of energy was being put out by a group of meditators that impacted crime rates. Crimes in Washington DC had increased steadily over the first 5 months of 1973. At that point, a crime prevention project brought thousands of transcendental meditation practitioners into the city for a

two-month experiment between June 7 and July 30. The organizers publicly predicted that crime would be reduced by 20%. This prediction was ridiculed by the Chief of Police, who asserted that the only thing that would decrease crime that much that summer would be "20 inches of snow." A week after the study's start, violent crime, as measured by FBI Uniform Crime Statistics, began decreasing and continued to drop until it had been reduced by 23.3% by the experiment's end. After the meditators went home, crime began to increase again. While this result may have been a coincidence, its replication<sup>39</sup> lends credibility. A worldview that includes a subtle-energy perspective shifts these phenomena from appearing implausible to having a coherent explanation.

**Subtle Energies Can Carry Memories and Nuanced Information.** The notion of body memory, that some types of memory are distributed throughout the body, has been gaining interest, particularly in the treatment of trauma.<sup>40</sup> Energy medicine practitioners often stumble upon detailed information about a person's history that seems to be stored in the body's energy system, independent of neural memory. One of Donna's experiences illustrates this situation.

While working with the heart chakra of a morose 36-year-old-woman, Donna told her, "I feel I am looking out at the world from the age of about 7, and I have just lost someone I love dearly. It's not a parent; perhaps it's a sibling? My grief is too much to bear. My heart is closing down." The woman's startled and tearful reply was "that's when Robert, my older brother, was accidentally shot by a neighbor boy who was playing with his father's gun. He died 2 days later." Donna literally saw that the information coming to her was in the energy of the woman's heart chakra. Following this session and the healing of her long-buried, unresolved grief, a dramatic increase in the woman's capacity for intimacy was reflected in her marriage.

A more dramatic example of memories existing outside the brain can be seen in heart-transplant patients, who may take on the personality, tastes, hobbies, or even loves of their donors.<sup>41</sup> Recipients who never liked beer or a particular food or classical music may suddenly begin to long for what their donor had craved. One recipient, upon being read the lyrics of songs written by her donor, was able to finish the lines. Recipients sometimes have dreams that they later learn shared striking features with the way their donors died. In a book chronicling the transmission of information in organ transplant cases, Paul Pearson related a story, which was told by a psychiatrist to an international group of psychotherapists about one of her patients.<sup>42</sup>

The psychiatrist had a patient, an eight-year-old girl, who received the heart of a murdered ten-year-old girl. Her mother brought her to the psychiatrist when she started screaming at night about her dreams of the man who had murdered her donor. She said her daughter knew who it was. After several sessions, the psychiatrist just couldn't deny the reality of what the child was telling her. Her mother and the practitioner finally decided to call the police, and using the descriptions from the girl, they found the murderer. He was

easily convicted with evidence the patient provided. The time, the weapon, the place, the clothes he wore, what the little girl he killed had said to him, everything the heart-transplant recipient reported was completely accurate.

Heart-transplant recipients take on qualities of their donors so frequently that some physicians prepare their patients and their patients' families for this possibility prior to heart-transplant surgery. Again, no mechanism within biology or within the known electromagnetic spectrum can account for the encoding and transferring of this type of nuanced, detailed information. If this information is somehow coded in the organ's energy field, a plausible explanation for this baffling mystery emerges.

#### **Subtle Energies Appear to Make Intelligent Choices.**

For energy medicine practitioners, the way the body's energies make intelligent choices is a matter of daily subjective experience. Among Donna's most frequently quoted one-liners, at least among her students, is "Energy is the language your body speaks." An advanced practitioner, Ellen Meredith, has further developed this concept in a recent book that teaches clinicians how to hear the language of the body's energies and how to formulate interventions based on what the energy seems to be conveying.<sup>43</sup>

It's well-established that complex information can be coded within the electromagnetic spectrum through variations in frequencies and wavelengths, such as when a radio signal carries someone's voice to a cell phone. Attributing the ability to make intelligent choices to electromagnetic energies, however, exceeds their known properties. Yet the body makes intelligent choices independent of peoples' conscious volition. Consider, for instance, how the body heals a wound. Chemical interactions among individual cells can't fully explain this complex and highly coordinated activity.

When the body sustains a wound, an electrical field is formed at the site of the injury.<sup>44</sup> Such fields organize the activity in cells and groups of cells. After an injury, the immune system sets into motion a complex array of cascading chemicals to protect the body from further harm and to fix what has been damaged. At the same time, electrical currents connecting enormous numbers of cells are produced, acting upon the body to stimulate growth and repair. The electrical field that is generated at the site of the wound remains until the repair is complete, attracting mobile skin cells, white blood cells, and fibroblasts that close and heal the wound. Finally, as the tissue heals, the electrical current changes and "feeds back information on the progress of repair to surrounding tissues."<sup>45(p.94)</sup>

The sequence is described by medical researchers as a self-organizing repair process. The problem with this explanation is that it attributes a tremendous amount of intelligence and choice-making capacity to the electrical field that is presumably orchestrating the body's response to the injury. A complex phenomenon that is explained in terms of phenomena that operate at a simpler or more fundamental level is the definition of reductionism. Meanwhile, if subtle

energies can code, store, and transmit tremendously nuanced information—as suggested by the data on heart-transplant patients—this capacity would make them a better candidate than an electrical field alone for directing the complex biological processes that are required for physical healing. In some so-far-undetermined manner, subtle energies seem to direct the activity of electrical energies and biological processes.

**Subtle Energies Appear to be Blueprints for Physiological Development.** The concept of an energy field first arose in embryology in the early 1900s as an underlying template for explaining the developmental process.<sup>46</sup> In a manner analogous to the way an energy field coordinates cell activity in the healing of a wound, energy fields have been shown to direct physiological development. This was vividly demonstrated in the 1930s by Harold Burr, a neuroanatomist at the Yale School of Medicine.

Burr built vacuum-tube voltmeters with extremely sensitive, nondistorting, silver/silver-chloride electrodes to detect microvolt differentials. In 2007, a contemporary engineer, after examining Burr's scientific papers, described these devices in a peer-reviewed journal as having been both reliable and "remarkable for their time."<sup>47</sup> Because measurements could be taken without electrodes touching the skin, Burr reasoned that he was detecting a field phenomenon.

In one of Burr's most well-known experiments, he measured the electrical field around an unfertilized salamander egg and found that it was shaped like a mature salamander,<sup>48</sup> as if the blueprint for the adult was already there in the egg's energy field. The electrical axis that would later be aligned with the brain and spinal cord was already present in the unfertilized egg.

Burr went on to find energy fields surrounding numerous organisms, from molds to plants to frogs to humans, and he was able to describe electrical patterns that distinguished health from illness. In a hospital-based study conducted in the 1940s to test Burr's theories, voltage abnormalities around the cervix were found to predict malignancies with 85% accuracy in more than 1000 women presenting with gynecological symptoms.<sup>49</sup>

Burr found not only that correspondences between specific pathologies and the electrical characteristics of related organs but also that physical illness is *preceded* by changes in an organism's energy field,<sup>50</sup> a potentially cardinal finding for preventive medicine and a core principle of energy medicine.

**Health Conditions Can Be Diagnosed and Treated Over A Distance.** A number of studies using EEG equipment have shown that healers can influence the brain waves of others from a distance.<sup>51</sup> Medically intuitive individuals claim to be able to diagnose health conditions with no physical proximity.<sup>52</sup> To systematically study such reports, neurosurgeon Norm Shealy provided medical intuitive Carolyn Myss the names and birthdates of patients he had diagnosed. Myss had no contact with or other information

about the patients. Myss' clairvoyant diagnoses matched Shealy's medical diagnoses in 93% of the cases. Myss' statements were specific, such as "left testicle malignant, spread to left kidney; venereal herpes; and schizophrenia."<sup>53</sup>

Beyond distant *diagnosis*, investigations into reports of distant *healing* have been mixed, with a review of the scientific evidence through 2015 suggesting that "While some significant experimental effects have been observed, the evidence to date doesn't yet provide confidence in its clinical efficacy."<sup>54</sup> But numerous documented reports seem extraordinary.

For instance, Jixing Li, a qi gong master in Northern California, was able to direct energies with pinpoint accuracy, killing cancer cells in a petri dish set up for the experiment at Pennsylvania State University, 3000 miles away, in the laboratory of the physician John Neely.<sup>55</sup> Cancer cells in adjacent, untargeted petri dishes just inches away weren't affected.

This collection of well-documented anomalies, which elude the explanatory reach of conventional scientific models, sheds light on underlying processes that are pertinent for understanding healing occurs. An expanded conceptual model that encompasses a type of energy or medium that is imbued with the qualities discussed above would account for much that conventional medicine can't explain.

## THE BODY'S ENERGY SYSTEMS

In the case reports presented earlier, mention was made of the body's meridians, chakras, and aura, 3 concepts from ancient healing systems that have made their way into everyday language. While each may have electromagnetic correlates, they are traditionally understood as involving at least some qualities that exceed the capacities of known electromagnetic energies, such as those discussed above: (1) coding, storing, and transmitting highly nuanced information; (2) guiding physiological development from embryo to adult; (3) interacting with human thought; (4) carrying out effects over a distance; (5) persisting independent of the biological structures they support; and (6) implementing intelligent strategies for healing and wound repair.

The notion of an intelligent life force can be found in many cultures.<sup>56</sup> The qualities of subtle energy mentioned above, such as guiding physiological development and making intelligent choices, have been attributed to this basic life force. Examples include *prana* in Sanskrit, *qi* (also spelled *chi*) in China, *ki* in Japan, *wakan* for the Lakota Sioux, *orenda* for the Iroquois, *ruah* in Hebrew, *barakah* in Islam, and *pneuma* in ancient Greece. Although these terms have often been translated as *energy* in the West, each depicts a larger construct than electromagnetic energy. The concept of *qi*, for instance, provides the main theoretical basis for traditional Chinese medicine, philosophy, culture, and natural science. But while it "has the characteristics of energy, such as the ability to work and to be accumulated, stored, discharged and projected from the body, *qi* also has characteristics of intelligence and information."<sup>57</sup> (p.103)

Like gravity, the life force, which is a primary focus of energy medicine, has never been directly imaged by scientific instruments. Yet also like gravity, its effects can be easily demonstrated. A blade of grass pushing through concrete is the life force in action. A body right after death, with all its organs intact, is the life force departed.

The life force appears in a variety of forms. Present at birth, the life force might be said to be the "mother" of all the body's other subtle energies. As creatures became more complex, nature had to differentiate the parts into specialized cells, organs, and complex assemblages, such as the immune, cardiovascular, digestive, reproductive, nervous, and elimination systems. The life force that purportedly animates these systems also had to adapt for these specialized functions, differentiating itself into meridians, chakras, and other discrete energy constellations.

## Nine Energy Systems

While most healing traditions focus on perhaps one or 2 of these energy systems, EEM works with 9 autonomous but interrelated energies. Each plays a part in the body's health. The 9 systems of EEM—in addition to the familiar meridians, chakras, and aura—include the radiant circuits, triple warmer, electrics, elements, Celtic weave, and basic grid. Some of these contain multiple subsystems as well. Understanding how these systems and subsystems interact, which is at the core of EEM practitioner training, provides a nuanced atlas of the body's energy physiology.

The reason for attending to so many energy systems is, however, quite practical. A given health condition may be governed by any of a variety of constellations of the body's energy systems. Indigestion, for instance, may originate with imbalances in the stomach meridian, the large- or small-intestine meridians, the third chakra (solar plexus), the electrics, or the Celtic Weave. A treatment approach is going to be more efficient if it's able to identify the energy system that will have the most impact and begin there. Other energy systems may also be involved, but one is usually the domino that can start the healing process most effectively. EEM develops in its students the skills for discerning where to begin and which other energy systems may have a substantial role in a given health condition.

## Corroboration

This article mentioned earlier that Donna sees energy. She finds everyone's energy to be unique. Just as no identical thumbprints exist among the Earth's nearly 8-billion people, no 2 energy fields are identical. This is even more prominent with respect to the body's complex energy systems.

The chakras are multilayered, multicolored spiraling energies over different areas of the body, and no 2 chakras are alike within a person or between people. The aura or "biofield" surrounds the body, again with multiple layers, each of which has ever-changing colors and serves different functions.

The meridians move, with varying strength, up and down the body along 14 major pathways. Each of the

9 energy systems has its own visual signature. What Donna sees is quite complex. While she was growing up, she *could see* all this complexity, but she generally didn't. She generally saw the Gestalt, the forest rather than the trees, the orchestra rather than the instruments. It was only when she began her healing work that she paid close attention to the individual energy systems. She had actually identified the 9 energy systems before studying other healing approaches and learning that ancient healing traditions had explored and named them. She has since found a description of each of the 9 energy systems that are the focus of EEM interventions in at least one healing tradition, and the maps and descriptions generally correspond quite closely to what she sees.

### Effectiveness

Despite the controversial nature of energy medicine approaches, a moderate-to-strong research base exists for many of them. While clinical trials for EEM are only beginning to be conducted, related therapies, whose outcomes may also best be explained as involving the actions of subtle energies, show promise in treating physical and psychological disorders. Several examples include:

**Acupuncture.** One of the oldest forms of energy medicine is acupuncture, which is believed to move the life-force energy of chi along the body's meridian pathways. The reception of acupuncture in the West has been mixed, with passionate advocates and strong detractors. Nonetheless, 1300 physicians are members of the American Academy of Medical Acupuncture,<sup>58</sup> and hundreds of scientific papers are published in English each year in more than a dozen peer-reviewed journals that are devoted to acupuncture and related topics.

While interpretations of this vast literature regarding the effectiveness of the method have been equivocal, a recent report released by the Acupuncture Evidence Project<sup>59</sup> is both comprehensive and rigorous. The review drew upon 136 systematic reviews and meta-analyses in examining pooled data from more than 1000 randomized controlled trials. The studies were evaluated according to the National Health and Medical Research Council of Australia's criteria for assessing levels of evidence (the study was conducted in Australia) and the Cochrane GRADE criteria for assessing risk of study bias.

Applying these stringent criteria, the study evaluated the quality of evidence for the efficacy of acupuncture for 122 medical conditions across 14 broad clinical areas that had been investigated in the various reviews. Moderate-to-high-quality evidence of the beneficial effects of acupuncture was found with 46 conditions, including asthma, hypertension, insomnia, irritable bowel syndrome, osteoarthritis, postoperative nausea, constipation, stroke rehabilitation, and various types of pain. At least some supportive evidence was found for 117 of the 122 conditions reviewed.

**Healing Touch.** Healing Touch is a therapeutic approach in which energy that is believed to come through the practitioner's hands is used to help re-pattern the patient's energy field and accelerate healing. More than 30 000 nurses

in the US have been trained in Healing Touch, and preliminary research evidence indicates that the technique enhances immunity, reduces pain, complements more invasive treatments such as radiation, counters fatigue, and enhances quality of life.<sup>60</sup>

**Reiki.** Reiki, another hands-on healing approach, has been adopted as part of patient services in 60 US hospitals, and Reiki education is offered at 800 hospitals. Outcome studies suggest that Reiki treatments can reduce pain, stabilize blood pressure and other vital signs, enhance healing, reduce anxiety, improve coping, and increase quality of life.<sup>61</sup>

**Energy Psychology.** A subdivision of energy medicine, energy psychology, focuses on mental-health issues. More than 120 peer-reviewed outcome studies and several meta-analyses have demonstrated its effectiveness in the treatment of anxiety, depression, posttraumatic stress disorder (PTSD), and a range of other psychological conditions.<sup>62</sup>

**Research Databases.** A database maintained by the National Institute for Integrative Healthcare<sup>63</sup> lists more than 600 studies that assess the use of hands-on healing interventions within the body's energy field. While this listing doesn't attempt to evaluate the quality of the studies' designs, it contains reports of positive outcomes for many of the conditions listed earlier as having responded to acupuncture. A database called the Subtle Energy and Biofield Healing Publications Library<sup>64</sup> contains more than 6000 entries. Although many of these outcome studies don't meet stringent research standards, and relatively few have been replicated, efficacy research is accumulating, and some of the investigations are quite persuasive. For instance, a hands-on healing technique developed by Bill Bengston produced an overall cure rate of 87.9% in experimental mice that had been injected with a mammary cancer. This outcome is extraordinary in that the injection is known to produce 100% fatality within 27 days.<sup>65</sup>

### Physiological Indicators

The impact of hands-on healing on physiological or environmental indicators is another way to understand the effects of energy-medicine interventions. For instance, the strength of the measurable electromagnetic field that surrounds the human body was significantly greater during and following a Healing Touch session as compared with the pre-session period.<sup>66</sup>

An ambitious study of the effects of a 30-minute session by light-touch or no-touch energy healers was conducted with 193 patients presenting with carpal-tunnel pain.<sup>67</sup> Investigators found not only significant reductions in pain levels, independent of the patients' expectations, but also physiological shifts, such as increased cardiac synchrony between the healer and client and even changes in the surrounding environment, including significant deviations in background entropy during the healing sessions as compared to control periods.

Other studies of the effects of intention on water have found not only chemical changes but also enhanced growth

rates in plants irrigated with such water.<sup>68</sup> A research program initiated in 2004 at the University of Arizona by neuropsychologist Melinda Connor and her colleagues was designed to determine whether healers could make changes that show up on instruments that measure physical conditions, such as the pH of water or the length and frequency of the waves in a magnetic field.<sup>69,70</sup> Since her original experiments, Connor has carried out 15 formal studies that have involved more than 1200 healing practitioners. She has demonstrated beyond reasonable doubt that healers can indeed create changes in the physical world without direct touch.

In one of her most recent studies, she included EEM practitioners.<sup>70</sup> This group was able to produce the intended effect 97% of the time on Connor's test suite. By contrast, a control group that had no training in any type of energy healing had, with only one exception, a 100% failure rate on the test suite. A subgroup within the EEM sample, limited to EEM faculty members, attained a 100% success rate, including on the pH test, which is considered the most difficult of the various tests used in Connor's most current research.

### STRENGTHS OF AN ENERGY MEDICINE APPROACH

In 2008, we wrote a paper describing the 6 strengths of an energy medicine approach, which we referred to as The Six Pillars of Energy Medicine.<sup>71</sup> These strengths rest, we suggested, in the ability of energy medicine interventions: (1) to address biological activities at their energetic foundations; (2) to regulate physiological processes with precision, speed, and flexibility; (3) to foster healing and prevent illness with interventions that can be readily, economically, and noninvasively applied; (4) to include methods that can be used on an at-home, self-help basis, fostering a stronger patient and practitioner partnership in the healing process; (5) to adopt nonlinear concepts consistent with distant healing, the healing impact of prayer, and the role of intention in healing; and (6) to strengthen the integration of body, mind, and spirit, leading not only to a focus on healing but to achieving greater well-being, peace, and passion for life.

Since formulating these points, we have worked with tens of thousands of individuals in classes and followed the progress of the 1600 practitioners trained in EEM. Our experiences have only increased our confidence in these being tangible strengths of an energy medicine approach.

### CONCLUSIONS

EEM is both a self-care approach and a clinical modality with a focus on the body's energy systems. Conventional paradigms are unable to account for a variety of anomalies that are pertinent to health and healing, but a perspective that encompasses subtle energies can explain them. EEM practitioners work with 9 energy systems that often have electromagnetic correlates but also have distinctive properties of subtle energies that haven't been found on the

electromagnetic spectrum. While the preponderance of evidence for EEM is still anecdotal, clinical trials establishing the efficacy of related healing approaches that work with subtle energies are available. Strengths of these approaches range from being able to address biological activities at their energetic foundations to fostering the integration of body, mind, and spirit. Based on our experiences with the development of EEM, we optimistically believe that embracing a subtle energy framework will usher in a new era for healthcare.

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### REFERENCES

1. Leskowitz E. How tapping into energy can trigger a paradigm shift in biomedicine. *The Journal of Alternative and Complementary Medicine*. 2018; 24(6):1-3.
2. Ross CL. Energy medicine: Current status and future perspectives. *Glob Adv Health Med*. 2019; 8. doi:10.1177/2164956119831221
3. Muehsam D. Shifting the paradigm for biofield science and healing. *Energy Magazine*. July/August 2020; 110:13-15.
4. Rosch PJ (Ed.). *Bioelectromagnetic and subtle energy medicine* (2nd ed.). Boca Raton, FL: CRC Press, 2014.
5. Consciousness and Healing Initiative (CHI). *Subtle energy and biofield healing: Evidence, practice, and future directions*. La Jolla, CA: CHI, 2020.
6. Hand E. Polar explorer. *Science*. 24 Jun 2016; 352(6293):1508-1513. doi:0.1126/science.352.6293.1508
7. Jett GM. *Effects of specific Eden Energy Medicine techniques on pain perception and the human biofield: A comparative study*. Doctoral dissertation, Holos University Graduate Seminary, Fair Grove, MO. July 2018. [http://www.advancedhealingenergetics.com/wp-content/uploads/2018/12/Dissertation\\_REV13FinalGailJett.pdf](http://www.advancedhealingenergetics.com/wp-content/uploads/2018/12/Dissertation_REV13FinalGailJett.pdf), accessed July 20, 2020.
8. Sudhakaran S, Surani S. The role of case reports in clinical and scientific literature. *Austin Journal of Clinical Case Reports*. 2014; 1(2):1006.
9. Klein C. *Light from the darkness*. New Jersey: Light from the Darkness Creations, 2018.
10. Brecker H. *Living with Lyme disease*. Scotts Valley, CA CreateSpace, 2016.
11. Richardson MG. *The road to gratitude: A guide to healing body-mind-spirit through energy medicine*. Carlsbad, CA: Balboa, 2020.
12. Eden D. *Energy Medicine* (rev. ed). New York: Tarcher/Penguin Random House, 2008.
13. Church D. *Mind to matter: The astonishing science of how your brain creates material reality*. Carlsbad, CA: Hay House, 2018.
14. Zumdahl SS, DeCoste DJ. *Chemical principles* (8th ed.). Boston: Cengage Learning, 2016.
15. Creath K, Schwartz G. What biophoton images of plants can tell us about biofields and healing. *Journal of Scientific Exploration*. 2005; 19(4):531-550.
16. Sanes, DH, Reh TA, Harris WA, Landgraf M. *Development of the nervous system* (4th ed). San Diego: Academic Press, 2019.
17. Herculano-Houzel S. The remarkable, yet not extraordinary, human brain as a scaled-up primate brain and its associated cost. *Proc Natl Acad Sci USA*. 2012; 109 Suppl 1:10661-8. doi:10.1073/pnas.1201895109
18. McCaig CD, Song B, Rajnecik AM. Electrical dimensions in cell science. *Journal of Cell Science*. 2009; 122:4267-4276. doi: 10.1242/jcs.023564
19. McCraty R. *Science of the heart: Exploring the role of the heart in human performance* (vol. 2). Boulder Creek, CA: HeartMath Institute, 2015.
20. Becker R. *The body electric: Electromagnetism and the foundation of life*. New York: William Morrow, 1998.
21. Long Y, Wei H, Li J, et al. Effective wound healing enabled by discrete alternative electric fields from wearable nanogenerators. *ACS Nano*. 2018; 12(12):12533-12540. doi:10.1021/acsnano.8b07038
22. Fox M, Mealing S, Anderson R, Dean J, Stein K, Price A, Taylor RS. The clinical effectiveness and cost-effectiveness of cardiac resynchronization (biventricular pacing) for heart failure: Systematic review and economic model. *Health Technol Assess*. 2007 Nov; 11(47):iii-iv, ix-248.

23. Gozani SN. Remote analgesic effects of conventional transcutaneous electrical nerve stimulation: A scientific and clinical review with a focus on chronic pain. *J Pain Res.* 2019 Nov; 26:12:3185-3201. doi: 10.2147/JPR.S226600.
24. Kuhn TH. *The structure of scientific revolutions* (4<sup>th</sup> ed.). Chicago: University of Chicago Press, 2012.
25. Barold SS. Willem Einthoven and the birth of clinical electrocardiography a hundred years ago. *Cardiac Electrophysiology Review.* 2003; 7:99-104.
26. Nuland SB. The doctors' plague: Germs, childbed fever, and the strange story of Ignac Semmelweis. New York: W.W. Norton, 2003.
27. Hanyu-Deutmeyer AA, Cascella M, Varacallo M. Phantom limb pain. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2020. <https://www.ncbi.nlm.nih.gov/books/NBK448188/>, accessed July 18, 2020.
28. Leskowitz E. Phantom limb pain: An energy/trauma model. *Explore.* 2014; 10(6):389-397.
29. Hubacher J. The phantom leaf effect: A replication (Part 1). *Journal of Alternative and Complementary Medicine.* 2015; 21(2):83-90.
30. Moyer B. *Healing and the mind.* New York: Doubleday, 1973.
31. Rankin L. *Mind over medicine.* Carlsbad, CA: Hay House, 2013.
32. Segerstrom S (Ed.). *The Oxford handbook of psychoneuroimmunology.* New York: Oxford University Press, 2016.
33. Jahn RG, Dunne BJ, Nelson RD, Dobyns YH, Bradish GJ. Correlations of random binary sequences with pre-stated operator intention: A review of a 12-year program. *Explore: The Journal of Science and Healing.* 2007; 3(3):244-53.
34. Global Consciousness Project, <http://noosphere.princeton.edu/>, accessed July 18, 2020.
35. McTaggart L. *The field. The quest for the secret force of the universe* (rev. ed.). New York: Harper, 2008.
36. Chiasson AM. *Energy healing: The essentials of self-care.* Boulder, CA: Sounds True, 2013.
37. Radin D. *Supernormal: Science, yoga, and the evidence for extraordinary psychic abilities.* New York: Crown, 2013.
38. Hagelin JS, Rainforth MV, Cavanaugh KLC, et al. Effects of group practice of the Transcendental Meditation Program on Preventing Violent Crime in Washington, DC: Results of the national demonstration project, June-July 1993. *Social Indicators Research.* 1999; 47:153-201. <https://doi.org/10.1023/A:1006978911496>
39. Dillbeck MC, Cavanaugh, KL. Societal violence and collective consciousness: Reduction of U.S. homicide and urban violent crime rates. *Sage Open.* 2016; 6(2). <https://doi.org/10.1177/2158244016637891>
40. Levine PA. *Trauma and memory.* Berkeley, CA: North Atlantic Books, 2015.
41. Bunzel B, Schmidl-Mohl B, Grundböck A, Wollenek G. Does changing the heart mean changing personality? A retrospective inquiry on 47 heart transplant patients. *Qual Life Res.* 1992; 1(4):251-256. doi:10.1007/BF00435634
42. Pearson P. *The heart's code.* New York: Random House, 1998.
43. Meredith E. *The language your body speaks: Self-healing with energy medicine.* Novato, CA: New World Library, 2020.
44. Liboff AR. Toward an electromagnetic paradigm for biology and medicine. *Journal of Alternative and Complimentary Medicine.* 2004; 10:41-47. doi:10.1006/ccog.1999.0393
45. Oschman JL. *Energy medicine: The scientific basis.* New York: Harcourt, 2000.
46. Rubik B, Muehsam D, Hammerschlag R, Jain S. Biofield science and healing: History, terminology, and concepts. *Glob Adv Health Med.* 2015; 4(Suppl):8-14. doi:10.7453/gahmj.2015.038.suppl
47. Matthews RE. Harold Burr's biofields: Measuring the electromagnetics of life. *Subtle Energies & Energy Medicine.* 2007; 18(2):55-61.
48. Burr HS. *The fields of life.* New York: Ballantine, 1972.
49. Langman L, Burr HS. Electrometric studies in women with malignancy of cervix uteri. *Science.* 1947; 105(2721):209-210.
50. Burr, HS, Northrup FSC. The electro-dynamic theory of life. *Quarterly Review of Biology.* 1935; 10:322-333. doi:10.1006/ccog.1999.0393
51. McTaggart L. *The intention experiment.* New York: Free Press, 2007.
52. William A. *Medical medium.* Carlsbad, CA: Hay House, 2017.
53. Shealy CN. Clairvoyant diagnosis. In *Energy Medicine around the World*, TM Srinivasan, ed. Phoenix, AZ: Gabriel Press, 1988, 291-303.
54. Radin D, Schlitz M, Baur C. Distant healing intention therapies: An overview of the scientific evidence. *Glob Adv Health Med.* 2015 Nov; 4(Suppl):67-71. doi: 10.7453/gahmj.2015.012.suppl. Epub 2015 Nov 1.
55. Swanson C. *Lifeforce: The scientific basis.* Tucson, AZ: Poseidia Press, 2011.
56. Rubik B. The biofield: Bridge between mind and body. *Cosmos and History: The Journal of Natural and Social Philosophy.* 2015; 11(2):83-96.
57. Jonas WB. Qigong: Basic science studies in biology. In W. B. Jonas & C. C. Crawford (Eds.), *Healing intention and energy medicine: Science, research methods and clinical implications* (Editors' Introduction, p. 103). Philadelphia, PA: Elsevier, 2003.
58. American Academy of Medical Acupuncture. <https://www.medicalacupuncture.org/>, accessed July 18, 2020.
59. McDonald J, Janz S. *The acupuncture evidence project: A comparative literature review* (rev. ed.). Brisbane: Australian Acupuncture and Chinese Medicine Association, 2017.
60. Layte KM. Research basis for healing touch. Healing Touch Research. 2020. <https://www.healingtouchresearch.com/basis/>, accessed July 18, 2020.
61. Center for Reiki Research. Reiki research study summaries. Center for Reiki Research. 2019. <https://www.centerforreikiresearch.org/RRSummariesHome.aspx/>, accessed July 18, 2020.
62. Feinstein, D. (2019). Energy psychology: Efficacy, speed, mechanisms. *Explore*, 2019;15:340-351.
63. National Institute for Integrative Healthcare. <https://nih.org/energy-medicine-research-bibliography/>, accessed July 18, 2020.
64. Subtle Energy and Biofield Healing Publications Library. [https://www.zotero.org/groups/2460018/subtle\\_energy\\_\\_biofield\\_healing\\_publications\\_library/items/9GEBT22D/library/](https://www.zotero.org/groups/2460018/subtle_energy__biofield_healing_publications_library/items/9GEBT22D/library/), accessed July 18, 2020.
65. Bengston WF, Krinsley D. The effect of the "laying on of hands" on transplanted breast cancer in mice. *Journal of Scientific Exploration.* 2000; 14(3):353-364.
66. Moga MM. Magnetic field activity during psychic healing: A preliminary study with Healing Touch practitioners. *Journal of Nonlocality.* 2014; III(1):11-23.
67. Swanson S. Phase 1 of energy healing study a success! Institute of Noetic Sciences. December 4, 2019. <https://noetic.org/blog/phase-1-energy-healing-study-success/>, accessed July 20, 2020.
68. Shiah YJ, Hsieh HL, Chen HJ, Radin DI. Effects of intentionally treated water on growth of arabisopsis thaliana seeds with cryptochrome mutations. *Explore.* 2017; 13(6):371-378. doi:10.1016/j.explore.2017.05.001
69. Connor MH. *Can energy healing be measured?* A prospective empirical test suite for energy practitioners. Paper presented at the annual Energy Psychology Research Symposium, Association for Comprehensive Energy Psychology, Albuquerque, New Mexico. May 2019.
70. Connor, MH., Connor, CA., Eickhoff, J., Schwartz, G., Prospective Empirical Test Suite for Energy Practitioners [published online ahead of print August 1, 2020]. *Explore.* 16(4)://doi.org/10.1016/j.explore.2020.07.010
71. Feinstein D, Eden D. Six pillars of energy medicine: Clinical strengths of a complementary paradigm. *Alternative Therapies in Health and Medicine.* 2008; 14(1):44-54.