In Brief

People with diabetes require multiple interventions to reach their glycemic goals. Energy therapies have been a useful aid in improving health and well-being. Clinical interventions involve energy exchange in some form. This article focuses on energy therapies that involve the presence of a therapist, whether local or long distance, to support and aid in the healing process. The literature on diabetes and healing therapies is sparse, but there is potential for energy therapy to assist individuals with diabetes in reaching goals for normoglycemia and high quality of life.

Energy Therapies and Diabetes Mellitus

Energy is all around us, within us, interacting internally and externally. The influence of disease on body energy fields and the influence of body energy fields on disease are areas just being explored in Western medicine. Western allopathic medicine has typically focused on illness, whereas energetic healing focuses on the connection of mind, body, and spirit. Energy medicine may be useful as a complementary therapy and adjunct to standard allopathic medical approaches.

The influence of elevated or below-normal blood glucose on perceived or available energy is easy to surmise. Diabetes is a systemic condition that influences all body systems. A wide range of symptoms, from lowered cognitive function to irritability, depression, and lethargy are all indications of altered energy responses.

Energy medicine is any interpersonal, nonpharmacological intervention that brings about changes in heat, cold, congestion, circulation, or sensory processes. It may or may not involve the felt perceptions of the individual client. The presence and/or hands of the therapist initiate an alteration in heat, cold, or congestion and act in altering the client’s experience of pain or other ailments that might deal with circulation.

Do energy or healing therapies, such as Therapeutic Touch (TT), Reiki, massage, and acupuncture, have a place in diabetes management? Can energy therapies aid in restoring balance, health, and normalized blood glucose levels? Definitive answers to these questions are pending. But before reviewing the available research, let us first summarize the theories related to the field of energy therapy.

Theories of Energy

The concept that living matter is composed of energy fields is not new. Most Eastern philosophies and systems of medicine are based on these ideas.

Western science and medicine, however, is firmly rooted in Newtonian theory. Newton viewed the body as a machine composed of levers and pulleys, wherein every action had an equal but opposite reaction. In Newtonian theory, matter is thought to physically affect other matter in this way.

However, many common experiences do not seem to be governed by this mechanistic concept. Some objects seem to have an effect on other objects without even touching them. The newer science of quantum physics supports the idea of energy fields and what can be called the mind-body-spirit connection. Physicists today describe a concept of “non-local reality” that may explain distance healing. For example, Targ and Katra as well as Dossey in their books talk about distance healing as “non-local healing.” Byrd’s classic study relates the positive effects of intercessory prayer offered not at a patient’s bedside, but from various locations.

Observations of phenomena like these have given rise to a new concept of energy fields that surround certain types of materials. To illustrate this...
concept, one could take a bar-shaped magnet, cover it with a piece of paper, and then sprinkle fine metallic dust on the paper. Some “invisible” force would organize the dust into bowed lines connecting the two ends at the poles of the magnet. Although the magnetic field could not be seen, its presence could be detected and measured by its effect on the metallic dust. Another, more common example is the recognition of radio waves. One can tune into a local radio station and hear voices from all over the world. Thus, the concept of invisible force fields has been added to classical physics theory.

Around the beginning of the 20th century, a now-famous patent clerk provided a new way of perceiving the universe. Einstein stated that all matter, energy, time, and space are relative to each other. His elegant formula, $e=mc^2$, shows not only that energy can be derived from matter, but also that matter is just very slow-moving energy.

Einstein also demonstrated that these elements were inextricably related to the observer. Because one has to observe any change of time, space, or matter through the senses, the observer’s perspective is always part of any observation. This hypothesis is often referred to as the “experimenter effect”: any experiment is affected by the perceptions, limitations, attitudes, expectations, and intentions of the experimenter. This new view offered some explanation for the vast differences noted between observers trained in Western science and medicine and those steeped in Eastern traditions.

Einstein’s theories changed the world and our way of understanding it, and other scientists then delved further into the subatomic definition of matter and energy. A group of these theoretical physicists began studying the effects of the smallest building blocks of our atomic world—the quanta of single photons or packets of energy. These quantum physicists provided new insight into the interaction of fields at the lowest level of the energy spectrum.

There have been many interpretations of reality at the quantum level. Most interpreters agree that the physical world is being constructed moment by moment through an interaction of energy forces and systems, including our own, that frame and guide the physical world we all share. Some quantum theorists describe this interaction as defined and sequential. Others theorize that there may not always be a direct cause and effect or that the interaction of energy forces and systems may be a manifestation of chaos theory.

Another concept of central importance to energy therapies is the “code of the heart.” Electrical energy, delivered through the nervous system, is needed to keep the heart functioning. In his book *The Heart’s Code*, Pearsall discusses the amount of energy released and needed by the heart. If this energy is not present or blocked, a myocardial infarction occurs. Often, people with cardiovascular disease, just as people with high blood glucose levels, are said to feel tired all of the time. Tiredness may indicate that energy levels are lowered or depleted.

**Energy Systems**

Our energy system is composed of our respiratory, circulatory, endocrine, nervous, reproductive, digestive, musculoskeletal, lymphatic, and immune systems. Many other (non-Western) systems of medicine view these systems as expressions of a life force energy known as “chi,” or “Qi” (Chinese), “ki” (Japanese), or “prana” (Hindu).

In traditional Eastern medicine systems, meridians are the energy pathways or transportation systems that connect and integrate the whole body. The points along the meridian are thought to be reservoirs of energy, from subtle (low) to heat (high) energy sources. The acupuncture points on the skin are the surface representations for the full energy system, and associated meridians are found deep inside the body. There are 12 major meridians that connect to the skin surface in 12 locations. These represent 12 organs or systems of the body.

In research using radioisotopes injected into acupuncture points, the extremely small ductile tubules of the body were found to follow the previously described meridian pathways. The use of infrared photography has also shown the existence of these pathways. One can alter responses along these meridians through the use of acupuncture and acupressure, or by tapping, exercising, stretching or massaging the meridians.

“Chakras” are found on the major meridians and act as energy stations. The word “chakra” means disc-shaped or circular (such as a wheel) and describes vortexes or centers for major energy exchange with the environment. There are seven noted chakras: the root (base of the spine), the sacral (over the genital area), the solar plexus (upper abdomen), the heart, the throat, the “third eye” or pituitary (middle of the forehead), and the crown or pineal (top of the head). These same areas are each represented by a specific color, from red (root chakra) to white or lavender (crown chakra), and by a single musical note on the scale.

Electromagnetic frequency measurements recorded at each chakra vary in oscillations from 100 to 1,600 cycles per second (each chakra function within a certain frequency range) in a physically, mentally, and spiritually healthy person. In an extremely ill person, there may be little oscillation detected at one or more of the chakra sites. The third chakra should hold the most interest for people with diabetes because it includes the area in which the pancreas is found.

The “aura,” defined as energy radiating from the body, is a multi-layered field found around the body. Dr. Valerie Hunt, a respected neurophysiologist, has studied these fields over many years at the University of California at Los Angeles. Aura layers can contract or expand, change color, and resonate with various types of music or other influences depending on the individual’s response and the surrounding environment. For example, in an environment that is perceived as stressful, the auric fields are known to diminish, whereas in a loving atmosphere, these fields have actually been photographed expanding.

**Healing Therapies**

A meta-analysis of healing as a therapy for disease found 59 randomized clinical trials comparing healing with traditional practices in a variety of diseases. Forty-eight percent of the completed trials reported a significant effect of healing in comparison to controls. Some of the other studies had small sample sizes or were not reported adequately. Because of these problems and others, the conclusion reached by Abbot was that no firm statements could be made as to whether healing should be recognized as a therapy. In the analysis, the skewing of the statistics toward the therapeutic process gives encouragement that might lead to solid evidence if adequate power and proper conditions are designed into future studies.

The use of alternative practices has been discussed in the literature a num-
number of times, especially with the now classic 1990 and 1998 articles of Eisenberg et al. Another report notes that an increasing number of alternative health care practices are being carried out in traditional medical centers. In fact, the University of Michigan has received a research grant from the National Institutes of Health National Center for Complementary and Alternative Medicine (NIH NCCAM) to study a number of issues, including the use of Reiki in the treatment of neuropathic pain.

Health care providers are rarely educated in the healing practices of TT, Healing Touch (HT), or Reiki. Studies support the ability of such therapies to reduce stress levels, with the potential to lower blood glucose levels and, in some studies, reduce the length of hospital stay. The NIH NCCAM and the Commission on Alternative Practices recognizes that continuing research is needed and is funding centers and projects in line with the more recent positive findings and in relation to past research that was flawed by design or sampling methodologies. (A list of currently funded research sites can be found in Table 1 of the Preface to this From Research to Practice section [p. 129].)

Energy-Based Therapies
Among the most popular and prevalent energy therapies are TT, HT, and Reiki (Table 1). TT is a scientifically based nursing intervention that has been used for more than 25 years to support and comfort patients. Some of the immediate benefits of TT are a strong relaxation response and reductions in stress and pain. TT has been documented to manage pain, promote sleep and rest, and relieve anxiety in a variety of settings, patients, and disease states.

HT, a program to develop the knowledgeable practice of energy-based skills, incorporates a variety of techniques including TT to promote energetic balance and healing. Many of the individual therapeutic modalities included in HT were developed by Western medical practitioners, whereas some have their roots in Eastern and Native American philosophies.

A strong evidence-based approach has fostered the growth of HT in the nursing and medical communities, and research on the benefits of HT is expanding as evidenced by the lengthening list of studies being encouraged and collected by Healing Touch International.

Reiki (pronounced ray-kee) is an Eastern form of natural healing that may have been practiced by Buddhist monks as many as 2,500 years ago. The name is Japanese, derived from two characters—“rei,” which means universal, and “ki,” which means life force or energy. Thus, Reiki is a modality in which practitioners access the “universal life force” to facilitate healing.

Unlike some of the other energy practices that were developed within the twentieth century medical community, Reiki retains a more spiritual flavor and focuses on the development of the practitioner, rather than the condition of the patient. Nervous system tissue and other specific types of cells may be more responsive to the somewhat higher (crown chakra) frequencies of Reiki, in contrast to the moderate and lower frequencies typically used during TT or HT techniques. A proposal from the University of Michigan that has been accepted for funding by NCCAM includes research on Reiki as a treatment option for neuropathy.

The use of Reiki or other energy practices can be documented through sensitive instrumentation as noted in the following circumstances. Chang et al. reported an animal study using electroacupuncture (an electric current applied to the end of an acupuncture placed needle). Radioimmunoassay was used to determine the plasma concentrations of insulin, glucagon, and beta-endorphin. It was noted that there was no change in glucagon levels, but there was an alteration in beta-endorphin levels noted by reduced plasma glucose concentrations through an indirect mechanism in relation to insulin availability, but just in animals that had type 2 diabetes (no effect was seen in the type 1 diabetic animals regardless of whether the diabetes was genetic or induced).

**Table 1. Definition of Terms**

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<th>Therapy*</th>
<th>Definition</th>
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<tr>
<td>Massage</td>
<td>Manipulation of body tissues to bring about increased circulation, relaxation, and energy.</td>
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<tr>
<td>Acupressure</td>
<td>The stimulation of various points or meridians with the use of finger pressure.</td>
</tr>
<tr>
<td>Acupuncture</td>
<td>The stimulation of various points or meridians with the use of needles.</td>
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<tr>
<td>Colored light</td>
<td>The use of various frequencies of light to bring about a therapeutic response.</td>
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<td>Healing Touch</td>
<td>A program to develop the knowledge and professional practice of energy-based therapies.</td>
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<tr>
<td>Magnetic</td>
<td>A therapeutic approach using polarized energy that results in increased blood flow from ionic currents.</td>
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<tr>
<td>Microwave</td>
<td>The use of nonvisible frequencies that result in cellular changes.</td>
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<tr>
<td>Resonance</td>
<td>An ancient form of natural healing through the interaction with a universal energy.</td>
</tr>
<tr>
<td>Reiki</td>
<td>A nursing-based technique for aiding relaxation and healing through the use of the hands (modulation of energy).</td>
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*Note: These are but a few of the therapies that may have potential therapeutic value to people with diabetes.

**Massage Therapy**

More than 1,000 years ago, diabetes was treated in various societies with relaxation, massage, opium, and moderate exercise, as well as dietary alterations. Massage has continued to be found useful, both for lowering blood glucose levels and for putting patients at ease. One might say that massage therapy seeks to balance the energy of the person. Shiatsu is a type of massage that works on the energetic pathways or acupuncture points and has been described in Traditional Chinese medicine as a useful tool to balance the body’s energy responses.

Massage has also been used to alter the perception of pain. In one study, Rady and Weisman noted that children experienced less pain when given a method of treatment involving massage combined with education, relax-
ation training, hypnosis through guided imagery, biofeedback, or acupuncture. The authors described these interventions as complementary to pharmacological pain management. In another study, massage therapy was described as useful for “facilitating growth, reducing pain, increasing alertness, diminishing depression, and enhancing immune function.” Light massage has also been combined with aromatherapy for treating chronic pain, with positive results. Styles proposed that this valuable skill be used in hospitals to put patients in a condition conducive to healing. For more information on this topic, look for an article by Ezzo and associates, which is scheduled to be published in the second half of this From Research to Practice section (Diabetes Spectrum 19(4), 2001).

**Acupuncture**

Acupuncture has been documented (see Covington’s article on Traditional Chinese medicine, p. 154) to change the electrical flow in the body through meridians and may be measured by electrical impedance. Acupressure, which uses the same acupuncture points, influences the same meridians through the use of manual or finger pressure rather than needles. Studies strongly supported the hypothesis that this type of therapy can influence the cardiovascular system by bringing about changes in systolic arterial pressure, diastolic arterial pressure, mean arterial pressure, heart rate, and skin blood flow.

In a review article, Sims addressed the neural (pertaining to nerve cells and their processes), humoral (pertaining to lymph and blood), and biophysical (pertaining to the influence of magnetic energy on the human body) mechanisms that “may contribute to the production of acupuncture analgesia.” Analgesia is useful for people who experience various types of painful neuropathy. It has the potential to improve the quality of life for individuals with polyneuropathy. This might be specifically helpful for the person with dermatological polyneuropathy.

Another study demonstrated that 77% (33 subjects) of subjects had improvement of their symptoms, while 21% (7 subjects) noted their symptoms to be completely gone after using acupuncture. Although the symptoms diminished or were absent by the end of the study, neurological tests and the HbA1c were statistically unchanged. Researchers also found that in individuals who had elevated blood glucose levels as measured by HbA1c, there was a greater chance of infection at the placement sites for the acupuncture needles.

**Other Energy Therapies**

**Microwave Resonance Therapy** (MRT), a combination of Traditional Chinese medicine and biophysics, has been found useful in surgery, trauma, cardiovascular problems, and certain skin conditions, and there is a potential that this list of uses will continue to grow. This type of intervention appears to aid in the balance of the energy processes in the body and improvement of health, with recognized precautions against its use in people who are pregnant or who have an operable abdominal situation such as bile duct obstruction. In addition to normalizing blood glucose levels, it is these authors’ opinion that therapies such as MRT might be useful in altering the physiological imbalances that have occurred because of patients’ hyperglycemic status.

Colored light therapy is another intervention that, along with acupuncture, may be useful in balancing the body’s energy field. Like acupuncture, the use of color and light therapy has a history dating from the early Egyptian civilizations. More recently, light therapy has been shown to have a positive effect on seasonal affective disorders. The potential uses of light for relaxation, stimulation, heat, treatment (i.e., jaundiced babies), or other possible outcomes need to be studied further.

Magnetic field therapy appears to be becoming more popular, but it has not been consistently documented to be effective. Magnetic field therapy involves a variety of practices ranging from wearing magnetic insoles to using biomagnetic therapy (the influence of magnetic energy on the body) to electromagnetic therapy (magnetism induced by an electrical current). Electromagnetic fields include gamma rays, X-rays, ultraviolet and infrared rays, microwaves, and radio waves.

Research is lacking in humans, but reports on animal studies are more numerous. Pulsed electromagnetic fields (i.e., intermittent electrically induced magnetic action) applied externally have been used to treat nonhealing fractures in animals, but this 1995 study suggested that such treatment was not beneficial in acute fracture repair. More recent studies reveal that such treatment does appear to enhance the fracture healing and is useful in the treatment of arthritic conditions such as osteoarthritis. Static magnetic fields with locally applied magnets are used, for example, in arthritis, fractures, neuropathy (i.e., Charcot’s joint), and back pain. Vallbona found them useful in a study involving post-polio patients.

In contrast to these beneficial uses, there have also been concerns about magnetic fields related to high-tension power lines, including reports of a higher incidence of childhood malignancies and changes in neuropeptide levels of the brain.

Precautions for magnetic therapy include keeping magnets or electromagnetic sources at least 6 inches away from pacemakers, not storing magnets together, and not using magnetic therapy while in surgery or during pregnancy. It is important not to use magnetic therapy on the body continuously for more than 8–10 hours. Certain strengths of magnetic currents could interfere with the functioning of insulin infusion pumps.

**Conclusion**

It is the opinion of the authors that the potential for the use of energy-based therapies in diabetes is great. At present, these therapies have few known side effects and many potential benefits. However, as with all unproved therapies, they should be approached with caution. For example, practitioners and patients considering the use of acupuncture for relief of painful diabetic neuropathy must consider the increased risk of acupuncture needle site infection with high blood glucose levels.

Massage, TT, HT, Reiki, and other types of relaxation therapies, when used in individuals with diabetes, should be accompanied by appropriate blood glucose monitoring and with alterations in diabetes treatment medication(s) when blood glucose levels become lower as pain and discomfort decrease. Catecholamines such as epinephrine and norepinephrine, when released by the body in response to the use of an energy therapy, increase lipolysis and thermogenesis, resulting in increasing energy expenditure and potential for weight change.

Clearly, more studies are needed to specifically address the effects of these...
various energy therapies on various diabetic populations. Initial research findings and a long history of use in other cultures indicate some measure of safety and promise that energetic approaches may offer the potential for improved healing and for attaining and maintaining a regimen that leads to improved methods and support of glycemic control.

References


Diana W. Guthrie, PhD, FAAN, CDE, is a diabetes nurse practitioner and behavioral therapist at MidAmerica Diabetes Associates, a professor emeritus in the departments of pediatrics and psychiatry at the University of Kansas School of Medicine, and an adjunct professor at the University of Kansas School of Nursing in Wichita, Kans. She is an associate editor of Diabetes Spectrum. Maureen Gamble, BSN, MA, CHTP/P, CCAP, RM, is a private practice energy therapist and aromatherapist and a lecturer for the computer services, nursing, and physician assistant programs at Wichita State University in Wichita, Kans.