Pulsed Electromagnetic Field Therapy and the Ondamed

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Energy Medicine is any healing modality that affects positive change in the energetic system of living beings. This article will focus on a form of energy medicine called Pulsed Electromagnetic Field (PEMF) therapy.

Energy medicine has been around since the beginning of human existence as it plays an essential part in the way we heal ourselves. We all have the innate ability to heal ourselves just as when a cut heals or a bone mends itself without outside assistance. At our most minute level of physical being, we are an energetic system, a whirl of atoms and electrons.

We tend to think of our bodies as flesh and bones supplied by blood and directed by the brain and nervous system, but that description is very superficial. We are much more complex than that with the ultimate in complexity being our consciousness consisting of thoughts and emotions. Despite the advances we've made in science and medicine, we still haven't figured out how consciousness works.

As you break the human body and its functions down to the smallest levels, you start to see an energetic system, which seems to be running on some type of autopilot. Part of this autopilot involves the expression of our genes, but this doesn't fully explain how it all works because something has to be facilitating how our genes are expressed.

Genes act as a blueprint, a kind of map at the cellular level for how our bodies function. Scientists have been researching genes in an attempt to unlock the mystery of how diseases occur. Scientists who participated in the Human Genome Project were shocked to discover that the entire human genome consists of only approximately 24,000 genes. As biologist, Bruce Lipton, Ph.D. points out "There are simply not enough genes to account for the complexity of human life or of human disease."

It turns out that the key to unraveling how genetics plays a role in determining who we are and the health of our bodies lies in a revolutionary field of biology called *epigenetics*. *Epigenetics* takes into account factors in our environment that affect gene expression, including electromagnetic fields. But most importantly, *epigenetics* takes into account issues of consciousness involving our thoughts and associated emotions.

Research suggests that our thoughts and emotions set off a cascade of events involving neurotransmitters, enzymes and hormones that can trigger how our genes express themselves in our cells. In relation to energy medicine, part of this biochemical cascade of events involves a transfer of electromagnetic energy at the cellular level, which helps to facilitate this process.

As you are starting to see, the human body functions through multiple layers of systems, some physical, some chemical, some energetic, and some might say spiritual, all divinely aligned and integrated with each other in a way modern science has not yet completely figured out.

Disease occurs when there is a disruption in the natural flow of this intricate system, and healing occurs when that natural flow is realigned. Realignment of this flow can be facilitated at various points along the path through any number of physical, chemical and energetic ways. I will focus on one way in which science is just beginning to explore the energetic processes involved in healing.

It is well known that Pulsed Electromagnetic Field (PEMF) therapy stimulates bone formation, and assist in healing non-union fractures. 1, 2 The Federal Drug Administration (FDA) has approved several devices that transmit l ow level PEMFs for treatment of non-union of fractures. There is also promising evidence that PEMF therapy may help prevent and treat osteoporosis. 3, 4, 5, 6, 7

Low-level PEMFs have also been shown to positively affect enzyme based processes at the cellular level and stimulate growth factors involved in cellular repair and bone formation. 8, 9 E very cell membrane carries an electromagnetic charge, and PEMFs alter this charge by causing movement of ions across the cell membrane. Low-level PEMFs have been shown to exert an anti-inflammatory effect through restoration of plasma membrane calcium ATPase activity. 10

Apart from the effects at the cellular level, multiple scientific studies show that low-level PEMFs produce a statistically significant reduction in pain when treating acute whiplash injuries, chronic musculoskeletal pain, osteoarthritis, rheumatoid arthritis, fibromyalgia, epicondylitis, and neuropathic pain. 11, 12, 13, 14, 15, 16, 17, 18

A 2003 study by NASA showed that very low level pulsed electromagnetic frequencies up-regulate genes involved in normal cell growth. 19 NASA scientists have investigated PEMFs with the ultimate goal of creating an astronaut suit that would provide a countermeasure for the muscle atrophy and bone loss associated with space flight. 20

In addition to devices for treating non-union of bone fractures, the FDA has approved a PEMF device that has been successful in treatment of refractory depression by a technique called repetitive transcranial magnetic stimulation (rTMS). rTMS is a nice alternative to the radical technique of electroconvulsive therapy (ECT).

This brings me to the discussion of a PEMF device that I use in my practice. As per Ondamed's website, the Ondamed is a biofeedback device that a medical practitioner uses to determine which frequencies of sound, as well as the accompanying weak pulsed electromagnetic fields, cause a response in a patient's autonomic nervous system. Temporary stimulation by these frequencies, combined with the patient's cognitive and non-cognitive participation, promotes relaxation, muscle re-education, and various other prescription uses, such as pain relief, stress relief linked with potential reduction of inflammation and potential improvement of the immune system.

The Ondamed is registered with the Food and Drug Administration (FDA) as a Biofeedback Class II medical device, Category Neurology. It is not FDA approved to diagnose or treat any medical condition yet, but it has been approved for use under the supervision of AAABEM, an Institutional Review Board, as safe for research or clinical testing as a non-invasive secondary therapeutic device in the treatment of pain, discomfort, or general malaise.

The Ondamed has been used in Europe as an approved medical device for the last 14 years. It has only been in the United States for the past 4 years, mainly used by alternative and complementary medicine practitioners.

The Ondamed produces very low-level pulsed electromagnetic frequencies in the range of 0.1-32,000 Hz, which have not been shown to harm the body. Cell phones put out much stronger frequencies than this.

The device was introduced to me by Daniel Kessler, D.O., a Mayo Clinic resident, who moonlights at my Arlington office. Daniel's father, a complementary medicine physician in Germany is the spokesperson for the company, but does not take any money from Ondamed, even when traveling to the U.S. to give seminars and training. I was told he doesn't take money from Ondamed because he is so thankful for the device and how it has helped hundreds of his patients.

Dr. Kessler has written an e-book on the Ondamed, which is available for download from his website at www.Dr-Kessler.com

Dr Kessler says that the low level pulsed electromagnetic frequencies produced by the Ondamed decrease inflammation at the cellular level by helping the body's normal cell function through an exchange of electrons, which facilitates movement of regulatory ions across cell membranes.

In developing the Ondamed, the inventor, Rolf Binder, a German electronics engineer, ingeniously combined the concepts of PEMF therapy with a pulse biofeedback called the Vascular Autonomic Signal (VAS). The VAS is a vital element of auricular acupuncture, and was discovered in 1966 by a French physician, Paul Nogier.

Dr. Nogier found that when he touched certain points on the ear, he was able to detect a change in strength of the pulse at the radial artery. This pulse change is one of amplitude and waveform, not rate or rhythm. It is postulated that this change in the arterial wall is caused by a neurovascular response of the body to a stimulus that is brought into its energy field. The stimulus induces this change by setting up a resonance between dysfunction in the body and the electromagnetic signature of the stimulus, in this case, PEMF.

The VAS is measured by placing the thumb on the radial pulse, and consistent positioning of the thumb is integral to accurately detecting this change in the pulse waveform.

By combining an autonomic nervous system based pulse biofeedback with very low-level pulsed electromagnetic frequencies, a practitioner is able to personalize the PEMF via the Ondamed based on an individual's specific needs. In other words, one doesn't just place an applicator on a patient, push a button, cross your fingers, and hope that the correct pulsed electromagnetic frequency is applied.

By applying these low level pulsed electromagnetic frequencies in conjunction with pulse biofeedback, the body actually "tells" the practitioner applying the Ondamed which frequencies to apply and where to apply them. The practitioner applies these

frequencies to the body by a neck applicator, and scrolls through the frequencies depending on which module (protocol) of the machine is being used, while checking the radial pulse.

When a frequency is applied that the body resonates with (for tissue repair or balancing), the radial pulse will spike (increase in intensity - starts bounding). The practitioner can then narrow down a favorable frequency by the best pulse response. The Ondamed has three other applicators: a handheld wand, a large pad, and a smaller pad that can be placed anywhere on the body. The PEMFs can be applied to the body without the removal of any clothing.

I believe energy medicine devices, such as the Ondamed, represent the future of medicine due to their effectiveness at the bioenergetic cellular level and lack of side effects.

For more information, go to Ondamed's website at www.ondamed.net

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After graduating from medical school in 1992 and an Internal Medicine residency in 1995, Dr. Holden began the practice of allopathic medicine. His intuition led him to become a practitioner of the art of medicine in order to help others heal, and in that process, heal himself. Dr. Holden believes that to be an effective facilitator of the healing process, a physician should strive for optimal emotional and physical health. As a physician, he has come to understand that the physical body of a patient is only a small part of the multiple layers that exist in the human experience, and that healing manifests at multiple levels, including in the spiritual, mental (emotional) and physical planes.

By setting his intention to grow spiritually and emotionally in every situation, many of Dr. Holden's beliefs have changed over time. And in this process, he decided to pursue a more expansive approach to his practice of the art of medicine. His new approach is actually a combination of the old and the new, integrating the way some of the ancients practiced the art of medicine through the power of intention, with modern concepts of how quantum physics is starting to understand the body as a vibrational bundle of energy. Dr. Holden's approach emphasizes the power of the mind in healing, and appreciates that we are spiritual beings living a physical existence. In addition to his medical practice, he developed www.intentionforgrowth.com as resources for to others to explore the power of intention and to view his collection of infrared photography.

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