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WINTER 2007

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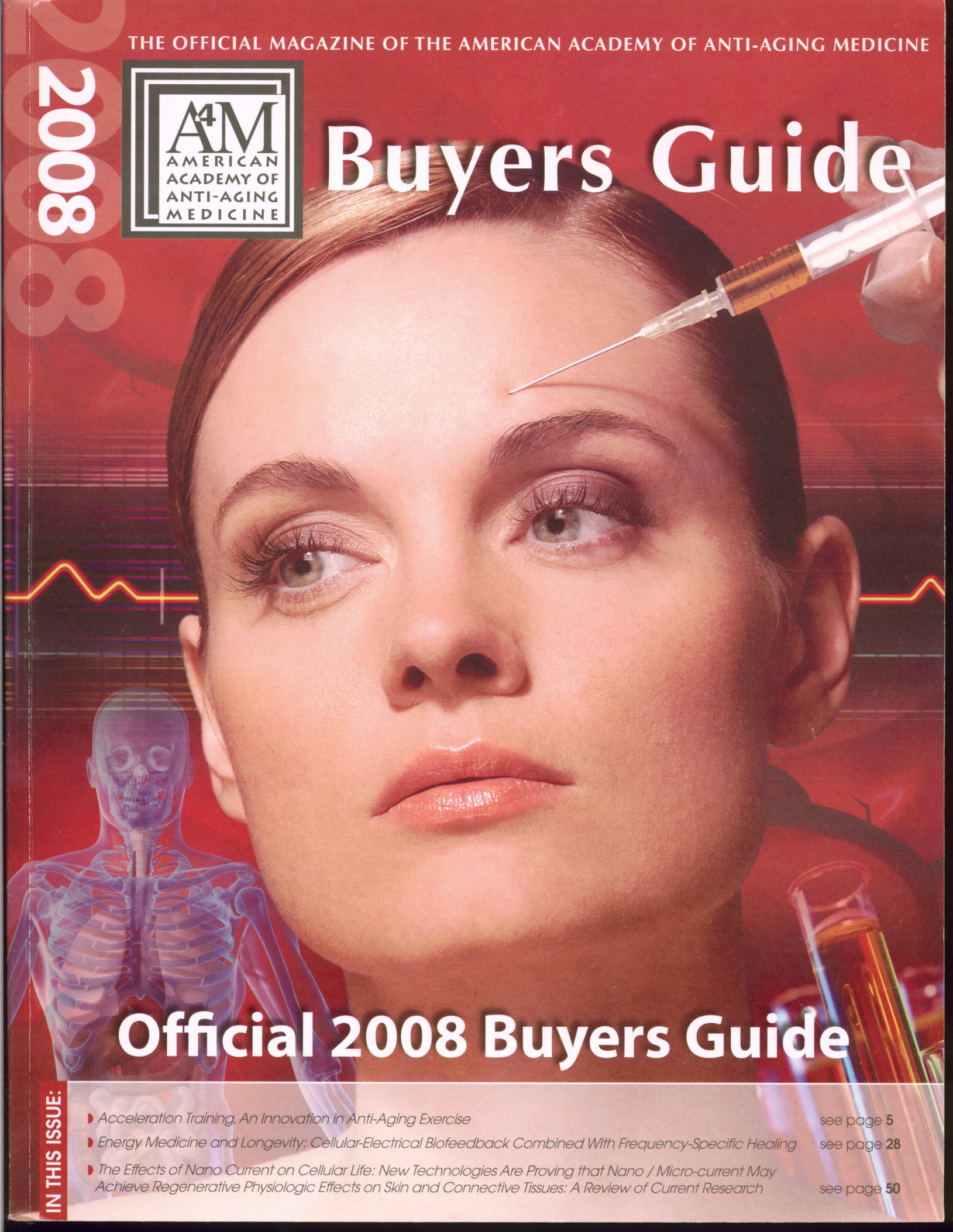
A4M AMERICAN ACADEMY OF ANTI-AGING MEDICINE

Buyers Guide



Official 2008 Buyers Guide

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ENERGY MEDICINE AND LONGEVITY: Cellular-Electrical Biofeedback Combined with Frequency Specific Healing

James L Oschman, PhD.[1] and Judy Kosovich[2]

INTRODUCTION

Energy Medicine is a field that is unfamiliar to many physicians, and is often greeted with skepticism. This situation is changing rapidly, and anti-aging medicine is one area where energetic approaches are having a dramatic impact. Patients like energetic therapies because they are easy to understand, are very effective, have few side effects, are generally non-invasive, and often yield results for the patient who has not been helped by other methods. Of interest in the pursuit of longevity is the ability of energetic approaches to catch problems and treat them at an early stage, when they are much easier to take care of; and the ability to address the various so-called "diseases of aging". The outcome: healthier patients with even more respect for their doctors.

The main reason Energy Medicine is not appreciated by the medical community is that the basics are not taught in medical schools. These basics consist of fundamental physics, biophysics, biological electronics and the role the various forms of energy have in physiology and medicine. Here we are not talking about anything mysterious or mystical, but the forces we know about through our senses and through basic science: heat, light, sound, electricity, magnetism, electromagnetism, chemical energy, vibration and gravity. Each of these aspects of our energetic environment, both within and around us, has physiological and clinical significance. The study of energy medicine has become an extremely engaging and fascinating endeavor, and is leading to techniques that will be a significant part of the medicine of the future.

FREQUENCY SPECIFIC HEALING

Every physician has taken an electrocardiogram, and therefore knows the basics of electrophysiology. The heart generates a large electrical field that is conducted throughout the body because the vascular system contains electrolytes that carry electrical charge, and because the body is formed of an all-pervasive semiconducting living matrix.[3] The electrocardiogram can be detected anywhere on the skin, even in the feet.

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Similarly, the brain, muscles, glands and other tissues generate electrical signals that can be detected at the skin surface. Clinical tools such as electroencephalography and electromyography are based on these phenomena. In each of these diagnostic tools, the strength and frequency and shape of the electrical pulses have clinical significance and lead to successful treatment decisions. Indeed, most physiological processes have measurable bioelectrical correlates.

Of growing interest are methods involving the application of electrical fields of particular characteristics to stimulate healing in specific tissues. One of the first methods of this kind was the use of electric fields and pulsing electromagnetic fields (PEMF) to treat fracture non-unions and delayed union, both of which are costly and debilitating conditions that can lead to amputation. Pulsing electromagnetic fields can be applied to the outside of the body, and induce small but measurable microcurrents within tissues. Two firmly established 19th century laws of electromagnetism are involved: Ampere's Law states that the flow of electric currents as in a wire or coil must produce magnetic fields in the surrounding space; and Faraday's Law of Induction states that oscillating magnetic fields as produced by a coil will give rise to oscillating electric currents in nearby conductors, including in living tissues. In the 1980's, PEMF was introduced to the orthopedic community and became widely used to stimulate bone healing (Figure 1).[4] Extensive basic research revealed the underlying mechanisms, and multi-center clinical trials led to FDA approval.

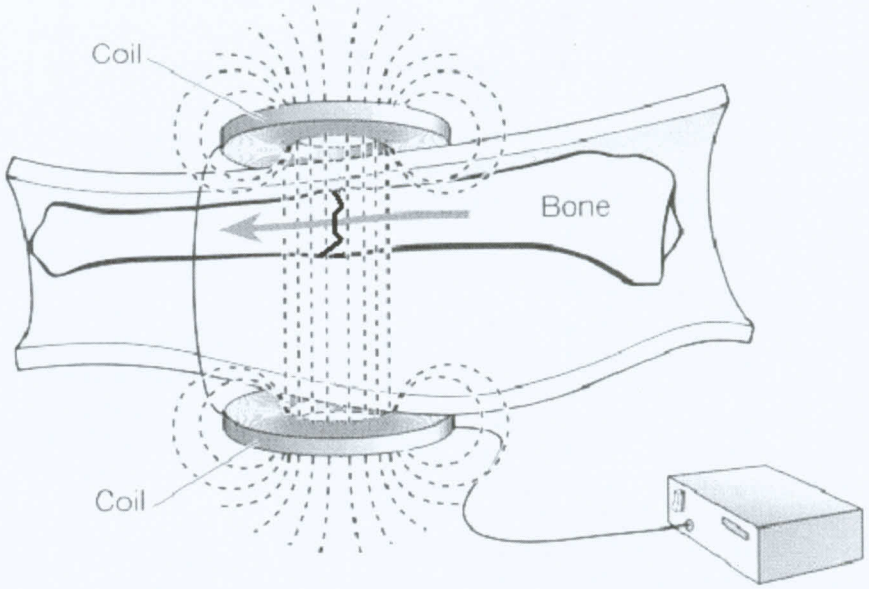

FIGURE 1. PEMF stimulation for treatment of fracture non-union

Success with bone healing led to testing of PEMF's on other tissues, and it was soon found that each tissue responds to a particular frequency. Signals were discovered that could stimulate healing in skin, ligament, tendon, muscle and nerve.[5] The peer-reviewed literature now contains references to a wide range of tissues that respond favorably to low level signals of particular frequencies. Clinically significant frequencies range from 0.1 Hz to millions of Hz. Some of the tissues and physiological processes

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TABLE 1.
Processes responding to pulsing electromagnetic fields, from the peer-reviewed literature

Melatonin secretion
Nerve regeneration
Neurite outgrowth
Osteogenesis
Cartilage growth
Ligament healing
Cell growth
Collagen production
DNA synthesis
Decreased skin necrosis
Angiogenesis
Fibroblast proliferation
Lymphocyte activation

BLE 2. Frequencies affecting particular tissues

2.0 Hz	Nerve repair
5.9 Hz	Scars
7.0 Hz	Bone
9.7 Hz	Ligaments
13.5 Hz	Muscle
15 Hz	Blood pressure
15 Hz	Lymphatic circulation
15 Hz	Emotional stability
15 Hz	Emotional Trauma
15 Hz	Herniated disc
15 Hz	Fluid Retention in Joints & Tissues,
15.2 Hz	Capillaries
17 Hz	Blood Flow / Circulation
24.3 Hz	Fluid Retention in Joints & Tissues
25.4 Hz	Herniated Disc
35 Hz	Mental clarity
326 Hz	Calcium Metabolism
326 Hz	Herniated disc
326-328	Back Pain
337 Hz	Circulation
443 Hz	Chemical Sensitivity
480 Hz	Pineal
528 Hz	DNA Integrity
625 Hz	Kidney
635 Hz	Pituitary Function
635 Hz	Colon
637 Hz	RNA Integrity
645 Hz	Pituitary
657 Hz	Nerve repair
751 Hz	Liver
657 Hz	Electrical Sensitivity
676 Hz	Lymphatics
696 Hz	Heart
763 Hz	Thyroid
763 Hz	Progesterone
764 Hz	Nervous System
835 Hz	Immune System
1335 Hz	Adrenals
1342 Hz	Pituitary
1351 Hz	Hypothalamus
1413 Hz	Hypothalamus
1434 Hz	White Cell Production
1443 Hz	Progesterone
1446 Hz	Progesterone
1524 Hz	Red Blood Cell Production
1534 Hz	Hypothalamus
1537 Hz	Endocrine System
1351 Hz	Estrogen
1444 Hz	Testosterone-male
1445 Hz	Testosterone-female
1565 Hz	Spiritual Well-Being
1725 Hz	Pituitary
2452 Hz	Hemoglobin Production
2642 Hz	Stroke

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Nogier, who taught neurology at the medical school in Lyon, France. Nogier also studied Traditional Oriental Medicine, which includes sophisticated methods of analyzing the radial artery pulse (Figure 2). In 1966, Nogier discovered that the Vascular Autonomic Signal was evoked in the radial pulse (termed the RAC in French, for Réflexe Auriculo-Cardiaque or Autonomic Circulatory Reaction) when he touched certain points on the ear of a patient. Subsequently, he discovered that the arterial system responds in a reproducible manner to a variety of changes to key physiological systems in the body. To be specific, the VAS is a rapid change in the tone of the smooth muscles in the walls of the arterial system throughout the body, mediated by sympathetic and parasympathetic neurons.[12, 13] Distinct changes in the amplitude and other characteristics of the pulse take place when specific events take place within the body. This occurs consistently and is both repeatable and measurable by modern equipment. The response that is felt by the practitioner (Figure 2) is a qualitative variation in the perception of the pulse that begins from 1 to 3 cycles after the stimulus begins and continues for about 8 to 15 cardiac cycles.[14] Nogier found that there are four pulse responses to stimuli: no response, the weakening of the pulse signal (negative VAS), increase of the pulse signal (positive VAS), and a sharp pulse spike. These responses occur from colors, magnetically induced currents, sound frequencies, light waves, emotions, touch, substances, and electromagnetic frequencies. There is considerable medical interest in the VAS, as evidenced by five International Symposia, the most recent one held in Lyon, France in 2006. Several United States Patents[15] and both diagnostic and therapeutic tools are based on the phenomenon. The method is sometimes referred to as Peripheral Arterial Tonometry or PAT.

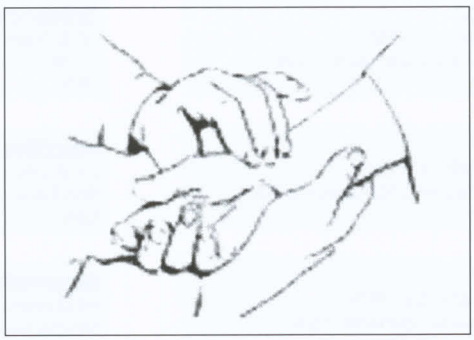

FIGURE 2. Radial artery pulse cellular-electrical biofeedback

Although the term "signal" as in the "Vascular Autonomic Signal" is widely used, many who use the system consider the term "response" as more accurate. A response is an answer to a question, and the VAS is the body's reaction or answer to a question posed by the introduction of stimulation into the body or into its energy field. For a discussion of the term, "energy field," see Oschman.[3]

The VAS is rapid and extremely sensitive, and can be used to discover both the best treatment for a problem as well as more subtle levels of disturbance or imbalance. These include blockages to the healing response, layers of pathology, appropriate priority for treatments and even subclinical issues. The VAS can be used both before and after a treatment to determine the accuracy of the diagnosis and the success of the treatment. In essence, the VAS is a very sensitive way of "listening" to the body as well as providing feedback to the patient. A wide variety of therapeutic schools around the world train practitioners to read the VAS and use it to define areas of the body under stress, the causes of the stress, chemical intolerances and the degree of success of interventions. The VAS can also provide early warnings of subclinical issues and therefore provide the practitioner with the opportunity to reverse developing conditions at an early stage.[16]

ONDAMED® AS AN EXAMPLE

The most widely tested approach combining PEMF and cellular-electrical biofeedback is the ONDAMED®, which has been used successfully in Europe since 1993 and is beginning to be used by physicians and other health care providers in the USA. Developed by Rolf Binder, the ONDAMED® provides a spectrum of low-level pulsing magnetic fields that induce the flow of microcurrents within the tissues of the patient. During a diagnostic phase, radial arterial pulse provides cellular-electrical biofeedback about which frequencies in the range 0.5 to 32,000 Hz affect physiological systems. A subsequent treatment phase introduces the same frequencies into the body via a hand-held applicator (Figure 3) that is moved a few inches over the patient's body. Again, the VAS is used to determine which area of the patient's body is responding to the frequency in question, and both the position of the applicator and the sounds produced by the electromagnet provide feedback to the patient. Cellular-electrical biofeed

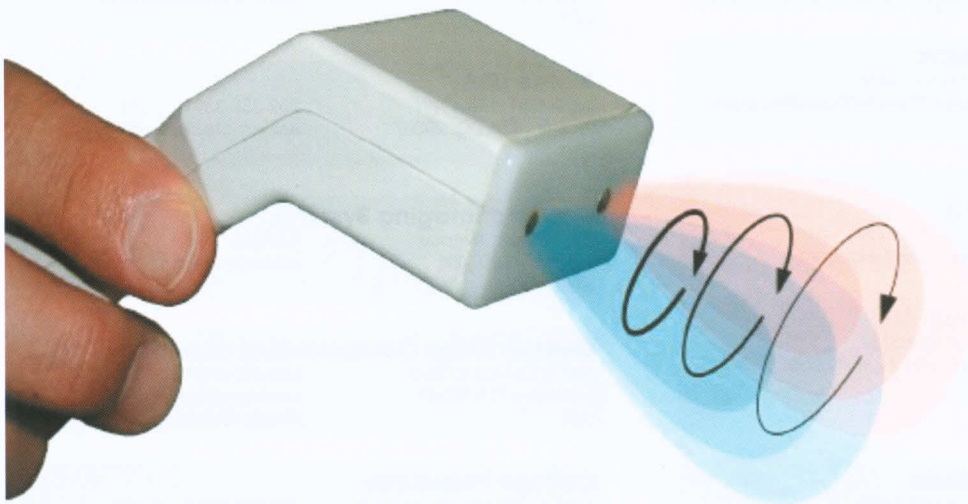

FIGURE 3. Hand-held applicator used with ONDAMED®

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back raises the patient's awareness and conscious control of physiological activities. Experience shows that the patient is then able to bring their system toward a desired end-point. Experience shows that many conditions resolve quickly, as though the body simply needs a small signal to jump-start the healiing process.

Figure 4 shows the ONDAMED® and the pulse shape it delivers to the body during diagnosis and treatment phases. Repeated testing of the ONDAMED® in physician's offices, wellness centers, health spas, and anti-aging practices reveals that the system does indeed provide the advantages of both PEMF therapies and cellular-electrical biofeedback by revealing patient-specific information and treatment options in a safe and non-invasive manner. While a variety of PEMF technologies and cellular-electrical biofeedback protocols have been developed to treat a wide range of individual conditions, the ONDAMED® combines all of these possibilities into a single versatile instrument. Moreover, the ONDAMED system has a set of preprogrammed frequencies that are helpful to most patients. These frequencies are based on the medical literature as well as on studies of rhythmic phenomena in nature and rhythms used in traditional healing methods.[17] The outcome: healthier patients with even more respect for their doctors. ◆

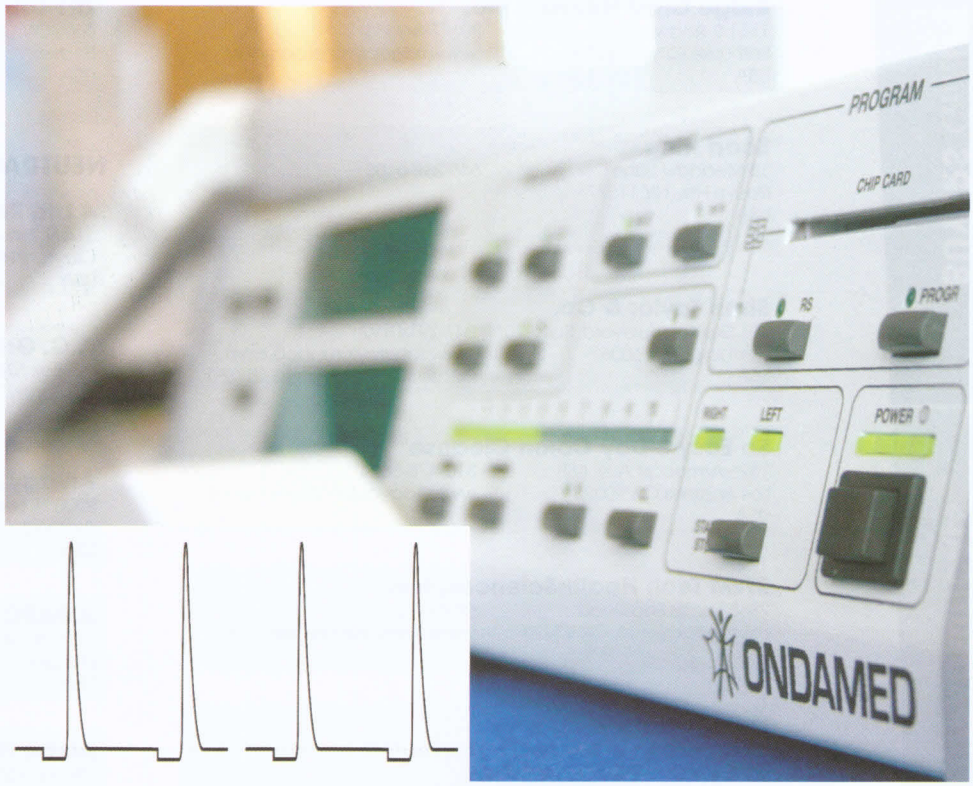

FIGURE 4. The ONDAMED® with the pulse shape it delivers to the body during diagnosis and treatment

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