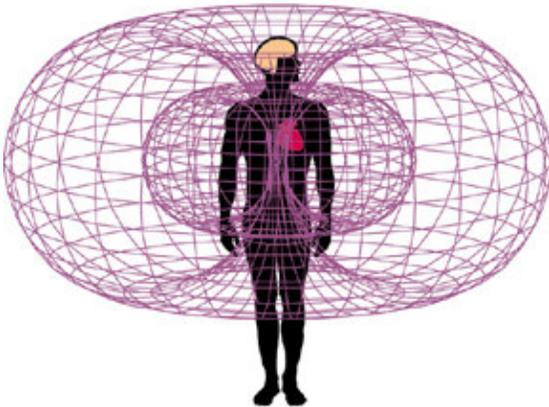


Science for

Integrative Consultations

Dr. Ralph Wilson is a Naturopathic Physician, a graduate of Bastyr University with an MS in Acupuncture and extensive experience in the field of integrative medicine. He has studied with Dietrich Klinghardt, M.D., Ph.D. Currently, Dr. Wilson is finishing work on his thesis for a Ph.D. in Energy Medicine, the title of which is Human Energy Anatomy: Scientific Groundwork for Integrative Practice.

For more information see:
www.NaturalWorldHealing.com



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Biofeedback: An Overview

Introduction

Biofeedback is emerging as a crucial area in functional health support and for monitoring the effect of treatments or interventions taken to strengthen the body's innate ability to heal itself. Dr. Wilson is a member of the Association for Applied Psychophysiology & Biofeedback.

There are several types of technologies that can be classed as biofeedback. These include:

- Home care biofeedback
- Heart Rate Variability testing
- Acugraph Digital Meridian Imaging
- Biomodulator device (A "SCENAR" technology)
- Autonomic Response Testing

Home care biofeedback: Using computer or stand-alone devices, this has a long track record of success in helping boost the immune system as well as the feeling of wellbeing. It helps "reset the inner balance." This type of biofeedback will be extensively explained in the essay following this introduction.

Heart Rate Variability: This testing gives information about the Autonomic Nervous System and its control of the cardiac rhythm. The HRV device that Dr. Wilson uses is described at www.NerveExpress.com.

Acugraph Digital Meridian Imaging: Derived from the original Japanese Ryodoraku measurement discovery that was then developed by Rinehold Voll of Germany into the Electrodiagnosis/Electro-Dermal Screening. The Acugraph gives visual images of Chi Energy Level, "Yin/Yang Balance", "Energy Stability" rating, etc. More information: www.Acugraph.com.

Biomodulator (a SCENAR technology): Computerized assessment of autonomic enervation of acupoints and dermal segments and treatment with electrical stimulation that can provide energizing of areas that have low energy, and stimulation of neuropeptides. Biomodulator is an extension of the original Russian SKENAR that was created for acumeridian stimulation by the cosmonauts in their space program. SCENAR is featured in the book

Virtual Medicine, by Keith Scott-Mumby, M.D. For more information see: www.sEnergy.us.

Autonomic Response Testing: This is a manual muscle testing biofeedback approach whose early lineage is called Applied Kinesiology. ART is taught by Dietrich Klinghardt, M.D., Ph.D., and it is included in Allergy Elimination Technique and Applied Psycho-Neurobiology. See: www.Klinghardt.org.

Home care biofeedback

Using computer or stand-alone devices, “biofeedback” has a long track record of success in helping to boost the immune system as well as enhancing the feeling of wellbeing. It helps to “reset the inner balance.”

There are a large number of companies that provide devices that can be used in the clinic or at home. For years Dr. Wilson has employed biofeedback and introduced patients to home care approaches. He knows of many devices and techniques that can assess and enhance autonomic nervous system regulation using biofeedback. He is a member of the Association for Applied Psychophysiology and Biofeedback.

Recently, Dr. Wilson has been collaborating with HeartMath LLC regarding research into the energy systems of the body and bringing biofeedback technology to his patients. HeartMath LLC was born in 1998 as a spinoff of the original HeartMath organization, the Institute of HeartMath. The Institute’s groundbreaking research on heart/brain communication and the power of coherence, a highly efficient psychological state where all the systems of the body work together in harmony, provide the basis for their scientifically validated products and services.

The description below is from www.HeartMath.com. Their motto: “A change of heart changes everything.”



A new departure from conventional biofeedback – thousands of health professionals and consumers are now using heart rhythm feedback for effective stress reduction

By Gabriella Boehmer

HeartMath® essentially reinvented biofeedback in 1999 when they introduced the first affordable consumer stress-reduction product using their patented heart rhythm feedback. Their focus on heart rhythm feedback provided a refreshing departure from conventional biofeedback practices, and has since been adopted by more than ten thousand health professionals worldwide as an effective and invaluable tool for patients suffering from stress-related issues. Internationally respected for their research-based stress solutions, HeartMath peer-reviewed studies have demonstrated the critical link between emotions, heart function, and cognitive performance. HeartMath’s heart rhythm feedback technologies are becoming a standard in the field of biofeedback. Their affordability and user-friendly features have made effective stress reduction practices convenient for personal use and have found their way into thousands of homes in over 50 countries around the world.

Biofeedback broke ground in the 1960’s and became popularized nearly a decade later. Traditionally, biofeedback has monitored bodily responses such as brainwaves (EEG), muscle tension (EMG), skin temperature, and sweat gland activity. The feedback is then used to help patients adjust their thinking in order to control stress-related disorders like high blood pressure, headaches, muscle stiffness and pain, digestive problems, and asthma. More recently, HeartMath researchers found that monitoring heart rhythm patterns offers several unique advantages over traditional forms of feedback. Heart rhythm feedback is considerably simpler and more straightforward for people to learn and use. It’s also more reflective of changes in both branches of the autonomic nervous system and, therefore, changes in the emotional and psychological states. It also doesn’t require cumbersome and expensive equipment or annoying sticky electrodes (<http://www.heartmath.org/research/research-papers/instrumentation-bio.pdf>).

Messages from the heart

In 1995 the American Journal of Cardiology published a study conducted by HeartMath researchers which identified a distinct pattern in the heart rhythms that is characteristic of positive emotions like appreciation, care, love, and compassion. This heart rhythm pattern reflects physiological coherence – simply said, coherence is when the heart, brain, and nervous system

are working in harmony. According to the HeartMath researchers, emotions move faster than thought and are registered by the heart before the brain. The heart pulses out a rhythmic pattern that reflects a person's current emotional state. The heart transmits this information to the brain, rest of the body, and even out into the environment the same way cell phones and radio stations transmit information – via an electromagnetic field (<http://www.heartmath.org/research/research-publications.html>).

Based on their discoveries, HeartMath created a set of positive-emotion-focused techniques that foster a state of coherence. Their techniques combine shifting attention to the area of the heart, where people subjectively feel positive emotions, while intentionally drawing on a positive emotional experience that generates a tangible and sincere feeling such as appreciation or care. These techniques have been proven to increase heart rhythm coherence and reduce stress and anxiety. There have been dozens of studies on these practices demonstrating the profoundly beneficial effects on the heart, cognitive functions, and overall health.

Rollin McCraty, Ph.D., Director of Research for HeartMath, says, “Most people think that emotions just happen to them. Our research shows that we have much more power over our emotional wellbeing than we give ourselves credit for. People just need a little direction on how to access that power.”

Creating new emotional baselines

HeartMath experts found that using these techniques along with an objective source of feedback reinforced people's positive emotional shifts and motivated them to continue practicing. The feedback takes the guesswork out by providing real data that verifies when the heart rhythms are in coherence. Through the combined use of the techniques and feedback, people learn to make small inner adjustments to increase and sustain coherence. With practice, the new coherent heart rhythm patterns become more familiar to the brain and nervous system, helping people establish a new emotional baseline and re-grid old emotional patterns like stress, anxiety, frustration, and anger.

Based on their work over the last 16 years, HeartMath recently released two revolutionary lifestyle tools designed to help reduce stress and reset one's inner balance – *emWave® PC Stress Relief System* and the handheld *emWave Personal Stress Reliever®*.

Biofeedback reinvented as convenient lifestyle tools

emWave PC Stress Relief System (formerly the award-winning *Freeze-Framer®*) was created by Doc Childre, founder of HeartMath. The program essentially mirrors your emotional state by collecting information from your heart through a finger or ear-clip sensor that plugs into your computer via USB. *emWave PC* (www.emwavepc.com) trains you to achieve a high level of coherence. The program translates heart rhythm information into user-friendly graphics on your computer screen. As you apply the stress-reducing Quick Coherence® technique learned from the program, you see your heart rhythms change in real time as you move out of stress and into a more balanced, regenerative emotional state.

The program allows you to track your progress and has three colorful interactive games powered by your ability to transform stress into renewed energy. An innovative feature of *emWave PC* is its Emotion Visualizer™, a practice application that provides stunning images which emit varying degrees of color and movement as you adjust your emotional state (http://www.emwavepc.com/emwave_pc_new_features.html).

HeartMath's other technology product is the award-winning *emWave Personal Stress Reliever* (PSR) – a mobile lifestyle tool weighing only 2.2 ounces. Having earned the seal of approval from the American Institute of Stress, the *emWave* device (www.emwave.com) reads your heart rhythms through its built-in finger sensor and gives immediate feedback, reflecting your emotional

state through changing colored lights and sound. It includes a hands-free option and animated instructional CD-Rom that guides you through the Quick Coherence technique.

Wendy Warner, MD, President of the American Board of Holistic Medicine and Founder and Medical Director of Medicine in Balance, LLC, sees how much these technologies are helping her patients. She says, "Many, if not most, of my patients have physical complaints that stem, ultimately, from stress. As a holistic physician, I have a number of tools to help them, but what I find the most helpful are HeartMath's techniques and technologies. It provides patients with a way to have more control over their own health, and has often been more helpful in lessening the harmful effects of stress than anything else I've tried."

Dr. McCraty added, "Over the years biofeedback has provided thousands of people with an effective practice to gain more control over stress-related health issues. Heart rhythm feedback is adding yet another effective element to help people gain a deeper understanding of the important connection between emotions and the body. The fact that we have been able to make it affordable, fun, and mobile broadens its applications making it a very practical form of stress reduction."

Solutions for stress

The *emWave*[®] products are just two components within the HeartMath System of scientifically-validated stress and performance solutions and are being used by healthcare professionals, therapists, and coaches to help clients reduce stress and improve mental, emotional, and physical health and performance. The HeartMath System includes technologies, programs, tools, techniques, and research and is being taught by licensed trainers on four continents in a variety of societal contexts, including healthcare institutions, corporations, government agencies, and educational systems.

More than a dozen independent studies are utilizing the HeartMath System and technologies. Respected organizations including Kaiser Permanente, Veterans Administration, and University of North Carolina are exploring the benefits of these technologies with various health challenges including anxiety, stress, ADHD, and hypertension.

The *emWave* products are breakthroughs in personal stress reduction and offer unique conveniences that provide consumers with much-needed solutions for taking charge of their stress wherever and whenever they need it.

To learn more about HeartMath products and services, please visit www.heartmath.com. For more about their research, go to www.heartmath.org.

About HeartMath[®] LLC

HeartMath LLC (www.heartmath.com), a wholly-owned subsidiary of Quantum Intech, is a cutting-edge performance company providing a range of unique services, products, and technology to improve health and well-being, while dramatically reducing stress and boosting performance and productivity. HeartMath's compelling solutions for stress relief have been published in numerous peer-reviewed journals such as American Journal of Cardiology, Stress Medicine, Preventive Cardiology, Journal of the American College of Cardiology, Integrative Physiological and Behavioral Science and Alternative Therapies in Health and Medicine. HeartMath's organizational and healthcare clients include NASA, BP, Duke University Health System, Kaiser Permanente, Stanford Business School, Unilever, and Cisco Systems, as well as dozens of school systems and thousands of health professionals in the US, Australia, and Europe.

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