

# **TWENTY FIRST CENTURY MEDICINE: BIOELECTROMAGNETIC THERAPY**

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## **Use of Magnetic Energy in Medicine**

**Magnetism is one of the fundamental forces of nature and has been studied and used since antiquity. Long before the advent of writing, the ancient Chinese developed a system of medicine based on the premise that health depended upon the circulation of vital energy through prescribed pathways. Illness resulted when there was a block of this vital energy, which they called “*chi*”. Unblocking this “*chi*” could obtain Restoration of health by inserting needles or using lodestone (magnets) to balance the two opposing influences, “*yin* and *yang*”.**

### **The Body Electric**

**The human body produces subtle electromagnetic fields that are generated by the chemical reactions within the brain. From the astrocytes of the brain, these fields travel down the covering the nerves of the spinal cord, called Schwann cells, out to organs and limbs and returns by the connective tissue planes or fascia to the dura mater (cover of the spinal cord). From the dura mater of the spinal cord, they are transmitted to the brain, thus completing the electric circuit. These routes of electromagnetic transmission in the body were first defined by the ancient Oriental practitioners as *meridians*.**

### **Therapeutic Applications of Static Magnets**

**Therapeutic applications of magnetic devices include relief of pain and swelling with static bipolar alternating field magnets for post-polio patients, and relief of diabetic neuropathy. In Japan and China there has been decades of experience with magnet therapy. One in eight Japanese either sleeps or walks on magnetic products. However most sleep pads use an alternating field of negative or plus fields that do not penetrate through the body. Because these bipolar fields have half the electrons and protons slowing down, they elicit an emergency**

response from the brain similar to acupuncture, which responds by sending more electromagnetic energy and blood flow to the area where the magnetic stimulus is applied. The net effect is beneficial but is dependent upon a person's vitality level and should in most cases be used no longer than 2 months at a time. A three year trial is ongoing involving the University of Virginia using static magnetic field sleep pads of a unique design which places many magnets closely together, as if one large magnet, creating a pure unidirectional negative field in the same direction as the earth's. Preliminary data indicates a dramatic reduction in fibromyalgia symptoms, cardiovascular disease new incidence, as well as cancer in those sleeping on the magnetic pads in the 1361 subjects studied over a 3 1/2-year period. <sup>1</sup>

## **Major New Applications**

**Eight major new applications of the use of electromagnetic fields in medicine include:**

- **Wound healing**
  - **Tissue regeneration**
  - **Immune system stimulation**
  - **Neuroendocrine modulations.**
  - **Treatment of osteoarthritis**
  - **Bone repair**
  - **Electro-acupuncture**
  - **Nerve stimulation**
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- ***Restoration of nerve and bone tissue with pulsed electromagnetic fields (PEMF)*** developed by Robert O. Becker, MD and Andrew Bassett, MD had been approved for non-union of fractures and was recently approved for treatment, no longer requiring a 90-day waiting period. Becker's detailed account of his research is written in his book *The Body Electric: Electromagnetism and The Foundation of Life*, which also tells, of his work on the restoration of nerve tissue and limb regeneration.

• ***Electro-acupuncture for pain.*** TENS units are now prescribed by doctors for the control of pain in patient self-care. The TENS unit (which stands for transcutaneous electrical nerve stimulation) uses a small portable electrical generating device. A new application is a hand-held TENS unit with a sensor enabling treatment of acupuncture meridians and points. This device has been used by the author in his practice and found to be very effective in pain control and relief of hiccups with a case report recently published in the American Journal of Gastroenterology.

• ***Wound healing, tissue regeneration, and immune enhancement*** using the MME (Magnetic Molecular Energizing), is a treatment method developed by Dr. Dean Bonlie at the research laboratory at Magnetico, Inc. Calgary Alberta. The MME device resembles MRI equipment, which is used only for imaging. However, the MME is a novel treatment modality consisting of two very large and strong nonpulsed DC electromagnets (3000 to 5000 gauss) with the patient lying in the focal point between a negative pole below and the positive pole above. It is estimated that approximately 1000 gauss is present at the surface of the brain. The patient is placed in the same position as he normally sleeps for the atoms are orientated to the earth's magnetic field. The body is composed of atoms containing charged particles such as electrons, protons and ions. When a patient is placed in the MME device there is a temporary increase in the magnetic force on some of the atoms (*atomic magnet*) composing the cells of the body in the area of the focal point. The force results in a higher velocity of some of the orbiting electrons. This increase in velocity of certain electrons and not others causes *precession* or wobble. Combined with the higher velocity this leads to enhanced electron transfer, which is the basis of all chemical reactions in the body.

The magnetic field of the MME is hypothesized to enhance reactions such as the oxygen carrying capacity, assimilation of nutrients, up regulation of cytoprotective enzymes, metabolic waste removal, reduction of free radicals, tissue regeneration and enhanced healing.

**Magnetic Molecular Energizing technique is now being used in a Central IRB-approved clinical trial. Patients are receiving therapy for spinal cord injury, brain injury, stroke impairment, multiple sclerosis, muscular dystrophy, cerebral palsy, Alzheimer's and Parkinson's disease and orthopedic conditions involving bone and joint repair and cardiomyopathy. Over 500 patients in North America have been treated.**

**Advanced Magnetic Research Institutes and clinical investigators are currently located at :**

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**Andy Bassett, MD made this prophetic statement in a 1992 article:**

***In the decade to come, it is safe to predict bioelectromagnetics will assume a therapeutic importance equal to, or greater than, that of pharmacology and surgery today. With proper interdisciplinary effort, significant inroads can be made in controlling the ravages of cancer, some forms of heart disease, arthritis, hormonal disorders, and neurological scourges such as Alzheimer's disease, spinal cord injury, and multiple sclerosis. This prediction is not pie in-the-sky. Pilot studies and biological mechanisms already in primordial terms form a rational basis for such a statement.***

**Perhaps in the future we will relearn what Paracaleus, a famous physician, said in the Dark Ages: " Magnetism is the King of All Secrets."**

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