When he injected rabbits with the pathogen trypanosome, which causes sleeping sickness, the rabbits would all die within 72 hours. But when exposed to the Priore device, these same rabbits would live. Yet their blood was still teeming with the trypanosomes which could be extracted from the radiated rabbits and injected into other control rabbits, which would then die. This implies that the machine was doing something electro-magnetically to the rabbits’ immune systems such that they were able to fight off a lethal disease which would normally kill them in 72 hours!

A pioneering medical doctor in the 1960’s, Dr. Becker is most famous for his book. The Body Electric, which gives an autobiographical account of his life experiences with bioelectro-magnetics. Not only did he establish that the Chinese meridians of the body are skin pathways of decreased electrical resistance, but he discovered a host of other bioelectric effects within the body as well, such as electrostimulating limb-regeneration in mammals. He also worked on electrically stimulating bone growth with Dr. Andrew Bassett, who along with Dr. Arthur Pilla, developed a very effective PEFM generator to stimulate bone fracture healing, now approved by the FDA with an 80% success rate. Similar PEMF signals have been used effectively to prevent osteoporosis even in patients with an overactive parathyroid.

A modern-day physicist and inventor, Dr. Abraham Liboff is the discoverer of electric field and geomagnetic ion cyclotron resonance, which more reliably explains the resonant interaction of static magnetic fields with endogenous AC electric fields in biological systems. A physicist with Oakland University, he has introduced significant physics principles into the field of bioelectromagnetics. His “Method and Apparatus for the Treatment of Cancer” (US Patent #5,216,622) tunes an alternating magnetic field superimposed on a static magnetic field, to maintain a combined effect that has the proper cyclotron resonance frequency so that the neoplastic tissue containing a preselected ion can be treated to bring about a decrease in the proliferation rate of the cancer cells. It also can be combined with a chemotherapeutic agent for a synergistic effect. However, it is noted in the patent disclosure that “up to 100 days of treatment will provide beneficial results”.

It is offered as an explanation of bio-magnetic effects by Dr. Kyung Nakagawa of Japan. The Earth’s magnetic field is not fixed in position or strength. In the last hundred years, it has weakened on average by about 8 percent. In the last thousand years it has fallen nearly 30 percent. Dr. Nakagawa argues that since humans evolved in a magnetic field, it is necessary for proper health. A falling magnetic field puts us at risk and magnetic therapy can make up the deficit. In truth, no one really understands the mechanisms by which magnetic fields effect human health. There are many theories and very little consensus. It is a problem as complicated as the construction of the human body, concerning dozens of organs and thousands of different molecules. Power electro-magnets are also used in brain and muscle research to generate currents strong enough to fire nerves that trigger sensations and flex muscles.

There have been thousands of research studies and clinical trials on Pulsed Electro-Magnetic Field Therapy. Inside you will find samples from over 2,000 University level double-blind studies concerning ailments ranging from Arthritis to Vision, along with a brief synopsis of the different types of magnetic therapies.
There have been 2,000 university

Evolution of magnetic therapy from alternative to traditional medicine
Yallbonas C, Richards I.; Department of Family and Community Medicine, Baylor College of Medicine, Houston, Texas, USA.

Equipment design for magnetic therapy and “Pulsus” devices
Vittorov VA, Maltak IV.

Beneficial effects of electro-magnetic fields
Basset CA, Bioelectrical Research Center, Columbia University, Riverdale, New York 10463.

Clinical effectiveness of magnetic field therapy--a review of the literature

Theoretical and practical aspects of general magnetotherapy (Article in Russian) Ulashchik VS.

Possible therapeutic applications of pulsed magnetic fields (Article in Czech) Navratil L, Hlavaty V, Lundsingerova E.

Pulsed magnetotherapy in Czechoslovakia--a review.

Electro-Magnetic fields and magnets. Investigational treatment for musculoskeletal disorders
Track DH, Yale University School of Medicine, New Haven, Connecticut, USA.

Arthritis
A study of the effects of Pulsed Electro-Magnetic Field Therapy with respect to serological grouping in rheumatoid arthritis.
Ganguly KS, Sarkar AK, Datta AK, Rakshit A. National Institute for the Orthopaedically Handicapped (NIODH), Calcutta.

Ito H, Shirai Y, Gembun Y. Department of Orthopaedic Surgery, Nippon Medical School, Tokyo, Japan.

A double-blind trial of the clinical effects of electro-magnetic fields in osteoarthritis.
Track DH, Boltet AJ, Dyer RH Jr, Fielding LP, Miner WK, Markoll R. Department of Medicine (Rheumatology), Danbury Hospital, CT 06810.

Track DH, Boltet AJ, Markoll R. Department of Medicine, Danbury Hospital.

Magnetic pulse treatment for knee osteoarthritis: a randomised, double-blind, placebo-controlled study.
Pipitone N, Scott DL. Rheumatology Department, King’s College Hospital (Dulwich). London, UK.

Electro-Magnetic fields for the treatment of osteoarthritis.

Modification of osteoarthritis by Pulsed Electro-Magnetic Field—a morphological study.
Ciambor DM, Aaron RK, Wang S, Simon B.; Department of Orthopaedics, Brown Medical School, Providence, RI 02905.

Pulsed magnetic field therapy for osteoarthritis of the knee—a double-blind sham-controlled trial.

Therapeutic effects of pulsed magnetic fields on joint diseases
Riva Sanseverino E, Vannini A, Castellaccia P., Universita di Bologna, Italy.

CELL REGENERATION
Effect of external Pulsing Electro-Magnetic Fields on the healing of soft tissue.
Glassman LS, McGrath MH, Bassett CA. Division of Plastic Surgery, Montefiore Medical Center, Albert Einstein College of Medicine, New York, NY.

Pulsing Electro-Magnetic field therapy in nerve regeneration: an experimental study in the cat.
Dregl MG, O’Brien WJ, Murray HM.

Effect of Pulsed Electro-Magnetic Fields (PEMF) on osteoblast-like cells.
Sakata T. Department of Oral Biochemistry, Kanagawa Dental College.

CIRCULATION
Microcirculatory effects of Pulsed Electro-Magnetic Fields.
Smith TL, Weng-Bibbina D, Maumby J. Department of Orthopaedic Surgery, Wake Forest University School of Medicine, Medical Center Blvd., Winston-Salem, NC 27157-1070, USA.

Types of Magnetic Therapy

Constant Energy Magnets
Long popular in Japan, magnet therapy has entered public awareness in the United States, stimulated by golfers and tennis players extolling the virtues of magnets in the treatment of sports-related injuries. Magnetic knee, shoulder, and ankle pads, as well as insomnia and mattress pads, are widely available.

Magnet therapy has a long history in traditional folk medicine. Reliable documentation tells us that Chinese doctors believed in the therapeutic value of magnets at least 2,000 years ago and probably earlier than that. In 18th century Europe. Paracelsus used magnets to treat a variety of ailments.

Two centuries later, Masmer became famous for treating various disorders with magnets.

In the middle decades of the 20th century, scientists in various parts of the world began performing studies on the therapeutic use of magnets. From the 1940’s on, magnets became increasingly popular in Japan. Yoshio Manaka, one of the influential Japanese acupuncturists of the twentieth century, used magnets in conjunction with acupuncture.

Magnet therapy also became a commonly used technique of self-administered medicine in Japan. During the 1970s, both magnets and electro-magnetic machines became popular among athletes in many countries for treating sports-related injuries.

In the United States, it was only in 1997 that properly designed clinical trials of magnets began to be reported. Results of several preliminary studies suggested that both static magnets and electro-magnetic therapy may indeed offer therapeutic benefits for several disorders.

Pulsed Electro-Magnetic Energy
Pulsed Electro-Magnetic Field Therapy is non-static, quite unlike therapy with standard magnets, which is static.

Pulsed Electro-Magnetic Field Therapy is used in two main ways: Pulsed Electro-Magnetic Field Therapy (PEMF) or a special version of PEMF called repetitive transcranial magnetic stimulation (rTMS).

PEMF therapy has been used to stimulate bone repair in non-union and other fractures since the 1970s. This use has been approved by the FDA. Although bone has a remarkable capacity to heal from injury, in some cases the broken ends do not join; these are called non-union fractures.

PEMF has shown promise for other conditions as well. Now, many studies are showing its benefits in healing soft-tissue wounds; suppressing inflammatory responses at the cell membrane level to alleviate pain, and increase range of motion.

PEMF is now being investigated experimentally for osteoarthritis, stress incontinence, migraines, and many other conditions.

A special form of Electro-Magnetic therapy, repetitive transcranial magnetic stimulation (rTMS), is also undergoing close study. rTMS is designed specifically to treat the brain with low-frequency magnetic pulses.

Many studies suggest that TMS might be beneficial for depression. It is also being studied for the treatment of Parkinson’s disease, epilepsy, schizophrenia, and obsessive-compulsive disorder.

Continued - Pioneers in the field of PEMF

...were used for magnetically treating the body without contact, though ten to a hundred thousand volts were present “between the first and last turn.” Tesla concludes that bodily “issues are condensers” in the 1899 paper, which is the basic component (dielectric) for an equivalent circuit only recently developed for the human body. In fact, the relative permittivity for tissue at any frequency from ELF (10 Hz-100 Hz) through RF (10 kHz-100 MHz) exceeds most commercially available dielectrics on the market.

This unique property of the human body indicates an inherent adaptation and perhaps innate compatibility toward the presence of high voltage electric fields, probably due to the high transmembrane potential already present in cellular tissue. Tesla also indicates that the after-effect from his coil treatment was certainly beneficial.

MAGNETIC FIELDS IN THE TREATMENT OF PARKINSON'S DISEASE

A low-frequency alternating magnetic field, a supranormal-frequency current and interference currents in the combined treatment of chronic non-specific endometritis

Strugatski VM, Popovich LS.

FIBROMYALGIA

Exposure to a specific pulsed low-frequency magnetic field: a double-blind placebo-controlled study of effects on pain ratings in rheumatoid arthritis and fibromyalgia patients.

Lawson Health Research Institute, St. Joseph's Health Care, London, Ontario N6A 4V2.

GLAUCOMA

The effect of a Pulsed Electro-Magnetic Field on the hemodynamics of eyes with glaucoma.

Taisel'ski iuV, Kashinets LA, Skrinnik AV.

GLUCOSE TOLERANCE

The effects of PEMF on glucose tolerance in rats.

Taiser'ski iuV, Kashinets LA, Skrinnik AV.

DEPRESSION

Influence of electromagnetic fields on the emotional behaviour of rats (Article in Russian). Semeonova IP, Medvinskaya NI, Blonskaya GI, Akoev IG. Institute of Cell Biophysics, Russian Academy of Sciences, Pushchino, Moscow region, 142290 Russia.

Combining high and low frequencies in tRMS antidepressive treatment: preliminary results.


The Effects of Pulsed Electro-Magnetic Fields (PEMF) on late-phase osteotomy gap healing in a canine tibial model.

Inoue N, Ohmura I, Chen D, Deit LW, Schwartz JD, Chao EY. Department of Orthopaedic Surgery, The Johns Hopkins Automation.
SKIN WOUND HEALING

The influence of pulsed electrical stimulation on the wound healing of burned rat skin.
Castillo E, Sumano H, Fortoul TL, Zepeda A. Department of Physiology and Pharmacology, School of Veterinary Medicine, National Autonomous University of Mexico, Mexico, D.F.

Ieran M, Zaffuto S, Bagnacani M, Annoi M, Maratti A, Cadossi R. Department of Medical Angiology, Arcispedale S. Maria Nuova, Reggio Emilia, Italy.

Pulsed Electro-Magnetic Fields in experimental cutaneous wound healing in rats.

HYPERTENSION

The treatment of hypertension patients with electro-magnetic and magnetic fields.
Orzheshkovskiy VV, Chocholik DJ, Paramonchik VM, Fustykavskiy AO, Kovalenko VP.

LYMPHOCYTES

Effect of bioresonance therapy on an antioxidant system in lymphocytes in patients with rheumatoid arthritis.
Islamic B, Balabanova RM, Funtikov VA, Gotovkay V, Meizarov EE. Institute of Theoretical and Experimental Biophysics, Russian Academy of Sciences, Pushchino, Russia.

The effect of exposure to high flux density static and pulsed magnetic fields on lymphocyte function.

MIGRAINE

Initial exploration of Pulsing Electro-Magnetic Fields for treatment of migraine.
Sherman RA, Acosta NM, Robson L. Orthopedic Surgery Service, Madigan Army Medical Center, Tacoma, WA 98431, USA.

NERVE REPAIR

Pre-treatment of rats with Pulsed Electro-Magnetic Fields enhances regeneration of the sciatic nerve.
Kanjie M, Rusovan A, Sisken B, Lundborg G. Department of Animal Physiology, University of Lund, Sweden.

A comparative study of the effects of Pulsed Electro-Magnetic Field (Diapulse) on nerve repair.
Raj AM.

Effect of weak Pulsing Electro-Magnetic Fields on neural regeneration in the rat.
Ito H, Bassetti CA.

OSTEOPOROSIS

Chang K, Chang WH. Department of Biomedical Engineering, Chung-Yuan Christian University, Chung-Li, Taiwan, Republic of China.

Bone density changes in osteoporosis-prone women exposed to Pulsed Electro-Magnetic Fields (PEMFs).
Tabrau F, Hoffmeier M, Gilbert F Jr, Batkin S, Bassetti CA. University of Hawaii School of Medicine, Straub Clinic and Hospital, Honolulu.