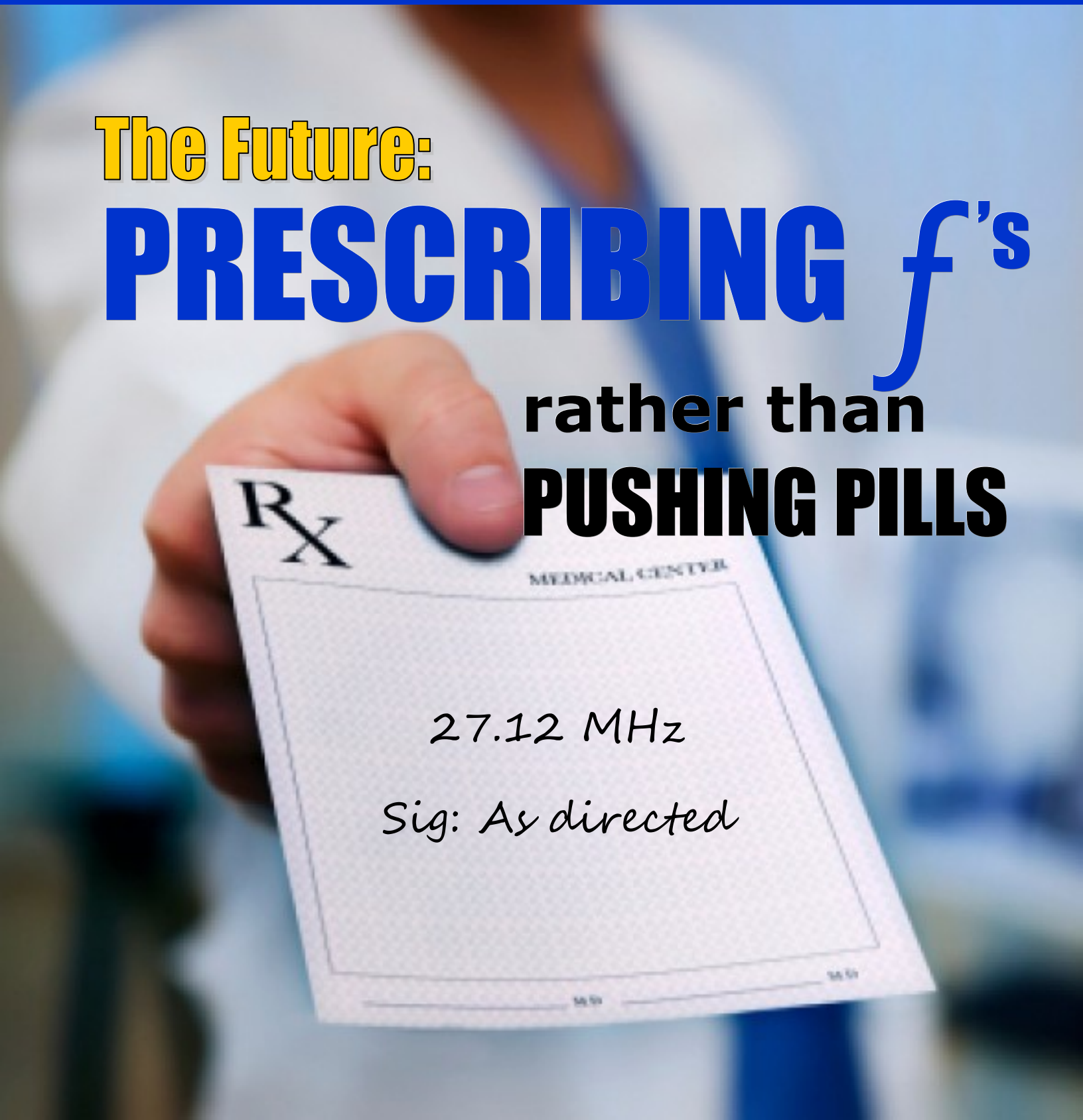
The American Institute of Stress

HEALTH AND STRESS

Your source for science-based stress management information

Volume 25 Issue 7 July 2013



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AIS provides a diverse and inclusive environment that fosters intellectual discovery, creates and transmits innovative knowledge, improves human health, and provides leadership to the world on stress related topics.

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PHYSICIANS WILL SOON BE PRESCRIBING FREQUENCIES RATHER THAN PUSHING PILLS

by Paul J Rosch, MD, FACP

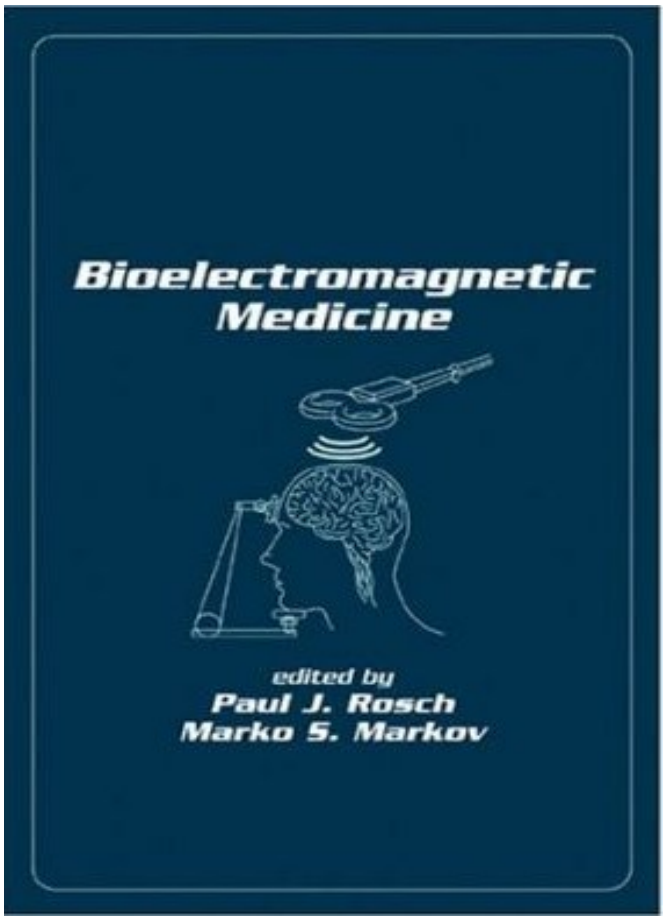
Editor–in-Chief

Bioelectromagnetic Medicine, published in 2004, was a huge volume of 50 chapters by 86 authorities from all over the world. It was designed to demonstrate that just as MRI, PET scanning and other sophisticated imaging procedures had revolutionized the diagnosis of disease, cutting edge electromagnetic therapies were starting to replace pharmaceuticals and surgery for the treatment of many disorders. Examples included cancer, coronary heart disease, obesity, epilepsy, Parkinson's disease, musculoskeletal pain syndromes, depression, anxiety, insomnia and migraine. In many instances, these alternative approaches were safer than conventional treatment, and some were shown to be effective in patients who had failed to respond to antidepressants. *Bioelectromagnetic Medicine* soon became the "Bible" in this burgeoning field but critics complained there was no scientific support or basis to explain how some of these alleged diverse benefits were achieved.

Others had serious concerns about long-term adverse health effects. Several studies had suggested that living within 300 yards of a high voltage power line was associated with an increase in leukemia and other malignancies in children. The Dean of the State University of New York's School of Public Health believed this exposure was responsible for up to 30% of all childhood cancers. A California Department of Health study concluded that EMFs (electromagnetic fields) from power lines and other sources such as transformers, home appliances

and electric wiring might cause adult brain cancer, Lou Gehrig's disease and miscarriage. There was also a heated controversy taking place here and abroad about cell phone safety, particularly with respect to brain tumors and unknown delayed effects on children. Because of this brouhaha, health hazards were not discussed.

That was 10 years ago. Since then, there have been numerous advances in electromagnetic and other subtle energy therapies and our understanding of possible mechanisms of action. As a result, it is necessary to update and revise the first edition to include this new material, and to change the title to *Bioelectromagnetic and Subtle Energy Medicine* to more accurately describe its contents. The results of the massive 13-country $24 million Interphone study of cell phone health hazards that began in 2000 have finally been published. This appears to have generated more heat than light, since both sides have claimed victory, and we hope to clear up some of this confusion. In addition, the growing popularity of "energy" therapies as an alternative to drugs has spawned a plethora of worthless devices and approaches by entrepreneurs and charlatans making extravagant claims.



As will also be discussed, one of the greatest impediments to wider acceptance of legitimate achievements (as well as the hazards of EMFs) is the continued refusal to acknowledge that weak and nonthermal EMFs can have significant biological effects. FDA approval is also difficult to obtain because of the stranglehold Big Pharma has on regulatory authorities, the media and prestigious organizations and authorities that are the recipients of their largesse. It is difficult to accept something as valid if you are unable to understand the underlying mechanisms of action. It is also difficult to make someone believe anything if their salary or income depends on not believing it, or requires admitting that what you have stated emphatically for years may be wrong. Another major obstacle has been the widespread suspicion that electrotherapy is a form of quackery much like the snake oil patent medicines popular during the 19th and early 20th century. This is quite understandable, especially since electrotherapy was excluded by law from the practice of medicine following the 1910 Flexner report. To understand why there are very good reasons for this derogatory opinion, it is necessary to briefly review how electrotherapy evolved.

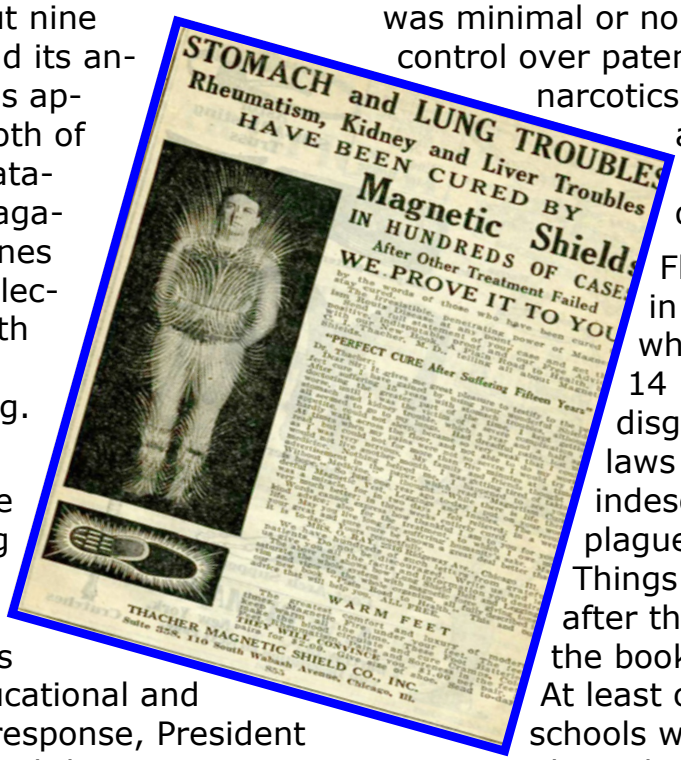
Electromedical, Magnetic And Energy Therapy Quackery

Electrotherapy was very popular in the 1900s, since it was considered to be a growing specialty, much like radiology. However, there were numerous quacks and charlatans promoting worthless electromedical devices that could allegedly diagnose and/or cure almost anything. In many respects they were similar to the traveling horse and wagon hucksters who put on medicine shows where shills were planted to provide lavish testimonials about their miraculous cures. People flocked to buy these home made concoctions that were referred to as "patent medicines", to imply they had government approval.

This term had long been used in England to refer to specific products used by the royal family that were manufactured under grants, or "patents of royal favor". Such proprietary compounded medications were previously called *nostrum remedium*, Latin for "our remedy", which became nostrum in English. A nostrum now has the connotation of a remedy that is not effective, which is not surprising, since none of these or subsequent patent medicines have stood the test of time. During the 1700s and even later, patent medicines from England were imported to America and sold at post offices or by grocers, tailors and other local merchants, who specialized in products like Dr. Bateman's "Pectoral Drops", John Hooper's "Female Pills" and Thomas Daffy's "Elixir Salutis" for "colic and griping". Many of these magic potions sold out of the back of a wagon at itinerant medical shows not only contained liberal amounts of alcohol, but also included morphine, opium, cocaine and/or heroin, all of which were inexpensive and widely available. Coca-Cola was originally developed in 1886 as a patent medicine to treat morphine addiction, dyspepsia, neurasthenia, headache, and impotence. Its name was derived from its two "medicinal" ingredients, extract of coca leaves and kola nuts. How much cocaine it contained is not clear, but after it became a popular bottled drink, this became a problem. The company was reluctant to remove cocaine from its secret formula for fear of losing the valuable Coca-Cola trademark and brand name and continued to include trace amounts. It was not until 1929 that Coca-Cola became cocaine free.

Many infants and children suffered because they received excess amounts of unregulated patent medicines for minor complaints due to teething or colic, and addiction to narcotics was a growing menace. There was increasing public outrage over this and other quackery practices such as electrotherapy. By 1894, at least 10,000 medical practitioners in the US were administering some type of electrotherapeutic modality even though few had been evaluated for safety or efficacy. The first mail order catalogue published in 1872 by Montgomery Ward was a single sheet of paper sold to farmers, but by 1897 it was nearly 1,000 pages containing over 20,000 items, and sales topped $7 million. The first

Sears catalog was published in 1888 and had an even more meteoric rise because of its reputation for high quality products and a money back guarantee. By 1905, Sears Roebuck & Co. had about nine thousand employees, and its annual Sears Roebuck sales approached $50 million. Both of these as well as other catalogue companies and magazines sold patent medicines along with a variety of electrical and magnetic health devices to boost energy and cure almost anything.



As might be suspected, the quality of health care in the U.S. was appalling because of the lack of regulation not only with respect to devices, drugs and food safety, but educational and licensure standards. In response, President Theodore Roosevelt signed the 1906 Pure Food and Drug Act that now required labeling of the contents of all drugs and prohibited interstate commerce in adulterated and misbranded food and drugs. (This was difficult to enforce since the FDA did not come into existence until 1930 and it did not start labeling food until 1990.) In 1908, the AMA asked the Carnegie Foundation to survey the status of North American medical education and to make recommendations based on their findings. Abraham Flexner, a prominent educator was selected to conduct this investigation. He personally visited each of the 155 medical schools and found that many were small trade schools owned by one or more doctors to make a profit. They had no college or university affiliation and the Faculty consisted of local part time doctors whose own training was minimal. A degree was typically awarded after only two years of study that did not include any laboratory work or dissection, and regulation of the medical profession by state governments was minimal or nonexistent. There was no control over patent medicines containing narcotics or medical devices that also claimed to cure almost any complaint or disease.

Flexner pulled no punches in his scathing report, which described Chicago's 14 medical schools as "a disgrace to the State whose laws permit its existence... indescribably foul... the plague spot of the nation." Things changed dramatically after the 1910 publication of the book length Flexner report. At least one third of medical schools were shut down and many others that could not conform to the new criteria based on the Johns Hopkins model soon closed. In 1910, only 16 out of the 155 medical schools required applicants to have completed two or more years of university education. By 1920, 92 percent of U.S. medical schools required this, and all had a four-year course that included anatomical dissection and laboratory training. The Flexner Report was also the death knell for electrotherapy as state licensure and regulations not only became much stricter, but were also more vigorously enforced. *Because there was no scientific basis to support electrotherapy, it was now excluded by law from the practice of medicine.* This is not too surprising, since the Carnegie family was heavily invested in the young pharmaceutical industry, which has continued to thwart the approval of anything that might replace

drugs.

Violet Rays, Magnet Mania, The Dynamizer, Oscilloclast And Rife Machines

Critics had plenty of ammunition, such as various "VIOLET RAY" energy products that could quickly cure almost anything painlessly. One claimed it not only provided "Health, Power and Beauty", but also cured:

problems with circulation of the blood, the heart's action, bumps of the funny -bone, germ infections, weakness, the waste of the body, congestion, impaired physical development, pains and aches, complexion and skin diseases, facial and body blemishes, hair loss, headaches, inflammation of joints, muscles, nerves, atrophy, circulatory disorders, constipation, deafness, goitre, high blood pressure, arteriosclerosis, insomnia (sleeplessness-Brain Fog), indigestion, dyspepsia, neuritis, nervousness, hysteria, melancholia, neurasthenia, neuralgia, obesity, pain, paralysis, prostate gland problems, scalp diseases, falling hair, dandruff, asthma, anemia, bronchitis, catarrh, hay fever, rose fever, colds and other inflammations of the upper air passages, wry neck, writer's cramp and cancer.

Most Violet Ray devices came with glass tubes filled with a gas that had a violet color when voltage was applied. The lighted tube and crackling noises were very impressive, especially when the "doctor" described how the rays were exerting their healing effects. Tens of thousands of these devices were also sold for home use. Different shapes of glass tubes facilitated treating hard-to-reach parts of the human body, as shown below.

Permanent magnets were an even more popular scam. The Sears Roebuck catalog advertised magnetic boot soles for 18 cents a pair, as well as genuine magnetic rings, belts, girdles, caps, jewelry and other apparel and accessories to treat everything from menstrual cramps and impotency to baldness. Traveling magnetic healers sold their own versions of these paraphernalia in addition to homemade magnetic salves and liniments. In 1896, Daniel Palmer opened the Palmer School of Magnetic Cure in Davenport, Iowa, which also emphasized the laying on of hands, massage, and manipulation. It later became the Palmer College of Chiropractic, and is still flourishing at its original location, as well as campuses in California and Florida. The so-called "King of the magnetic quacks" was Dr. C. J. Thacher, whose huge catalog of magnetic products explained that all the energy responsible for life came from the sun. These magnetic forces were transmitted via the iron rich hemoglobin in red blood cells that circulated throughout the body. Diseases occurred when stress and environmental factors interfered with this normal magnetic healing process, but applying magnets could restore it.

As Thacher maintained, "Magnetism properly applied will cure every curable disease no matter what the cause". The best way to achieve these benefits was to wear magnetic clothing to protect and en-

ergize all the vital organs and a complete costume contained 700 magnets. When interviewed in his Chicago State Street office, *he was wearing "a magnetic cap, a magnetic waistcoat, magnetic stocking liners, and magnetic insoles".* As he told the reporter,

My object is to spread the light, to rescue humanity. I can cure anything. I will compel the authorities to take notice of my methods. . . . Let the authorities turn over ten cases to me. I'll put my magnetic shields on 'em and restore the harmonious vibrations of the brain and everything will be well. Paralysis? An easy problem. Had five cases . . .Cured 'em right off. Winked. Spoke. Got up and walked. Paralysis? Pish!

As with Mesmer, there were numerous testimonials of miraculous cures that infuriated physicians and scientists. It was ludicrous to suggest that a magnet could influence the iron in hemoglobin, but despite this and the lack of any other explanation for these alleged cures, magnet therapy continued to thrive, and is still popular. Since a magnet is not a drug, it is not under FDA or regulatory control if there are no claims for treating or diagnosing a disease or evidence of harm.

Most people and many physicians did not appreciate the vast difference between a permanent or static magnetic field, and an electromagnetic field that is always in motion, and like electricity, has biological effects. One of the first entrepreneurs to vigorously promote electrotherapy was Dr. Albert Abrams, who, starting in 1910, published a series of books on a new technique he called *spondylotherapy*. Like chiropractic and osteopathy, it involved manipulative techniques, but emphasized the use of electricity. According to Abrams, electrons were the basic element of all life, and operated in accordance with a principle he called ERA (Electronic Reactions of Abrams). He developed various machines that could enhance the ability of ERA to accurately diagnose and treat various diseases. The first was the Dynamizer, a radio like device that could diagnose any disease by analyzing a drop of blood. It was not necessary to be examined since patients could send a drop or two of dried blood on a piece of paper through the mail to obtain a diagnosis and treatment recommendations.

Spondylotherapy using the Dynamizer was a huge financial success. In 1918, courses in spondylotherapy and ERA cost $200 (equivalent to around $3,000 today) and the device was then leased for $200 with a monthly $5 charge. The lessee had to sign a contract stating the device would never be opened, since this would disrupt its delicate adjustment. It also prevented anyone from examining or copying its contents. By 1921, some 3,500 practitioners were using ERA technology but Abrams was not satisfied. He went on to develop more powerful machines like the Oscilloclast and Radioclast, which he claimed were so powerful that he could make a diagnosis over the phone by determining a patient's personality. Described as "The greatest quack of the twentieth century",

he could also make a diagnosis by analyzing a lock of hair or a specimen of handwriting. One physician who sent a blood sample from a Plymouth Rock rooster to an Abrams practitioner received a diagnosis indicating that his patient had malaria, diabetes, cancer and syphilis. After Abrams died of pneumonia in 1924, FDA investigators opened some of his magical machines. One produced a magnetic field similar to a doorbell and another was a low-powered radio-wave transmitter.

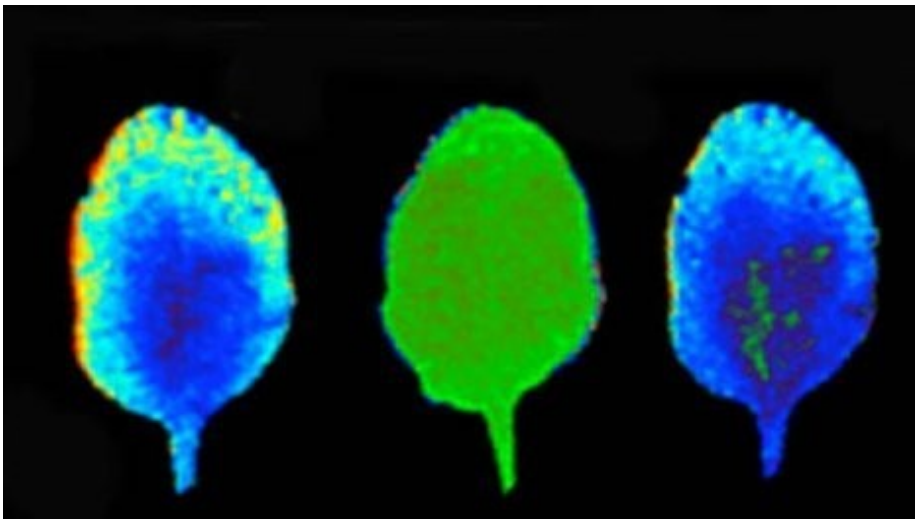
Royal Raymond Rife had an even larger following, and judging from the Internet, still has adherents who use various types of Rife machines. He allegedly studied optics, electronics, biology, and chemistry at Johns Hopkins, trained for two years to perform eye surgery, and was an early proponent of high-magnification time-lapse cine-micrography. In the 1930's, he claimed that that by using his specially designed 200-pound, 5,682-part "Universal Microscope", he could observe live microbes and possibly viruses too small to be seen with existing technology. Based on the belief that each of these had its own vibratory or resonant frequency, he postulated that he could selectively destroy them by forcing them to vibrate excessively.

He constructed a ray machine that delivered a range of frequencies until he found one that caused the microbe to vibrate at its unique resonant frequency, which he called its mortal oscillatory rate, or number of cycles per second it vibrated. By turning up the power, the vibrations would become more forceful and the organism would eventually break apart but there was no effect on other microbes or cells. This was analogous to a tenor or soprano's ability to shatter a crystal glass by mimicking its natural frequency. The same phenomenon has been reported when the wind or the sound of marching men has the identical frequency as a suspension bridge. Rife's Beam Rays Corporation made 14 of these units that were used in the U.S. and Europe not only to treat infections, including tuberculosis, typhoid and tetanus, but also patients with cancer and other terminal diseases. His results could not be replicated by others and were subsequently discredited by the AMA, FDA and Public Health officials. Nevertheless, over 300 people attended the 2006 Rife International Health Conference in Seattle, where dozens of various Rife type devices were sold. There are still annual conferences, and this year's will be held next month in Kalamazoo.

There were many others who contributed to the abandonment and rejection of electrical and "energy" therapies. One of the most prominent was Wilhelm Reich, an Austrian psychiatrist who had worked with Freud prior to emigrating to the U.S. In the 1930's, he proposed the existence of a universal energy called orgone that was reminiscent of Mesmer's animal magnetism, the Odic force of Carl Reichenbach and Henri Bergson's élan vital. It was present throughout Nature as a massless life force, but could allegedly coalesce to create microscopic units called bions, as well as organisms, clouds or even galaxies. Reich claimed that deficiencies in orgone were the cause of cancer and other diseases, and designed special "orgone accumulators" to collect and store orgone energy from the environment that could later be used to restore health or control the weather. Although the FDA banned them, he sold several hundred of these throughout the country, was subsequently convicted of fraud, and died in prison.

Do Plants And Trees Have Nervous Systems We Can Learn From?

Despite the above, interest in electricity and energy medicine continued in other countries. Georges Lakhovsky, a Russian émigré who lived in Paris proposed that electrical vibrations were the basis of life. In his 1929 book *L'Origin de la Vie* (The Secret of Life: Electricity, Radiation and Your Body), he explained that all living things emitted energy at their own unique frequencies. Cells were simply tiny oscillating circuits that sent and received frequency signals, much like the "wireless" radios that were becoming popular. Diseases were due to disrupted oscillations resulting from microbes and other pathogens that had more powerful vibrations. He suspected that if an injured cell could have its specific oscillation restored by fortifying it with the correct frequency, health would return. With assistance from Jacques-Arsène d'Arsonval, who had invented the galvanometer to measure electrical current, he constructed a "Multiple Wave Oscillator" that he claimed would revitalize and strengthen the health of cells. He subsequently showed that this enabled him to destroy tumors the size of cherry pits in geraniums that had been inoculated with cancer-causing bacteria. He reasoned that the healthy cells supervened because their natural oscillations had been restored and enhanced. This was quite different than radium or x-ray therapy, which destroyed malignant as well as adjacent healthy tissue. He believed the energy responsible for oscillations was not made or stored in the cell but was somehow derived from cosmic radiation and that finding ways to harness this natural source would be preferable to his device.



The Persistence Of Memory A Polish study showed plants send electrochemical signals in a way that can be likened to an animal nervous system. This image shows chemical reactions in leaves that were not exposed to light; they are reacting to a chemical signal from a leaf that was exposed.

To prove this, he inoculated 10 germanium plants with a plant cancer that produced tumors. After 30 days, tumors had developed in all of the plants. He took one of the 10 infected plants and surrounded it with heavy copper wire in an open-ended coil about 12" in diameter around the center of the plant, and held it in place with an ebonite stake. The copper coil presumably acted as antennae that detected, collected and concentrated oscillation energy from extremely high frequency cosmic rays. The diameter of the cooper loop determined which range of frequencies would be attracted and 12" was selected because this captured the frequency range of the plant's cells and reinforced its natural resonant oscillations. The tumors fell off in less than 3 weeks, and by 2 months, the plant was thriving. More than three years later, the copper surrounded geranium was still flourishing despite the cold winters, and had allegedly

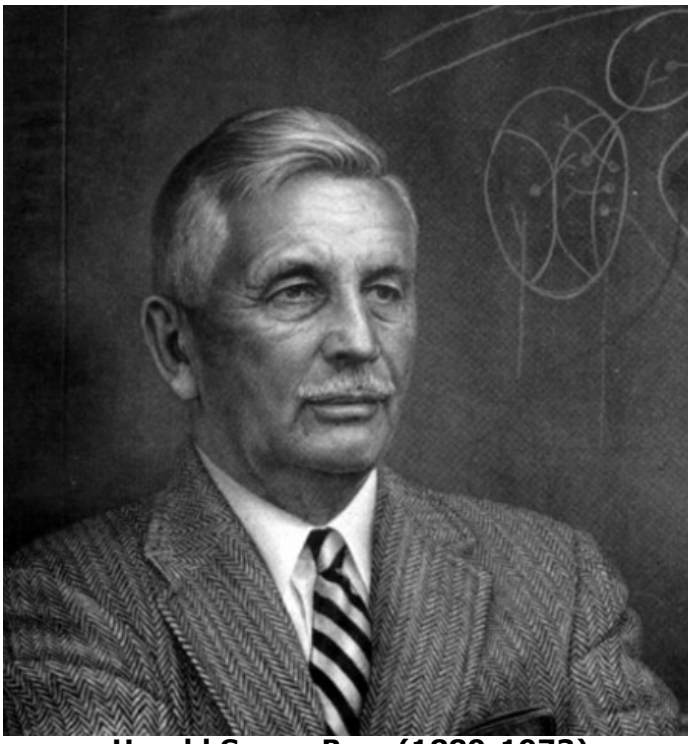
attained the remarkable height of four and one half feet. All of the other cancer-inoculated plants without the copper coil died within 30 days. He subsequently fashioned loops of copper wire that could be worn around the waist, neck, elbows, wrists, knees, or ankles of people as well as animals. When worn continuously, these "Lakhovsky coils" allegedly relieved aches and pains and were in such demand in Europe that orders were backlogged for months. Copper bracelets are still popular and proponents insist that they are effective and that symptoms consistently return when they are not worn. Another explanation may be that serum sulfation factor is often elevated in certain types of arthritis. Many who wear copper bracelets often note a heavy bluish deposit on the skin, which is copper sulfate, suggesting that removing sulfate may be responsible for some of these benefits.

Around the same time Lakhovsky was conducting his experiments in Paris, a Texas team headed by E. J. Lund had developed a method to measure electrical potentials in plants. They subsequently proved that plant cells produced electrical fields and also seemed to have internal currents that acted much like the nervous systems of animals. In his *Bioelectric Fields And Growth* Lund demonstrated that plant growth was triggered by electrical fields rather than hormones or other chemicals as was currently believed. These fields directed or transported growth promoting substances to specific sites to stimulate growth. He showed how plant cell electrical fields suddenly changed almost 30 minutes before any growth could be detected, and that this triggered the subsequent appearance of growth promoting chemicals that stimulated specific sites.

Jagadis Chandra Bose in India had also demonstrated the existence of a nervous system in plants by showing that if he shocked a mimosa stem with electricity or severe heat, the nearest small branch collapsed within seconds, followed by a folding of the leaves at its end. If he touched the tip of a leaf with a hot object, it folded, followed by a collapse of the stem. A galvanometer connected to these two sites confirmed an electrical discharge. Bose concluded that these mechanical reactions resulted from electrical stimulation similar to muscle cells that contract due to electrical signals transmitted by nerves. When he touched the tip of the furthest leaf on a three-leaf branch, its leaflets gradually closed from the base up, much like the reflex arc that makes us immediately remove a finger from a hot stove.

In Russia, Semion Kirlian was able to photograph an aura or energy field around living objects using high frequency electrical fields and electrodes instead of light and a camera. A leaf placed on unexposed film subjected to this process showed a surrounding symmetrical aura not detectable in regular photographs or by the naked eye, If he repeated the procedure after part of the periphery of the leaf had been cut off, this same original energy field outline still remained and often persisted for surprisingly long periods of time, as shown here. In addition, while the energy fields of leaves from the same tree were similar, they varied, since those from healthy leaves had striking energy flare whereas others from leaves that were diseased or dying had only a faint outline. The possibility that disturbances in energy fields could detect disease had already been anticipated by Harold Saxton Burr, Professor of Anatomy at Yale. His research decades before had focused on the development of the nervous system and he was convinced that this was guided by

energy fields similar to those Lund proposed for plants. Lund had gone on to show that in primitive organisms that can completely regenerate a severed head or tail, applying a weak direct current could change the organism's polarity so that a head would form where a tail should have grown and vice versa. He also claimed to have influenced the development of frog eggs using magnetic fields as well as electric currents. Stimulated by Lund's research, Burr found he could detect electrical fields around mammals, salamanders, worms and earlier life forms. He showed that the electrical characteristics of these fields changed during growth, regeneration or tumor formation.



Harold Saxon Burr (1889-1973)

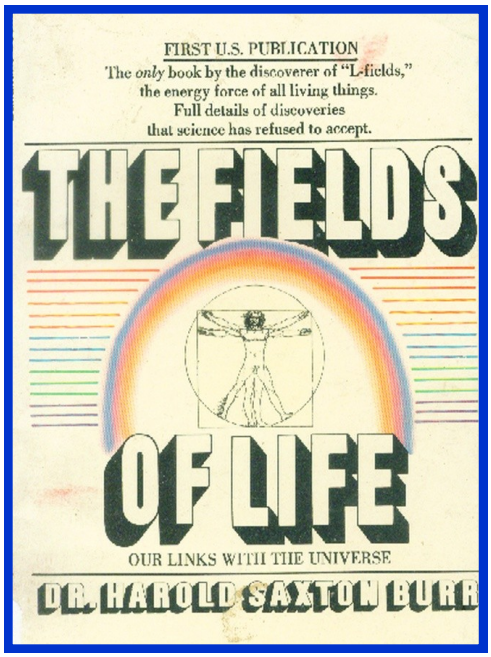
When he hooked his voltmeters to trees for long periods of time he found that energy fields varied, not only in response to changes in light and moisture, but also electrical storms and sunspots. Although he spent years designing sophisticated vacuum tube devices, his detectors and instruments were still not sensitive enough to accurately measure the minute changes in feeble electrical forces he believed might have important implications, many of which have since been confirmed by Harold Saxton Burr

Burr's most important contribution was the proposal that all living things – from men to mice and trees to seeds – were molded and controlled by "electro-dynamic fields" that could be mapped and measured.

These "fields of life" or "L fields" were the basic blueprints of all life. Although invisible and intangible, they were analogous to magnetic fields that cause iron filings scattered on top of a card held over a magnet, to arrange themselves in the magnet's force field pattern at both poles. If the filings are discarded and new ones are scattered on the card, they will immediately assume the same symmetrical pattern.

Burr believed that something similar happens in humans. Although cells and molecules were constantly being destroyed and rebuilt, they inevitably arranged themselves in the same pattern as the old ones. The L-fields acted as a matrix or mold to preserve the shape or arrangement of any material poured into it, no matter how often this changed. Burr wrote, "When a cook looks at a jelly mold, she knows the shape of the jelly she will turn out of it." In much the same way, inspection with instruments of an L-field in its initial stage can reveal the future 'shape' or arrangement of the materials it will mold. When the L-field in a frog's egg is examined electrically, it is possible to show the future location of the frog's nervous system because the frog's L-field is the matrix that determines the form that will develop from the egg. Could L-fields be used to evaluate health in humans? As he explained in his 1972 *Blueprint For Immortality*, just as a cook who uses a battered mold expects to find some dents or bulges in the jelly, an L-field with distorted voltage patterns might indicated

the presence of abnormalities well in advance of any signs or symptoms. He reasoned that if healthy cells had an L-field matrix that programmed normal tissue growth, cancer cells with atypical rapid growth patterns would have quite different field characteristics. In 1936, he began studies on a strain of mice that spontaneously developed mammary tumors and found large voltage changes in electrodes placed on the chest 10 days to two weeks before the tumors could be otherwise detected. In another strain prone to develop cancer following the implantation of malignant tissue he found that voltage gradients started to increase within 24-48 hours after the procedure and rose steadily to a maximum of 5 milivolts around the eleventh day after which they began to decline. This increase corresponded with the period of most rapid growth of the cancer.

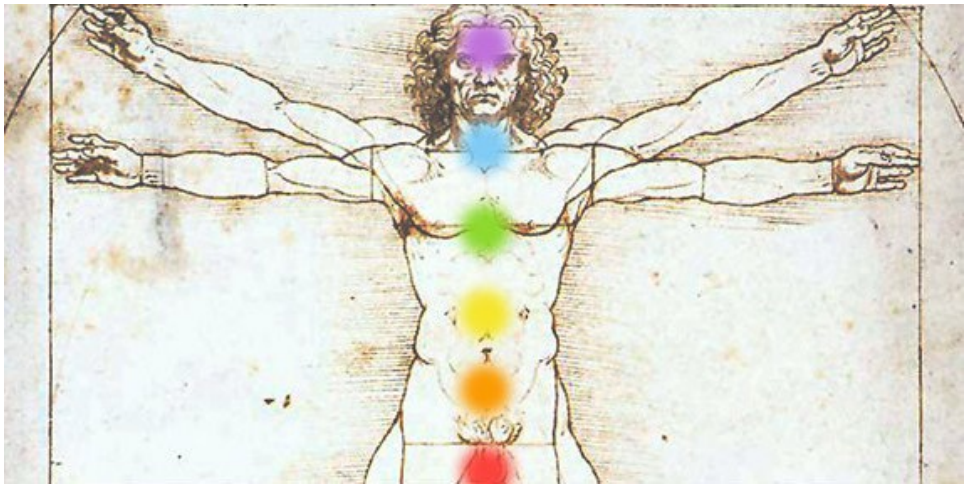


Burr showed that changes in electrical fields could also detect precisely when ovulation took place in animals and that in humans, some women ovulated through the menstrual cycle, some ovulated without menses and some had menses without ovulation. One of his patients who had tried unsuccessfully to conceive for years was studied daily for weeks until ovulation could be detected, following which she promptly became pregnant. Louis Langman confirmed the value of this technique and also extended Burr's cancer studies in over 1000 patients admitted to the Gynecology Service at New York's Bellevue Hospital. By measuring changes in potential between one cervical electrode and another placed on the abdomen, he found that almost 99% of 75 patients with documented cancer showed electro-negativity of the cervix. In the remaining 353 patients presumably admitted for a non-malignant disorder, the cervix was significantly positive with respect to the abdomen in 82%. Electronegativity in the remainder was due to some other benign cause, such as ovulation. Another larger study of 840 consecutive admissions confirmed these results in patients with various malignancies of the cervix, body of the uterus, ovary or vagina.

Subsequent studies tend to support Burr's theories. Skin surface potentials can differentiate between malignant and benign breast, and cancer detection basted on differences in electrical impedance are currently used for these and other malignancies. The availability of more sensitive devices like SQUID and magnetoencephalography have also confirmed Burr's belief that energy fields can reflect emotional as well as physical health. Probably noone has done more to resurrect and stimulate interest in this and related topics than Dr. Robert O. Becker, with his numerous articles and best selling books T*he Body Electric: Electromagnetism And The Foundation Of Life, a*nd C*ross Currents,* which also deals with the hazards of electromagnetic fields. We have discussed his seminal contributions in detail in prior Newsletters, as well as how they have been suppressed or rejected by powerful vested interests. Other pioneers have had a similar experience and this continues to impede progress.

What Does The Future Hold For Bioelectromagnetic Medicine?

The above and other advances rekindled an interest in how natural and man-made electromagnetic fields influence health in the latter part of the 20th century that has continued to escalate. As indicated initially, many of these were discussed in *Bioelectromagnetic Medicine*, which included: Björn Nordenström's theory of an electrical circulatory system and his electrochemical treatment of metastatic lung disease; Demetrio Sodi Pallares' successful Magneto-Metabolic therapy for advanced cancer and cardiomyopathy; advances in cranioelectrical, repetitive transcranial and vagal nerve stimulation; HeartMath research showing how the heart's magnetic field can influence the EEG of someone nearby even without physical contact; and numerous other innovative developments as detailed here.



As also explained, the title has been changed to *Bioelectromagnetic And Subtle Energy Medicine* since it will have a focus on recent advances in nonthermal EMF effects on physiology, with a particular emphasis on how such feeble forces provide a rationale that supports homeopathy, acupuncture and other modalities that allopathic physicians view with skepticism because of an inability to understand how they could provide any benefits. We hope to correct this and also address subjects like cell phone, Wi-Fi, "dirty electricity" and other environmental electromagnetic health hazards that were not addressed in the first volume. Although this is still a work in progress, as the new title suggests, this will be more of a sequel than a second edition. To give you an additional glimpse into what will be included, as the title of this magazine indicated, doctors may soon be prescribing frequencies rather than pushing pills. This is based on a new approach by Dr. Boris Pasche and colleagues to treat liver cancer and metastatic malignancies. Treatment, which is painless, has no side effects, is superior to chemotherapy, and is administered at home while the patient reads or watches TV.

Deep brain stimulation for Parkinson's disease has produced dramatic results in many patients, relieves other types of tremors, and is being investigated for the treatment of depression and Alzheimer's. See also the operating room of the future, in which surgical procedures like hysterectomy will be replaced by non invasive therapies that allow the patient to return home and immediately resume normal activities. Other exciting advances, especially for stress related disorders, will be discussed in future Newsletters – so stay tuned.

Paul J. Rosch, MD, FACP

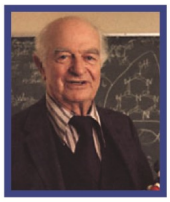
Editor-in-Chief

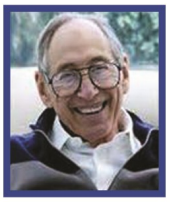
GET INSIDE OUR HEAD

It's Not Our Credentials That Make AIS So Impressive, It's the Fellows That Go with Them.

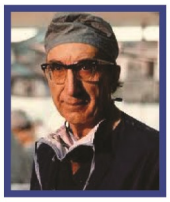
The American Institute of Stress is a non-profit organization established in 1978 at the request of Dr. Hans Selye (the Founder of the Stress Concept) to serve as a clearinghouse for information on all stress related subjects. AIS Founding Fellows include:


Paul Rosch


Linus Pauling


Alvin Toffler


Bob Hope


Michael DeBakey


Herbert Benson


Charles Spielberger

Join our prominent psychologists, physicians, other health care practitioners and health conscious individuals who are interested in exploring the multitudinous and varied effects of stress on our health and quality of life.

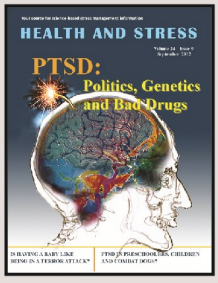
The American Institute of Stress invites YOU to enhance your credentials with FAIS and add your name to our Gallery of Distinguished Fellows.

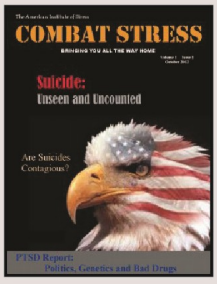
Over the last 35 years, we've expanded our services and broadened our reach, but our dedication to science hasn't changed a bit.

Our four focus areas include:

1. Combat Stress
2. Daily Life Stress
3. Workplace Stress
4. Expanding Human Potential

We produce three e-magazines focused on different stress related topics...





We are always looking for new contributors to our magazines. If you would like to submit an article, email your idea to editor@stress.org

Join us in our mission to
Engage, Educate and Empower
the global community with science based stress management information, tools and techniques so people can live happier, healthier and longer lives!

Visit stress.org to download your FAIS or DAIS application


The American Institute of Stress

This is to certify that

Imagine YOUR Name Here

Having satisfied the requirements for education, training and experience, is duly qualified and has been elected to the status of

Fellow of the American Institute of Stress

and is entitled to all of the benefits deriving therefrom

AIS

Member Number: 5001
Expires: June 12, 2013

Daniel L. Kirsch, PhD, DAAPM, FAIS
President

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ONLY THE AIS SEAL OF CERTIFICATION assures you that a stress management products or services have been fully tested and verified to be effective by AIS.

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The American Institute of Stress (AIS) is a non -profit organization that for over 35 years has set quality standards for stress research, and more recently stress management products and services. AIS Standards are recognized across the world as scientifically rigorous and are representative of excellence in the field.

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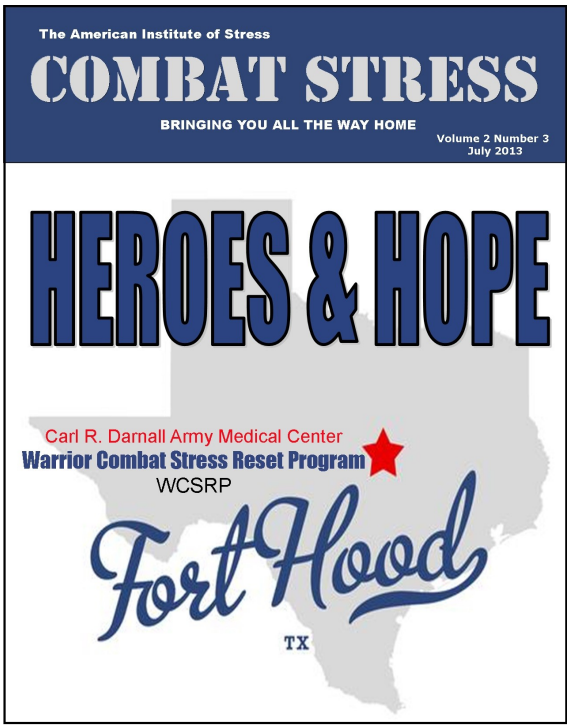

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ISSN # 108-148X