

## **Magnetic Fields as a Form of Energy Medicine**

Just imagine, reaching into the body and healing an imbalance without touching anything. This is what medical magnetic fields do. This is the essence of energy medicine. These magnetic “waves” are the future medicine. Magnetic field devices becoming available to the public deliver fields to the body that are “like a breeze in the trees”. The branches and leaves are moving but nothing is seen to be doing it. This “air” moves through the body like it wasn’t even there. This is the magic potential of medical magnetic fields.

The earth is a giant magnet, the soil and rocks are magnetized and there are strong magnetic fields in the atmosphere. Human biology, which developed over the eons and even now matures in this natural magnetic environment, is totally dependent on it. Magnetic fields have been found by accident over the centuries, to help people. Magnetized rocks were reputed to be used by Hippocrates, the Father of Western Medicine, to relieve headaches. The Chinese wrote about how to use magnetic stones on acupuncture points in 200 BC. D’Arsonval in the 1700’s in France discovered that pulsed electric magnetic fields stimulate the body. In the 1970’s and 80’s in the west, scientists began to study the magnetic fields produced by the body itself. The new field was called bioelectromagnetics. We now know definitely that the body itself is a large electromagnet. We also know the body produces electric fields.

Ask any engineer and you will be told that where there is electricity there is a magnetic field. You will also be told that when a magnet moves past an object capable of reacting electrically, you will generate electricity. The opposite is also true. When an object capable of reacting electrically is moved past a magnet, electricity will also be generated. What this means is that when the body, which is very magnetically active, interacts with specific medically designed magnetic fields, tiny therapeutically beneficial electric charges are generated.

What does mean to you? It means that you will see magnetic fields as a form of energy medicine, being used more and more in the future to heal problems that medicines can’t or haven’t been able to do. Most medicines are used to relieve symptoms but don’t remove or heal the cause of the problem. They usually don’t help the tissues heal themselves. Most medicines were developed to deal with problems far along in their course. They can be very effective at this stage but often carry significant risks. Doctors and consumers must continuously weigh the potential risks and benefits. The risks of these medicines are greater than the benefits for preventing problems or when the problems are very early in their development. If this is so, what alternatives do we have?

Let’s take an example. When you have a skin infection, and damage has already been done to the tissues, antibiotics will typically be prescribed to halt the spread of the bacteria. The antibiotics don’t heal the infection; they only stop the bacteria from multiplying further and doing more damage. The infection has progressed because the body wasn’t able to handle it completely by itself. When the bacteria stop growing the body then has a fighting chance to heal the tissues and kill the remaining bacteria. What does medicine do to help the body to heal? Most of the time, nothing. The doctor relies

on the body doing the rest of the job by itself. What can you do to speed recovery and assure better repair? Traditionally, herbals, vitamins and minerals, rest, good nutrition, acupuncture and physical therapies will help. Also, now medical magnetic fields can be used.

Medical magnetic fields have been found in extensive research in Europe, in humans and all kinds of animal species, to have many positive actions in the body. The medical magnetic fields work by stimulating the acupuncture system, the immune system of the body, improving circulation and oxygen levels in tissues, relaxing muscles, stimulating tissue healing, healing fractures and strengthening bones faster, decreasing nerve irritability, removing swelling, decreasing clotting and improving cell metabolism. Some very strong medical magnetic fields can actually stimulate muscles and nerves – used for incontinence, rebuilding muscles, nerves and depression.

How can something do all these seemingly different actions? The primary reason is because medical magnetic fields affect many molecular actions in the body and the movement of various ions, including calcium, and also increase nitric oxide, recently awarded the title of the molecule of the decade. Calcium ions are not just in bones. They are involved in a large number of cellular chemical processes, too numerous to list here.

What kinds of medical magnetic fields can people use to get these benefits? Medical magnetic fields are produced by both permanent (static) magnets and pulsed electromagnetic fields (PEMF's). There have been many popular stories about permanent magnets and many are now available commercially – from various wraps, mattresses, shoe inserts, bracelets, pads and so on. Important distinctions among them are how much of the body they cover, the true strength of the magnet, the configuration of the field, flexibility and usefulness and length of time to be used. Some have more research available on them than others. These magnets have to be stronger than the earth's field. Since the field of a magnet drops off in strength very rapidly, consideration has to be given to the strength of the magnet and the depth in the body of the tissue to be treated.

PEMFs are produced by special machines that generate specific electromagnetic signals found to have beneficial medical effects. Important distinctions among them are how much of the body they cover, the strength and configuration of the field(s), flexibility and usefulness, length of time to be used, frequencies and waveforms. PEMFs can produce actions in the body even with fields that are much weaker than the earth's. Many of the actions from PEMFs can be usually be expected to happen faster than with static magnets. Also, PEMFs have actions that static or permanent magnets don't have. These wave-like or resonance fields act like "throwing pebbles in a pond". The action continues long after the field is removed. Low frequency, low strength PEMFs were the first magnetic devices to be approved by the FDA in the 1980's. The first were for healing fractures that didn't unite. New higher strength ones are used to stimulate muscles and nerves. Others are very high frequency and have been used to decrease pain, swelling and heal wounds.

Static magnets and PEMFs can be used together. Since PEMFs are used for short durations, 8 to 30 minutes typically, additional benefit may be obtained by using static magnets in between PEMF sessions, including over acupuncture points. Clearly, static magnets shouldn't be used at the same time as a PEMF session.

Medical magnetic fields are very safe. Even the strongest magnetic fields, generated by MRI machines, have been found to be safe, except for very limited circumstances. Do not use medical magnetic fields, except under expert advice, when people have implanted electrical devices, like pacemakers and defibrillators. They are not advised to be used in pregnancy either, since safety has not been conclusively established. Low strength PEMFs are even safe with metallic implants, like hip and knee replacements.

To summarize, more and more medical care in the near future will include medical magnetic fields in all sorts of applications to heal the body. They will be used in conjunction with conventional medicine and other complementary health techniques. Many medical magnetic fields will be able to be applied by people themselves with or without direction or order by a physician or other practitioner. This is possible today because there is increasing information about this new technology and more equipment is becoming readily available at affordable prices.

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William Pawluk, MD, MSc, Assistant Professor at Johns Hopkins Medical School, initial work has begun to educate both physicians and individuals about pulsating electromagnetic fields as a treatment option. Dr. Pawluk is considered a leading national authority on the clinical application of both static and pulsed electromagnetic fields in the United States.

The beneficial applications of pulsating electromagnetic fields as a promising health solution are based on over 30 years of research out of Europe.