
Magnets, Meridians, and Energy Medicine

An Interview with William Pawluk, M.D., M.Sc.

Russ Mason, M.S.

William Pawluk, M.D., M.Sc., is president of the Advanced Magnetic Research Institute of the Delaware Valley, L.L.C., and principal of William Pawluk, M.D., P.A., both of Rancocas, New Jersey, in addition to working as a medical director for a health plan for individuals who receive public benefits. Born in a refugee camp in Germany after World War II, he emigrated with his parents to Calgary, Alberta, Canada.

He received his medical degree from the University of Alberta, Calgary, Alberta, Canada, and completed a residency in family medicine at hospitals connected with McMaster University, in Hamilton, Ontario, Canada. At McMaster, he trained further in clinical epidemiology, with an emphasis on health care services, and received a master's degree in clinical epidemiology from that institution.

After 2 years of teaching and practicing family medicine at Case Western Reserve Medical School, in Cleveland, Ohio, Dr. Pawluk relocated to Cherry Hill, New Jersey, where he worked as a family physician and medical director for a local health care plan. His work in New Jersey led to an invitation to become the medical director of The Johns Hopkins Health Plan, in Baltimore, Maryland. There, he was responsible for teaching young doctors and for the health care needs of more than 140,000 people. It was at Hopkins that he began to move from conventional

family practice medicine to a more holistic, multimodal medicine.

Dr. Pawluk's exploration of a broad range of healing modalities led to his major interest in using magnets and electromagnetic energy to support the healing and written process. He has researched, consulted and written on medical applications of magnetism, including coauthoring a book on magnetic therapy research.* Dr. Pawluk recently described the winding course of his life's work, and his interest in energy medicine—including medical uses of magnetism—with Russ Mason.

Russ Mason: What would you consider the formative way stations on your journey from practicing conventional family medicine to exploring energy medicine?

William Pawluk: At both McMaster and Case Western Reserve, my colleagues in the family medicine department emphasized the importance of considering family issues and family counseling in the health care of individuals within their family contexts. This showed me the importance of addressing mind-body and psychospiritual issues in order to achieve better health outcomes.

While in New Jersey, when I was responsible for over 30 health practitioners who were caring for the health of 40,000 people, I began to realize there were limits to what could be done to help individuals within the conventional medical model. Conventional medicine had only some of the answers. I once heard a physician from England speak at an acupuncture conference. From years of experience, he concluded that to give patients the widest perspective of care, holistic physicians need training in at least three additional disciplines—preferably environmental medicine, acupuncture, and homeopathy. It was at Hopkins

that I committed to doing just that. Only in retrospect do I now appreciate the wisdom of what he said.

After managing many doctors and large numbers of people, I noticed that doctors had significant differences in how they practiced medicine and that many patients had toxic reactions to the therapies they were receiving. For example, most physicians were using nonsteroidal anti-inflammatory drugs [NSAIDs] as pain-management medication, and a substantial percentage of the patients had severe side-effects as a result of taking them. In an attempt to figure out a better method of pain management, one that was less toxic to the patients, I decided to study acupuncture, hypnosis, homeopathy, and hands-on healing. Over the next several years, I became certified in homeopathy, acupuncture, and hypnosis, and I studied various bodywork traditions, including reiki, and became a reiki master.

After Hopkins and these studies, I spent time on the faculty of the University of Maryland, doing complementary medicine. During my clinical experience there, I found that it would become clear to me, during the history-taking process, what the most efficient method of treatment would be, from my grab-bag of disciplines, given consideration of what a patient wanted and how he or she thought. Some patients came in asking for a certain modality while others just came in to see a physician. I'd consider compliance issues, general beliefs and values, and what a person could afford. I saw people from all walks of life. Having trained in those multiple disciplines allowed me to be more effective and not to be constrained by any one discipline.

Early on in my acupuncture training, I looked for a similar therapy that did not involve the use of needles. This led me to an investigation of traditions regarding the use of magnets on acupuncture

*Jerabek, J., Pawluk, W. *Magnetic Therapy in Eastern Europe: A Review of Thirty Years of Research*. Chicago: William Pawluk, M.D., Publisher, 1998.

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points. Chinese doctors had written treatises on how to use magnets, or lodestones,[†] as far back as back in 200 BC. Hippocrates and the Egyptian physicians also used lodestones.

A personal experience convinced me that magnets have an impact on the same meridians that are used in Traditional Chinese Medicine, acupuncture, and other therapies.

I was treating a periodontal pocket by taping a tiny acupuncture magnet to my face, near my nose, before I went to sleep. After a couple of weeks, I experienced some numbness, and thought: “If one is good, let’s see what two will do.” I taped two acupuncture magnets (3000 Gauss each) next to each other, and went to sleep. In the middle of the night, I was awakened by a buzzing, searing sensation, like two hot cables going up and down my chest and abdomen. When I removed the magnets, the sensation went away. When I repeated the procedure, the same thing happened.

I was intrigued, so I studied diagrams of meridians and changeover points. I found that I had experienced my own stomach meridian as a result of magnetic overstimulation. I concluded that magnets do have an effect on meridians and that magnets on the acupuncture points can stimulate the body in various ways.

RM: Before we go into the medical applications of magnetism, will you review the basic magnetic principles underlying the effects of electromagnetism on the human body?

WP: First, the body is transparent to a magnetic field. This means that the field does not “attach” itself to the body but will interact at the atomic level. Remember, at the atomic and subatomic levels, everything is in motion and magnetic fields internal and external to the body are constantly interacting with the body.

Another key factor is that our entire biology is based upon the earth’s magnetic field. There have been experiments that involve shielding biological systems from the earth’s magnetic field. When the magnetic field is blocked for any length of time, biological systems begin to degrade. Russian space scientists are looking at this. We can talk more about this later.

Human beings are functionally exposed to at least three types of magnetic fields. The first is the magnetic field of the earth. Although the general output is 0.5 Gauss, there are areas with a higher magnetic concentration because of the ground and the rocks in the earth. This is the principal behind dowsing. A dowser is able to perceive tiny variations at the ground level in the magnetic field and is able to find flowing water.

The second type of magnetic field is, for the average person who goes out for a walk, the electromagnetic stimulation of the body that radiates from the earth. The history of our species has been that we have always been in motion, on the surface of the earth. We were foragers, or hunter-gatherers. Yet, now we tend to sit indoors and are subjected to other non-natural electromagnetic influences. These include the wiring in our homes, the microwaves in the air, and, of course, TVs and computer terminals. Interestingly, the most powerful magnetic field we are exposed to on a day-to-day basis turns out to be the electric stove.

The third type of magnetic field is that which is defined as the “Schumann Resonance.” This is the natural electromagnetic [EM] frequency in the atmosphere produced by electric storms, by lightning. Lightning is going on, all around the planet, all the time. Lightning produces a band of EM frequencies, in the atmosphere, between the surface of the earth and the ionosphere, that all life on the planet tunes into, or resonates with, naturally. It just so happens that our brains function in the same frequency spectrum as the Schumann resonances. Scientists believe that the average standing wave Schumann Frequency is 7.8 Hz (Hz is the measure of frequency per second). But, in fact, the Schumann Frequencies actually range from 1Hz to upward of 40Hz, although with an average of 7–10Hz—which, as it turns out, is between Theta and Alpha wave frequencies in the human brain. It has been found to be the same pattern of frequencies emanating from the hands of healers.

What all this means is that humans are very much connected with the natural EM activity of the planet. Disruptions in this natural activity may be very important to human disease. It therefore makes sense that EM-based therapies could be very important to human health.

RM: What are some of the benefits of using magnets in a healing context?

WP: One of the major benefits of magnetism is that a patient doesn’t need to keep seeing a physician. The patient may only need to go once, like getting a prescription for medication. Then he or she goes home and continues to treat the problem. Self-treatment isn’t that easy with acupuncture needles.

[†]A lodestone is a naturally occurring rock with a high concentration of iron and is naturally magnetized.

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RM: What differences are there in the effects of magnets and acupuncture?

WP: Acupuncture needles are more powerful than magnets in creating rapid improvement. But the effects drop off over time after treatments end. Someone with a chronic problem may need something to continue to help with therapy and magnets let one treat oneself at home. Also, magnets have other actions on cells that acupuncture doesn't.

RM: Do magnets ever wear out?

WP: No. They will last for a very long time. Other benefits are that magnets are reusable, nontoxic, and inexpensive. What one must bear in mind also is that the earth emits a magnetic field of 0.5 Gauss and the magnets used for therapeutic purposes may be 10 Gauss, 40 Gauss, or as much as 3000 Gauss, which is a lot of energy. It was twin 3000-Gauss acupuncture magnets, taped to my face, which caused the overstimulation of my stomach meridian. They are very powerful. People don't realize that the body's own organs produce their own EM fields. They are lower by over 100,000 times the earth's field strength. In addition, the body has its own magnetite, micro-lodestones so to speak. Remember, magnetic fields are highly interactive.

RM: Do you use magnets personally?

WP: Yes, in several ways. Always for health maintenance. I also have carpal-tunnel syndrome in one of my wrists and I find that magnetic therapy manages my pain from this. My father had the same

problem and we were able to cancel his surgery—he could barely make a fist! I also use a pulsed magnetic mattress that is called a QRS.[‡] I lie on it for about 8 minutes, twice a day. That quickly and effortlessly negates the stress of my busy days.

RM: What does it do?

WP: The concept is a bit like dropping a pebble into still water. With pulsed magnetic field exposure, the effects radiate and last much longer than 8 minutes—the equivalent of throwing the pebble into the water; the water keeps rippling long after the pebble has hit the bottom. So, after an 8-minute treatment, a wave of EM action continues to work in the body for hours after that to help any imbalances. What this means is that one doesn't have to wear a magnet for hours. The body can adapt to a constantly used magnet signal over time and become less responsive. The same thing happens with medicines. Also, for the practitioner, it is somewhat difficult to determine the correct magnetic “dose” and for how long the patient ought to use it. It's similar to medicines in that respect—how is the correct dose determined? How many a day is enough? How do you know what the reaction will be?

RM: Tell me more about the QRS, the pulsed magnetic field device. Is it expensive? How does it work?

WP: This is an excellent approach to helping the body achieve homeostasis and maintain it. One just puts the QRS system on a flat surface or lounge chair, selects the appropriate settings, lies on it for 8–30 minutes, twice a day, and then gets off. That's it. As to cost, I have



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tested systems that are \$1,000 or less and systems up to \$5,000. The one I chose retails at about \$2,600. The factors I used to decide which system to use for myself and recommend to others included flexibility of use of field strengths, allowing various surface areas of the body to be treated (local, regional, or whole body) ability to select desired lengths of treatment times, portability and, finally, cost. The question to ask is, what is lifetime health maintenance worth? A good investment keeps returning dividends for a lifetime, in my way of thinking.

RM: In what circumstances is magnetic therapy not advisable?

WP: During pregnancy, since there is not enough data to be sure it is absolutely

[‡]Quantron Resonance System, distributed by Body Fields, USA, Inc., Des Plaines, Illinois.

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Electromagnetism and Subtle Healing Processes

According to Dr. Pawluk, all healing processes are—fundamentally—electromagnetic. Acupuncture, medications, herbs, vitamins, and other treatment modalities function electromagnetically, in the living organism, where they stimulate or dampen physiologic, cellular, and molecular processes that are electromagnetic in nature.

The influence of electromagnetic energy on molecules is not limited to chemical interactions. Healers who use Therapeutic Touch, reiki, acupuncture or other “energy” modalities work via electromagnetic activity. Healing may occur via the meridians, on an etheric level, and at the physical level—or on many levels simultaneously—and these changes are facilitated by electromagnetic activity. Therefore, the healer, the healing environment, and the attitude of the therapist all play roles because of the “energy sharing pattern” between the healer and the person being healed. In this way, the molecular environment is changed on an electromagnetic level.

A cell that has become diseased or nonhomeostatic for any reason is likely to lose cell-membrane permeability because the molecules in the cell membrane stop responding to molecular resonances that they would have let in naturally. Exposure to an electromagnetic field can shift bond angles and loosen up receptor sites on and inside the cell, thereby opening the cell to therapeutic molecules and other homeostasis-restoring interventions. Magnetic treatment stimulates and restores the natural functioning of the body without introducing a foreign substance or foreign object (surgical tool) into the body. This is one reason that many people consider magnets to be a form of natural medicine.

Some of the fields that are used—especially like those the Quantron Resonance System (see text) produces—are gentle enough that they do not typically create effects on healthy cells. When the body is healthy and the restorative function is strong, the response to electromagnetic stimulation is small and temporary. The tissues with diminished homeostatic capacity are the ones that respond most significantly to electromagnetic stimulation.

safe, or if there is electronic equipment in the body, such as a pacemaker or defibrillator. So you have to be very careful. Like aspirin, magnetic fields decrease blood platelet clotting. In this respect, the action of magnetic fields is very similar to aspirin. A patient who is on anticoagulants needs to be careful about the use of magnetics even though they work in a slightly different way than prescription blood thinners. Apart from these, most reactions can be controlled.

RM: Will magnetics be more widely used therapeutically in the future?

WP: Yes. We are at the dawn of a new technology, or new science, with the use of magnetic fields. There is a lot that magnetics can do to help doctors achieve more benefits for their patients. In the Czech Republic, for example, it has become a standard part of care. But in the United States, our challenge also relates to the FDA [Food and Drug Administration] in terms of making health claims; so the manufacturers of magnetics are—at this point—somewhat constrained. It is important to mention that several magnetic devices were indeed FDA-approved, more than 30 years ago.

But, as far as the actual application of magnetics go, let’s say you’re a massage therapist. If you had a patient lie on a pulsed magnetic field for 15 minutes before you actually started treatment, you wouldn’t have to work as hard: Those muscles would be more relaxed already.

Approximately 60 percent of people who go to health care practitioners go for pain management. So, if you are managing patients with pain, then magnets are always an option, either as a pretreatment, or in combination with your therapy. A good part of the time, they are best used in a complementary way; but sometimes they work fine all by themselves in specific areas.

One of the challenges we face in complementary medicine is to know what *we* did versus what the person has done *for him or herself*. Some people call this the placebo effect; I prefer to call it “The Doctor Within.” There is a new book out, called *Understanding the Placebo Effect in Complementary Medicine*, by David Peters [Edinburgh: Churchill Livingstone, 2001]. Given my epidemiology background, that is one of the areas I look into and also to find good, credible, scientific evidence to support the efficacy of pulsed magnetic fields and of magnetic therapy in general.

We know that all magnets are biologically active, providing the magnet’s power exceeds the earth’s own field level, or 0.5 Gauss. Putting a little magnet (even a refrigerator magnet) next to the skin, yields some magnetic action, although it is very local.

I once developed a little arthritis pain in my big toe from kicking a soccer ball the wrong way. I later took a flat refrigerator magnet and wrapped it around in a U-shape. Within minutes the pain was gone.

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But remember that problems and therapies are layered in four levels. The first is the energetic level; the second is the physiologic level; the third is the pathophysiologic level; and the fourth is the pathologic level. These four levels really are part of a gradual continuum, from slight ill-health right down to life-threatening conditions and death.

When someone first starts to get a cold, for example, one just feels “off.” It is not felt anywhere specifically, but generally one is just “off.” That is at the energetic level.

When one starts to experience a clear running nose, a sore throat, and sneezing, that is at the physiologic level.

Next, when the symptoms are more severe, and one is coughing matter up, and there is some tissue damage (infection), that is at the pathophysiologic level.

If someone ends up with pneumonia, or chronic bronchitis, then that is close to the pathologic level, since, if left unchecked, the condition may compromise the life of the person or organ viability.

The primary actions of magnetic fields work through calcium metabolism, through the movement of calcium in the tissues. The earliest FDA-approved magnetic devices were for bone healing. The magnets help to move osteoblasts into a fracture, for example. Most of our current treatments for osteoporosis stop the process of the bone’s breaking down, but they do not reverse it. That is, they do not create osteogenesis.

Osteoblasts build up the bone; osteoclasts break it down. These are the primary bone cells. They are normally in the body and there is a balance between them.

The Three Kinds of Doctors

Dr. Pawluk comments on his perception of the three types of doctors:

“I started this whole process—my journey, if you will—by trying to decide if I was going to take the spiritual route, or the physical, or the medical, route. And, in the physical route, I wanted to try to do some of the things I was expecting to do in the spiritual route. I got steeped into the culture, the whole medical process. But that was also modified by my epidemiology training, which created a certain level of objectivity and the ability to assess and analyze the effectiveness of what I did, but also what doctors and [medical] systems can do.

“I came to the observation there are three kinds of doctors: The first are doctors, including those individuals who have Ph.D.s. At that level, a doctor is one who has skills—an expert in an area.

The next level is the physician. My family medicine training gave me that layer, or level, of knowledge. The physician deals with individuals in their overall holistic contexts; their family relationships, work environments, the communities they live in, and other factors, all contribute to the physician’s assessment.

“The third level is the healing level. This level transcends the individual, the society, and primarily deals with the spiritual level (the level of values and beliefs) as well as other dimensions. When it involves healing, you can say that everything ultimately is spiritual. It is the level for human beings, that extends their senses, their perspectives, and their perceptions about who they are and what caused them to be in the circumstances which they are in.

“Part of the third level, of healing, or self-healing, is the question: How do we engage ‘the healer within’ for those whom we treat? Sometimes this could be healing in the way many people perceive a ‘healer’: the laying on of hands, reiki, Therapeutic Touch, or what happens in the churches when there are healing ceremonies. In this context, the healer is a facilitator, one who creates a ‘healing cause,’ so that the patient’s own healing systems can respond and move toward homeostasis—physical and spiritual.”

Now, a person who decides to take up walking, or running, or some other new activity, will start to remodel his or her bones, by putting a load on the bones that they have not experienced previously. In this case, osteoblastic activity predominates over osteoclastic activity.

In people who are indolent, or bedridden, or have a sedentary lifestyle, the osteoclastic activity takes over; new bone cells are not generated and the bones begin to soften.

However, magnetic fields increase osteoblasts; they increase osteogenesis. This is a very importance health mainte-

nance aspect. As we know, osteoporosis is a total body problem and that is why pulsed magnetic therapy is a good idea.

RM: Isn’t pulsed magnetic therapy similar to magnetic mattress pads?

WP: The mattress pads are usually not strong enough, and I think—over time—can have some other health consequences. Therefore, the pulsed magnetic fields are the most *efficient* because they provide the optimal level of benefit with less exposure.

RM: Again, this is for 8 minutes, twice a day?

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WP: That is for health *maintenance*. For treating specific health problems, it could be upward of 30 minutes, three times a day; it depends on what you are managing. At a conference on the QRS in Darmstadt, Germany, in February 2001, R.G. Funk, [M.D.] from Frankfurt, Germany, presented a paper showing that the maintenance level of exposure—8 minutes twice a day—produced a 20–30 percent improvement in reversing osteoporosis. So, bone healing is one aspect of what magnets do.

Magnetic fields also increase RNA and DNA in tissues; they decrease nerve-cell firing (that is, they decrease the irritability of nerves); they open up blood vessels—so they increase circulation to tissues and bring more oxygen into the tissues; and they relax muscles. These are all important effects of magnetic fields.

RM: Please explain a more about the muscle reactions.

WP: Magnetic fields are able to relax all kinds of muscles. So this means the long muscles of the body, which help us with motion, the striated muscles. But magnetic fields also affect smooth muscles. This means that magnetic fields can also relax blood vessels and open up circulation to tissues. When you open up circulation to and from tissues, you also reduce edema.

Every time there is cellular injury, one of the consequences is edema; there is a movement of fluid into that tissue. The edema then, itself, causes an impairment of circulation, which then delays healing. Increasing circulation then increases oxygen to tissues, decreases edema, and accelerates healing.

One of the other benefits of magnetics is an increase in heat stress proteins. There are proteins in cells that protect them from heat stress. Let's say someone goes to the beach and lies in the sun. This person's tissues are immediately exposed to heat stress. Not only does body temperature increase but the ultraviolet rays on the skin itself raise the temperature of the skin locally, and that creates stress to the cell.

However, if this person has preconditioned the tissue to some minimal amount of heat exposure first, and *then* goes into a sharp sun exposure and stays there for several hours, his or her cells will have the ability to protect themselves from the damage from the sun to an increased extent. And one of those protectant factors is called heat stress protein.

RM: How does that work? Does that mean going out into the sun for a few minutes and then coming back inside, to precondition the cells?

WP: Exactly. One gets some exposure, but doesn't stay out too long. One comes back inside and allows the cells develop the heat stress proteins because just going right into the sun and staying there overwhelms the cells and they do not have the opportunity to create the proteins. Magnetics have been shown to increase heat stress protein.

Magnetics may be useful in preconditioning people for various kinds of surgery. In Eastern Europe, magnetics are sometimes used in this way. Someone who is going to have a gallbladder removed exposes the future incision site over a period of a few days (for example, 8 minutes twice a day) and the cells should become more resilient to the

surgery. They are healthier and more efficient metabolically. After surgery, the healing process begins. The magnetic fields used here enhance the body's capacity to restore itself—the vasodilation, the increased circulation to tissue, and the increases in RNA and DNA. In short, magnetic fields optimize cellular function and recovery.

RM: You mentioned the Russian space program research earlier. Can we go back to this?

WP: When I was at the QRS conference I mentioned earlier, I interviewed the medical director of the Russian space program. He told me that the Russians are beginning to experiment with pulsed magnetic therapy to help cosmonauts maintain their physical integrity during long trips in outer space, and overcome what have been called “space effects”—loss of bone and muscle mass and changes in biochemical and some physiologic function. At one time it was thought that these effects were solely the result of spending time in a zero-gravity environment. Recent Russian research suggests that the absence of a magnetic field in outer space contributes, as well, to the space effects.

As we learn more about the role of electromagnetic energy in the human environment, we will surely learn more about how to enlist it in the healing process. □

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