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Rx: Earth – The Original Painkiller!

Exploiting the Planet’s Natural Anti-Inflammatory Power for Pain Relief

by James L. Oschman,* PhD, Stephen T. Sinatra, MD, Gaétan Chevalier, PhD, and Martin Zucker

In all things of Nature there is something of the marvelous.

– Aristotle, almost 2500 years ago

There are so many people in the severe pain category that something has to be done...If people are in the most severe category of pain, whatever treatment they are getting may be inadequate.

– National Center for Complementary and Integrative Health epidemiologist
Richard Nahin ¹

Life is too rapid and subtle to be explained by slow moving chemical reactions and nerve impulses.

– Nobel Prize Laureate Albert Szent-Györgyi ²

You likely encounter chronic pain routinely in your clinical practice. You are not alone. Chronic pain is a global epidemic, affecting perhaps as many as 20 percent of adults.³ In 2011, the Institute of Medicine estimated that pain affects about one-third of the US population – more than diabetes, heart disease, and cancer combined, at a cost of well over half-a-trillion dollars in treatments and lost productivity.⁴

How can so much pain be possible in this age of medical miracles? Why is relief so elusive and frustrating, often requiring patients to consult multiple practitioners?

Conventional treatments typically feature painkilling drugs that create many side effects. Some of the most effective drugs, such as the opioids, are extremely addictive. They are synthesized from morphine, and

synthetic opioids such as fentanyl and its analogues are becoming a big part of the problem. Together, these substances have created a serious spike in drug-related deaths: a record 42,000 in the US in 2016, 40% of which involved a prescription opioid. So bad is the situation that the US Government declared a health emergency in 2017.⁵

The problem is on the rise elsewhere throughout the world as well.⁶

Dealing with pain on a daily basis can drive some people into depression, and even suicide.⁷ Many medication users lack awareness of the risks. They can't protect themselves.

Health officials are demanding safer options beyond increasing awareness and regulation of prescription practices. What about finding better and safer ways of treating pain?

The world is crying in pain. The world has a solution. The planet itself. Nature's original painkiller.

The Healing Earth

As strange as it may sound, the planet we live on packs potent painkilling power. It's a natural analgesic. Research is starting to reveal its amazing healing properties.

Here's the background: The Earth is endowed with what you might call "electric nutrition," a virtually limitless supply of mobile antioxidant electrons that gives the ground we walk on (as well as our lakes and oceans) a natural negative electric charge.⁸ This negative charge, according to extensive geophysical and atmospheric research,^{9, 10} is maintained (that is, the electron supply replenished) by a so-called global

atmospheric electrical circuit involving solar radiation and lightning strikes.

This phenomenon nourishes all living beings – humans, animals, and plants. The new research indicates that direct contact with the Earth restores and stabilizes the bioelectrical circuitry that governs our physiology and organs. It recharges our blood, thins it,¹¹ and powerfully and quickly knocks down inflammation and pain. It enhances immune function. The degree to which this resource nourishes, protects, and heals appears to be quite substantial, and of great medical significance.

The Earth is an electric and magnetic planet, and we are bioelectrical and bioelectronic beings living on an electric and magnetic planet. To date, biomedical research on the electrical and electronic aspects of the human body has focused narrowly on the diagnostic applications of the electrocardiogram, electroencephalogram, electro-myogram, and electroretinogram. Biophysicists have gone further in the study of these biofields, but their applications have made little impact on a medical system dominated by biochemical and pharmacological models.

We Live on the Earth but We Have Abandoned Its Healing Powers

Nature seems to have designed living things to have routine contact with the planet, a vital but vastly overlooked symbiotic relationship. A relationship, we believe, essential to health and life. We further believe that the abandonment of this relationship

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Grounding My Patients: One Practitioner's Experience

Wendy Menigoz, DN (Doctor of Naprapathy), a naprapathic pain specialist in Bourbonnais, Illinois, has routinely recommended and applied grounding to patients for more than eight years.

"People I see are often desperate. After an initial consultation, I give them some grounding patches, and tell them to come back in a week. I tell them to ground themselves in bed at night. They come back, with their pain dramatically reduced, sometimes gone altogether. Probably 98 percent of my patients are grounding. They love it.

"I see head, neck and back pain, period pain, plantar fasciitis, rheumatoid arthritis and fibromyalgia, and everything in between. My patients include doctors and other health professionals, who have tried everything else before they come to see me.

"Some, after experiencing significant benefits from Earthing, have asked me, 'How long do I have to do this?' I laugh, and answer that for as long as they want to feel better.

"To explain grounding to patients, I just remind them that vitamin D comes from a ball – the sun – 93 million miles away sending us energy frequency that reaches our skin. We also have a ball – the Earth we live on – that has energy frequencies we need in order to be healthy. That seems to make sense to patients. Simple and easy to understand.

"I require my patients to ground themselves. I sell them a \$10 Earthing cord and give them a strip of patches. If it doesn't work, I give them back their money. I get very few of those. People love it. It works. It's simple.

"Keep in mind that I put these folks on some diet and supplement program as well. A combination. To me grounding is every bit as important as drinking enough water, getting sunshine, fresh air, and eating well.

"I get a lot of young women in their 20s with terrible cramps, blood flow not good. I tell them to lie on an Earthing mat or place it across their belly and sleep with it. They can't believe how it gets rid of their period cramps.

"Many women have said they weren't regular ever and now their periods come right on time. Not all, but some women will lose their hot flashes. One of the 'worse things' about grounding is that some of my middle-aged women get their periods back because they are getting healthy. They aren't happy about that.

"Well, I tell them, do you feel better, aches and pains gone, sex drive back?

"Well yes, they say. 'I love/hate you.'

"The fibromyalgia patients seem to get the quickest results. People with all-over body pains. They will tell me they aren't stiff in the morning anymore, or can go long periods of time without any pain at all.

"I have a patient, 54, with severe rheumatoid arthritis. If you saw her, you would be wondering how she was walking. Crippled up. Now she walks all over. She has had surgery on her ankles, hips, wrists, and is in pain constantly. She is a friend. I had been talking to her about Earthing, but she didn't listen. She finally came in. I talked to her about Earthing...again. Her husband was there and said openly it was ridiculous.

"I said just try it, and if doesn't work I will give you your money back. This time she listened. She came back two weeks later. 'I cannot believe how my pain has decreased,' she said, almost in tears. She had just come back from a trip from Europe and said she was able to walk on the tour. Before she could never do that without bad pain and pain medication.

"She said she not only got significant overall pain reduction but also her period back after five years.

"People facing knee or hip replacement? Earthing patches or wrapping their joints with an Earthing mat helps take the pain away at night. And it will help them get through the day if they patch at night. If there is a lack of cartilage, Earthing helps to create an environment where perhaps cartilage regrowth can happen. But I also need to get vitamins and minerals into them.

"I tell them to put the mat under their hips or low back.

"One new patient, his early 60s, came in on a Thursday. He works as an exterminator, and, on the weekend, plays in two different rock bands as a drummer. In his work, he carries around a heavy spray container. He complained that he couldn't move his right arm. His shoulder was killing him. He had a gig the next night.

"I told him I wasn't going to work on him, but I was going to give him an Earthing cord and some patches. And said that would help take down the inflammation. Then I explained Earthing. He was looking at me and didn't seem happy about my opinion. I then said to him that if I work on him and do my soft tissue and connective tissue work on him, he would be sore afterward and absolutely wouldn't be able to use that arm. I told him to go home, put this patch on, wear it that night, and then while drumming, use the patch on the scapula, below the shoulder. He very reluctantly said he would, but I could see he thought he had wasted his money. I told him to come back Tuesday.

"When he came back. I had an intern with me. I asked him how he was doing. He answered, 'If I wasn't married, I would ask you to marry me!' We both started laughing.

"He told me that when he had left on Thursday he was pissed. When he got home he threw the patches and cord on the kitchen table. His wife was cool and said he might as well try it, since he paid for it.

"So I put it on my shoulder,' he told me. 'I slept like a danged baby. I got up and I felt great. And I put it on while I was drumming the next night. I am the oldest guy in the group. These guys are in their late 20s and early 30s. Normally if I do one band job on a Friday night and Saturday and Sunday I am dead. I kicked butt that night. Slept with the patch Friday night, and drummed again on Saturday night. I was going like a madman.'

"After a couple of weeks, continuing his grounding, he told me that he was able to handle the spray tank without any problem during his exterminating job.

"Patients have told me that headaches have disappeared or dramatically lessened in intensity. Several women with multiple sclerosis have had remarkable remissions. One of them is a woman whose developmentally disabled daughter also benefitted with major relief of arthritic ankles. Patients with sciatica, plantar fasciitis, and various kinds of diabetic neuropathy have also benefitted. They take much less pain medication. They feel better and they are happier.

"One man had been scheduled for double knee replacement surgery. His pain level dropped so much in a short period of time that the operation was put on hold. He's out biking and exercising. He couldn't do that before.

"I told a friend about Earthing whose husband is a veterinarian with chronic hip pain. She brought him a grounding mat and he said he would use 'the silly thing' to humor her. He put it in his bed. The next morning he woke up without pain. The pain is still gone years later!

"I've seen many cases of improved blood pressure. A few male patients mentioned improvement of erectile dysfunction, which I assume is a result of better circulation.

"I've repeatedly seen conditions healed or improved that typically never get better, or that are typically treated with medication simply to manage the symptoms."

in much of the modern world has led to a deficiency disorder perhaps more consequential than scurvy, rickets, goiter, and other well-recognized deficiency diseases. These disorders have long been understood and have little significance in modern times. In contrast, what we call “electron deficiency” is widespread, and largely unrecognized by modern medicine.

Throughout history, indigenous peoples have been connected to the “electric nutrition” in the ground. They honored their connectedness, describing the energy of the Earth in different ways. Native Americans utilized “Earth Mother’s” healing powers in various ways as part of “good medicine” practices. And Earth Qi is one of the five elements (Wood, Fire, Earth, Metal, and Water) in Traditional Chinese Medicine.

Western medical science has shown scant interest.

Earlier generations and cultures went barefoot routinely, often slept on conductive animal hides, and used leather footwear (from hides), allowing them to draw the Earth’s healing force into their bodies. In the late 1800s, a Back-to-Nature movement in Germany featured walking barefoot and even sleeping on the ground. Great healing stories were reported.¹² The naturopathic profession grew out of this German movement, but the barefoot and ground contact-for-health idea never really caught on as a therapeutic concept.

Modern lifestyle has disconnected most of us from many aspects of Nature, including our planet’s healing energy and the sun’s essential light. Except for when we are kids or on holidays as adults at a lake or ocean, we rarely venture out barefoot to make skin contact with the “skin of the Earth.” As a result, we are missing something of profound importance.

Today, we wear insulating rubber- or plastic-soled shoes. We no longer sleep on the ground or use bedding made from animal hides. We sleep in elevated beds. Many of us live and/or work in high rises far above ground level.

We are typically and increasingly disconnected, a separation from the

Earth that the emerging research¹³ suggests may be a totally overlooked cause of abnormal physiology, contributing to pain, inflammation, fatigue, stress, poor sleep, autoimmune disorders, and a wide range of other costly and debilitating conditions. By reconnecting to the Earth’s energy, many common symptoms and their causes are reduced and sometimes even eliminated, inflammation and pain among them.

The Earthing hypothesis holds that grounding allows a rapid influx of mobile electrons into the body that essentially puts a brake on inflammation and keeps free radicals from leaking away from sites where they are needed.

Such welcome benefits result from routinely walking/sitting barefoot outdoors or while indoors sleeping or sitting in contact with conductive mats, sheets, body bands, and patches. Such conductive products are connected by a wire to the Earth, either through the ground port of a properly grounded wall outlet or a ground rod placed in the soil outside.

Barefooting or using conductive products indoors for health purposes has been called Earthing or grounding. You may have heard the terms. Grounding research started more than 15 years ago, independently in the US and Poland. Two dozen small studies to date have consistently shown that grounding brings the body toward physiological and biochemical balance. The latest one, submitted recently for publication, shows that grounding appears to be an effective blood pressure reducing therapy. Much more research is obviously needed, and on a larger scale.

The Original Anti-inflammatory

One major finding is that the Earth packs a potent anti-inflammatory punch. This is a highly important finding. Inflammation has become recognized as a primary trigger and player in chronic pain and most major health disorders, including cardiovascular disease, diabetes, arthritis, Alzheimer’s, cancer, autoimmune conditions, and all of the so-called “diseases of aging.”

Bodies are inflamed – on fire.

The grounding research and the enthusiastic reports from people who use Earthing suggest that the Earth’s energy extinguishes the flames. The process likely involves transference of free electrons from the Earth into the body, where the electrons neutralize destructive free radicals stoking chronic inflammation.

Free radicals, also known as reactive oxygen species (ROS), are unstable molecules produced by the immune system. They are secreted by neutrophils and other white blood cells at a site of injury in a process called the inflammatory burst. These molecules destroy and dismantle pathogens and damaged tissue by stripping away electrons, an essential process in wound healing that clears the repair field so that regenerative cells can move in and restore cell and tissue integrity. Free radicals are “electron hungry.” In chronic inflammation, they can run amok, create a chain reaction, and damage healthy molecules and DNA in healthy tissues adjacent to the repair field. A “vicious cycle” of oxidative damage occurs, via secondary oxidative bursts, and overwhelms the body’s antioxidant defenses. The ROS tear electrons from healthy tissues and cells, and cause damage that can ultimately lead to chronic disease. We believe this is a plausible explanation of how an acute injury can evolve into a painful and extensive situation.¹⁴

The Earthing hypothesis holds that grounding allows a rapid influx of mobile electrons into the body that essentially puts a brake on inflammation and keeps free radicals from leaking away from sites where they are needed. If the body were grounded most hours of the day, the research suggests, little or no inflammation could be present.



Rx: Earth

Certain foods are recognized to have anti-inflammatory or antioxidant properties. The Earth clearly has such power, but infinitely larger. There is no comparison. Dietary antioxidant molecules must traverse various barriers to reach places where they are needed

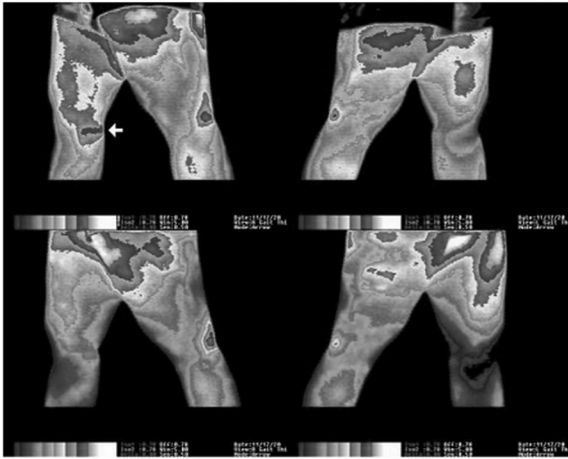


Figure 1. Images of a 33-year-old woman who had a gymnastics injury at age 15 and subsequent 18-year history of chronic right knee pain, swelling, and instability. Top row images taken in walking position to show inside of both knees. Arrow points to exact location of patient's pain and shows significant inflammation. Lower images taken after 30 minutes of exposure to grounding in clinic using a conductive patch. Note significant reduction of inflammation in knee area. After 6 days of grounding, patient reported a 50% reduction in pain. After 4 weeks of treatment, patient was able to play soccer, and by 12 weeks she went waterskiing.

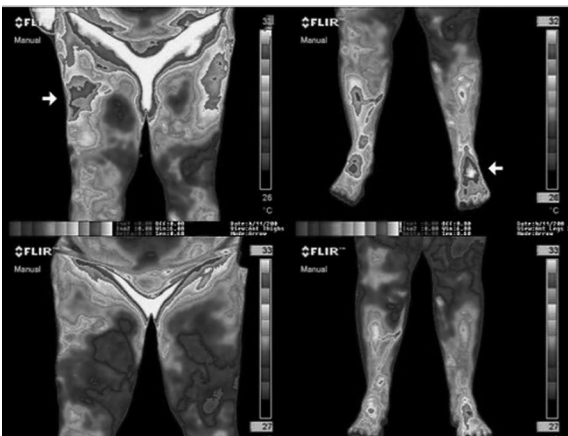


Figure 2. Images of a 65-year-old woman with chronic thigh and knee pain on the right side, ankle and foot pain, and swelling of the left foot. Top row shows lower extremities taken before patient slept grounded. Arrows show most significant areas of inflammation, and where subject reported most pain. Bottom images taken after 4 nights sleeping grounded. Note significant reduction in inflammation and return toward normal thermal symmetry. Patient reported steady continued improvement at a 40-day follow-up.

to neutralize free radicals and moderate pain and inflammation. The molecules must be absorbed from the digestive tract before their antioxidant activity is destroyed by digestive enzymes. They must then be carried through the blood, cross blood vessel walls, diffuse through extracellular fluids, and cross cell membranes. The inefficiency of this process is documented by the slowness of inflammation control using

dietary or pharmacological antioxidants. In contrast, electrons from the Earth are semi-conducted throughout the fabric of the body virtually instantaneously. Pain relief occurs rapidly, even for old injuries that have caused pain for many years.

The Grounding Effect

Various studies have begun to show how grounding impacts inflammation and pain, beginning with medical infrared imaging.¹⁵

The thermography examples in Figures 1 and 2 bring out two important points:

- Earthing can very rapidly reverse painful inflammation.
- Earthing can quickly reverse painful inflammation that has been a problem for many years.

Evidence has come as well from two studies based on a sports medicine research model called delayed onset muscular soreness (DOMS) that involves creating a temporary injury to then evaluate pain-relief modalities. DOMS refers to the pain and stiffness felt in muscles several hours to days after unaccustomed or strenuous exercise. The pain arises in affected muscles from temporary

small-scale damage (micro trauma) to muscle fibers. It is a dull, aching pain, often combined with tenderness and stiffness, usually increasing in intensity in the first 24 hours after exercise and peaking from 24 to 72 hours. It then subsides and disappears up to seven days after exercise.

A pilot study was designed in 2010 to assess any inflammatory markers and pain measure differences between subjects who had all undergone a bout of standardized eccentric exercises and were then either "grounded" by sleeping on patented Earthing sheets or who slept on ungrounded sheets. The results showed that Earthing significantly reduced the degree and duration of soreness and inflammation.¹⁶

In a second DOMS study, grounding reduced blood creatine kinase (CK) and changed blood counts related to inflammation only among grounded participants. Grounding significantly reduced the loss of CK from the injured muscles indicating reduced muscle damage.¹⁷

A 2017 study by doctors at the Pennsylvania State University Children's Hospital Neonatal Intensive Care Unit in Hershey revealed another angle on how grounding may influence inflammation. The researchers found that grounding premature infants produced immediate and significant improvements in measurements of autonomic nervous system (ANS) functioning critically important in the regulation of inflammatory and stress responses.¹⁸

Grounding the babies, clinically stable and from five to sixty days of age, strongly increased measures of heart rate variability (HRV) that indicated improved vagal tone. HRV refers to beat-to-beat alterations in heart rate, and is influenced by the sympathetic and parasympathetic branches of the ANS.

Grounding was achieved by adhering a grounding patch on the skin of the babies, while in their incubators or cribs, and connecting the patch wire to the hospital's grounding system.

Among the babies tested, "grounding raised parasympathetic tone within minutes," says researcher Charles Palmer, MB, ChB. "We obviously need

more research to further document that grounding may enhance vagus nerve transmission and thereby improve stress and inflammatory regulatory mechanisms in preterm infants.”

Recent research has revealed that the vagus nerve plays a major role in the so-called “anti-inflammatory reflex,” a mechanism controlling basic immune responses and inflammation during pathogen invasion and tissue injury. Among other things, the nerve’s actions help to inhibit excessive production of pro-inflammatory chemicals.^{19, 20}

Action of Electrons

Earthing quenches pain in virtually any part of the body, including pain from very old injuries. And does so rapidly. It produces a powerful and positive shift in the electrical state of the body and the electrodynamics of blood, and a boost to self-healing and self-regulating mechanisms. There are many side-benefits to this process, as shown in Figure 3.

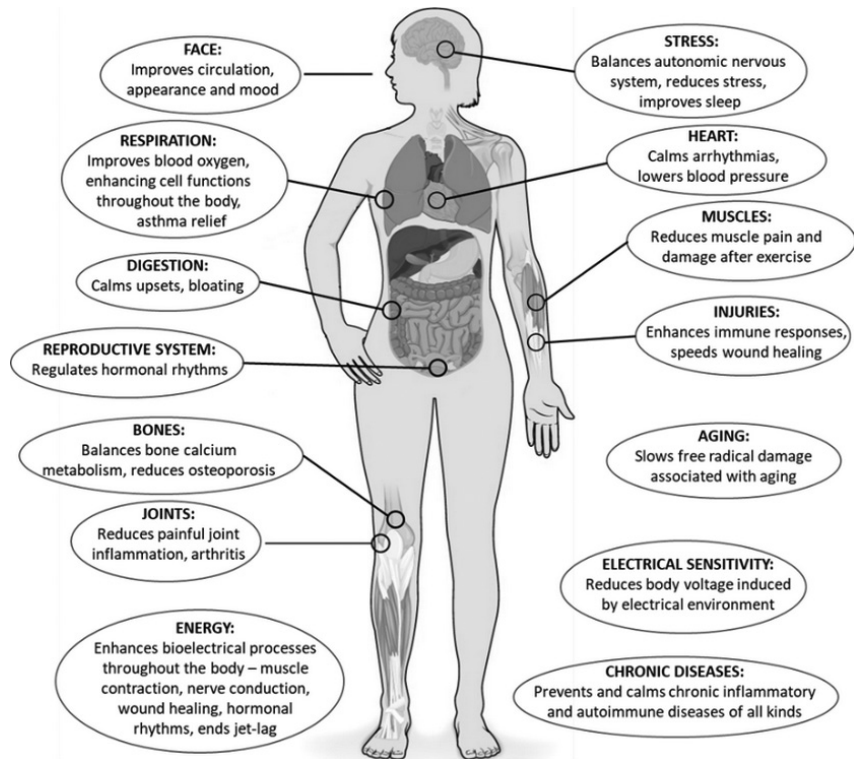
Those familiar with classical physiology and biochemistry will recognize that the discoveries summarized here do not make much sense from what is known in those fields. It is necessary to turn to biophysics, and to the presence of a cellular and anatomical basis for a continuous molecular network that extends throughout the human body, even to the interior of every cell and nucleus. It has been suggested that this system-wide network is the basis for the acupuncture meridian system and the ability to rapidly deliver antioxidant electrons to sites of inflammation. This system has been termed *the living matrix* and is now thought to be a semiconductor network capable of rapid charge transfer throughout the body.²¹

Connective tissues, myofascial, tendons, cell membranes, and cellular cytoskeletal networks belong to this electronic infrastructure. The multiple pathways of this living matrix facilitate the influx of free electrons to reach and neutralize free radicals that are the hallmark of chronic inflammation. Not only that, this arrangement also helps explain why many grounded individuals

feel better and more energized. It seems logical to suggest that the influx of electrons from the Earth saturates their mitochondrial electron transport chains that generate adenosine triphosphate (ATP), the energy molecule that powers all of life’s activities.

This remarkable insight regarded proteins as semiconductors, rather than insulators, as had been thought previously, and thus represent countless

Figure 3 Systemic Benefits of Grounding



You may recognize the name of Albert Szent-Györgyi, an early pioneer in the emerging field of quantum biology, but best known as the Hungarian biochemist who won the Nobel Prize in Physiology/Medicine in 1937 for his synthesis of vitamin C and the discovery of the components and reactions of the citric acid or Krebs cycle.

Szent-Györgyi’s long-ignored work on the electronic conduction in the body provides an understanding of how grounding produces rapid and measurable improvements in whole-body physiology. “In every culture and medical tradition before ours, healing was accomplished by moving energy,” he said. “The main actors of life had to be electrons whereas the clumsy and unreactive protein molecules had to be the stage on which the drama of life was enacted.”²²

channels, lightning fast expressways, for highly mobile electrons to move rapidly through the body.

In 2017, Indian yoga and physical sciences scholar T. M. Srinivasan wrote that “this fascinating and insightful statement” was received with skepticism, but in fact, “it presupposed many later discoveries and was thus much ahead of its time.”²³

None of these revolutionary concepts are discussed in conventional medicine. They should be.

How to Get Grounded

For the clinician, grounding offers a simple easy-to-administer modality that can by itself generate a broad range of major healing benefits as well as significantly enhance and accelerate the outcomes of routine treatments.

There are various ways to implement grounding:



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- 1) Recommend outdoor “barefoot sessions” to patients, weather and conditions permitting. Going barefoot for about 30 or 40 minutes daily can significantly reduce pain and stress.²³ Barefoot grounding outside is free, however, many people will neither have the time nor the inclination to add such a routine into their life. For these and other people interested in pursuing outdoor grounding, conductive footwear is commercially available, such as at www.pluggz.com.
 - 2) Ground patients in the clinic for sessions of a half-hour or more utilizing grounding products such as conductive chairs, mats, and patches. This activity can readily be done in the waiting room as patients are waiting to see the doctor.
 - 3) Once patients experience the effect of grounding, sell them grounding products or direct them to vendors. A variety of grounding systems are available for indoor use while sleeping, working, or relaxing at www.groundtherapycenter.com and earthing.com.

The full story on grounding, the research, and the impact on inflammation can be found in the Earthing book and on the informational website www.earthinginstitute.net.

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James Oschman, PhD, has researched the science related to the healing benefits of Earthing for 15 years. He was the first to scientifically explain the transfer of free electrons from the Earth’s pulsating surface into the electric matrix of the human body. His work explores the existence of a high-speed communication system extending throughout the body that responds to the energetic environment. His investigations, hypotheses, and published papers have given solid scientific basis to a paradigm-shifting health concept. Dr. Oschman is the director of Nature’s Own Research Association in Dover, New Hampshire, and the author of *Energy Medicine: The Scientific Basis* (Churchill Livingstone, 2000 and 2016) and *Energy Medicine in Therapeutics and Human Performance* (Butterworth-Heinemann, 2003). Dr. Oschman holds a PhD in biological sciences from the University of Pittsburgh. He has lectured and given workshops on energy medicine in 26 countries.

Stephen Sinatra, MD, FACC (Fellow of the American College of Cardiology), FACN (Fellow of the American College of Nutrition), is a board-certified cardiologist and psychotherapist with more than thirty-five years of experience in helping patients prevent and reverse heart disease. He also is certified in anti-aging medicine and nutrition and is an expert in energy medicine. He is a Fellow of the American College of Cardiology, an Assistant Clinical Professor of Medicine at the University of Connecticut School of Medicine, and a former chief of cardiology and medical education at Manchester (CT) Memorial Hospital. Dr. Sinatra is a co-author of the Earthing book. He has written many other books, including *The Great Cholesterol Myth* (Fair Winds Press, 2012), *Reverse Heart Disease Now* (Wiley, 2008), *Lower Your Blood Pressure in Eight Weeks* (Ballantine Books, 2003), and *The Sinatra Solution: Metabolic Cardiology* (Basic Health Publications, 2008). He is the host of the popular integrative cardiology website www.heartmdinstitute.net.

Gaétan Chevalier, PhD, received his doctorate from the University of Montréal in Atomic Physics and Laser Spectroscopy in 1988, and subsequently participated for four years in nuclear fusion research at UCLA. In 1993, he became director of research and life physics at the California Institute for Human Science (CIHS) and for a decade conducted research on human physiology and electrophysiology. Dr. Chevalier is currently lead faculty at CIHS, visiting scholar in the Department of Family Medicine and Public Health at University of California San Diego. He has been director of the Earthing Institute since 2009 and director of research at Psy-Tek Labs in Encinitas (CA) since 2010.

Wendy Menigoz, DN, is a naprapathic physician specializing in pain management and healing without surgery or injections. She uses a combination of grounding, electrical medicine, lasers, gentle manipulation of connective tissues, botanical, and supplemental medicine to help her patients attain a state of optimal health.

Health writer Martin Zucker has written or co-authored more than a dozen books, including the Earthing book, and written many articles for newspapers and magazines over a 60-year writing career. He is a former Associated Press foreign correspondent in Europe and the Middle East.

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