

Moreover, the body's uptake of donated electrons creates *free radicals* – highly reactive, unstable molecules that can further injure the cells. Separated as we are from the earth, our continued reliance on donatable electrons (by necessity) leaves us in a compromised metabolic state. Grounding, *with its stream of free electrons from nature*, remedies our electron deficiencies, neutralizing free radicals and correcting the redox environment of our cells.

Living in electric fields

Homes today are full of large and small appliances, TVs, gadgets and clocks – all of which put out electric fields. The very wiring in our walls generates an electric field.



Surrounded by these fields, our bodies (largely composed of water) pick up and carry this electricity. Our raised living spaces, sealed flooring and synthetic footwear effectively insulate us, resulting in the creation of internal *body voltage* – like water pressure building in a hose. Grounding allows us to release or *offload* excessive body voltage generated by indoor electric fields, which are being found to disrupt biological systems.



In addition to being surrounded by electric fields, the wireless age has arrived and is fast taking over our lives. The effect of prolonged exposure to radio-frequency microwaves

(RFMWs) from cell phones, antennas, towers, Smart Meters, Wi-Fi and cordless phones is as damaging to cells as that of nuclear radiation, resulting in sticky blood, oxidative stress, cancer and degenerative disease. The convenience of wireless technology has

spawned an exploding global addiction, in spite of years of independent scientific studies that warn against it. RFMWs are low-power high-frequency transmissions that generate powerful electromagnetic fields which are becoming increasingly hard to avoid. Grounding may be a valuable practice around wireless radiation, as it reduces blood viscosity and oxidative stress and facilitates cellular repair.

More positive effects of grounding

Chronic stress produces elevated levels of the fight-or-flight hormone *cortisol*, which can have a range of negative impact, including poor immune-system and thyroid function, blood-sugar imbalance and impaired cognition. Grounding balances the autonomic nervous system, regulating heartbeat and blood circulation, digestion, respiration and our hormones. It also supports the parasympathetic nervous system, normalizing cortisol and reducing anxiety. The stimuli, schedules and electromagnetic frequencies of modern life have caused epidemic insomnia, even in children. Studies show that grounding while sleeping reduces night cortisol, enabling longer and more restful sleep.



Those who ground report less chronic pain from inflammation, injury and/or body tension, better overall mood, energy and mental alertness. Although “plugging into the wall” sounds dangerous, indoor grounding isn't what it looks like. Some experts feel that grounding “is only as good as the ground you connect to,” and others warn against *stray voltage* relating to utility substations. Keeping in mind that grounding can have a strong detox effect, do your research and make the right decision for yourself.

Electrons are the staff of life!



Grounding: A two-way exchange

In recent years, health professionals and lay people have begun to explore and scientifically study the benefits of something we once did constantly and naturally – a term called “grounding” (also “earthing”). We were designed to be in perpetual contact with the surface of the earth, like animals: paws or bare feet to the ground, sleeping on the ground, walking on the ground. Today people in modern societies rarely have such contact with the ground. We wear rubber-soled shoes, live and sleep in raised buildings, and travel in cars on sealed asphalt roads. What is the effect of this earth separation on our biology?

The earth is surrounded by an electromagnetic field generated by lightning strikes occurring across the planet (up to 200 times per second). These bolts of lightning create a mild current that runs through the earth's surface, much of which contains water and conductive elements. Also composed largely of water, living creatures in contact with the earth's surface not only pick up this mild current, but their very biology is adapted to it. The flow of electrons from the earth has thus become an important natural stimulus to life, health and well-being.

Life is electricity

Our bodies are bio-electric: our cells actively use electricity. ATP (adenosine triphosphate) is a nano-machine that furnishes the cell with its energy supply. Cells are charged with the electrons contained in ATP, which is then re-packed with electrons by the mitochondria (mini engines) in the cells. This process

occurs continually, at unimaginable frequency and speed, as the human body consists of over 75 trillion cells that each contain millions of molecules of ATP. We recycle our body weight in ATP every day.

Electron transfer from ions (charged atoms or molecules) creates in them what is referred to as an *oxidation increase*. When negatively charged molecules donate their electrons to our cells, they become *reduced*. Too many oxidants (reduced molecules) with not enough electrons available to rebuild ATP upsets the body's *redox balance*, resulting in energy-poor cells and a state of *oxidative stress*. Extreme oxidation on an ongoing basis can lead to serious dysfunction and/or disease. Thus electron deficiency in biological systems may have very harmful consequences.



The earth's electrons



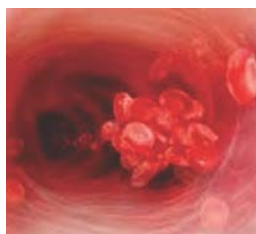
The practice of *grounding* allows us to feed our bodies with a continual stream of electrons from the earth. It can be done naturally by walking barefoot on the beach or lying in the grass, or in a

more artificial, "technological" way that may seem unnatural and off-putting although it delivers the very same electrons that being outside does. Electrically wired buildings must provide electric current a safe exit path in the event of a short circuit, and are thus equipped with a ground rod (conductive metal planted in the ground). The third (round) hole in wall outlets is designed to enable this electrical return, and is wired through the fuse box to the actual ground outside. When you connect your body to the ground port in a

wall outlet by way of a conductive cable, electrons from the ground are able to reach your skin, just as they would if you were walking barefoot outside or were gardening with your hands in soil. This flow of free electrons is the most powerful anti-oxidant of all, as it directly supports the body's production of ATP.

Oxidative stress and sticky blood

Specialists in metabolism believe modern disease is the result of *mitochondrial dysfunction* – the body's inability to produce sufficient ATP. Our lives expose us to a constant barrage of chemicals and radiation so damaging to living tissues that our cells must expend inordinate energy to preserve themselves, expel waste and repair damage. All this requires ATP. In addition, the body's metabolic priority system prompts cells to sacrifice vital materials to the blood for our major organs to function, resulting in cellular acidosis, dehydration and fatigue. Cells that cannot produce enough energy (ATP) to stay healthy have three options: sudden death, unregulated division in a desperate effort to self-preserve (cancer), or a state of progressive inefficiency (degeneration). We are no longer dying from bacterial infections; we now die from cancer and degenerative disease: our tissues, neurons, bones and organs failing and falling apart.



Poor health, to put it simply, is caused by oxidative stress – a system out of redox balance. Cellular exhaustion can be remedied with hydration, minerals, nutrients, anti-oxidants and *electrons*, which are anti-oxidants themselves. Oxidative stress results in inflammation and *hypercoagulable* blood (also called viscous or "sticky" blood) that has difficulty

circulating and delivering oxygen and nutrients to the tissues. Viscous blood also slows the removal of toxins and, with its tendency to clot, raises the risk of heart attack and stroke. Modern medicine routinely prescribes pharmaceutical blood thinners, often for a patient's entire life. However, because it brings in negative electrons, grounding is a natural blood thinner. Negatively charged red blood cells repel each other (the surface charge of RBCs is referred to as *zeta potential*). In the famous words of metabolic cardiologist Dr. Stephen Sinatra, grounding "turns your blood from ketchup into red wine."

Donatable vs. free electrons

Inflammation not only occurs after a fall or sprain, it is present wherever tissues and cells are diseased, infected or injured. Doctors and coaches recommend NSAIDs (i.e., pills), ice and compression to reduce inflammation in muscles and joints, which only impedes the biological repair process and can instead create a chronic condition. *Inflammation is the body's way of isolating an injured area and opening up channels for increased blood flow and the transport of nutrients and repair materials*. Grounding is the perfect anti-inflammatory because it assists biological repair by supplying vital electrons for cellular energy production. It is famous for rapidly healing delayed-onset muscle soreness – that familiar post-exercise pain that follows hard workouts.

Sick people are typically *electron deficient*, their bodies stripping electrons from available ions, which exist in short supply. Today's commercially grown, pesticide-sprayed, nutrient-poor processed foods leave us seriously mineral deficient and lacking *donatable electrons*. Our toxin load forces the cells to work overtime, in the face of a diminishing electron supply. *Could it be that electrons obtained from food are the body's secondary energy source when free electrons from the earth's ground plane are simply unavailable?*