

Beware of Earthing Misinformation

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Over the years, many so-called “Building Biologists” and “EMF consultants” have made a practice of promoting fake warnings about Earthing (grounding).

Their typical misinformation includes false statements like these:

- **Grounding indoors in the presence of electromagnetic fields (EMFs) is harmful to health and should be avoided because dangerous currents will circulate in your body.**
- **If you ground yourself indoors by connecting to a wall outlet, “dirty electricity” comes through the ground cord, the grounding product you are using, and through your body, and is dangerous.**
- **Grounding amid high electric fields in your home puts you at risk of a shock.**
- **Grounding turns you into an antenna, thus drawing EMFs into your body and harming it.**
- **Best not to ground yourself if you live in the city or suburbs because of the presence of “stray voltage” in the ground, a result of our electrical system feeding AC electricity into the ground.**

These warnings are widely repeated and spread, a practice reflecting not only a profound lack of knowledge about electromagnetics, grounding, and removal of charge from a body, but a disgraceful lack of professional integrity by inciting fear in order to promote business and attract customers.

“Building Biologists” and “EMF consultants” will, among other things, assess the presence of EMFs in your neighborhood, home, and work environment, and offer services and devices to eliminate EMFs. Fees typically run hundreds of dollars (for example, one consultant charges \$125 per hour). These services often do little to reduce overall EMF exposure. Advice may include going to the extreme of shutting the breakers in your house, a very impractical method of EMF elimination and one that you can do by yourself.

This paper is designed to help inform consumers who may believe the false warnings and unethical statements these “specialists” make in regard to Earthing.

During some 18 years of research that has produced more than 20 peer reviewed and published studies, we have come to regard the loss of electrical contact with the Earth as a primary and overlooked factor in the growth of the global epidemic of inflammation and stress related health disorders.

In simple terms, grounding the body discharges stress and promotes proper functioning of the body’s systems, which are electrical in nature. Research conducted on the effects of grounding, as well as years of anecdotal feedback, demonstrate clearly that grounding calms the nervous system, reduces inflammation and thereby promotes proper functioning of the body’s

self-regulating and self-healing mechanisms, a foundational benefit that restores and maintains health.

We don't believe that EMFs are a primary health problem. Rather, we think of EMFs as a secondary stressor for people who suffer from exhausted adrenal glands, where stress hormones are produced. Weakened adrenals are likely a result of living with constant emotional stress or in a chronically elevated fight-or-flight state.

In the summary below, you will find some typical examples of distortions and fear-mongering promoted about Earthing, and what are the real facts.



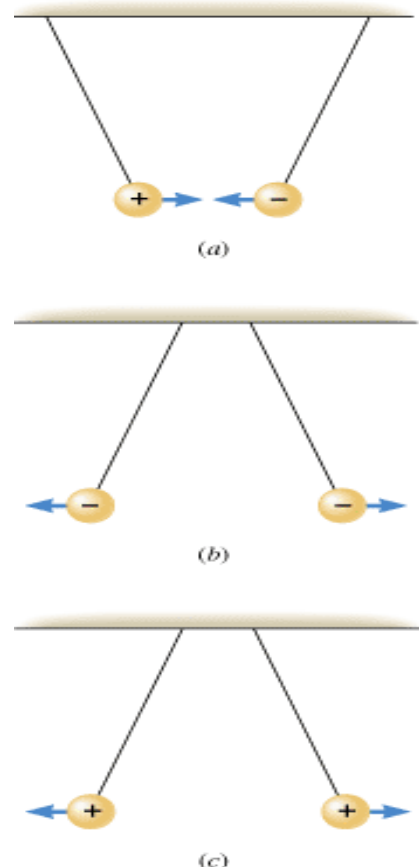
We will start with Oram Miller, a "Certified Building Biology Environmental Consultant and Electromagnetic Radiation Specialist."

In his video [Why Earthing is Beneficial and What You Should Do and Not Do!](https://www.youtube.com/watch?v=diFvj8hGoJM) (<https://www.youtube.com/watch?v=diFvj8hGoJM>), Mr. Miller makes a number of confused statements and false warnings.

Example: "If you're sleeping in an environment where you have these negatively charged ions in the air from electric fields from man-made electricity, from voltage in your circuits, then those ions are gonna be attracted by your body especially if you are on a Earthing mat or pad and then down that pad in the process called grounding....And it's not from touching the actual grounding ... the parts of the grounding system. It's just the field but still you now become a lightning rod or an antenna for man-made voltage to get into your body down this cord into the Earth and that's not healthy."

Mr. Miller's commentary describes things that do not exist. First, the creation of negatively charged ions in the air from electric fields from man-made electricity and from the voltage of the electric circuits of your home. Electric fields do not create electric charges in the air or wherever. The opposite is true. Charges create electric fields...the electrons in the wires are electric charges, and their movements create EMFs. Moreover, the 120 volts that power your electrical circuit do not create any electric charge in the air.

Second, the idea that negatively charged ions will be attracted to your negatively charged body when you become grounded, with an Earthing mat, for example, violates a basic principle of static electricity. As shown in this diagram adjacent, like charges repel each other and opposite charges attract each other.



Grounding DOES NOT turn you into an antenna

The statement that when grounded you become an antenna for man-made voltage to get into your body is utterly false. Yet this statement is like a mantra for Building Biologists and EMF consultants.

Any electrical engineer or physicist knows that a grounded antenna doesn't work!!!!

The masts and metal structures of common antennas for TV or radio transmissions are grounded to protect property against lightning. But the antennas themselves are not grounded. The U.S. National Electric Code provides instructions: 810.15 Grounding. Masts and metal structures supporting antennas shall be grounded in accordance with 810.21

When you are grounded, you become like a Faraday cage and the Faraday cage effect prevents EMFs generated by the electric wires of your home from penetrating your body. A Faraday cage is a metal enclosure used to block electromagnetic fields, like the one shown in this picture.



Contrary to what Mr. Miller says, there is no voltage that gets into your body when you are grounded. Just the opposite, when your body is grounded, EMFs are reflected away from you, as shown by the yellow lines in the diagram below of a grounded Faraday cage.

Grounding drops the voltage on your body to nearly zero.



So how can grounding be unhealthy, as Mr. Miller says? The answer: It can't be. Multiple Earthing studies have been conducted in indoor settings filled with a large spectrum of common EMF frequencies. These studies have consistently produced beneficial results. Here are a few of the study summaries:

- **Electric Nutrition: The Surprising Health and Healing Benefits of Biological Grounding (Earthing)**
- **Electrical Grounding Improves Vagal Tone in Preterm Infants**
- **One-Hour Contact with the Earth's Surface (Grounding) Improves Inflammation and Blood Flow—A Randomized, Double-Blind, Pilot Study**
- **The Effects of Grounding (Earthing) on Inflammation, the Immune Response, Wound Healing, and Prevention and Treatment of Chronic Inflammatory and Autoimmune Diseases – Journal of Inflammation Research**
- **Grounding the Human Body Improves Facial Blood Flow Regulation**
- **Earthing (Grounding) the Human Body Reduces Blood Viscosity—a Major Factor in Cardiovascular Disease**
- **Earthing the Human Body Influences Physiologic Processes**
- **The Biologic Effects of Grounding the Human Body During Sleep as Measured by Cortisol Levels and Subjective Reporting of Sleep, Pain, and Stress**

Grounding instantly DROPS voltage induced on the body

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Effects of Grounding on Body Voltage and Current in the Presence of Electromagnetic Fields

Richard Brown, PhD[†]

Abstract

Objectives: The aim of this study was to determine if grounding in the presence of electromagnetic fields (EMFs) encountered in a normal housing environment produces harmful currents in the human body.

Design: This study had a test-retest design, with duration of 5–15 min per participant.

Participants: There were 50 participants, of whom 23 were males aged 12–77 years ($M_{age} \pm$ standard deviation = 50.5 ± 19.5 years) and 27 were females aged 13–79 years ($M_{age} \pm$ standard deviation = 45.9 ± 19.0 years).

Intervention: Each participant was instructed to touch a lamp on a desk with his or her left hand, then to move the hand away from the lamp (first one foot away and then three feet) while his/her body voltage was measured. Each participant was then grounded and instructed to repeat the same hand movements. Current was also measured during the grounded retest.

Outcome measures: The measured parameters were alternating current (AC) body voltage and current generated from contact or proximity to a lamp and other appliances situated on top of a desk.

Results: AC body voltage was reduced by an average of 58-fold when participants were grounded compared with when they were not grounded. AC currents generated during grounding were several orders of magnitude lower than the accepted minimum level of perception.

Conclusion: Normal levels of EMFs existing in houses are too low to produce harmful currents when a person is grounded.

Introduction

MULTIPLE STUDIES HAVE SHOWN that grounding the human body to Earth (also called earthing) produces health benefits. Among benefits reported are reductions in inflammation and pain, improvement in sleep and energy, a decrease in stress, a reduction in the indicators of osteoporosis, and improvements in peripheral blood flow and glucose regulation.^{1–3} The impetus for doing this research project was the claim found on a number of Web sites that grounding while exposed to electromagnetic fields (EMFs) in a normal household environment may produce enough alternating current (AC) through the body to be harmful, and thus it is advisable to ground oneself only after shutting off power and/or eliminating all EMFs present in the environment.^{4,5} The author could not find any research proving or disproving this claim. To test this claim, an experiment was set up to measure simultaneously the AC voltage and AC current induced in the body in a typical home-office environment in the presence of multiple electrical equipment while a person is grounded.

Materials and Methods

Participants

Fifty participants (23 male) recruited from friends and acquaintances of the author, took part in this project. All participants were Caucasians, except for two Hispanics (one male and one female). The male age range was 12–77 years ($M_{age} \pm$ standard deviation [SD] = 50.5 ± 19.5 years). The average weight was 77 ± 15 kg, and the average height was 179 ± 10 cm. The average body mass index (BMI) was 23.8 ± 3.8 kg/m². The female age range was 13–79 years ($M_{age} \pm SD$ = 45.9 ± 19.0 years). The average weight was 62 ± 9 kg, and the average height was 168 ± 9 cm. The average BMI was 21.9 ± 3.3 kg/m². Institutional Review Board supervision was provided by the Western Institutional Review Board (WIRB; www.wirb.com).

Materials

The setup for the experiment is presented in Figure 1. On the left, a printer and scanner can be seen on a desk.

Grounding studies also include experiments showing an immediate sharp drop of voltage on the body when a person is grounded. One such study is from 2016, the University of Oregon, where physiologist Richard Brown measured the effects of common office equipment producing EMFs on 50 people who were grounded.

From the study: “AC body voltage was reduced by an average of 58-fold when participants were grounded compared with when they were not grounded. Even within 3 feet of a monitor, desk lamp, scanner and cordless phone, the AC current generated through the body of a grounded person from the combined EMF emissions of such equipment is about 2,000 times less than the minimum perceptible current (1 milliamperes)... not one of the 50 subjects who participated in the study felt anything.”

[†]Human Physiology Department, University of Oregon, Eugene, OR.
[†]Deceased.

Conclusion: Normal levels of EMFs existing in houses are too low to produce harmful currents when a person is grounded.

Richard Brown [Effects of Grounding on Body Voltage and Current in the Presence of Electromagnetic Fields. Journal of Alternative and Complementary Medicine, 2016;22\(9\):757-759](#)

A similar result was documented earlier in a 2005 experiment by an electrical engineer in a typical hotel room full of EMFs. He measured himself while grounded and ungrounded. The results: grounding produced a voltage drop on the body by a factor of 71 on average compared to not being grounded.

“Conclusion: The testing performed confirms that the conductive patch and the conductive bed pad are both effective in reducing the mains induced body voltage by a considerable amount.”

Roger Applewhite, P.E. [The Effectiveness of a Conductive Patch and a Conductive Bed Pad in Reducing Induced Human Body Voltage Via the Application of Earth Ground. European Biology and Bioelectromagnetics, 2005; 1: 23–40](#)

Earthing is safe and beneficial, even for premature babies

Here’s further evidence. A study published in 2017 found that grounding may improve the resilience of fragile premature infants in incubators and cribs surrounded by EMFs. The researchers documented a skin voltage drop by about 95% when the babies were grounded!



'Grounding' protects preemies from electrical fields

Posted by Matthew Solovey-Penn State | August 8th, 2017

The researchers, from Pennsylvania State University, grounded 26 preterm infants and documented immediate and significant improvements in autonomic nervous system functioning critical to inflammatory and stress responses. They said that grounding improved vagal tone by 67% and may improve the resilience to stress and lower the risk of morbidity in preterm infants." The reference to vagal tone meant improved function of the vital vagus nerve that extends from the brainstem into the abdomen, links the neck, heart, lungs, and the organs of the abdomen to the brain.

R. Passi, K.K. Doheny, C. Palmer, et al. [Electrical grounding improves vagal tone in preterm infants. Neonatology, 2017;112:187-192.](https://doi.org/10.1016/j.neuro.2017.11.012)
<http://news.psu.edu/story/476014/2017/08/03/research/electrical-grounding-technique-may-improve-health-outcomes-nicu>

Despite ongoing evidence about Earthing benefits and safety, bogus warnings continue to be spread about the supposed dangers of grounding indoors in the presence of EMFs.

In his video, Mr. Miller says: "the entire Building Biologist profession in Germany has a total ban on Earthing pads...they literally say, don't ever use them, because you never know when this phenomenon is going to occur...now in America when we heard about that, we said, well, we understand that, we respect that...and we agree with that."

These comments describe a consensus about a danger that doesn't exist. According to Building Biologists, the way to get rid of this fantasy is to engage their services to eliminate man-made electric fields first. As Mr. Miller says, so that "man-made voltage is not there or there to a very low degree." Then, he says, "you can add an Earthing mat and get all the benefits from bringing those beneficial negative ions in the Earthing process up the wire without having the deleterious effects of having the man-made voltage go through your body to the Earth the other way. That's how we recommend using the Earthing pad. But not, if you don't learn which breakers to shut off, and that's really done with the test the Building Biologists can perform..."

Shutting off the breakers before grounding yourself? That sounds extreme to us, and certainly not necessary for the vast majority of people, with the exception perhaps of electro-hypersensitive individuals. No deleterious effects have been documented in our multiple studies, conducted in many different locations with typical levels of man-made electric fields.

Grounding makes you a target for electric fields! Seriously?

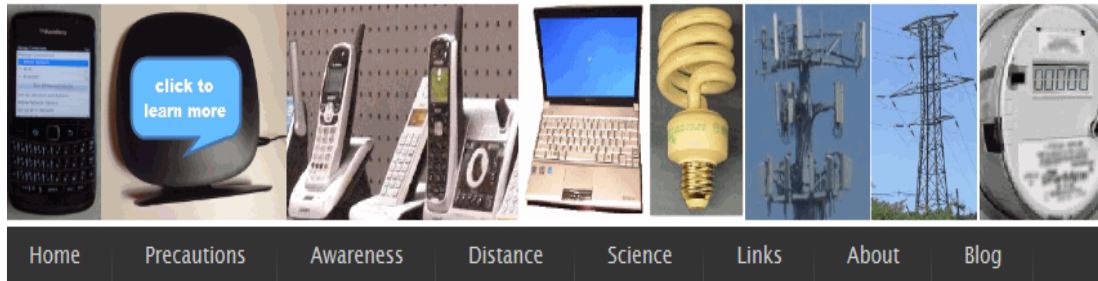
Here is more misguided thinking... from an article on a website called [EMFWISE](http://www.emfwise.com) that emphasizes "Earthing and its potential dangers." You again get the impression that electricity is

floating in the air and when you ground yourself, the electricity in the air goes through you and down to the Earth, zapping you. This is fiction presented as fact...

EMFWISE

Safety Advice for ElectroMagnetic Fields (PDF)

Language: English | [Chinese](#)



Should I Ground Myself and What's Wrong with Earthing Mats and Pads?

See also: [Electric Fields and Body Voltage](#) | [Precautions](#)

Is it good to earth oneself? In the author's opinion, earthing is not recommended in environments **with a lot of unshielded, ungrounded electricity**, but it can be helpful in the outdoors away from electricity. The following discussion will go into more about earthing and its potential dangers.

To Ground or Not to Ground -- That is the Question

Whereas popular earthing books may advise you to take off your rubber sneakers so that you can ground yourself, popular DIY guides to wiring actually advise the opposite. Why? Because when working with electricity, wearing rubber sneakers provides insulation against potential shock. From a safety standpoint, you want to avoid becoming part of the circuit when you are handling a live wire. By grounding yourself, you may become a target of electrical fields that are looking for the path of least resistance back to the ground (through you), and run the risk of a shock.

Again, the opposite is true. When grounded, you are protected, you become like a Faraday cage. You cannot become a target of electric fields and you do not run the risk of a shock.

Below is their bizarre conclusion....that you become a transit for the grounding path, so to avoid that you should unplug your appliances and turn off circuit breakers, and that may avert a dangerous current from flowing through you and doing damage to your body.

Conclusion

While there may be some benefits to grounding, it may be wise to avoid grounding oneself in high voltage environments where one may become a transit for the grounding path. A better idea may be to unplug or ground the electrical appliances that contribute to high voltages and turn off unnecessary circuit breakers. By grounding electronics with 2-pin plugs in our vicinity, we may reduce the damage to the biological systems that respond to EMF.

Some benefit, they say.

How about big, life-changing benefits? These individuals minimize the benefits and maximize the non-existent dangers.



More fiction: Earthing creates more problems than it solves

Here's more typical misinformation...the [website of one Jeromy Johnson](#)....who calls himself a "safe technology advocate".... He discourages grounding in your home... ...because it can cause more problems than it solves, he says.



NOVEMBER 22, 2014 / JEROMY / 140 COMMENTS

Is Grounding Good for You?



The short answer is: *It depends.*

Speaking with other EMF professionals and electrical engineers, I have heard similar stories of grounding creating more problems than it solves. This is still anecdotal, but many longtime EMF professionals will not recommend the products at all. That is why I

Earthing does not cause more problems than it solves. The statement is baseless.

It is important to note, however, that as part of an initial healing/normalization process, some people develop temporary signs of detoxification after they start grounding, typically a sign that the body is working more efficiently.

Individuals who are EHS (electro-hypersensitive) may experience some initial discomfort. Over time, they will usually benefit from grounding. They may need to start with minimum grounding time, maybe a few minutes, and increase slowly so their bodies can adjust more easily. In cases of

severe EHS, some may need to reduce or even eliminate EMFs in their environment as well. Building Biologists and EMF consultants make it sound as if grounding is making their clients sick. Electro-hypersensitive individuals are already sick, often chronically fatigued and sensitive to chemicals as well, likely consequences of stress and adrenal exhaustion. Exposure to EMFs can aggravate such people, and especially so, if they are not grounded. Grounding will improve their health, not make them sicker.

No proof but say it anyway: Could cause long-term harm

In general, I do not recommend that you use grounding products, unless your home is very clean from an EMF perspective. I realize that many people experience that they feel better upon using these products (better sleep, less inflammation). However, the placebo effect can be strong in these cases and what may be beneficial for a while (say 1-2 years) could cause harm over the long-term if it is continuously exposing you to artificial frequencies.

Adjacent is an example of baseless speculation from Mr. Johnson, downplaying positive Earthing experiences as possible placebo effects or temporary benefits.

The feedback from many people is that they enjoy better health as long as they continue grounding. We also have feedback from people who stopped grounding for whatever

reason and their previous symptoms slowly returned.

No proof: Ground yourself indoors and “Dirty Electricity” creates “havoc” within your 50 trillion cells

The adjacent statement from Mr. Johnson’s website is an example of the often-repeated phony warning that EMFs and high peak frequencies generated in the wires – referred to as “dirty electricity” or “electromagnetic interference” – will penetrate your grounded body and create havoc. Just the opposite, grounding restores, rejuvenates, and re-energizes the body’s trillions of cells.

This assertion shows blatant ignorance of the Faraday cage effect. There is no published evidence indicating that so-called “dirty electricity” penetrates a grounded body. However, there is published evidence indicating that it does not penetrate the body.

Dirty Electricity or EMI: When you plug your Earthing mat or bed sheet into the ground of an electrical socket, you are connecting to the ground of your home electrical wiring system. Even if this system is properly grounded, there is a high likelihood that it contains some of the different frequencies that are on your home wiring. These frequencies will then be going into your body through the grounding products whenever you lie down. This electromagnetic interference can create havoc within the 50 trillion cells of your body – all of which communicate using tiny electric signals. This can’t be a good thing over time. Some people can actually feel these frequencies when they sleep on a grounding sheet in a home with dirty electricity. They tend to experience restless legs or an inner agitation. Earthing proponents will sometimes call this a “detox reaction.”

Hypersensitive people are indeed sensitive to such spikes, but that has nothing to do with Earthing. Again, Earthing research shows that Earthing is beneficial in normal settings, not harmful.

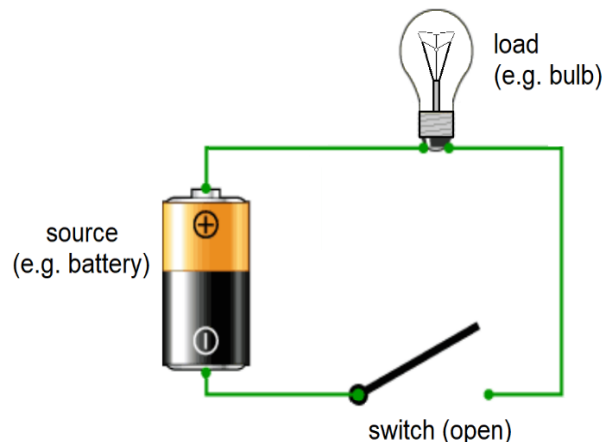
Lack of knowledge of electric circuits

Electric fields can be detected with a spectrum analyzer or body voltage meter (see the yellow meter at the bottom of my [meter page](#)). Many people will use the body voltage meter to show that when they are touching a grounding mat/sheet, the electric fields go down significantly. This could lead them to believe that they are protected. However, this is actually incorrect. The electrical field is still present. It's just that your body is now connected to the ground (it is now part of the circuit so the differential is zero), so it only appears that the field is diminishing. The Earthing equipment is not reducing the electric fields. In fact, by being connected to the ground, you are now part of the very pathway by which all nearby electromagnetic frequencies (including wireless frequencies) will pass through to the Earth and your home electrical system. This will actually add to the EMF pollution that your body is dealing with, rather than reducing it or protecting you.

From Mr. Johnson's website: Here is another example indicating lack of knowledge of the Faraday cage effect. Because of that effect, EMFs or dirty electricity do not penetrate the body. The purpose of the body voltage meter is not to show that the electric field goes down (which it doesn't of course) but to show that the alternating current (AC) voltage induced on the body by the electric field of the

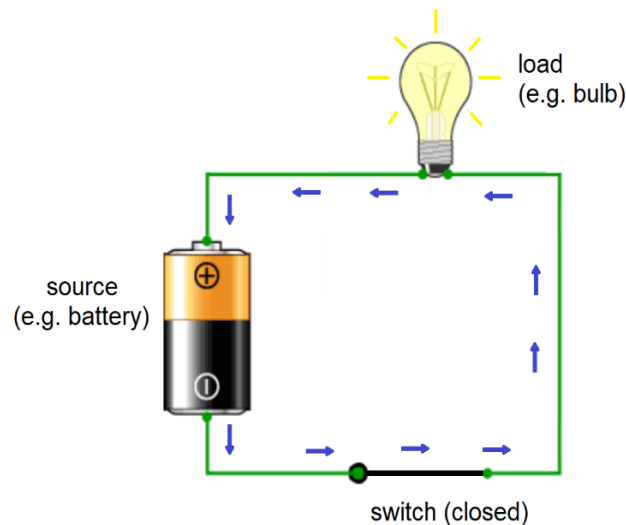
EMFs goes down significantly. To learn more about the use of a meter, refer to our paper [here](#).

Mr. Johnson's comments above, about the grounded body being part of the circuit, and the pathway to the ground, and adding more EMF pollution to your body, show major misunderstanding about the simple fundamentals of AC (alternating current) electric circuits. The basic problem is that many Building Biologists and EMF consultants do not appear to know the difference between a DC (direct current) circuit and an AC (alternating current) circuit. They think of AC circuits in DC circuit terms, with electrons flowing in wires like water flowing in a river. Below is a diagram of a simple DC circuit, comprised of a voltage source (the battery), a switch and a "load" such as a light bulb. The circuit is open and there is no current flow.



Now, when the circuit is closed (below), electrons flow from the negative terminal of the battery to the positive terminal as shown by the blue arrows. This current of electrons heats up the tungsten filament inside the bulb, causing it to emit light. And here, the analogy to water flowing in a river is valid.

Another point: DC circuits do not create EMFs because they have zero frequency.

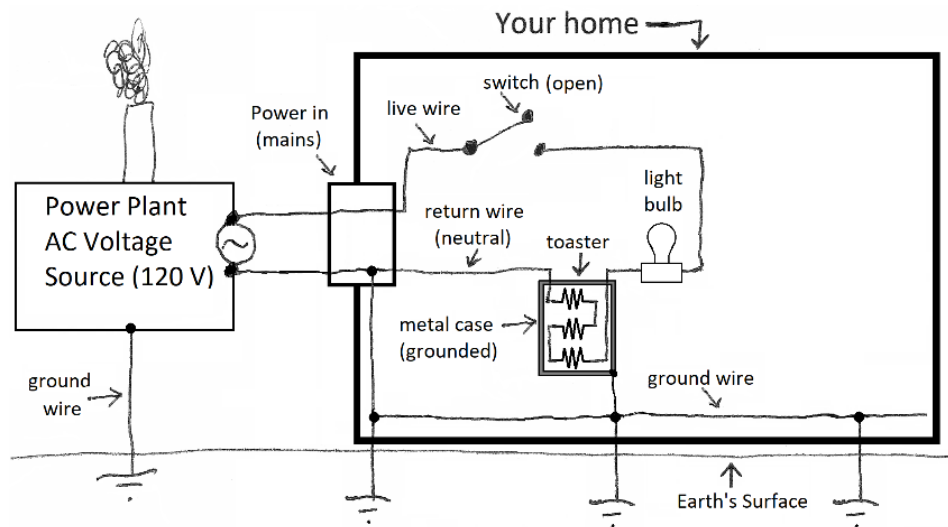


This is the kind of circuit that operates a flashlight.

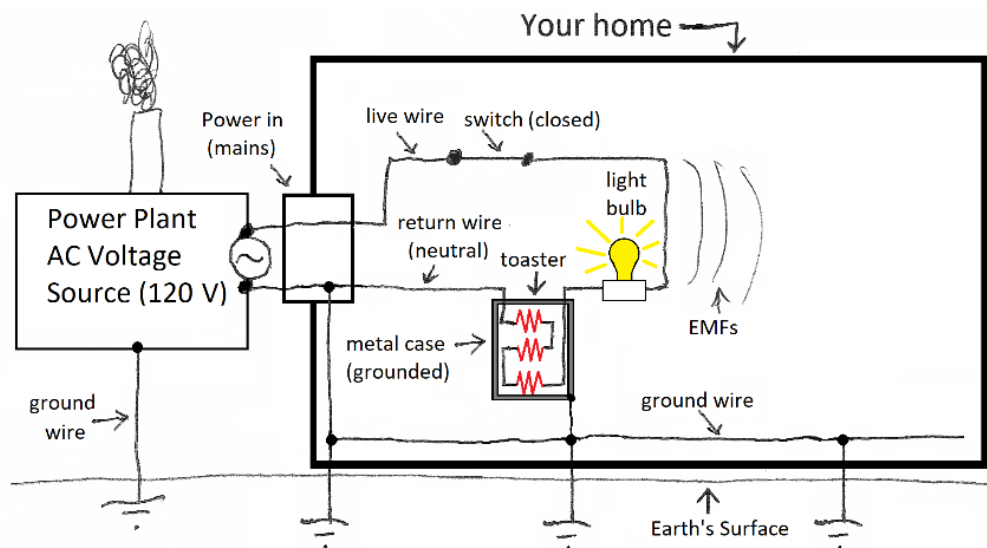
One important point to remember about DC circuits is that you can't be part of a DC circuit unless you are connected to two points of that circuit like the light bulb in the DC circuit above... and the switch must be closed for the current to flow.

The DC circuit is easy to understand because of the analogy with water flowing in a river. However, we are dealing with AC circuits when considering the electric power and EMFs in your home and that makes the picture more complex. Even if you are not directly touching the wires, it is possible for an extremely low level of AC current to exist in the grounding wire if you are close to electric wires or to powered appliances, such as would be the case in an office/desk setting.

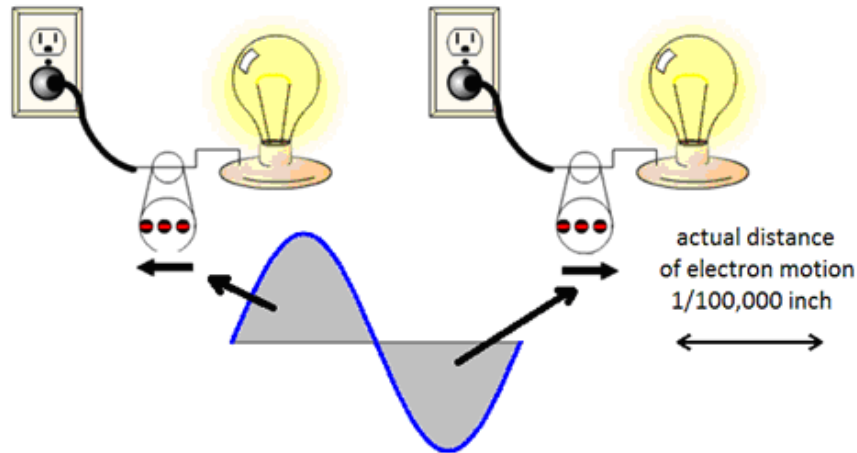
To better understand, let's consider the AC circuit in your home, as shown below in this simplified diagram. The power plant generates AC voltage transmitted to consumers via wires. The entry point for the electricity at your home is a panel called the "mains supply." The switch is open here so the electric energy of the live wire is interrupted and is not supplying electric power to your appliances (represented by the toaster and the light bulb). Little or no EMFs are emitted from the wires. You can think of the switch as the breakers controlling all electric power coming into your home. They are usually located at the mains panel.



When the switch is closed (that is, the breakers are on), electric energy is provided to your appliances enabling them to function (the light bulb lights up and the toaster's internal wires heat up). Your home's wires now emit high levels of EMFs.

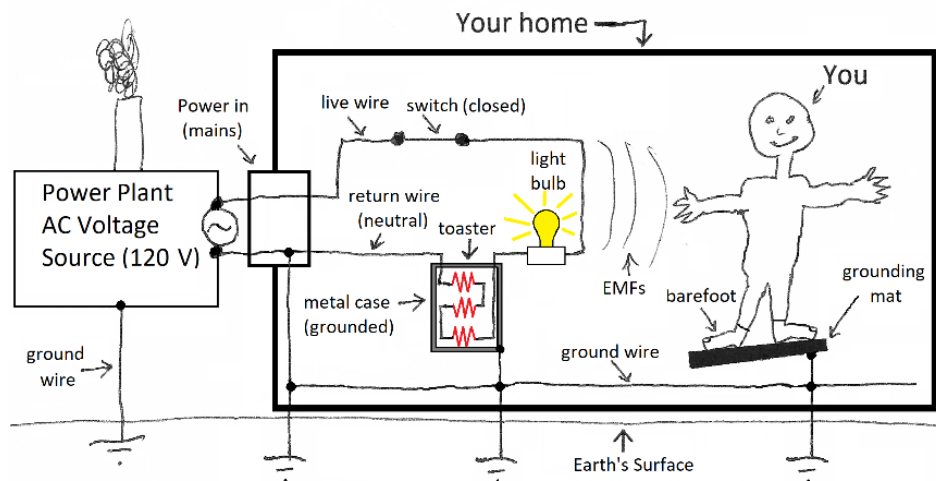


And here is the basis of major misunderstanding on the part of most Building Biologists and many EMF consultants. They think that electricity (electrons) leaves the power plant, goes to your home through the live wire and comes back to the power plant through the return (neutral) wire. They are applying the water-in-the-river-flowing concept. That's DC circuit thinking and it is false thinking because your home is electrically powered by an AC circuit, and in an AC circuit, electrons in the wires do not flow.



They wiggle back and forth, 50 or 60 times per second... that's a frequency of 50 or 60 Hertz...so fast that there is no real flow in one direction or another. Electrons move only about one hundred thousandth of an inch in each direction. It is this rapid back-and-forth movement of the electrons that keeps the lights on and makes toast out of bread. Keep this concept in mind as we now add you into the household picture.

You are grounding yourself, let's say, with a grounding mat connected to the Earth via the house ground wire. In this scenario, we assume a modern house with a proper grounding system connected to the earth at multiple points. As you can see here, you are exposed to the EMFs coming from the wires because the breakers are on and you have turned on the light bulb and the toaster (the breakers and switches are represented by the closed switch).



Here is another main point of misunderstanding...specifically of falsely thinking you now become dangerously part of your home electric circuit when you are grounded because grounding creates a path to the ground. The fact is that EMFs will jiggle the electrons in an ungrounded body, but when the body is grounded, the Earth's electric potential not only prevents such jiggling but enables the body to reflect EMFs. They literally bounce off your body, just as bullets off of Superman. This is the Faraday cage effect.



In the Brown study mentioned earlier, it was demonstrated that when you are grounded in your home close to powered appliances, as in an office desk setting, a very small, negligible AC current can be measured in the wire that grounds you. This current exists because you are exposed to the EMFs emitted by the appliances and the live wires. But they do not penetrate you. Again, this is the Faraday cage effect.

Are you part of the circuit, and in danger, as is claimed by Building Biologists and EMF consultants? You are somewhat part of an AC circuit, because of EMFs filling a gap between you and your electric wires and appliances. But...and here's the point they miss the situation is not at all the same as if you were touching a live wire, which could be dangerous, of course. The current is negligible, as was demonstrated in the Brown study.

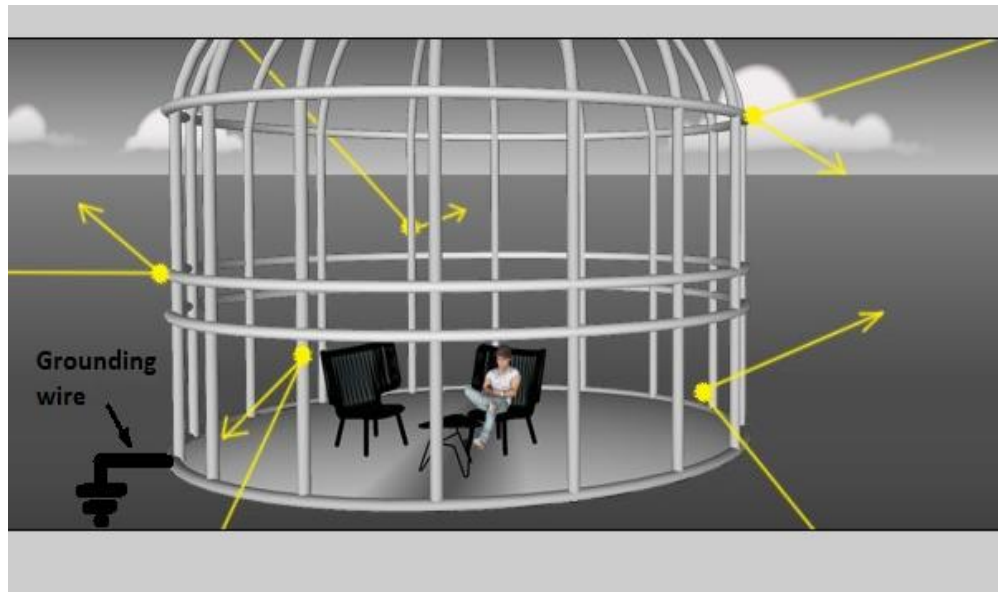
It is important to further emphasize here a common misunderstanding of a basic grounding fact.... that grounding products, such as mats and sheets...are ground planes... extensions of the Earth, when connected.



Not only do such ground planes reduce significantly AC voltage on your body but there can be no DC current flow on a ground plane when any such product is connected to a single ground point, such as a properly grounded outlet or a designated ground rod outside. When you ground yourself, your body immediately equalizes to the Earth electric potential. No “dirty electricity” can flow through the ground wire, the Earthing system, and then through the body. There is no flow because you are not part of a closed DC circuit, as previously explained. Grounding prevents charge buildup on your body, and more importantly, multiple studies indicate that grounding prevents and sheds inflammation, the cause of so much chronic disease and misery.

Grounding is not only not dangerous in the presence of EMFs, but it is highly protective. We are bioelectrical beings; most of our body functions are performed by delicate bioelectric circuits that can be affected by EMFs when you are not grounded, and indeed electro-hypersensitive individuals feel these effects. By grounding yourself, the sensitive bioelectric circuits inside your body are protected.

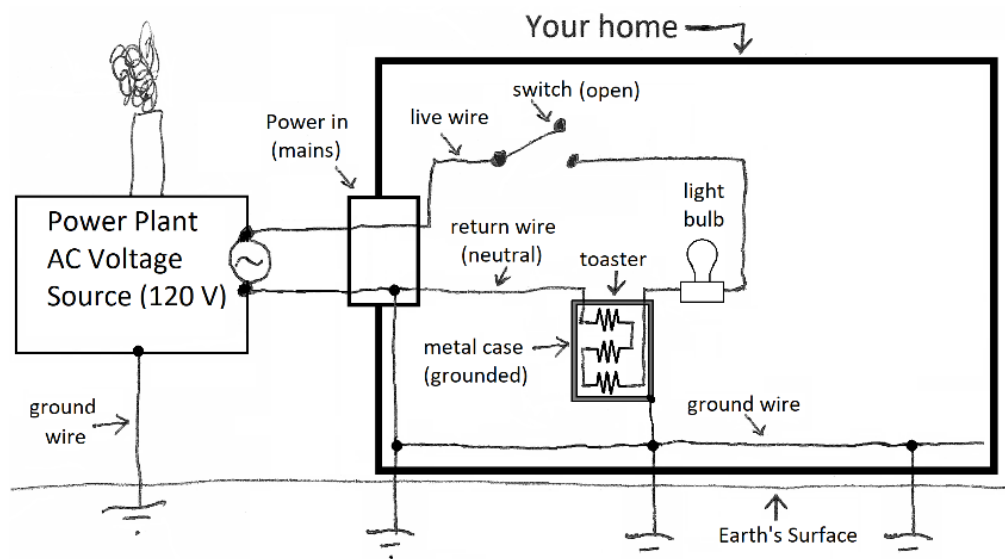
It is important to repeat that when grounded you become a Faraday cage. When you are grounded, your body does not deal with added EMF pollution. That's just plain wrong. It's misinformation. On the contrary, your body becomes a Faraday cage that REFLECTS EMFs just as a mirror reflects light as shown below, with the yellow lines representing EMFs being reflected. This reflection is the real cause of an increase in EMFs around your grounded body. They do not penetrate. When there is an increase in EMFs around a grounded person, electric field measurements around the person will show that increase. This does not imply any current increase flowing through the grounded body. It implies that EMFs are reflected, as previously mentioned.



Another point of misunderstanding is shown in a video clip (You Tube channel “Total EMF Solutions”) that suggests common small voltage present on ground wires is unsafe. Here’s the two-minute video:

<https://www.youtube.com/watch?v=XedSoCAcR0>

The title of the video: “Are Earthing sheets and Products Safe.” The voltage measured is 1.3 volts, which is quite safe and normal. The video only spreads unnecessary fear. If you look back at our first diagram of the electrical wiring of a house, you can notice that the ground wire and the neutral are connected at the mains.



Utility companies do this to protect you in case of a short circuit somewhere along the wires providing power to your home. This arrangement results in a small residual voltage from the neutral generated on the ground wire of your home. This should not be confused with the miniscule current found on the grounding wire measured in the Brown study. The Institute of Electrical and Electronics Engineers (IEEE), the world's largest technical professional organization for the advancement of technology, and the agency that regulates electrical and electronic engineers, considers anything less than 10 volts as permissible and safe on the ground wire. Usually there is less than 2 volts. Have you ever held in your hands a 1.5 volt battery? Do you know of anyone who has been injured by such little voltage? Typically, only electro-hypersensitive individuals may feel this voltage. One solution for them: get grounded.

If you do ground yourself, be sure to connect the equipment to a clean ground outside, not the ground in an electrical socket. A clean ground is earth that has not been disturbed by humans and which does not have electrical return current running through it - a common issue in urban and suburban areas - so *caveat emptor*.

The adjacent quote is from Mr. Johnson's website again. And yes, it is good if you can connect grounding products to a ground rod placed in the soil outside. This is our preference. But many people live in apartments and cannot use a ground rod. Many do not want to fuss. Thus, many thousands of people just conveniently and safely plug into a properly grounded outlet without problem, even in cities. By all means, check the

outlet first for a good ground, using a simple outlet checker.

The warning that the urban and suburban ground is somehow infected with electrical current is hugely exaggerated, yet commonly repeated by Building Biologists and EMF consultants. Significant voltage in the ground is very limited to specific areas, such as immediately next to power stations and electric trains.

Disgraceful fear-mongering

I know one family in Austria that had their home measured for EMF pollution a few years ago. Their young son's bedroom had high electric fields and other frequencies in it and the EMF professional recommended a grounding mat for the boy to sleep on. However, as I mention above, the electric field and other frequencies were still there and were now going through the boy's body because he was part of the ground. It may be a coincidence, but 18 months after adding this grounding mat to his bed, the young boy was diagnosed with lymphoma. After an incredibly difficult treatment protocol, he is doing much better now and is on to a full recovery. The family no longer uses the grounding mat.

In the quote to the left from Mr. Johnson's website, he resorts to disgusting, unprofessional scare tactics, insinuating an association between grounding and a common form of cancer among children.

There is absolutely

no evidence that grounding has anything to do with lymphomas or any other disease. On the contrary, there is evidence that even the most fragile children – premature infants – can benefit from grounding.

Finally.... a recommendation from Mr. Johnson on his website:

the man-made frequencies. Many long-time EMF professionals around the world do not recommend grounding and I think there is good reason for this.

Whatever the reason, it is obviously not based on facts.

Conclusion

In this paper, we have brought attention to a number of statements that demonstrate ignorance of electromagnetic fields, electric circuits, grounding, grounding research, and the Faraday cage effect.

The individuals who make these statements are spreading misinformation.

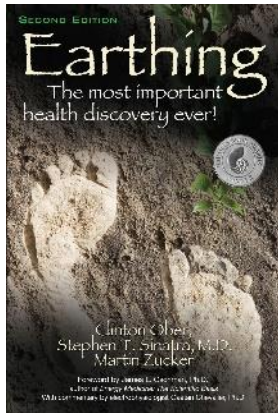
They repeat each other's misinformation.

They present fictional danger as fact.

They use disgraceful scare tactics.

Is this done to exploit the growing popularity of Earthing in order to enhance their professional status and increase business?

These distortions discredit the work of Building Biologists and EMF consultants.



Unfortunately, their misinformation has the potential to discourage people from Earthing and becoming healthier. Earthing is an historic discovery about the Earth's natural health and healing properties, and deserves an honest assessment, not misinformation and fear-mongering.

To learn the real facts and background about Earthing, read the [Earthing book](#) and/or visit www.earthinginstitute.net