

How EMFs Can Affect Your Health

Siri and Alexa Probably Shouldn't be Your BFFs

BY RICK BAYLESS

Whether you're a green builder or working with one, you are probably already familiar with the structural elements of building green. The holistic approach to energy and water use, material selection and the building's effects on its site are integral to the green building movement — but so is focusing on indoor environmental quality.

As our homes become more

senses, but, like sound, radiate and pulse as waves within our atmosphere, and they are everywhere. Now that everything has gone electric and wireless, there is no let-up from the "pulsing" EMF our bodies are exposed to at home and work, at school and in community spaces.

Electromagnetic sensitivity is being linked to a wide range of health problems from allergies to autoimmune disease, cancers,

precautionary measures, especially if you are in the building stage, rather than having to fix things later? Let's take a look at some things to consider to make your green home even healthier.

What are some sources of EMFs?

We've had nature's EMFs all along: Earth's magnetic field, air ionization, lightning, radon and solar radiation.

- Beds with metal frames or springs
- X-rays
- Microwaves and appliances
- Wireless Internet modems
- Television and computer screens
- Cellular and cordless phones
- Radio Communication Transmitters
- Radar
- Machines and Variable speed motors
- Noise from auto or air traffic

**Discuss with your builder*

Collaborating with your builder

Take a look again at the list. The first five are topics to discuss in the design-build process. Here are some questions to consider with your builder, along with some options for reducing your EMF exposure.

Electrical wiring system. Is it reasonable to use metal-clad wiring? If it's too expensive, install a "kill switch" for bedrooms so you can turn off bedroom circuits at night. Can the electrical panel be positioned away from bedrooms, preferably on the exterior garage wall? Can wiring run along the floor instead of through the middle of the wall?

Underground cable, piping, and plumbing. Will everything be appropriately grounded and connected so that parallel neutral pathways — which cause high magnetic fields — are avoided?

Radon and natural radiation from the earth. Will the home be tested for radon and, if the levels are elevated, will a mitigation system need to be installed?

Photovoltaic systems. Will there be solar panels, and where will the inverter be? As these systems convert DC electricity into AC electricity at the inverter, they can create a high magnetic field and electromagnetic interference (EMI). Place the inverter at least 5-10 feet away from places people will spend significant time. EMI can be mitigated if it is elevated.

Lighting fixtures, dimmers and 2-3 way switches. To minimize exposure to the EMF they emit, see



RF Meter.

RICK BAYLESS PHOTOS

sophisticated and connected, so do issues surrounding new possible health-related concerns and how we should deal with them.

Electromagnetic sensitivity is one such concern becoming mainstream. Our building materials have always evolved as we discover health hazards, such as asbestos and lead paint in previous decades. And today, for example, we're seeing increased concerns over gas stoves. Electromagnetic Frequencies (EMF), also referred to as Electromagnetic Radiation (EMR), is another increasing 21st century home health problem.

To simplify the discussion, we are going to refer to the issue as Electromagnetic frequencies (EMFs). EMFs are invisible to our

chronic fatigue syndrome (CFS) and neurological disorders such as Alzheimer's. It can even affect quality of sleep, cellular health and the body's electro-chemical communications.

This topic is not without controversy. While everybody — from building biologists to scientists to tech companies — is talking these days about electromagnetic radiation frequency, not all agree on its impact. However, the World Health Organization and other experts have encouraged a measure called The Precautionary Principle. It's the idea that there's enough known or perceived risk to indicate concern and encourage preventative action. So, why not consider the possibility and take

However, today's man-made technology brings new sources of EMFs that now inundate our bodies with a wide range of AC/DC electric and magnetic fields, radio-frequency radiation, radioactivity, geological disturbances, sounds and vibrations. New shielding and avoidance behaviors must be learned. Here is a list of some of the most common sources:

- Electrical wiring and panels*
- Underground cable, piping and plumbing*
- Radon gas and natural radiation from the earth*
- Photovoltaic (solar panel) systems*
- Lighting fixtures, dimmers and 2-3 way switches*
- Wireless devices



Disconnected cable wires can become a parallel neural pathway, causing high magnetic fields.

whether you can install fewer lights on each circuit, or even individual lights on each circuit, eliminating the need for dimmers or two-way switches. Also, ditch fluorescents, which can emit high magnetic fields.

Consider bringing in a certified EMF specialist who can work with

you and your builder in the design-build process. It's a growing field and becoming mainstream.

Here's what you can do yourself

Even in this age of overwhelming, overpowered, in-your-face technology, there are still steps

you can take to reduce your over-exposure to EMF.

Reduce your EMF exposure from your cell phone. When you decide that it's YOUR time, turn your cell phone to airplane mode, Bluetooth off, location off. When you're available again, use the cell phone in speaker mode rather than holding the phone up against your head.

Put the phone across the room rather than leaving it on the night-stand. Putting 6 feet between you and the EMF offender makes all the difference, especially at night when we need to rest, recover and repair. Placing cellphones in another room or turned off at night would be even better. Get a battery powered alarm clock and lamp. On top of all the incoming messages, the EMF output from these communication technologies in your sleeping place adversely affects the quality of your sleep too.

Reduce EMF exposure from home-based WiFi. Kick your router out of your bedroom, or power the WiFi down at night and reboot it the next day. You can even plug it into a circuit timer so you don't have to think about it.

Schedule an EMF Screening

Exam. You can get a measurement of electrical fields, magnetic fields, and RF inside and outside the home.

Those of us in the field of healthy home examination — who analyze and inspect crawl spaces, water drainage, erosion, HVAC, indoor air quality and other issues that impact a home environment — are adding EMF to the list of concerns. The industry has evolved since its early beginnings and we continue to discover better solutions to 21st century issues. Through collaboration and continuing education, all of us can benefit from building a more sustainable world.

Rick Bayless is a nationally award-winning Environmental Home Healthiness Expert, Board Certified Indoor Environmental Consultant, Certified Healthy Homes Specialist, and schooled in Building Biology. Regarding house and occupant wellness issues, including Sick House Syndrome, Rick and his team diagnose the trouble, define effective solutions, and guide folks through to resolution.

"When it's your health that matters most." Connect with Rick at www.ahealthierhomenc.com.



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