

## Electrical Hypersensitivity: Symptoms, Sources, and Survival Strategies

Electrical hypersensitivity (EHS) has been known since the mid-1800's, and was originally called "neurasthenia" by Dr. George Beard in 1868, when it was common among telegraph, and later, telephone operators. Many physicians began calling it a psychological anxiety disorder when the electric power "grid" became more commonplace. Symptoms include chronic fatigue, impaired sleep, headaches, dizziness, nausea, memory loss, depression, difficulty concentrating, irritability, respiratory problems, flu symptoms, asthma, weakness, pressure or pain in the chest, high blood pressure, higher blood glucose levels, slowed pulse, eye pressure, swollen throat, dry lips or mouth, dehydration, sweating, fever, shortness of breath, muscle spasms, tremors, foot or leg pain, pelvic pain, joint pain, pains that move around, nosebleeds, internal bleeding, hair loss, digestive problems, skin rash, ringing in the ears, impaired sense of smell, and tooth or gum pain.

Electrical hypersensitivity is caused by **electromagnetic fields** (EMFs). These fields are formed whenever electricity is supplied to your home. **Magnetic fields** form around wires that carry electrical current to *any device that's running*. The more power used, the bigger the field. The biggest fields form around motors, heating elements, old or faulty house wiring, and metal water or gas supply pipes connecting you to neighboring homes. **Electric fields** are present in *any wires or devices hooked up* to the power supply, *whether they're on or not*. The higher the voltage in the wires, the bigger the field.

The severity of EHS symptoms depends on your *distance* from the fields, the *duration* of time you spend near them, and the *strength* of the fields. *Avoidance* is the number-one strategy for reducing EHS symptoms. Shutting off the AC breakers powering your bedroom for a few days is one simple test for EHS. And doubling the distance between yourself and these fields cuts your exposure to one-half (electric field) or one-quarter normal strength (magnetic field). But some types of EMF are harder to get away from. And this is determined by their **frequency**. All grid-supplied electricity is called "AC", or alternating current. It switches on and off, and reverses direction 120 times per second. It happens too fast for you to notice, but you may have heard the "hum" of it on an old AM radio. Frequency is the number of cycles of this forward-reverse power occurring per second.

The AC power generated by the electric company starts its journey to your home at a frequency of 60 cycles per second, or "Hertz" (60 Hz). *This frequency alone causes some EHS symptoms*. Unfortunately, many electrical devices inject added "pollutants" to this baseline frequency. Motors, switches, relays, computer equipment, light dimmers, and fluorescent lights all inject a noisy mix of higher frequencies into your home's wiring. These high frequencies are similar to the ones broadcast by radio stations. They're harder to get away from both because they travel from house to house along the powerlines, and because *they're broadcast from all of the wiring in and around the houses*. Add in the cordless phones, cellular phones, microwave ovens, and wireless computer networks found in many homes and we have a grand uncontrollable experiment putting nearly everyone at risk!

Having your home checked for large EMFs by an expert is the best option for those who are experiencing severe EHS symptoms, since many excessive low-frequency fields can be eliminated through a little rewiring and replumbing. But some of the problems can be eliminated by homeowners themselves, without hiring outside help. Much of your low-frequency field exposure can be reduced by simply **moving your bed further away from any walls with electrical outlets and moving electrical cords and devices away from the bed**. Switching to corded phones, wired networks and gas stoves will greatly help reduce *intentional* high-frequency exposure. And a Graham-Stetzer Microsurge Meter and G-S Filters (developed by Dr. Martin Graham, professor emeritus of electrical engineering at U.C. Berkeley and David Stetzer of Stetzer Electric in Blair, Wisconsin) can easily be used by any homeowner to measure and monitor *unintentional* high-frequency noise and remove it from their home wiring. See the reverse side for details on their installation and use.

## Using the Graham-Stetzer Microsurge Meter and G-S (“Stetzerizer”) Filters

The G-S Microsurge meter measures high-frequency electromagnetic energy that rides on the normal low-frequency AC power (60 HZ) supplied by your electric power utility. Some of it enters your home through the incoming powerlines, and some is produced by the appliances in your home. It radiates throughout your house from any unshielded electrical wiring (“Romex”-type building wire, extension cords, or line cords), much like a radio broadcast.

To see the extent of the problem in your home, simply plug the meter’s cord into any 120-volt electrical outlet and wait about 10 seconds for a stable reading. The unit of measurement is called a GS unit. It is measuring the peak intensity and frequency of the electricity in your wiring at that point. Higher readings indicate higher frequencies, higher peak intensities, or both. The ideal level is below 20, but you’ll probably find levels ranging from 100 to 800, depending on where you live and what appliances you or your neighbors are currently running.

Stetzerizer filters are designed to selectively pass high-frequency energy back to the electrical “breaker box” *without increasing your metered electrical usage*. For best results, you will need to use enough filters to reduce the GS level to acceptable levels, and use them in receptacles connected to (or near) appliances that actually generate high-frequency noise. These include computer equipment, audio equipment, TV’s, blenders, microwave ovens, hair dryers, shavers, light dimmers, fluorescent lights, washing machines, and battery chargers.

You can plug the filters into any 120-volt outlet that shows a high meter reading. But we recommend first testing all of your outlets, taking note of the initial readings. Then turn on any appliances plugged into the outlets and recheck the readings. Start by plugging in a filter at the outlet with the highest reading. The filter will spark when first plugged in (this is normal), so it’s best to push it in firmly and quickly. Use a multi-socket adapter (a “cube-tap”) to add additional room to outlets that are already full. This will not overload the outlet. Now check your new reading at that outlet using your meter, and take note of the reading. This outlet, and the outlet with the next highest reading, will now be lower. Keep inserting filters in the original high-to-low order until the GS level is acceptable. Then go back through the house, turning on appliances running on (or near) each outlet. Add another filter if GS levels rise, or remove a filter and see if the level remains constant. This takes some patience and a bit of “fiddling”, but the ideal is to use as few filters as possible, saving you money for the time spent fine-tuning the filtration. Since some high-frequency noise comes in from neighboring homes and businesses, rechecking the readings periodically will ensure a consistently low-stress environment.

We may not be able to control the power use of our neighbors or the power quality of the “grid”, but we *can* take control of the high-frequency electrical noise in our own homes. And, if symptoms of electrical hypersensitivity (EHS) continue, there are a number of options for reducing other types of electromagnetic field exposure. For further details, if you have Internet access, read our webpage at [www.GeoPathfinder.com/9801](http://www.GeoPathfinder.com/9801). The page is entitled, “Bio-Alien Energies”, and it contains more basic electrical theory and terms, along with more abatement strategies and links to related sites.

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