

## **EMF Radiation: What is it and How to Avoid It**

This is a simple introductory article, mostly offering tips for staying healthy through reducing EMF exposure at work, at home and while travelling.

### **What is EMF?**

EMF stands for Electromagnetic Frequencies, a type of invisible environmental “pollution” caused by electronic equipment of various kinds, high power wires, computers, cell phones, microwave ovens, etc. Because our bodies depend on very subtle and precise electromagnetic frequencies or currents for us to live and be healthy, EMF pollution can disrupt normal body functions and create the conditions for disease to develop.

Using modern technologies sparingly and effectively is therefore recommended for those who want to remain healthy throughout their lives.

### **EMF Measurement**

Every piece of electronic equipment generates some EMF. However the intensity and distribution of these “fields” differs widely depending on the electrical device, appliance or electrical carrier. EMF fields can be measured by a gaussmeter in units called milligauss or mG. Less than 3 mG is generally considered “safe” for long-term exposure, although normal readings are nearly zero.

Some appliances and high power wires show readings over 100 mG – a good reason to stay away from them. Distance from an EMF source is indeed the best way of reducing overall EMF exposure. An EMF field diminishes exponentially with distance from a single point source.

### **At Work**

Generally wired appliances create less EMF than wireless technologies, since wireless technologies are designed to broadcast electromagnetic impulses widely. It is for this reason that some companies create WI-FI free zones in the facilities.

Computers are a major source of EMF radiation. Flat screen monitors generate far less EMF than traditional full monitor style computers. Laptops may be a problem if they are not properly grounded. Note that grounding is indicated by the use of a three pronged electrical plug. The third prong is the ground line.

Because laptops are used at a ‘personal’ distance, using external keyboards and mice may be helpful in increasing distance from the EMF generator -- the laptop keyboard/motherboard. USB grounding plugs are also available for ungrounded computers and laptops.

It is always important to “sit back” while working on a computer or laptop, increasing the distance between yourself and the computer. Again, distance is the best protection.

If your computer is remote from your monitor, again, it is important to place it away from your immediate work area.

It is also important not to crowd your desk with electronic gadgets and to turn off any that you do use when you are not using them. Even a simple digital LED clock, especially if not grounded, can generate an intense EMF field. The same applies to a portable light.

If you operate heavy equipment or machinery or work near it, it is important that it be properly grounded and run on three phase circuitry if possible. Three phases allow some of the EMF to “cancel itself out”. A large number of pieces of equipment at NOW have been upgraded to meet this standard. Still, do not spend unnecessary time around heavy equipment or machinery.

## **At Home**

The first and most important guideline is not to live within two hundred yards of high power (tower) electrical wires or electrical generator substations. This health and safety standard is the law in many countries already. Unfortunately not yet in the U.S. where power lines, cell phone towers and more are even located near public schools, nursing homes and hospitals.

Second, make sure that your home’s electrical supply is properly grounded. Three phase wiring is generally preferable. Some homes are actually grounded through their metal (mainly copper) pipe water supply system, creating an enormous EMF field of significant intensity around the entire house. This field will extend from the incoming power line or cable to the water main for the home. It may also extend to neighboring homes if they are similarly grounded to the water supply. Purchase an inexpensive Tri-Field tm meter if you are in doubt and take a reading near your water meter. If the mG reading is far above 3 mG, then you likely have this serious problem and need professional electrical and plumbing help to remedy it.

Finally make sure that you spend most of your time at a distance from major appliances like electrical ranges and ovens while they are operating. Also electrical panels, toaster ovens, roasters and toasters, washers and dryers and dishwashers. Avoid using microwave ovens altogether as they generate very intense EMF fields and actually alter the molecular structure of your food and beverages.

Your bedroom deserves special attention since you spend so much time there and need a deep, peaceful rest every night. So do not sleep near power outlets, especially not near your head. And do not place electrical equipment, even digital clocks, on your nightstand or bedstead. Most especially, store and charge your cell phone well away from where you are sleeping.

As with your office computer, a flat screen TV generates far less EMF than a monitor style TV. However, it is still advisable not to sit too close to even a flat-screen TV and certainly not a large monitor style TV.

## **While Traveling**

Your cell phone is a major contributor to personal EMF exposure, and the intensity of its signal and specific frequency range can create not only subtle disruptions, but also more serious thermal effects. Because cell phones are used in intimate proximity to the head and brain, the biological effects of their signals are amplified beyond the effects a remote signal would create.

The lesson is not to throw away your cell phone but only to use it moderately and for important calls. For more friendly conversations, use a land line, which has virtually no EMF problems. Remote phones are an exception, however, since these can generate a considerable EMF field based on their wireless signaling technology.

Your car is another area to consider for EMF pollution. While I have not “proven” this through personal measurement, there is some controversy over whether hybrid battery technology creates significant EMF exposure to the driver and passengers of such cars. Another option for the ecologically minded is the new clean diesel technology, which results in much higher mileage without the dependence on large batteries propelling the car.

In planes, there is often considerable amounts of EMF, now including Wi-Fi. Some amateur EMF readings I have seen show that the right side (as you sit) of the plane has much less EMF than the left. This may be dependent on the specific plane model and its particular wiring configuration. Still I choose to sit on the right side myself.

Hotel rooms, as your rest haven away from home, require the same attention as your own bedroom. Disconnect WI-FI transmitters, if possible, at bedtime. And move the bedside clock as far away from your head as possible. Be sure to sleep with your head away from electrical outlets too.

## **Conclusion**

If all of this seems overly complicated and bothersome, welcome to the modern world! All of our conveniences come with a cost, and we need to be aware of these costs as we choose to benefit from the convenience.

In my mind, paying attention to these details is certainly worthwhile in terms of living a healthier, happier life in this modern world of ours.

## **Further Reading**

Classics:

Cross Currents: The Perils of Electropollution, The Promise of Electromedicine by Robert O. Becker.

The Body Electric: Electromagnetism And The Foundation Of Life, by Robert O. Becker.

Radiation and Human Health: Updated and Abridged by John W. Gofman.

Other:

There are literally dozens of titles now available through Amazon.com, etc. Browse for them under “EMF Radiation” in the book category.