

About Electromagnetic Fields – a backgrounder

What are Electromagnetic Fields? **EMF**

The transmission of electrical energy through wires, the broadcasting of radio signals and the phenomenon of visible light are examples of electromagnetic fields (EMF). EMF always consists of both an electrical field and a magnetic field. It occurs in a wide range of frequencies, spanning what is called the electromagnetic spectrum.

At the high end is cosmic radiation. At the low end is household electricity. The lower electromagnetic frequencies have been utilised by man to generate electricity and power all associated electrical products, including all electronic communication systems and electrical appliances. Electromagnetic radiation (EMR) is often called an electromagnetic field (EMF) when it falls within the lower frequencies. Both EMR and EMF are commonly used to mean the same thing.

Common Sources of EMF

Electricity is commonly used as power throughout the world because it is easily generated and transmitted to where it is needed. As electric current moves through wires and machines, it carries with it its inherent EMF field. Power grids of nations consist of electrical generation, transmission and distribution facilities. In cities, electric power distribution lines on utility poles or underground feed secondary transformers, which are then connected to the electric power meters for buildings and other sites.

As electricity is delivered to the user, it continues to carry EMF throughout the wiring systems of offices, homes, schools, factories and other structures. The appliances and electrical equipment then connected to these wiring systems carry or produce their own EMF as well.

In offices, sources of EMF include computers, cellphones, cordless phones, faxes, copy machines, fluorescent lights, printers, scanners, telephone (PBX) switching systems, electrical instruments, appliances, motors, machines and other electrical devices.

In homes, obvious sources of EMF include TVs, DVDs, stereo systems, games stations,

hairdryers, electric shavers, bedside clocks, electric blankets, waterbed heaters, portable heaters, air conditioners, fluorescent lights, and all appliances – ovens and microwaves, vacuum cleaners, irons, refrigerator, blenders, toasters, coffee makers, electric can openers, clothes & dish washers and dryers, as well as computers, phone answering machines, cordless phones and cell phones.

EMF is not only produced by electricity moving through wires or machines, it is also the nature of all broadcast transmissions such as television and satellite signals, as well as radio and microwave communication systems. In this category again are transmitted signals from cell phones and cordless phones.

Transportation methods such as automobiles, trucks, aeroplanes, electric and magnetic trains and subway systems are significant sources of EMF radiation too.

More than one source of EMF in proximity to another will produce overlapping fields in the same area. Any metropolitan home or office environment in the world will be saturated by a variety of interpenetrating EMF from a variety of sources. The nature of EMF is very complex and the numbers of EMF sources are continuing to grow.

What are the Health Effects?

Unfortunately, the entire effect of multiple electromagnetic fields on human physiology is not completely understood. However, it is well known that low-frequency magnetic fields can trigger major biochemical responses critical to the functioning of human cells, which operate by complex electrochemical processes. The consequences of living in our EMF-exposed world may not all be known for decades but research continues to show that there are adverse health effects of this man-generated EMF. Significant research also shows that more serious adverse health responses arise from long-term cumulative exposure to EMF radiation. A precautionary approach is vital.

We are the First Generation to Live in an EMF World

Paul Brodeur, author of "Currents of Death", a book about EMF and a series of famous articles on EMF for the magazine The New

Yorker, is just one who has raised questions about the key difference between natural DC magnetic fields of the earth and artificial man-made EMF which is mostly composed of alternating current (AC). Brodeur suggests that the AC magnetic fields appear to have profoundly negative effects on human cell behaviour. Human life has evolved over thousands of years in an environment devoid of AC magnetic fields. Man-made AC fields differ greatly from Earth's magnetic field, as the Earth's current is direct current (DC) and not alternating current (AC). Brodeur argues that, in terms of the biological consequences, this constant, unprecedented human exposure to AC fields is highly stressful.

The evidence is persuasive that man-made AC fields can interact with or stress our human cells and the natural bioenergy system of communication that all living organisms rely on, to a point where adverse reactions result. Some effects on living beings of exposure to EMF occur immediately, while even more adverse effects appear to arise slowly over a longer period of time. The immediate effects include reduced strength and greater effects from stress but depleted bioenergy also means a lowered immune system, which can lead to other health problems.

Examples of health problems emerging over the longer term are Leukaemia - 5 to 10 years, and Alzheimer's disease - 30 to 40 years for symptoms to develop. The full extent of health problems from EMF exposure is as yet uncertain, so what is being inflicted today is really not even knowable.

The EMF problem has been categorised as a new form of pollution as consequential as air and water pollution. It has also been likened to the finally-admitted hazards of asbestos and cigarette smoking. In terms of its cumulative health effects, it has been compared to the slow process of lead poisoning. The EMF problem will grow at a compounding rate with more and more exposure. Fortunately, public awareness of EMF is growing and advancing science has led to the development of some very effective protection products.

Recommended safety levels for EMF are based solely on tissue heating - ignoring subtle energy effects. The maximum exposure range is from 0.5 mG to 2.5 mG (milligauss) - with 1.0 mG as a preferred standard.

However adverse biological effects have been found at well under this so this actually leaves no margin for safety.

Strengthening you against EMF

Your body possesses a remarkable ability to adapt to rapidly changing environments but when your body is chronically bombarded by man-made EMF (electromagnetic fields), its innate intelligence and energy can become weakened. When your body's ability to cope is impaired, it's more difficult for your body to shield itself from negative influences. EMF, in effect, can knock your innate intelligence and energy "out of phase".

You know why the airline captain tells you to turn off your electronic devices during take off and landing? The EMF generated by your cell phone and laptop wreak havoc on the plane's navigational system. And they wreak havoc on your body's own subtle energy systems too.

Some scientists estimate that people can now be exposed daily to 100 million times the EMF radiation of their grandparents. Research shows that this EMF has a significant disruptive effect on the natural energy levels of your body. Your body's energy, as well as your cellular communication system, is altered by electromagnetic field radiation. This man-made radiation magnifies your body's "fight or flight" responses, compounding your adrenal loads from other stressors and significantly reducing your ability to effectively cope.

EMF disrupts your natural energy levels, triggering stress responses. Doctors acknowledge that stress can impair your body's natural ability to heal. EMF stress adds to your other daily stress and fatigue, compounding the effects and further taxing your system. Taking measures to reduce EMF stress from cell phones, computers, electrical appliances, vehicles, air travel, etc, utilising the now available EMF protection and bioenergy enhancing products, is clearly a wise precaution.

Two effective forms of protection against EMF radiation you can obtain are Biopro EMF Harmonisers to attach on your electronic device and the Biopro QLink to wear and enhance your own complex bioenergy system.