

Ask Jon Eakes

OVERVIEW: Electromagnetic radiation and your health: THE DEBATE

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Click here to scroll down past all the legal updates to see the Overview of the debate on Cell Phones, Wi-Fi and Smart Meters.

Update Dec. 2019: The US Supreme Court just rejected an appeal of a lower court decision maintaining the legality of the city of Berkely, California's ordinance passed in May of 2015 obliging all retail sellers of cell phones to provide the health warnings that the Federal Government requires the cell companies to provide to consumers -- but where the companies bury these warnings deep in the fine print that no-one reads -- must be printed prominently on the package and displayed prominently in the stores -- stating openly the precautions to be taken to protect one's health from the cell phone radiation.

For most anti-radiation groups this is seen as a very timid but important by-law. The Supreme Court refusal to even hear arguments against Berkely's by-law is seen as a green light for all municipalities in North America to force this issue to the surface. Acts like this are seen as particularly important as the 5G radiation roll-out is being protected by industry sponsored legislation around the world. In a major victory for consumer rights and public health, the U.S. Supreme Court today rejected a free speech challenge filed by the CTIA--The Wireless Association against the City of Berkeley's "cell phone right to know law" which the Berkeley City Council unanimously adopted in 2015. Thus, the ruling by the Ninth Circuit Court of Appeals that the law is constitutional enables the city to continue to enforce the law which requires cell phone retailers to notify prospective customers about cell phone manufacturers' safety guidelines to ensure consumer safety. In refusing to review the case, the Supreme Court ignored the pleas of six pro-business organizations that submitted amicus briefs in support of the CTIA's position.

For details about the law and a chronology of the court case see bit.ly/berkeleycellordinance.

Update May 2016: for a radical change in this debate caused by US Government research ----- follow this link.

GETTING MOBILE DEVICES TO WORK WITH HARD WIRED LAN CONNECTIONS

Apple mobile devices are not built to be used without Wi-Fi or the Cell phone connection. In fact, often if you try to make a hard wired connection with an Apple device it will tell you that the device does not support this connection -- that is simply not true. The Environmental Health Trust.org website has great instructions on how to get iPads, iPods and iPhones to work with a wired LAN connection while in non-radiation Airplane mode -- <http://ehtrust.org/hardwire-ipad-ipod-iphone/> Android devices can be hardwired very simply with an inexpensive USB to LAN adaptor.

The Overview: Cell Phones -- Wi-Fi -- Smart Meters

All electrically driven gadgets that so dominate our way of life today give off what we call ElectroMagnetic Radiation or EMR. This radiation takes several forms. All standard electric devices from household appliances to the hydro power lines give off some degree of ELF or Electromagnetic Fields and sometimes we talk separately about Electrical Fields and Magnetic Fields. Cordless phones, baby surveillance gadgets, all cordless computer connections, Wi-Fi and especially cell phones and cell phone towers give off RF or Radio Frequency radiation. And there are times when

much of this is mixed together such as with RF static on an AC power line caused by unstable feedback from such devices as computers and light dimmers (the reason for line filters in quality sound systems).

All of this is invisible, you can't smell it and very few people even have any direct sensation of "feeling" it. We have so learned to love all of these gadgets, from the clothes washer, to the micro wave oven to the cell phone and now wireless computer connections that we really don't want to even think that there is a down side to any of this fantastic stuff -- and industry certainly doesn't want to think of the possibility of restricting cell phones or wireless computer networks. Yet legal restrictions are happening all over the globe, particularly on cell phones and wi-fi and even on Smart Meters. We do know, and everyone agrees, that extreme exposure to such radiation can be harmful, as was discovered with early experience with hydro power line workers and un-shielded micro-wave ovens. It was determined by scientists and health officials at that time that if electromagnetic radiation was strong enough to heat up skin tissue that it was harmful to human health -- as it was to the chicken cooking in the micro-wave oven. So a wide range of safety limits and containment mechanisms for all of this radiation was established, based on heating human tissues. And those are the safety limits that are in place today.

But the variety of radiation and the strengths of the radiation and the length of exposure to such radiation have radically changed over the last few years, as well as the age group of people exposed. There is hardly a place on the planet today that is not subject to some levels of EMR exposure. Today it is quite common for young people still in their developmental period of life to spend hours on end with cell phones glued right next to their brain cells, and powerful transmission towers are conveniently planted right on the roofs of high rise apartments or in residential areas where people sleep every night. Many scientific and health specialists worry about the consequences of all of this while the official legislative controls continue to apply a very minimum control based on proven levels of heating skin tissue.

The debate is shaping up as follows:

One side sees no definitive research showing absolute harm to humans; hence continue the use of new electric and electronic technologies until such proof appears -- while the other side says that there is enough information to warrant that the burden of proof be reversed and slow down the implementation of all this radiation until it is proven to be harmless. This position is vexing to the industry scientific community because it is impossible to "prove" that something is harmless -- you can only prove specific cases of harm. Both sides use many of the same studies but they are arriving at different conclusions, and you thought this was going to be simple!

The key "medical" debate behind all of this is that one side is measuring the only clearly known medical "harm", the heating of tissue by the radiation -- while the other side is arguing that the body is a bio-electrical-electromagnetic organism (as is clearly demonstrated with Acupuncture, a medical reality denied for years and now generally accepted by western medicine) and this radiation is interfering with the body's own communication and control system. I have gone head to head on public radio with respected scientific types on this question of interesting and often disturbing reactions by the human body system to electromagnetic radiation. They have argued that even acupuncture has been proven to be a hoax (despite the fact that it has been long accepted and licensed as a medical act by the College of Doctors of Quebec and paid for as such by medical insurance programs). May I mention another interesting breach in the scientific refusal to see the human body's interaction with electromagnetic fields? The vast majority of domestic water wells in Quebec and in most of the world are drilled according to instructions from "dowsers" working for engineering and architectural firms. Dowsers are very sensitive people who are able to detect minute arm muscle reactions to variations in the earth's magnetic fields caused by the presence of veins of water deep in the ground. Science can't prove this yet, but scientists continue to have their own country home wells dug according to the instructions of field proven dowsers.

The cautionary side argues that much of this modern radiation is in fact "bio-active" at exposure levels thousands of times lower than is currently permitted. The problem for medical scientists on both sides

is that with the exception of cooking that chicken in the micro-wave oven, it takes a very long time for the human body to react to ELF and RF radiation so definitive studies may not be concluded until dozens of years of observations have been made while new technologies arrive every year.

4 years after I first wrote this entry, scientists on both sides of the debate have reached out to the public in an effort to strengthen their side of the debate and "prove" that the other side is misinforming the public. Follow this link for two very interesting letters -- The first demonstrating point by point why wireless devices are not a health hazard -- and the rebuttal demonstrating point by point why they are a health hazard.

For Technology

The best documentation of the full steam ahead industry position talking about jobs, competition and prosperity and arguing that they should not even slow down until someone "proves scientifically" that they are causing harm is probably the Quebec web site EMF and Health.

For Precaution

The most thorough summary of the cautionary approach was released in August of 2007 and updated in 2012 by the BioInitiative Working Group, an international working group of scientists, researchers and public health policy professionals who reviewed the existing literature. The position of the BioInitiative Group is stated as: "It appears it is the INFORMATION conveyed by electromagnetic radiation (rather than heat) that causes biological changes - some of these biological changes may lead to loss of wellbeing, disease and even death."

See also: The EMF debate changes.

Who are the "real" scientists?

The Industry side argues that the members of the BioInitiative group are a collection of self-serving sudo-scientists using bad methodology to arrive at non-justified conclusions. The BioInitiative group retorts that most of the scientists on the other side are on industry payrolls designing research to support the industry's desired outcomes.

Let me add a most interesting comment from one of those seeking caution in all of this, the European Environment Agency's Director Jacqueline McGlade wrote in 2009: "We have noted from previous health hazard histories such as that of lead in petrol, and methyl mercury, that 'early warning' scientists frequently suffer from discrimination, from loss of research funds, and from unduly personal attacks on their scientific integrity. It would be surprising if this is not already a feature of the present EMF controversy... »

This is truly a deaf debate as the Industry side is not even seriously looking at any effect other than heating skin tissue, and the BioInitiative groups says that the immune system of many people is being shut down by static in the body's bio-electrical communications system, a system which the industry group does not appear to believe exists, or if it does exist they don't believe it can be affected by outside magnetic fields.

Follow this link for some of my own Personal Thoughts as to why I am sceptical about the industries "scientific" position on EMF and Health.

What are the recommendations from each side?

Industry is saying: Prove there is a problem and we will adjust -- as they did with micro-wave oven enclosures and radiation barriers on TV and computer screens.

The BioInitiative Working Group is saying: "These proposals (proposals from the BioInitiative Working Group report) reflect the evidence that a positive assertion of safety with respect to chronic exposure to low-intensity levels of ELF and RF cannot be made. As with many other standards for environmental exposures, these proposed limits may not be totally protective, but more stringent standards are not realistic at the present time. Even a small increased risk for cancer and neurodegenerative diseases translates into an enormous public health consequence. Regulatory action for ELF and preventative actions for RF are warranted at this time to reduce exposures and inform the public of the potential for increased risk; at what levels of chronic exposure these risks may be present; and what measures may be taken to reduce risks."

Someone believes this is a valid position. The newspaper The Independent from London in

September of 2007 reported: "The (German) Environment Ministry recommended that people should keep their exposure to radiation from Wi-Fi "as low as possible" by choosing "conventional wired connections". It added that it is "actively informing people about possibilities for reducing personal exposure". The paper goes on to report that this German position is helping Sir William Stewart, Britain's official health protection watchdog, in his effort to review the use of Wi-Fi in schools. The article quotes Florian Emrich of the German Federal Office for Radiation Protection as justifying the warning against the use of Wi-Fi "because people receive exposures from many sources and because it is a new technology and all the research into its health effects has not yet been carried out".

Solution Resources

After talking about this topic on the radio because of the Hydro Smart Meter controversy, I have a lot of demands for links to resources; so for those of you who feel you are already Electro-Hypersensitive or would simply like to apply the Precautionary Principle as much as you can on those parts of this problem that you can possibly control, here is just a little bit of help.

A caution about isolated solutions -- the plea for a systems approach

First a caution about solutions -- totally aside from those who claim seriously that we don't need any solutions.

Just searching the web will give you a lot of possibilities but it is quite true that many are just selling gadgets while many others have legitimate products. Careful study reveals that often, without studying your whole electrical environment, any given product may inadvertently do more harm than good.

Three examples:

- there exist grounded bed covers designed to shield you during your sleep -- but if your ground wire or even the ground itself has stray currents flowing, it could disturb your sleep more than calm it;
- there are capacitive power line filters designed to clean up "dirty" electricity -- but if there are wiring errors in your house, they could create more dirty electricity than they clean up (ref: highly technical but... <http://www.emfrelief.com/capacitive-filters.html>).
- you could "shield" a radiation source but by doing so increase its power in a different direction -- like shielding Smart Meters may just reflect their radiation even stronger into the house.

Whole house assessment

There is a growing trade of people who actually measure electrical and magnetic fields in your house and hunt out causes and solutions. What is encouraging is that many professional electricians are moving into this specialization. Often problems are related to simple wiring errors -- wiring that works for the lights and appliances, but that causes radiation producing currents that should not be there. Finding these people, and finding ones that are actually competent is difficult -- requiring your doing a lot of talking to references.

Stephan Bélainky I know and can recommend for the Montreal area as an expert assessing and providing solutions to specific houses: www.em3e.com

Specific products

There are many devices being sold to either identify or protect you from various aspects of EMR in your personal lives. Traditional or even consumer Gauss meters are available that simply measure certain aspects of radiation in a given place -- but then you enter the debate as to what that measurement might mean for your health. There are radiation shields ranging from pendants that hang around your neck to computer and TV screen filters, to electrical line filters, cell phone "shields", "grounded" bed sheets and even wallpaper meshes to block cell tower transmissions and other radiation from entering your home. There is even a growing industry of people who will come and measure all areas of your home for all types of radiation and offer you solutions -- solutions to a problem that is difficult to prove even exists. Some of these devices and services have scientifically measurable effects while others remain more in the field of the esoteric. In both cases we don't know much about how the body's bio-electrical mechanisms react to the presence or absence of these EMF and RF fields.

What we do know is that the strength of this radiation diminishes with distance so for those who are worried about the potential health effects of all of this and still want all the toys, you can simply reduce the number of transmitters and receivers that are close to you and/or the length of exposure. Do not build houses, schools or hospitals near large electric transmission lines. Use wired headsets to get the wireless telephone or cell phone away from our brain cells. Regularly change the position of the cell phone on our belts to avoid constant radiation to a single internal organ. Turn off wireless computer networks when they are not actually being used -- or better yet go back to wired LAN systems. Perhaps most importantly, as has been well documented through the Swedish health system, when you have unusual health symptoms like dizziness, chronic fatigue, eye problems, or skin rashes and your doctor can't find the cause-- radically change your electrical environment and observe if there is a change in your condition. There may be no connection but a growing number of people are finding themselves hyper-sensitive to Electromagnetic Radiation and creating a "clean" environment for themselves becomes the solution.

Here, without recommendation, are a few leads to products:

www.GetPurePower.ca for power line filtering devices. The most commonly known of these types of devices are filtered power bars for high end sound systems -- stopping static on the electrical lines from bothering the quality of sound you are hearing.

EMF Shielding & Conductive Fabrics

and from the same source, Cell phone shielding devices -- I really believe in these shielded phone holsters for guys that carry their cell phone on their belt all day long -- that's too close to a lot of vital organs for my liking and these effectively block radiation on the body side. But understand that because they are only working on one side, they will run your battery down faster trying to grab a signal.

Electrical Pollution Solutions Philadelphia based Information Ventures does large scale work on EMF Health Effects and has a great library of information particularly for commercial and institutional buildings, including schools.

Citizens movements against Smart Meters in Québec:

CollectiveActionQuebec.com -- English and French -- Quebec class action suit

RefusonsLesCompteurs.wordpress.com -- French only -- Central point for Québec movement

Lasalle Refuse -- in English only

Laval Refuse -- in French and English

In October 2013 Laval Refuse has initiated the collection of concrete case histories of problems with Hydro Québec and health problems after the installation of the meters and the even more powerful routers. Providing case histories helps them with media and legislative credibility. I have posted their English and French surveys that you can download at the top of this article.

The activist groups are proposing a third option from accepting or paying to Opt-Out, they are suggesting that people send registered letters of non-concent to Hydro Québec with a copy to their various elected officials stating that they do not consent to the imposition of a wireless meter and reserve all legal recourse against the utility if they force one on them. This tactic has recently had some success in British Colombia. Copies of this letter, in English and French, can be downloaded here.

Letter of non-concent addressed to Hydro Québec -- in English -- Word format

Lettre d'avis de non consentement à l'intention d'Hydro-Québec - en français - format Word

For the full BIOINITIATIVE REPORT: "A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF)" go to www.Bioinitiative.org. It is a free download.

For a very interesting and very readable basic primer on Bio-Electrical-Chemistry see the book: The Body Electric; Electromagnetism and the Foundation of Life by Robert O. Becker and Gary Selden that dates way back to 1985.

As for the larger question of communication towers and other "public" exposure to EMR I would hope

to encourage a rigorous debate with the openness that accepts that the human body functions not only as a chemical organism but as a bio-electrical organism and the possibility that we are creating static on our own internal communication systems.

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