



BRAG™ Antenna Ranking of Schools

Part Two

Can you BRAG about your school?

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- ✓ Up Front . . .
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John Kenneth Galbraith

The conventional view serves to protect us from the painful job of thinking.



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A Grim Fairy Tale

Welcome to Planet Irth . . .

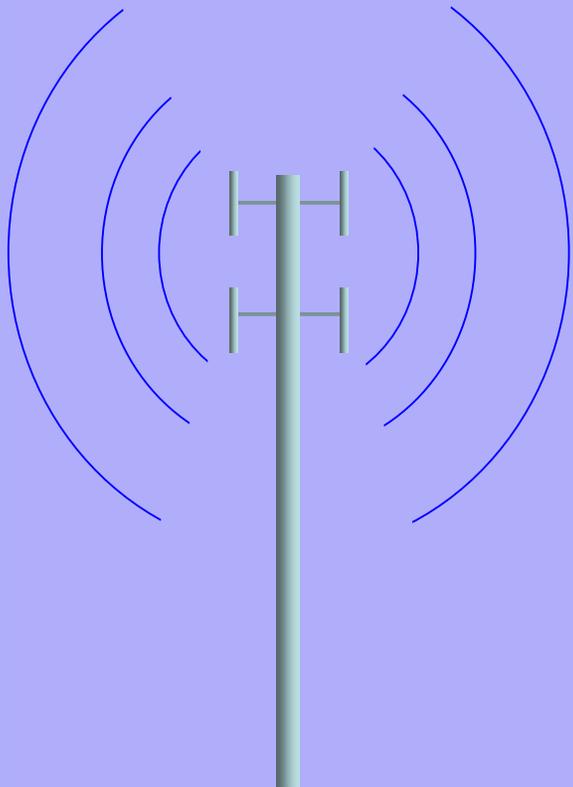
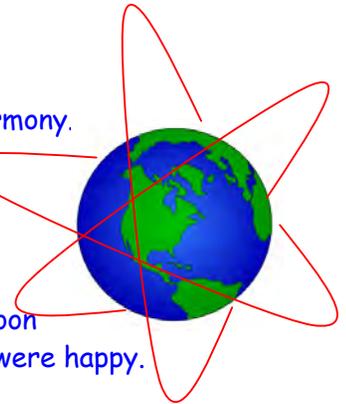
Once upon a time, many, many years ago, creatures on planet Irth lived in harmony. Life was good. Slowly things began to change and it was called progress and almost everyone was excited.

Inventors discovered how to send information through the air without wires. Initially it was sound, click-click-click, and then words and then pictures and soon everyone on planet Irth was connected all the time. Life was good. Irthlings were happy.

Then something unexpected happened, a few creatures on planet Irth began to get ill. They had headaches and were tired. Some couldn't sleep at night. Others had difficulty thinking and remembering. Some became depressed or anxious. Others were nauseous or dizzy. They called themselves "Sensitives". They were an evolved race of beings who had come to warn Irthlings about 'electrosmogitis', a disease you get when you live in an electrosmog community.

It seems that the inventions that allowed Irthlings to communicate used antennas to send out invisible rays that were making Sensitives ill. The Sensitives tried to warn the Irthlings but no one listened. Irthlings enjoyed their toys and didn't want to give them up. It was easier to think that "Sensitives" were imagining their problems. Sensitives were ignored by their families and friends and by their doctors. Some of them were unable to live in cities and moved to the country but the antennas-that generated these invisible rays-followed them.

Little did the Irthlings know that those antennas on hotels, on office and apartment buildings, on fire halls, on school property, at the end of their street and even in church steeples gave off invisible rays of light that entered their homes and flowed in and around their bodies. These invisible rays were making them sick. More and more Irthlings developed cancer, and diabetes, and multiple sclerosis. Some had difficulty reproducing and, when they were successful, their children had behavioral problems that they treated with drugs. Some of these children died of cancer . . . of the blood and the brain . . . and parents were unhappy. But still, no one paid attention to the Sensitives.



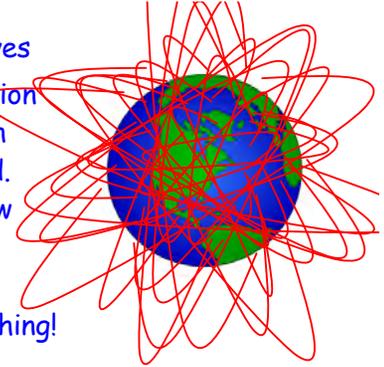


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A Grim Fairy Tale ... continued

Then along came some scientists and doctors who began to listen to Sensitives and they learned all sorts of things. When they tried to share this information with their colleagues or with the medical profession or with the Global Health Organization (GHO), they were laughed at. Some gave up but a few persisted. They did research, much of it unfunded. They published papers that very few people read. They alerted the media but the media wanted to give 'balanced' reporting, such as "... some say it is harmful but others say it is safe ..." and this just confused everyone. Can't those darned scientists agree on anything!

microwaving our planet



In the meantime, schools began to install wireless computer networks and children, of all ages, had their own wireless phone and many used them all the time. Homes also had wireless computers and smart meters and cordless phones and wireless games and special TVs and lights that also produced these invisible rays, and wireless alarm systems to protect all this expensive equipment.

Then the media began to report stories, such as "... three children in one kindergarten die of leukemia, many others sick ... authorities deny this is a cancer cluster related to nearby antennas"; "... sharp increases in diabetes, autism, attention deficient disorder have experts baffled"; "... sick building syndrome, blamed for allergies and asthma, may be linked to dirty electricity". Some people were overheard saying, "These are the same symptoms Sensitives are warning us about. Perhaps we should listen to them."

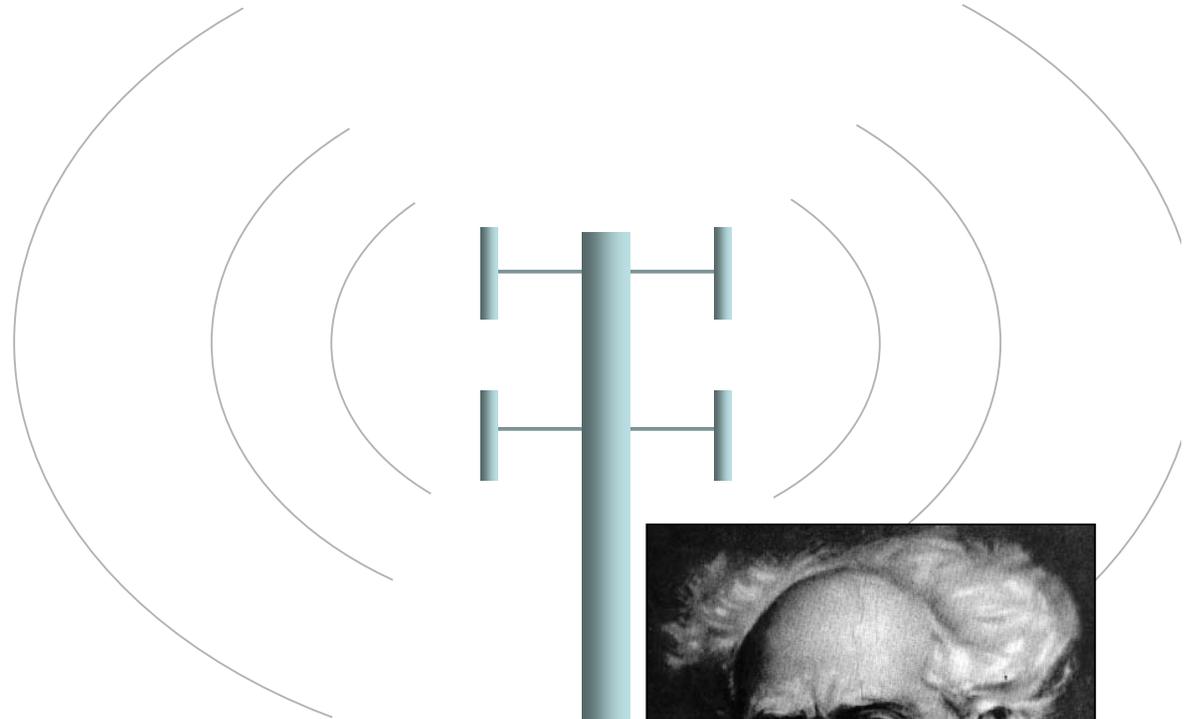
Parents, concerned about the health of their children and these invisible rays, asked schools to remove WiFi antennas in schools and not to allow antennas on or near school property. But they were laughed at and shunned as anti-progressive technophobes who want to return to the "dark" ages.

But ... what if the Sensitives are right about electrosmogitis? After all, Irthlings are beings of light and perhaps these invisible rays of light are affecting them. Shouldn't they ... we ... at least listen?

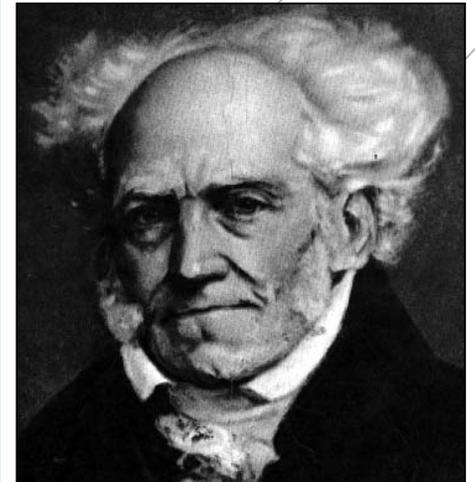


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Up Front



*All truth passes through three stages.
First, it is ridiculed.
Second, it is violently opposed.
Third, it is accepted as being self-evident.*

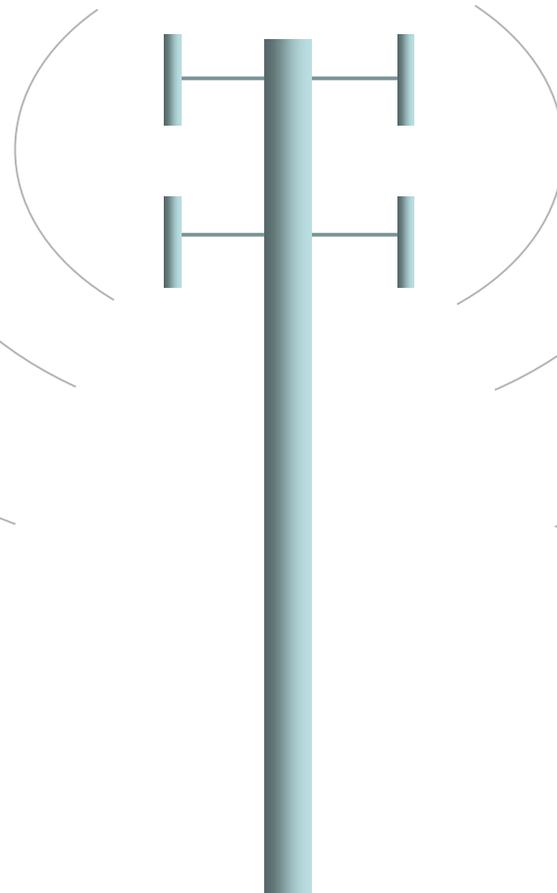


Arthur Schopenhauer



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Scientific Controversy



The international scientific community has not come to a "consensus" on the health effects of electromagnetic energy at the frequencies mentioned in this document. International and national agencies state that the scientific evidence showing harm is "inconsistent and inconclusive" and hence there is no move to change guidelines.

I disagree.

While there is much we have to learn about the harmful (and beneficial) effects of electromagnetic energies and especially about the mechanisms involved and the specific frequencies, intensities, and exposure periods that are biologically important, we have ample evidence indicating that electromagnetic exposure at levels well below present guidelines in North America are biologically active and can have adverse health effects. The threats are serious and the damage can be irreversible.

In September 2009, at the United States Senate Hearing on Cell Phones, experts from around the world stated the same thing . . . health effects associated with cell phone use occur below federal guidelines.

We can wait for the science or we can invoke the "Precautionary Approach" as outlined by the 1992 Rio Declaration on Environment and Development.



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Precautionary Approach

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Rio Declaration on Environment & Development, Principle 15, 1992

FCC Consumer Facts

Wireless Devices and Health Concerns (Nov 2009)

FCC recommends precautionary steps for use of cells phones.

www.fcc.gov/cgb/consumerfacts/mobilephone.html

"Recent reports by some health and safety interest groups have suggested that wireless device use can be linked to cancer and other illnesses. These questions have become more pressing as more and younger people are using the devices, and for longer periods of time. No scientific evidence currently establishes a definite link between wireless device use and cancer or other illnesses, but almost all parties debating the risks of using wireless devices agree that more and longer-term studies are needed. After listening to several expert witnesses, a United States Senate committee recently came to the same conclusion."

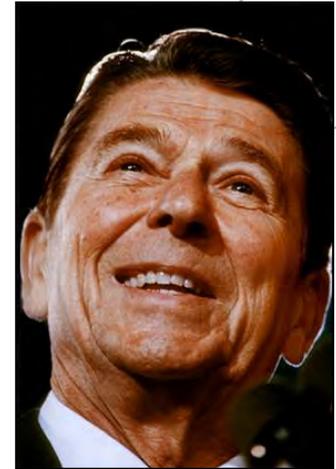
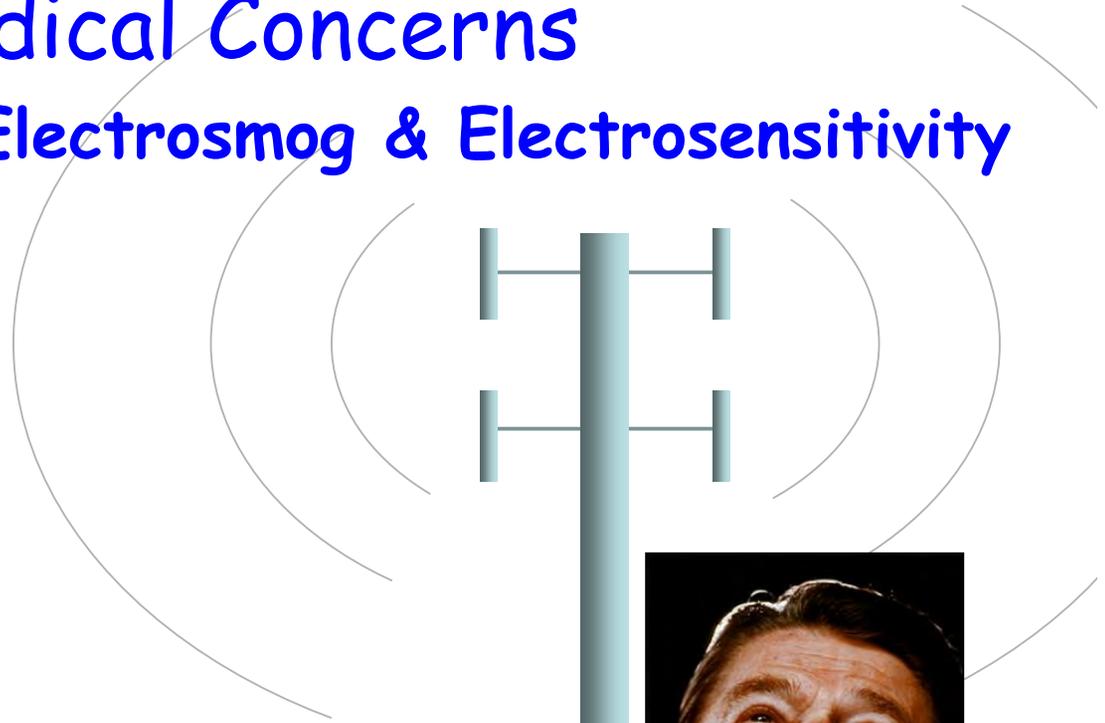




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Scientific
That can't be ignored!

& Medical Concerns
about Electromog & Electrosensitivity



Facts are stubborn things.

Ronald Reagan

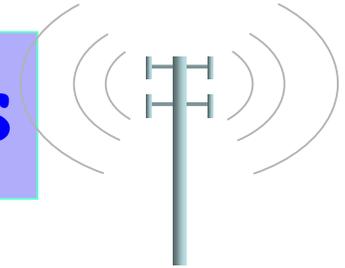


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Scientific & Medical
Concerns

That can't be ignored!

Resolutions and Appeals



- 2000: Salzburg Resolution, Austria.** Scientists recommend 0.1 microW/cm^2 for radio frequency radiation exposure [www.landsbg.gv.at/celltower]. Guideline in U.S. is 1000 microW/cm^2 . No long-term guideline exists in the U.S.
- 2002: Catania Resolution, Italy.** Scientists recognize adverse health effects of EMF at levels below international guidelines. [www.emrpolicy.org/faq/catania.pdf]
- 2002: Freiburger Appeal, Germany.** Physicians request tougher guidelines for radio frequency exposure, endorsed by hundreds of healthcare practitioners. [www.mastsanity.org/doctors-appeals.html]. Read quote from this appeal on next page.
- 2004: World Health Organization, Workshop on ElectroSensitivity, Czech Republic, Oct 2004.** Scientists recognize electrohypersensitivity and propose calling it "idiopathic syndrome", which means "no known cause".
- 2005: Irish Doctors' Environmental Association (IDEA), Ireland.** Doctors recognize electrohypersensitivity (EHS) is increasing and request advice from government on how to treat EHS [www.ideaireland.org].
- 2005: Helsinki Appeal, Finland.** Call for new safety standards, reject International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines. [www.emrpolicy.org/headlines/helsinki_appeal_05.pdf]

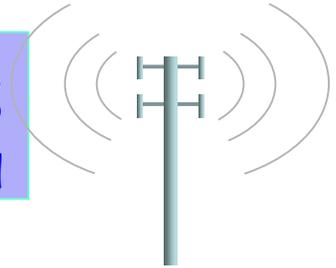


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Scientific & Medical
Concerns

That can't be ignored!

Resolutions and Appeals cont'd



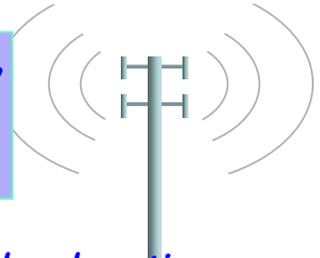
- 2006: Benevento Resolution, Italy.** Scientists recognize adverse health effects, recommend precautionary principle, identify funding biased studies, recognize need for wireless-free zones [www.icems.eu]-International Commission for Electromagnetic Safety.
- 2007: BioInitiative Report, USA.** Reviewed 2000 studies showing biological effects of ELF and RF radiation and calling for biologically based exposure guidelines. [www.bioinitiative.org]
- 2008: Venice Appeal, Italy.** Scientists recognize biological effects at non-thermal levels, that standards are inadequate, that electro-sensitivity exists and that there is a need to research mechanisms. [www.icems.eu/resolution.htm]
- 2009: Porto Alegre Resolution, Brazil.** Scientists and doctors recognize electrohypersensitivity and are concerned that exposure to electromagnetic fields may increase the risk of cancer and chronic diseases; that exposure levels established by international agencies (IEEE, ICNIRP, ICES) are obsolete; and that wireless technology places at risk the health of children, teens, pregnant women and others who are vulnerable.
- 2009: CellPhones and Brain Tumors: 15 Reasons for Concern,** Science Spin and the Truth Behind Interphone. Call for precautionary action endorsed by 40 leading international scientists.



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Scientific & Medical
Concerns
That can't be ignored!

What German Doctors have to say
(Freiburger Appeal, 2002)



"Our therapeutic efforts to restore health are becoming increasingly less effective: the unimpeded and continuous penetration of radiation into living and working areas . . . causes uninterrupted stress and prevents the patient's thorough recovery.

In the face of this disquieting development, we feel obliged to inform the public of our observations . . .

*What we experience in the daily reality of our medical practice is anything but hypothetical! We see the **rising number of chronically sick patients** also as the result of an **irresponsible "safety limits policy"**, which fails to take the protection of the public . . . as its criteria for action. Instead, it submits to the dictates of a **technology already long recognized as dangerous**. For us, this is the beginning of a very serious development through which the **health of many people is being threatened**.*

*We will no longer be made to wait upon further unreal research results - which in our experience are often **influenced by the communications industry**, while **evidential studies go on being ignored**. We find it to be of urgent necessity that we act now!*

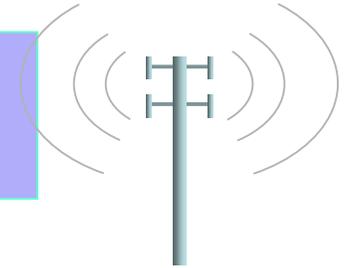
*Above all, we are, as doctors, the advocates for our patients. In the interest of all those concerned, whose basic right to life and freedom from bodily harm is currently being put at stake, we **appeal to those in the spheres of politics and public health.**"*



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Scientific & Medical
Concerns
That can't be ignored!

ElectroHyperSensitivity (EHS)
Acknowledged by WHO



The World Health Organization (WHO, 2004) defines Electrohypersensitivity as ...

"... a phenomenon where individuals experience **adverse health effects** while using or being in the vicinity of devices emanating **electric, magnetic, or electromagnetic fields.**"

"... *EHS is a **real** and sometimes a **debilitating** problem for the affected persons ... Their exposures are generally several orders of magnitude **under** the limits in **internationally accepted standards.***"

The World Health Organization (WHO, 2006)

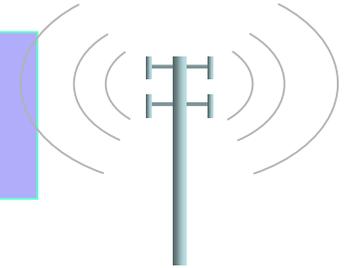
"The WHO recommends that people reporting sensitivities receive a comprehensive health evaluation. ... Some studies suggest that certain physiological responses of EHS [Electrohypersensitive] individuals tend to be outside the normal range. In particular, hyperactivity in the central nervous system and imbalance in the autonomic nervous system need to be followed up in clinical investigations and the results for the individuals taken as input for possible treatment."



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Scientific & Medical
Concerns
That can't be ignored!

ElectroHyperSensitivity (EHS)
Acknowledged by Canada



Health Canada, Safety Code 6, 1999. page 11 .

"Certain members of the general public may be more susceptible to harm from RF and microwave exposure."

Canadian Human Rights Commission, Margaret E. Sears. 2007.
The Medical Perspective on Environmental Sensitivities.

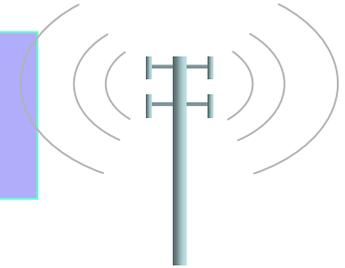
Approximately 3% of Canadians have been diagnosed with environmental sensitivities. They usually experience neurological impairments, and often experience other symptoms including runny eyes and nose, headaches, fatigue, pain and breathing and digestive problems. Environmental sensitivities may develop gradually after chronic exposure to relatively low levels of chemicals as seen in "sick buildings," or suddenly after a major exposure to an environmental disaster or a chemical spill. This condition may be initiated by one or a combination of environmental factors such as mould, pesticides, solvents, chemicals off-gassing from carpets or furnishings, or electromagnetic phenomena.



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That can't be ignored!

ElectroHyperSensitivity (EHS)
Acknowledged by Sweden



Sweden recognizes EHS (Johansson, 2009) *Electromagnetic Biology and Medicine* 25: 245-258.

"In Sweden, electrohypersensitivity (EHS) is an officially recognized functional impairment . . . 230,000 to 290,000 Swedish men and women report a variety of symptoms when being in contact with electromagnetic field (EMF) sources."

Types of Environmental Sensitivities

Some people are sensitive to peanuts or shell fish. Others are unable to digest milk or gluten and still others respond to pollen or mold. Our society accepts these sensitivities and takes steps to minimize any harm by placing warnings on packages, by making schools peanut-free, by giving pollen counts as part of the weather report.

Electrosensitivity is just another one of these sensitivities that requires our immediate attention because levels of exposure are escalating with no regard for those who may be or may become sensitive.



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Concerns
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Warnings about Cell Phones



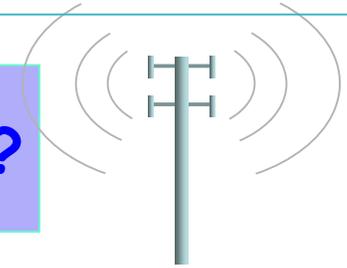
- United Kingdom** "... we believe that the widespread use of mobile phones by children for non-essential calls should be discouraged." (Stewart Report 2000)
- Germany** People should avoid using Wi-Fi wherever possible because of the risks it may pose to health. (2007)
- France** The French government is warning consumers to avoid "excessive" cell phone use because of concerns that mobile phone use could increase the risk of some cancers . . . children who use cell phones face the most danger from the devices. (2008). Cell phones banned in primary schools and models cannot be used near the ear.
- Russia** Children under the age of 18 should not use cell phones (2008).
- India** Ministry of Telecommunication recommends that children, pregnant women and people suffering from heart ailments limit use of mobile phones (2008).
- Toronto Board of Health** Children under 8 should use cell phones for emergencies only and teens should limit calls to under 10 minutes (2008).
- Pittsburgh Cancer Institute** Head of prominent cancer research institute warns faculty and staff to limit cell phone use because of the possible risk of cancer (2008).
- Belgium** Discourage the use of cell phones by children (2008).
- Finland** The Radiation and Nuclear Power Authority urges parents to err on the side of caution, because . . . there is no definitive research indicating the absence of health risks from cell phone use (2009).
- Seoul Korea** "Cellular phones could harm the study atmosphere at schools and could cause health risks for kids. It is desirable to prohibit students from using cell phones at schools." (2009).
- U.S. FCC** Consumer Facts: Recommends precautionary steps for use of cell phones (2009).



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Scientific & Medical
Concerns
That can't be ignored!

Doctors, did you know that . . . ?



Electrosmog is associated with . . . (from: *Do you have Microwave Sickness?* by Paul Doyon)

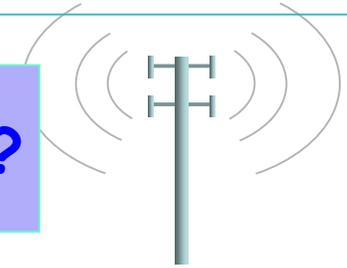
1. **Oxidative Damage.** Depletion of the body's natural store of antioxidants like Super Oxide Dimutase (SOD), Catalase, Glutathione, CoQ10, and Melatonin. When the body becomes depleted in antioxidants, premature aging, increased infections, and sticky blood are a few of the consequences. With a depressed level of antioxidants in the blood, for example, high-density lipoproteins (HDL) or the good cholesterol will bind with free radicals (oxidants) turning the good cholesterol into bad cholesterol or low-density lipoproteins (LDL).
2. **Abnormal flux of calcium.** When there is an abnormal influx of calcium into mast cells, for example, they produce histamine. This is just one of the ways in which microwave exposure has been known to trigger or aggravate allergic reactions.
3. **Mitochondria dysfunction.** Dysfunctional mitochondria will interfere with the cells' ability to produce energy and can be linked to fatigue and possibly even obesity.
4. **Clumping of blood cells.** The amount of oxygen getting to the brain cells and the cells of the body's other organs is diminished substantially, leading to hypoxia. This can cause symptoms similar to altitude sickness: nausea, dizziness, inability to concentrate, and so on.
5. **Decrease in the numbers of Natural Killer (NK) cells.** This weakens the body's ability to recover from viral and other types of infections. Long-term microwave radiation has been shown to change a particular form of white blood cell (lymphocyte) ratio - known as the T-helper/T-suppressor (T4/T8) cell ratio - from normal to abnormal. Abnormalities in this T-lymphocyte ratio have been shown to lead to an increased susceptibility to viral, fungal, and bacterial infections. Symptoms include sore throats, low-grade fevers, weakness, persistent fatigue, and swollen lymph glands.
6. **Increase in microbes** (viruses, bacteria, mold, parasites, and yeast) in human hosts and **Mycotoxins** (Klinghardt: chronic infection aggravated by EM exposure).



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That can't be ignored!

Doctors, did you know that . . . ?



Electrosmog is associated with . . . (from: *Do you have Microwave Sickness?* by Paul Doyon)

7. **Induced "subliminal" stress** causing the adrenal glands to excrete an abnormally greater amount of cortisol and adrenaline. Excretion of adrenaline, for one, can lead to irritability and a feeling of hyperactivity - the latter now very common in children with ADHD. In a continuous state this will eventually lead to adrenal exhaustion. Excessive cortisol has been linked to obesity.
8. **Decrease of 5-HT in the blood.** 5-HT is a precursor to the production of the brain hormone serotonin. Low levels of serotonin have been linked to anxiety and depression. An increase in anxiety and depression can in turn be linked to an increase in the number of suicides.
9. **Decreased levels of brain norepinephrine.** This hormone is essential for control of the autonomic nervous system, and lack of it can lead to autonomic nervous system disorders. The body will have trouble regulating its temperature. An abnormal decrease in norepinephrine levels has also been connected to short-term memory disturbances and depression.
10. **Altered production of melatonin.** This brain hormone and antioxidant is necessary for proper sleep. 42 million Americans (approximately one in five) now take sleep medication for insomnia. A drop in melatonin levels has also been connected with increases in breast cancer.
11. **Decreased dopamine in brain.** A drop in dopamine levels has been linked with depression, Parkinson's disease.
12. **Decreased levels of acetylcholine.** A drop in the levels of this neurotransmitter has been linked to a number of neurological and neuromuscular disorders - including Alzheimer's disease.
13. **Induced restlessness** and may be responsible for restless leg syndrome (RLS).
14. **Altered regional cerebral blood flow.** In conditions like autism and chronic fatigue syndrome (CFS) it has been shown via SPECT scan.
15. **Increased mobilization of mercury** from fillings. This has been shown for cell phone use and for exposure to MRI.



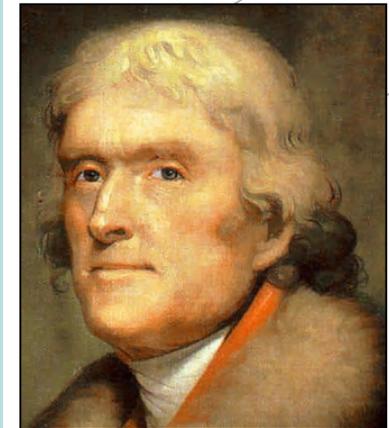
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Introduction

to the
BRAG
Antenna
Study



*Honesty is the first chapter
of the book of wisdom.*



Thomas Jefferson

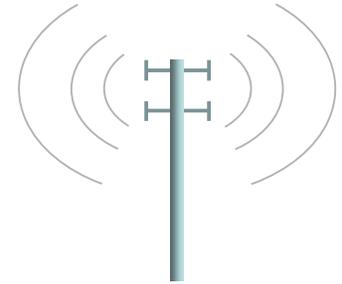


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Fact . . .



- Each month, each year, more and more **antennas are erected** to provide drop-free coverage for the **270 million plus cell phone users** in the United States.
- These antennas are placed on towers, fire halls, church steeples, high rise buildings, hospitals, and on or near school property. Some of them are camouflaged so you won't always see them.
- Antennas emit **microwave radiation** and the more antennas there are, and the more often they are used, the more radiation they emit.
- The Federal Communication Commission (**FCC**) **does not routinely measure radiation levels** in the environment but relies on the calculated emissions provided by the telecommunications industry when they apply for a license to place an antenna in a particular area.
- Microwave radiation has been scientifically documented to have **adverse biological and health effects** on adults at levels below existing federal guidelines.
- **Children are more sensitive** than adults to microwave radiation and the risks of exposure are greater.



Question we asked . . .



- How many and how close are antennas to schools in Washington, D.C. and in the 50 State Capitols?

What we did to address this question . . .

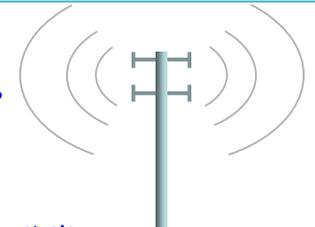


- We identified and tabulated the proximity and density of telecommunication antennas at 6,140 school in 50 state capitols and in Washington, D.C .
- We graded, ranked, and color coded each school using a unique metric - the BRAG™ Antenna Ranking of Schools - described on the following pages.



BRAG™ Antenna Ranking of Schools

Wireless Hazards . . . E² Education & Empowerment



-  The *BRAG™ Antenna Ranking of Schools (BARS)* has been prepared to educate and empower teachers, parents, students, school boards and surrounding communities about the potentially harmful effects of radio frequency and microwave radiation and wireless technology near schools.
-  Microwave radiation is hazardous to health. This has been known since at least the 1950s. A fallacious argument, supported by the telecommunication industry, is that there is no potential for harm if the non-ionizing radiation is not powerful enough to heat tissues. The BioInitiative Report (www.bioinitiative.org) references thousands of studies showing biological effects associated with electromagnetic radiation at non-thermal levels of exposure.
-  The “thermal” argument, however, is still the position held by many regulatory bodies. As a result, radio frequency guidelines for public exposure in the U.S. are far too high, 100 times higher than guidelines in Russia and 10,000 times higher than those in Salzburg, Austria.

-  Governments have failed in their responsibility to protect public health. Until such time as adequate exposure guidelines are provided to protect health, and especially the health of children who are more vulnerable, we recommend that families, communities and schools take precaution into their own hands.
-  The *BRAG™ Antenna Ranking of Schools* provides a tool to estimate a school's exposure to radiation-emitting antennas. It is based on the proximity and number of antennas and is a “gauge of risk”. To determine “actual risk”, for any given school, measurement of radiation exposure is required since exposure can be affected by topography, height of antennas, presence of objects obstructing or reflecting the radiation, as well as other sources of external radiation (city-wide WiFi, broadcast antennas, radar) and internal radiation (wireless internet and other wireless devices).
-  We encourage School Boards to include microwave radiation exposure as a routine component of their environmental toxins audit and, ultimately, to create microwave radiation-free schools.
-  See the [“BRAG™ Recommendations for Schools”](#) for guidance on monitoring and mitigation.