

Wireless Radiation

The Science and Politics of Cell Phones, Laptops, and Other Wireless Devices – and 100 Ways To Protect Yourself and Your Family

Desiree Jaworski
Center For Safer Wireless
Presented at Holistic Moms Network
February 18, 2016

Science

What Is Wireless? (1 of 3)

THE ELECTROMAGNETIC SPECTRUM

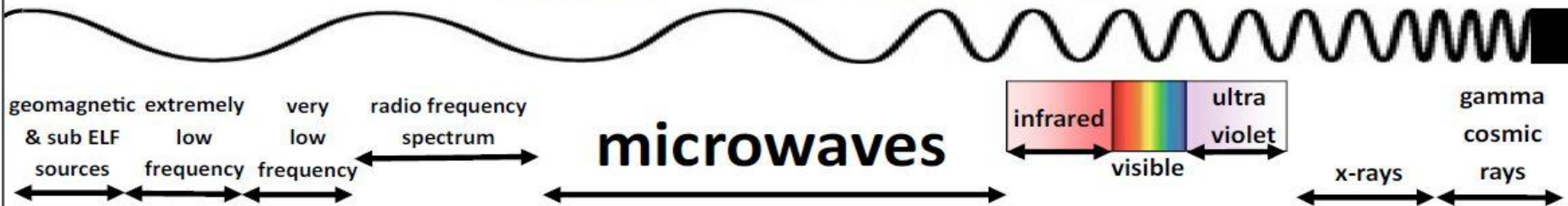
SELF DC 3Hz ELF 3KHz VLF 30KHz LF/MF/HF/VHF/UHF SHF 3GHz EHF 5GHz 300GHz 430-750THz 30PHz 3EHZ 300EHZ

non-ionizing

ionizing

wavelength

$$f \text{ (frequency)} = c \text{ (speed of light)} / \lambda \text{ (wavelength)}$$



EMF Sources

											
earth & subways	AC power	CRT monitors	TV	cell phones	cell towers	wireless smart meters	WiFi	satellites	sunlight	radioactive sources	medical x-rays
		mobile AM/FM					cordless phones				

Gigahertz (GHz) 10-9 Terahertz (THz) 10-12 Petahertz (PHz) 10-15 Exahertz (EHZ) 10-18 Zetahertz (ZHz) 10-21 Yotahertz (YHz) 10-24

What Is Wireless? (2 of 3) *Wireless in red circle*

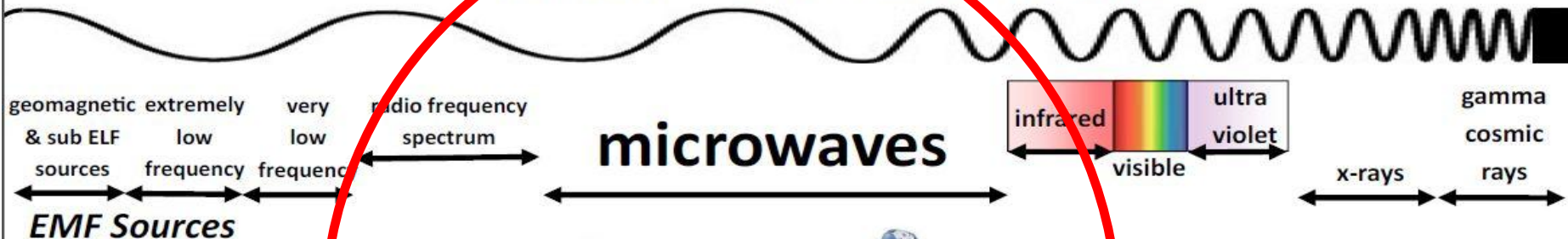
THE ELECTROMAGNETIC SPECTRUM

SELF DC ELF 3Hz VLF 30KHz LF/MF/HF/VHF/UHF 300KHz SHF 3GHz EHF 5GHz 300GHz 430-750THz 30PHz 3EHZ 300EHZ

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wavelength f (frequency) = C (speed of light) / λ (wavelength)



Gigahertz (GHz) 10⁻⁹ Terahertz (THz) 10⁻¹² Petahertz (PHz) 10⁻¹⁵ Exahertz (EHZ) 10⁻¹⁸ Zetahertz (ZHz) 10⁻²¹ Yotahertz (YHz) 10⁻²⁴

What Is Wireless? (3 of 3)

Ionizing radiation has enough energy to knock electrons out of their orbit, and create electrically imbalanced molecules (too many or too few electrons), which are ions.

Non-ionizing radiation doesn't have enough energy to knock out an electron. The radio frequency range of the wireless telecommunications industry portion can:

- add energy to an atom and molecule
- change an electrical signal

“Wireless” in our society today is the term for non-ionizing radiation in the radio frequency and microwave ranges.

Is Wireless the same as Microwaves?

YES.

Radio frequency (RF) is a rate of oscillation in the range of around 3 KHz to 300 Ghz.

Microwaves are the upper part of this range - 300 MHz (0.3 GHz) to 300 GHz.

The **hertz** (symbol Hz) is one cycle per second.

Natural Levels vs Human Standards

microwatt/ per square meter	RF Exposure from Cell Towers
100,000,000	U.S. Standard C95.1-1966 – first standard in Western world
10,000,000 to 4,000,000	ICNIRP(Intern’l Comm. On Non-ionizing radiation Protection) Guidelines (US 1997)
1,000	Bioinitiative Working Group precautionary recommendation for outdoor environment (2007)
1	Health Department, Federal State of Salzburg, Austria precautionary for indoor environment (2002)
0.000001	Natural Background

Our current daily exposure is Billions of times stronger than natural levels.

Public Exposure Guidelines for 1800MHZ

	$\mu\text{W}/\text{m}^2$
Health Dept. Salzburg (indoor) ('02)	1
Health Dept. Salzburg (outdoors) ('02)	10
EU Working Grp recommendation (2001)	100
Salzburg 1998 (sum GSM)	1,000
Italy (single frequency)	1,000
Russia, PRChina	100,000
Italy (sum of frequencies)	100,000
Belgium (ex Wallonia)	1,115,000
ICNIRP ('98), WHO, Canada ('79)	10,000,000
FCC/IEEE, USA ('93)	<u>10,000,000</u>

Modern Sources in Our Daily Lives

Cell phones (your own and other's)

Smart phones (4 different radios in one device – phone, GPS, bluetooth, and wifi/Internet –with different frequencies and antennas)

iPads

Kindles

Laptops

Smart meters

Wireless computer networks (home, office, Starbucks, McDonalds, etc.)

Wii and Xbox entertainment systems

Baby monitors (wireless)

Infant pajamas monitoring heart and breathing rate (wireless next to infant's skin)

Home security systems (when communicating wirelessly)

Wireless headphones (used in offices for telecoms)

Utility meters using wireless communication, aka smart meters (sic)

Cell phone towers (“masts”)

Cars

Infant toys connected to Internet - a snuggly “selfie ball” with which the baby can snap a picture of herself and then post it to Facebook; motion-tracking shoes that register and upload physical activity; an interactive pacifier that will upload baby's location

Walk-through security scanners - at local government office buildings (court houses), airports

Radio and TV stations

Store security systems

“Wearable Wireless” – glasses, watches – may be on bodies close to you (note you may not be able to see others' wearable wireless)

It is Real – photo of cell phone use



Student produced photos showing Wi-Fi networks strength and coverage

By [Mary](#) on June 20, 2014 in [General Info](#)

“The images show how Wi-Fi signals of different strengths surround objects and people. They were created using a programme that changes colour depending on the strength of a signal – blue is strongest, ranging to red at the other end of the scale”

Read more: <http://www.dailymail.co.uk/sciencetech/article-2662507/Whirling-Wi-Fi-Vibrant-images-reveal-wireless-networks-sweep-surround-us.html#ixzz35EAptVc>

How Does Wireless Affect Living Cells and Organisms?

Biology:

Our cell membranes, neurons, and metabolism all depend on micro-currents of electricity and polarized ions for electrical and chemical reactions. The nerves, brain and heart in particular depend on electric signals. The current research shows many types of harm from this pulsed, low-frequency radiation:

- changes in heat sensitive enzymes that normally protect cell proteins
- causes cellular stress, producing stress proteins
- after excessive stress protein production, halt to production of these proteins
- changes in DNA

Original Sources: Bioinitiative.org

A private foundation in California voluntarily funded the collection and presentation of key original research material in 5-year increments.

Bioinitiative 2007 and Bioinitiative 2012 allows the public easy access to approximately 8,000 studies on EMF, the original medical and scientific studies.

It is organized in easy-to-understand form, so you can read the abstracts then choose which studies to read in depth.

Please browse and read!

BioInitiative 2012
A Rationale for Biologically-based Exposure Standards for Low-Intensity Electromagnetic Radiation

Home
Editors' Notes
What's New?
BioInitiative Report
Research Summaries
RF Color Charts
Participants
Media
Contact

WHAT'S NEW?
CEO Wireless Letter
September 22, 2014
BioInitiative Working Group
Comments on 2014 SCENIHR
Preliminary Opinion on Potential
Health Effects of EMF
April 12, 2014
New Studies Show Health Risks
from Wireless Tech
April 11, 2014

THE BIOINITIATIVE REPORT 2012
A Rationale for Biologically-based Public Exposure Standards for Electromagnetic Fields (ELF and RF)

[READ THE REPORT](#) [DOWNLOAD THE REPORT](#)

WHO WE ARE
CONCLUSIONS
Reported Biological Effects
Henry Lai's Research Summaries
These are invaluable sets of abstracts (data-based to be searchable) covering the RFR scientific literature, as well as collections of scientific abstracts on free radical damage.

Plants

Aspen trees

“...[electro-magnetically] shielded seedlings produced more growth, longer shoots, bigger leaves and more total leaf area. The shielded group produced 60 percent more leaf area and 74 percent more shoot length than a mock-shielded group...”

International Journal of Forestry Research

Volume 2010 (2010), Article ID 836278, 7 pages

<http://dx.doi.org/10.1155/2010/836278> or

<http://www.hindawi.com/journals/ijfr/2010/836278/>

Ivy/vines

Plants on walls within two feet of the new “smart meters” died -
“Take Back Your Power” documentary

Birds and Wildlife

Good summary of early research documenting harm to birds:

Briefing Paper on the Need for Research into the Cumulative Impacts of Communication Towers on Migratory Birds and Other Wildlife in the United States – April 17, 2009

http://www.healthandenvironment.org/wg_emf_news/6144

“...In 2002, T. Litovitz (Catholic University, pers. comm.; DiCarlo et al. 2002) raised troubling concerns about the impacts of low-level, non-thermal radiation from the standard 915 MHz cell phone frequency on domestic chicken embryos under laboratory conditions. Litovitz noted deformities, including some **deaths of the embryos subjected to hypoxic conditions under extremely low radiation doses**

...Preliminary research on wild birds at cellular phone tower sites in Valladolid, Spain, showed strong negative correlations between levels of tower-emitted microwave radiation and bird breeding, nesting, and roosting in the vicinity of the electromagnetic fields (Balmori 2003). ...House Sparrows, White Storks, Rock Doves, Magpies, Collared Doves, and other species exhibited **nest and site abandonment, plumage deterioration, locomotion problems, and even death** among some birds found close to cellular phone antennas. ...

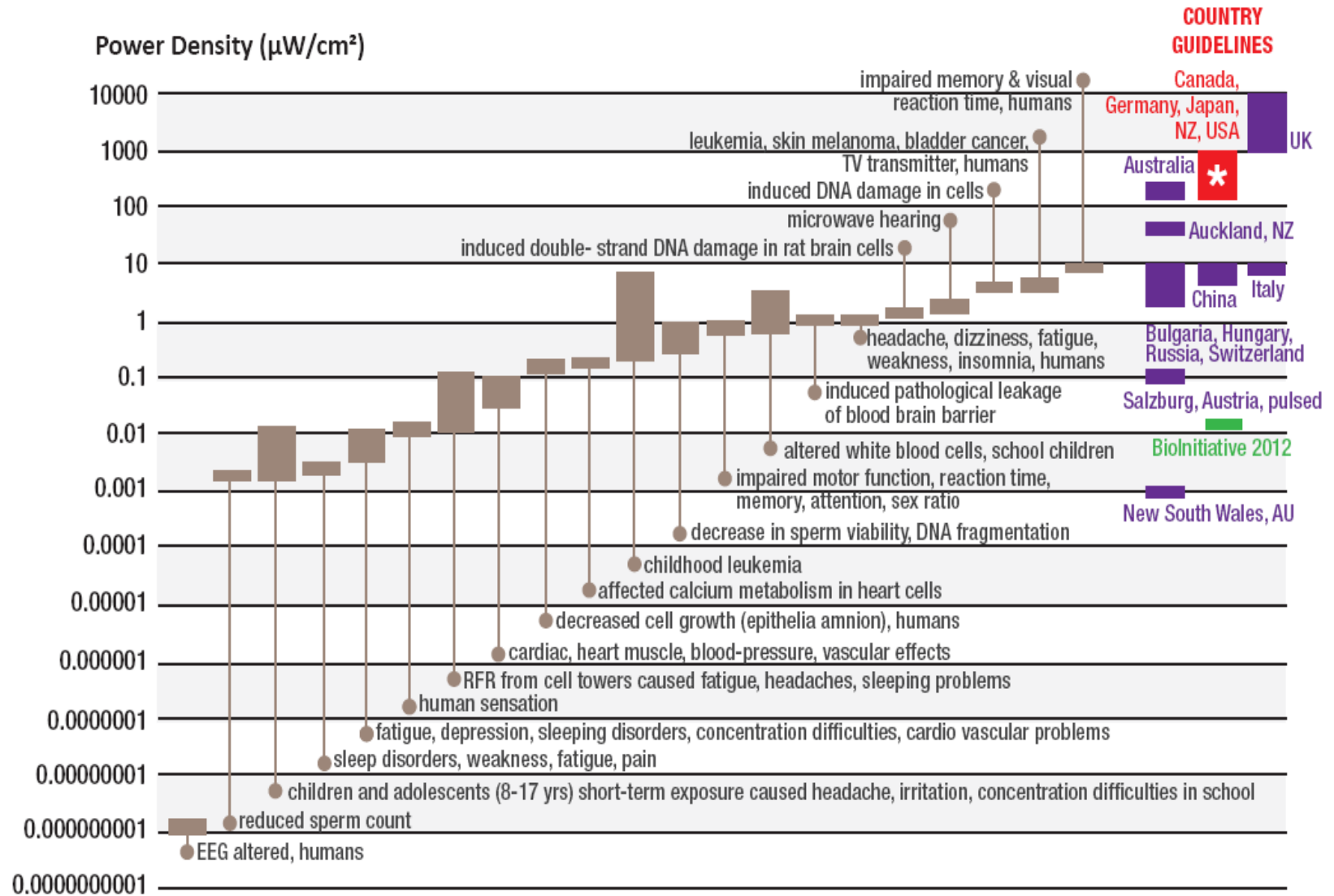
...Beason and Semm (2002) tested neural responses of Zebra Finches to 900 MHz radiation under laboratory conditions and showed **that 76% of the neurons responded by 3.5-times more firings**. No studies have yet been conducted in the U.S. on radiation impacts to wild bird populations. **Magnetite, a mineral highly sensitive to electromagnetic frequencies (EMFs), has been discovered in human, bird, and fish brains....”**

Humans

Examples of published, peer-reviewed documentation of harm includes:

- 1) weakening of the blood-brain barrier
- 2) Mitochondrial damage to human sperm (infertility)
- 3) correlation of EMF exposure during pregnancy with childhood obesity
- 4) altered immune function
- 5) increased miscarriage risk
- 6) nervous system disruption including memory loss, motor dysfunction, sleep disorders
- 7) reduced melatonin production, attention problems, and behavior problems
- 8) possible cancer causation according to the World Health Organization (WHO) (Class 2B)
- 9) altered glucose metabolism in the brain (a marker for Alzheimer's)

Radio Frequency Guidelines & Effects on Humans



Sources: [Public Health SOS: The Shadow Side of the Wireless Revolution](#) (Data from Firstenberg, 2001); [Biolnitiative Report 2012](#) (<http://www.Biolnitiative.org>)

World Health Organization – Class 2B Carcinogen

International Agency for Research on Cancer



PRESS RELEASE
N° 208

31 May 2011

IARC CLASSIFIES RADIOFREQUENCY ELECTROMAGNETIC FIELDS AS POSSIBLY CARCINOGENIC TO HUMANS

Lyon, France, May 31, 2011 -- The WHO/International Agency for Research on Cancer (IARC) has classified radiofrequency electromagnetic fields as possibly carcinogenic to humans (Group 2B), based on an increased risk for glioma, a malignant type of brain cancer¹, associated with wireless phone use.

Background

Over the last few years, there has been mounting concern about the possibility of adverse health effects resulting from exposure to radiofrequency electromagnetic fields, such as those emitted by wireless communication devices. The number of mobile phone subscriptions is estimated at 5 billion globally.

From May 24–31 2011, a Working Group of 31 scientists from 14 countries has been meeting at IARC in Lyon, France, to assess the potential carcinogenic hazards from exposure to radiofrequency electromagnetic fields. These assessments will be published as Volume 102 of the IARC *Monographs*, which will be the fifth volume in this series to focus on physical agents, after Volume 55 (Solar Radiation), Volume 75 and Volume 78 on ionizing radiation (X-rays, gamma-rays, neutrons, radio-nuclides), and Volume 80 on non-ionizing radiation (extremely low-frequency electromagnetic fields).

The IARC Monograph Working Group discussed the possibility that these exposures might induce long-term health effects, in particular an increased risk for cancer. This has relevance for public health, particularly for users of mobile phones, as the number of users is large and growing, particularly among young adults and children.

What are some other WHO Class 2B Possible Cancer Risks?

****Insecticides** known as:

DDT, Chlordane, Heptachlor, Mirex,
Endrin, Toxaphene

Lead

Chloroform

1,4 Dioxane & Furan – highly toxic
industrial by-products

Dry Cleaning Fluids

Vinyl Acetate

Welding Fumes

Occupational Firefighter Exposure
Risk

Hexachlorobenzene and
Hexachlorocyclohexanes - **Fungicides**

Human Immunodeficiency Virus

Human Papilloma Virus

Bitumens

Diesel

Engine Exhaust, Gasoline

Phenobarbital

Methylmercury compounds

Napthalene

International Journal of Oncology

Hardell, August 2013

- **Mobile Phone
RF/EMF radiation
plays a **role** both
in the initiation and
promotion stages of
carcinogenesis**
- **RF/EMF should be
reclassified as a WHO
Group 1 Carcinogen
(known carcinogen)**
- **Current guidelines need
to be urgently revised**
- **Rev. Environmental
Health 2013**

Cancers associated with Cell Phone Use

New Case-Controlled Study: With old cell phones and new iphones

Analysis of pooled case-control studies in Sweden, 1997–2003 and 2007–2009

(Lennart Hardell, Oncology Univ of Orebro, Sweden):

- ≥ 25 year use of cell phone **TRIPLE** risk of glioma than person using phone 1 year
- 1G phones operated 900 MHz
- 2G phones operate 900MHz to 1800 MHz
- 3G phones operate 700 to 3590 MHz (900 to 2170 MHz Europe)
- Study found 3G phones latency period for cancer **5 to 10 years** vs 25 years.

Cancer Incidence Increased with Cell Phone Use

Cancer rate of glioma past reports:

- **Acoustic neuroma**: Increase **30%** when phone used both sides of head over 10 yrs or more. Increase **240%** if used on one side of head.
- **Glioma**: Increase **20%** if used on both sides of head 10 years or more. Increase **200%** if used on one side.
- **Breast Cancers**: Increased aggressive in young women w/out risk factors wear phone in bra.
- **Eye tumors**
- **Parotid Gland tumors**: 4X increased incidence 1970-2006. 34% if use phone 5 yrs., 49% if 266 hours on phone, 58% if > 5500 calls (Sadetzki, S. 2008)

More Studies – Cancer

44 Reasons to Believe Cell Phones may Cause Cancer - list of studies focusing on cancer

<http://electricsense.com/8822/cell-phones-cause-cancer-fact/>

Studies showing biological impact from impact from wireless radiation

<http://ehtrust.org/science/read-the-research/>

More Studies – Effects on Hormones

Long term exposure to cell towers affects human hormones:

Hormones Department, Medical Research Division, National Research Centre, Cairo, Egypt, 2011 - 6 year study, people 14 to 42 years of age

Assessed exposure to radio frequency radiation (RFR) emitted from cell phones or base stations in relation with human's hormone profiles.

RESULTS: This study showed significant decrease in volunteers' ACTH, cortisol, thyroid hormones, prolactin for young females, and testosterone levels, and revealed RFR effects on pituitary–adrenal axis.

Children (1 of 2)

Risk increases directly related to the youth of the child – up to 20 times higher risk than for adults.

A recent *International Agency for Research on Cancer* (IARC) report suggested that EMF exposures can be more devastating in children because their:

- Brain tissue is more conductive.
- Skull is thinner.
- Smaller brains and softer brain tissue allows radiation to penetrate more effectively.
- Potentially longer period of exposure due to use beginning at an earlier age.

Brain cancers are now the second leading cause of cancer related deaths in people under 20 years of age – 2012 Central Brain Tumor Registry of the United States

Israel – after widespread cell phone adoption starting in 2000, salivary gland cancer jumped; today 1 in 4 salivary gland tumors in Israel are in people under 30.

Children (2 Of 2)

August 30, 2011: The Israeli Ministry of Education publishes guidelines strictly limiting the use of mobile phones on all school grounds, citing children's and youths' increased risk of malignant tumors and the "passive exposure" experienced by children who do not use phones.

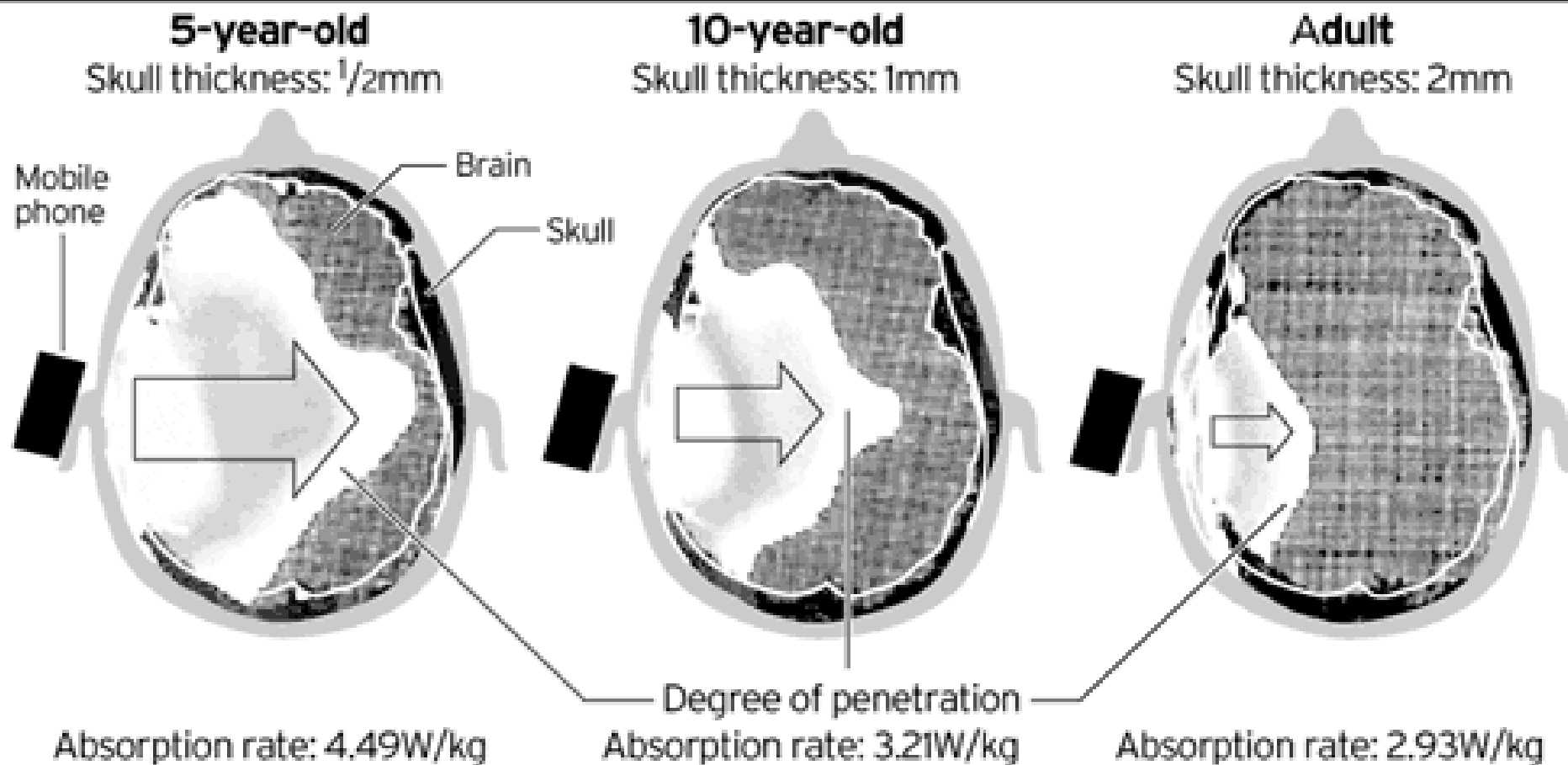
January 23, 2014: The French National Assembly adopted a bill to limit exposure to electromagnetic fields (EMFs) generated by wireless technologies - cell phones, tablets, Wi-Fi etc. This bill will mean the following:

- A ban on Wi-Fi in all childcare facilities for children under the age of 3.
- Cell phone manufacturers will have to recommend the use of hand-free kits.
- A ban on all advertising targeting children under 14.

April 23, 2014: The Israeli Supreme Court issued a conditional injunction requiring the Ministry of Education to explain why it can't install wired networks, and if no strong reasoning, it must use wired over wireless.

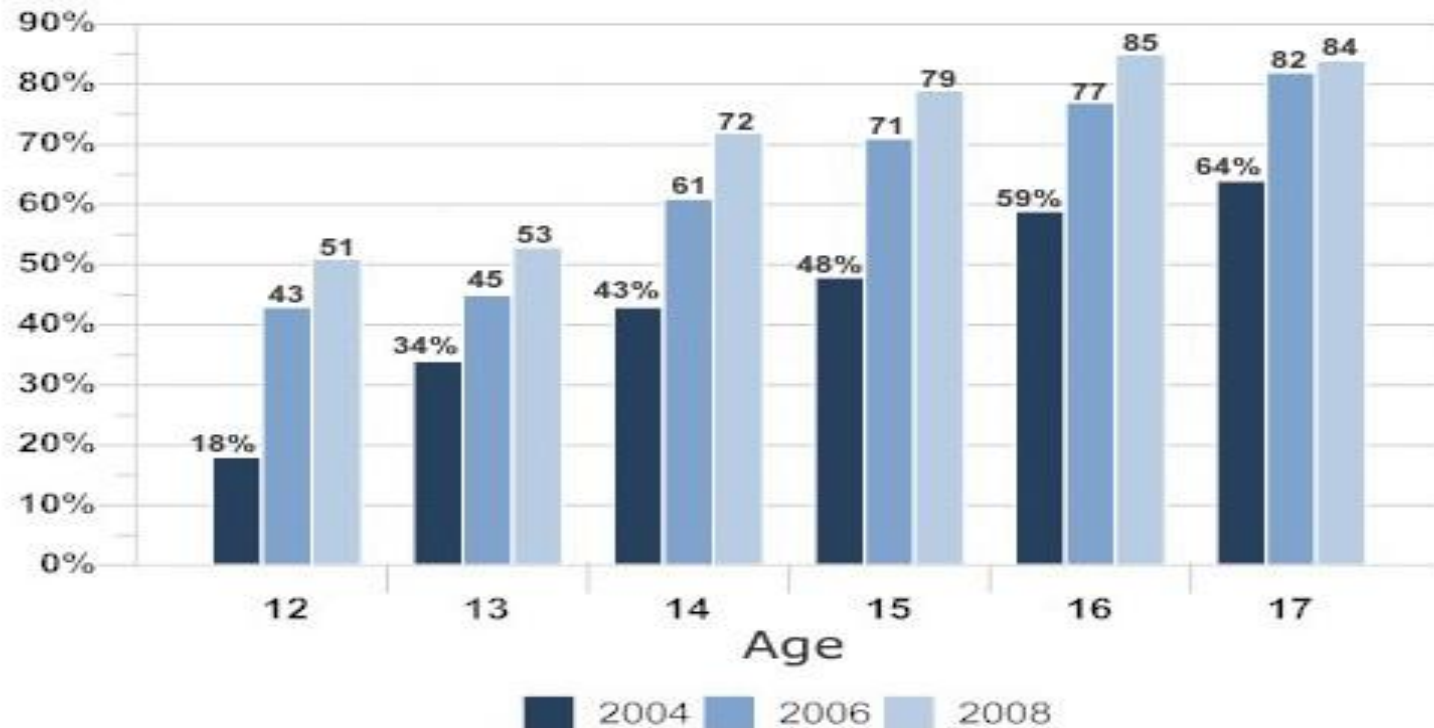
Cell phone radiation penetration

How mobile phone radiation penetrates the brain



Older teens more likely to own cell phones

Percentage of teen cell phone owners by age, 2004-2008



All data based on teens ages 12-17. Source: Pew Internet & American Life Project, Gaming and Civic Engagement Survey of Teens/Parents, Nov. 2007-Feb. 2008. N=1,102 and margin of error is $\pm 3\%$. Margin of error for teens in the Oct.-Nov. 2004 survey is $\pm 3\%$ (n=1,100), and margin of error for the Oct.-Nov. 2006 survey is $\pm 4\%$ (n=935).

Summary of Impacts on Children from cell phone and wi-fi radiation

(Bioinitiative Report, MobileWise UK report, Russian research overseen by Chairman of Russian Natl Committee on Non-Ionizing Radiation Protection, Yale Report "Cell phones: Technology, Exposures, Health Effects")

Some of the Impacts....

- Development in utero
- Cognitive function
- Attention
- Memory
- Perception
- Learning Capacity
- Energy
- Emotions
- Poor sleep
- DNA mutations
- Social skills
- Reaction Time
- Motor Function
- Distraction
- Hyperactivity
- Inability to focus on long-term tasks
- Fatigue
- Impaired fertility
- Autism?

Young People

Tiffany Franz carried her cell phone in her bra every day for four years, against her mother's advice



Tiffany and Dr. Oz
December 6, 2013

[link to show](#)

Franz developed cancerous tumors in the exact same area of her breast, on the same side, where her cell phone rested. She underwent genetic testing, which was negative (she was not predisposed to cancer). In March 2012, Tiffany had surgery to remove her left breast, and underwent radiation treatment. In February 2013, doctors told Franz her breast cancer had spread to her hip, and cancerous lesions had developed on her spine, pelvic bone, ribs and skull. She underwent radiation treatment again, and now takes cancer drugs and gets intravenous bone-building treatments.

CELL PHONE WARNINGS

Samsung

For body worn operation, this phone has been tested and meets FCC RF exposure guidelines when used with an accessory that contains no metal and that positions the handset a minimum of 1.5 cm from the body.

iPhone

When carrying iPhone, keep it 1.5 cm (5/8 inch) or more away from your body to ensure exposure levels remain at or below the maximum levels. Avoid cases with metal parts.

Pantech

RF exposure FCC

For body worn operation, to maintain compliance with FCC RF exposure guidelines, use only accessories that contain no metallic components and provide a separation distance of 20 mm (0.6 inches) to the body. Use of other accessories may violate FCC RF exposure guidelines and should be

Electro-Hypersensitivity (EHS)

EHS is recognized as a valid disease by World Health Organization:

<http://www.who.int/peh-emf/publications/facts/fs296/en/>

About 20% of the population is estimated to have one or more symptoms:

Insomnia

ringing in the ears and noises in the head

Headache

Memory problems; Concentration problems

Heart palpitations

Heat sensation

Redness in the face

Rush of blood to the head

Pressure on the head temples

Pressure in the inside of the ears

Feeling incoming calls as a sharp pain in the head and eyes

Restlessness

Tingling sensations

Fatigue

And:

Nausea

Dizziness

Depression

Digestive disturbances

“No Radiation For You” <http://www.norad4u.com/>

- one of many websites for electro-hypersensitive people

Major Health Organizations

World Health Organization

In 2002, and then in May 2011, the International Agency on Research on Cancer, an agency of the World Health Organization, classified (1) electromagnetic fields and (2) radiofrequency or microwave radiation as a possible (Class 2B) human carcinogens.

American Academy of Environmental Medicine

“Adverse health effects from wireless radio frequency fields, such as learning disabilities, altered immune responses, and headaches, clearly exist and are well documented in the scientific literature. Safer technology, such as use of hard-wiring, is strongly recommended in schools.” - October 3, 2012.

National Academy of Sciences National Research Council

Issued a 2008 report entitled: *“Identification of Research Needs Relating to Potential Biological or Adverse Health Effects of Wireless Communications.”* **It recommends research that focuses on exposures to juveniles, children, pregnant women, fetuses, the elderly, and persons with implanted medical devices, from personal wireless devices, and RF fields from base station antennas, including multiple antenna source conditions to affected individuals.**

Politics

Early Recommendations for Strengthening US Safety Standards

1993: Environmental Protection Agency (EPA): The FCC's exposure standards are “[seriously flawed](#).”

Comments of EPA to the FCC on guidelines for evaluation of electromagnetic effects of radio frequency radiation, FCC Docket ET 93-62, November 9, 1993.

1993: Food and Drug Administration (FDA): “[FCC rules do not address the issue of long-term, chronic exposure](#) to RF fields.”

Comments of the FDA to the FCC, November 10, 1993.

1993: National Institute for Occupational Safety and Health (NIOSH): The [FCC's standard is inadequate](#) because it “is based on only one dominant mechanism—adverse health effects caused by body heating.”

Comments of NIOSH to the FCC, January 11, 1994.

The “Mistake” By the FCC (1 of 3)

The Mistake:

In 1996, the FCC set safety guidelines that dismissed the importance of any biological effects **except direct heating like a microwave oven.**

The “Mistake” By the FCC (2 of 3)

In 1999, the FCC issued another major report addressing the growing questions and **repeated this position:**

Questions and Answers about Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields

http://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf

“...At relatively low levels of exposure to RF radiation, i.e., field intensities lower than those that would produce significant and measurable heating, the evidence for production of harmful biological effects is ambiguous and unproven. Such effects have sometimes been referred to as "non-thermal" effects. Several years ago publications began appearing in the scientific literature, largely overseas, reporting the observation of a wide range of low-level biological effects. However, in many of these cases further experimental research was unable to reproduce these effects. Furthermore, there has been no determination that such effects might indicate a human health hazard, particularly with regard to long-term exposure. More recently, other scientific laboratories in North America, Europe and elsewhere have reported certain biological effects after exposure of animals ("*in vivo*") and animal tissue ("*in vitro*") to relatively low levels of RF radiation. **These reported effects have included certain changes in the immune system, neurological effects, behavioral effects, evidence for a link between microwave exposure and the action of certain drugs and compounds, a "calcium efflux" effect in brain tissue (exposed under very specific conditions), and effects on DNA. Some studies have also examined the possibility of a link between RF and microwave exposure and cancer. Results to date have been inconclusive.**

While some experimental data have suggested a possible link between exposure and tumor formation in animals exposed under certain specific conditions, the results have not been independently replicated. In fact, other studies have failed to find evidence for a causal link to cancer or any related condition. Further research is underway in several laboratories to help resolve this question.

In general, **while the possibility of "non-thermal" biological effects may exist, whether or not such effects might indicate a human health hazard is not presently known. Further research is needed** to determine the generality of such effects and their possible relevance, if any, to human health. In the meantime, standards-setting organizations and government agencies continue to monitor the latest experimental findings to confirm their validity and determine whether alterations in safety limits are needed in order to protect human health....”

The “Mistake” By the FCC (3 of 3)

In 2012, the U.S. General Accounting Office issued the following:

Recommendation: The Chairman of the FCC should formally reassess the current RF energy exposure limit, including its effects on human health, the costs and benefits associated with keeping the current limit, and the opinions of relevant health and safety agencies, and change the limit if determined appropriate.

<http://gao.gov/products/GAO-12-771> - GAO-12-771, Jul 24, 2012

Three years and a half year later, as of this presentation (Feb. 18, 2016), **the FCC has not done so.**

http://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf

The Telecommunication's Industry

\$200,000,000,000 revenue
per year (\$200 Billion)

\$21,000,000,000 profit
per year (\$21 Billion)

Congress Eliminated All Accountability

Telecommunications Act of 1996:

- Prohibited any restrictions for health or environmental protection on the siting of all fixed wireless communication devices, such as cell towers – including on school property (Prior to this act, President Clinton had signed a Proclamation that Cell towers should not be put on school property)
- Prohibited any lawsuits against the entire wireless industry for cell phone health damage:

August 8, 2014: Twenty-nine high-profile lawsuits brought by people whose brain tumors were caused by their cell phones are finally moving toward trial. Six of these cases were originally filed in 2001 and 2002. **Many of the plaintiffs are no longer alive.**

On Friday, Judge Frederick H. Weisberg, in the D.C. Superior Court, admitted the testimony of five expert witness for the plaintiffs, and the 12- and 13-year-old cases will now move into the discovery phase.

The 46 defendants including Motorola, Nokia, AT&T, Bell Atlantic, Cellular One, Cingular Wireless, SBC Communications, Verizon, Vodafone, the Telecommunications Industry Association, the IEEE, ANSI, the CTIA, and the FCC. The plaintiffs are represented by Jeffrey B. Morganroth of Morganroth & Morganroth, a law firm in Birmingham, Michigan.

For over a decade the industry and the plaintiffs have played tug-of-war with the oldest cases, sending them back and forth between federal and state courts, and fighting over whether the plaintiff's claims were preempted by the Telecommunications Act of 1996.

In 2009 the D.C. Court of Appeals, in *Murray v. Motorola* (982 A. 2d 764), ruled that **the telecommunications companies could not be sued over brain tumors caused by cell phones manufactured after 1996**. But since all of these plaintiffs had used pre-1996 phones, their lawsuits were allowed to go forward. They were also allowed to go forward on their claims that the defendants made false and misleading statements and failed to disclose information about the dangers of cell phones. These claims were brought under the D.C. Consumer Protection Procedures Act. <http://www.saferemr.com/2014/08/major-breakthrough-in-cellphone.html>

Federal Agency Regulatory Status

Agency	Authority	Status
Federal Communications Commission (FCC)	responsible for regulating the radio, television and phone industries	major regulator – no health expertise
Food & Drug Administration (FDA)	responsible for regulating the safety of machines and devices that emit radiation including cell phones	contributes lightly to FCC rule-making
Environmental Protection Agency (EPA)	responsible for environmental health threats and regulation	contributes lightly or not at all to FCC rule-making
Occupational Health and Safety Administration (OSHA)	responsible for safe and healthful working conditions	no involvement - despite nearly all American workers now exposed at work
Consumer Product Safety Commission	responsible for protecting public from injury from consumer products	no involvement - 320 million people exposed
US Surgeon General	leading spokesperson on matters of public health for the federal government	no involvement – thousands of studies showing harm
Federal Trade Commission (FTC)	responsible for fraudulent advertising	no involvement, despite photos showing people holding to the ear/head violating FCC rules
Department of Interior	responsible for migratory birds	calls FCC standards inapplicable and out of date, and calls for independent, third-party research

Department of Interior letter

The Director of the Office of Environmental Policy and Compliance of the United States Department of the Interior sent a letter to the National Telecommunications and Information Administration in the Department of Commerce that addresses the Interior Department's concern that cell tower radiation has had negative impacts on the health of migratory birds and other wildlife.

The Interior Department **accused the Federal government of employing outdated radiation standards set by the FCC, a Federal agency with no expertise in health.** The standards are no longer applicable because they control only for overheating and do not protect organisms from the adverse effects of exposure to the low-intensity radiation produced by cell phones and cell towers.

Enclosure A of DOI Letter:

"The second significant issue associated with communication towers involves impacts from nonionizing electromagnetic radiation emitted by these structures. Radiation studies at cellular communication towers were begun circa 2000 in Europe and continue today on wild nesting birds. Study results have documented nest and site abandonment, plumage deterioration, locomotion problems, reduced survivorship, and death (e.g., Balmori 2005, Balmori and Hallberg 2007, and Everaert and Bauwens 2007). **Nesting migratory birds and their offspring have apparently been affected by the radiation from cellular phone towers in the 900 and 1800 MHz frequency ranges- 915 MHz is the standard cellular phone frequency used in the United States.** However, **the electromagnetic radiation standards used by the Federal Communications Commission (FCC) continue to be based on thermal heating, a criterion now nearly 30 years out of date and inapplicable today.** This is primarily due to the lower levels of radiation output from microwave-powered communication devices such as cellular telephones and other sources of point-to-point communications; levels typically lower than from microwave ovens. **The problem, however, appears to focus on very low levels of non-ionizing electromagnetic radiation.** For example, in laboratory studies, T. Litovitz (personal communication) and DiCarlo et al. (2002) raised concerns about impacts of low-level, non-thermal electromagnetic radiation from the standard 915 MHz cell phone frequency on domestic chicken embryos- with some lethal results (Manville 2009, 2013a). Radiation at extremely low levels (0.0001 the level emitted by the average digital cellular telephone) caused heart attacks and the deaths of some chicken embryos subjected to hypoxic conditions in the laboratory while controls subjected to hypoxia were unaffected (DiCarlo et al. 2002). To date, no independent, third-party field studies have been conducted in North America on impacts of tower electromagnetic radiation on migratory birds. With the European field and U.S. laboratory evidence already available, independent, third-party peer-reviewed studies need to be conducted in the U.S. to begin examining the effects from radiation on migratory birds and other trust species."

Refusal to accept the facts

This ebook written By Norm Alster , Harvard University Dept. of Ethics explains why the needed regulations aren't coming:

[Captured Agency: How the Federal Communications Commission Is Dominated by the Industries It Presumably Regulates](#)

This book documents some of the pressure put on researchers finding harm:

Cell Phones: Invisible Hazards in the Wireless Age: An Insider's Alarming Discoveries about Cancer and Genetic Damage – Dr. George Carlo, Dr. Martin Schram

Dr. Carlo was the major telecom industry researcher until he found problems with wireless; then he was denied any additional funding to continue studies on the harm he had found.

Other researchers documenting harm have been intimidated, marginalized, and attacked on personal grounds.

Suppression of Safety Information

San Francisco 2010 – the mayor proposes the safety rating (Specific Absorption Rate) be shown to the consumers in the same font size as the price. Result:

“...Months before the bill passed, [Mayor Gavin Newsome] read me [Maureen Dowd] part of a letter that Marriott sent him:

‘CTIA — The Wireless Association, which is scheduled to hold a major convention here in October 2010, has already contacted us about **canceling their event if the legislation moves forward**. They also have told us that they are in contact with Apple, Cisco, Oracle and others who are heavily involved in the industry, as you know, about not holding future events in your city for the same reason.’

Sure enough, when the bill passed Tuesday, CTIA issued a petulant statement that after 2010, it would relocate its annual three-day fall exhibition, with 68,000 exhibitors and attendees and **“\$80 million” in business, away from San Francisco**.

“Since our bill is relatively benign,” Newsom said, “it begs the question, why did they work so hard and spend so much money to kill it? I’ve become more fearful, not less, because of their reaction....”

- Are Cells the New Cigarettes? Maureen Dowd, New York Times, June 26, 2010

[Now] California Lt. Governor Gavin Newsome –
“They buy silence. They buy apathy. They buy politicians.”

Suppression of Media Coverage and Public Information

GQ - Christopher Ketcham said that after he submitted his article on potential wireless dangers [to his editors], he and his co-author had to sit it on for a year as they fought with their editorial and business units about [the cell phone industry's] threat to withdraw all funding", about \$1 million/year.

"It's absolutely clear cell phone companies use whatever leverage they have to undermine the spread of information that's raising questions about this"

– Lawrence Lessage, in Comments to the FCC, by Kevin Kunze

<http://apps.fcc.gov/ecfs/document/view?id=7520940431>

American Academy of Pediatricians

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



AAP Headquarters

141 Northwest Point Blvd
Elk Grove Village, IL 60007-1019
Phone: 847/434-4000
Fax: 847/434-8000
E-mail: kidsdocs@aap.org
www.aap.org

Reply to

Department of Federal Affairs
Homer Building, Suite 400 N
601 13th St NW
Washington, DC 20005
Phone: 202/347-8600
Fax: 202/393-6137
E-mail: kids1st@aap.org

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August 29, 2013

The Honorable Mignon L. Clyburn
Acting Commissioner
Federal Communications Commission
445 12th Street SW
Washington, DC 20054

The Honorable Dr. Margaret A. Hamburg
Commissioner
U.S. Food and Drug Administration
10903 New Hampshire Avenue
Silver Spring, MD 20993

Dear Acting Chairwoman Clyburn and Commissioner Hamburg:

The American Academy of Pediatrics (AAP), a non-profit professional organization of 60,000 primary care pediatricians, pediatric medical subspecialists, and pediatric surgical specialists dedicated to the health, safety and well-being of infants, children, adolescents, and young adults appreciates this opportunity to comment on the Proposed Rule “Reassessment of Exposure to Radiofrequency Electromagnetic Fields Limits and Policies” published in the Federal Register on June 4, 2013.

“...Protect children’s health and well-being. Children are not little adults and are disproportionately impacted by all environmental exposures, including cell phone radiation. **Current FCC standards do not account for the unique vulnerability and use patterns specific to pregnant women and children.** It is essential that any new standard for cell phones or other wireless devices be based on protecting the youngest and most vulnerable populations to ensure they are safeguarded throughout their lifetimes...”

Response to the Pediatricians by the FCC:

Response to the Pediatricians by the FCC:

(previous slide intentionally left blank –
the FCC has not responded to our children's doctors)

Repeating the Tragedy of X-rays,
Asbestos, DDT, Thalidomide, Cigarette
Smoking, etc.

Like the tragic products above, there has been no pre-market testing.

The FCC decided pre-market testing is not required, based on its outdated position that “thermal heating is the only possible problem”.

Schools (1 of 2)

After massive saturation of the consumer market (selling phones to individuals for their private use), the industry started on another huge market, with nearly unlimited funding for technology acquisition, but very little technical understanding by the oversight authorities and no accountability for medical harm:

our local school systems.

Industry is using a stampede “buy it now and don’t ask questions” approach, like a car salesperson with all the warning signs of a scam – “gotta get it now”, there’s a time pressure, no time to ask questions, this big money is going to go, what will the neighbors think if you don’t...

Bill Gates pumped over \$20 million into the National Governors’ Association and the Council of Chief State Superintendents Organization to promote this technology approach. The stated goal of the Gates Foundation “to create a global education system.”

Gates has since given an additional \$7 million to ensure development and Congressional enactment of this initiative.

Schools (2 of 2)

Common Core Education Initiative:

2017 – Federal deadline for schools to be able to administer the Common Core standardized tests online, primarily through tablets, as even laptops are too expensive

Federal money which enforces this initiative flows from the feds to states to local school systems.

The Obama administration states it wants all children to have Internet access in all schools in the country. But the approach is based on wireless, since wiring all schools by 2017 would be prohibitively expensive. The schools must still purchase devices.

A Critique of the National Association of Independent School's One Page Statement, "Non-Ionizing Radiation: Literature Review" (June 2014) Regarding the Potential for Biological and Health Effects to Children from Wireless Radiation Transmitters (WiFi) in Schools

<http://electromagnetichealth.org/electromagnetic-health-blog/nais-critique/>

This document is a response to the NAIS statement. It offers reasons why schools charged with the care of children, adolescents and young adults ought to 1) not chronically expose students, faculty and administrators to wireless radiation; 2) practice the 'Precautionary Principle' when it comes to all types of electromagnetic field exposures (ELF and RF); and **3) utilize safer, faster and more secure hard-wired means of providing schools with networked computers and high speed digital internet connections.**

The response also calls on NAIS to retract its post, to investigate the subject more thoroughly, and to give NAIS member schools a more complete and realistic picture of the risks.

United Federation of Teachers

Not just our children, but teachers face this immersion in multiple wireless exposures, as part of their occupational environment:

United Teachers Los Angeles (UTLA), representing over 40,000 teachers and other workers in LA Unified School District, passed a resolution to ensure safety from hazardous electromagnetic fields (EMF) in Schools including EMF Emissions from wireless technology:

“..... UTLA will advocate for technological solutions that maintain technology upgrades while not increasing employees exposure to electromagnetic radiation....” - March 7, 2013

<http://www.emfacts.com/2013/03/la-teachers-union-passes-resolution-to-ensure-safety-from-wireless-technology/>

California Medical Association adopted these resolutions – Dec., 2014

- RESOLVED; that the CMA understands that existing public safety limits for microwave EMF devices are outdated and inadequate to protect public health thus endorses efforts of the Federal Communications Commission to reevaluate its safety standards to include consideration of adverse non thermal biologic and health effects from non ionizing electromagnetic radiation used in wireless communications; and be it further
- RESOLVED; that the CMA supports efforts to implement microwave safety exposure limits to levels that do not cause human or environmental harm based on scientific research, and be it further
- RESOLVED; that the CMA set up a task force to determine adequate precautionary recommendations for the use of cell phones and wireless devices for schools and children

Berkeley, CA Passes Cellphone Ordinance

U.S. District Judge Edward Chen, Sept., 2015, citing Federal Communications Commission research, upheld the city ordinance to require sellers to inform customers that keeping a device in a pocket or bra could lead to radiation exposure that exceeds federal guidelines. Chen concluded there was “a reasonable scientific basis” to believe that such emissions “at some levels can and do present health risks.”

Precautionary Principle of Regulation

The U.S. President's Cancer Panel Report of 2009-103 identified electromagnetic radiation, the non-ionizing energy generated by the growing multitude of wired and wireless technologies, as one of several environmental toxins that many experts believe are the cause of increased cancer rates. This report concludes by recommending:

“a precautionary prevention-oriented approach over the reactionary approach to environmental contaminants in which human harm must be proven before action is taken to reduce or eliminate exposure.”

Other Nations and International

There are large EMF reduction and protective movements in other countries. They are generally ahead of the US.

France, Russia, Israel, and other countries are removing wireless (aka Wi-Fi) from some of their schools systems.

Three European cities, Frankfurt, Bavaria and Salzburg have taken the stand against the use of WLAN in schools.

The Green Party in France supports enacting the precautionary policy for Wi-Fi in schools. (The Green Party in the US supports the precautionary principle for all regulation.)

International EMF Scientist Appeal

- Petition calls for precautionary health warnings & A stronger regulation of electromagnetic fields
- Submitted to UN & WHO (May11, 2015)
- Signed by 218 EMF scientists from 40 nations
- EMFscientist.org
- *European Journal of Oncology*

Why have 218 scientists signed the petition?

- Proliferation of wireless technology
- Scientific evidence suggests health risks
- Government regulations fail to protect humans and other species

100+ Things You Can Do To Use Wireless Devices More Safely

Avoid blue light frequency from phone and computers

- **Blue light frequency** from screens of cell phones and computers tell the pineal gland sun is present.
- Inhibits melatonin production. We need this for sleep.
- **Melatonin potent antioxidant and inhibits cancer!!** Most Americans low b/c using computer and phones long after 9pm.
- Recent studies show blue light over time affects retina and vision.
- **Blue light filters** now available for phone by free app on Google by “Hardy Infinity”. Use **F.lux** filter on your computer screen. **Lowbluelights.com or sleepshield.com.** for Ipad, phone, computer shields. Yellow glasses can be worn to filter out blue light frequency.



Wireless radiation affects sleep

Mobile phone radiation disrupts sleep, causes headaches according to a 2008 [study](#) funded by the Mobile Manufacturers Forum (MMF), which is made up of industry giants like Nokia and Motorola.

Research from the Wayne State University in the US and Karolinska Institute in Sweden have found in a study that wireless radiation emitting from mobile phones cause headaches, change of moods, confusion and interrupt vital sleep patterns. Symptoms of mobile phone radiation were observed in 38 of the 71 study participants.

The study indicates that during laboratory exposure to 884 MHz wireless signals, [components of sleep](#), believed to be important for recovery from daily wear and tear, [are adversely affected](#). The researchers also said that mobile phone radiation extended the period of time it took for participants to wind down and fall asleep. In addition, when exposed the participants exhibited a longer latency to deep sleep.

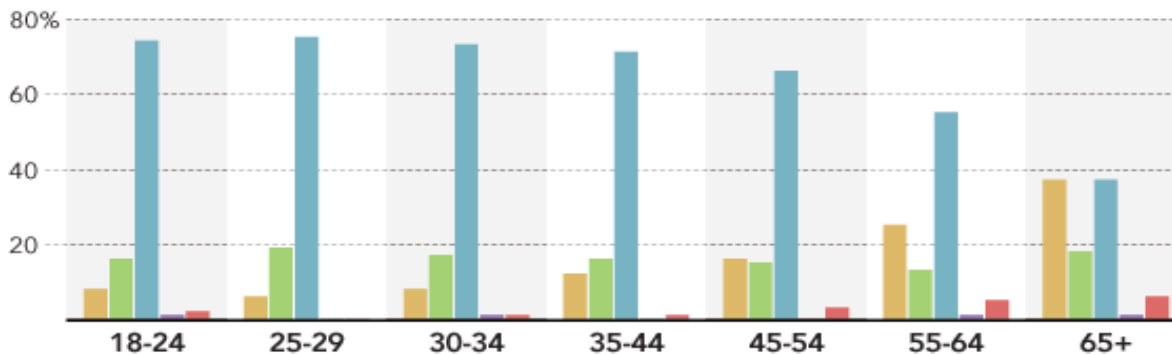
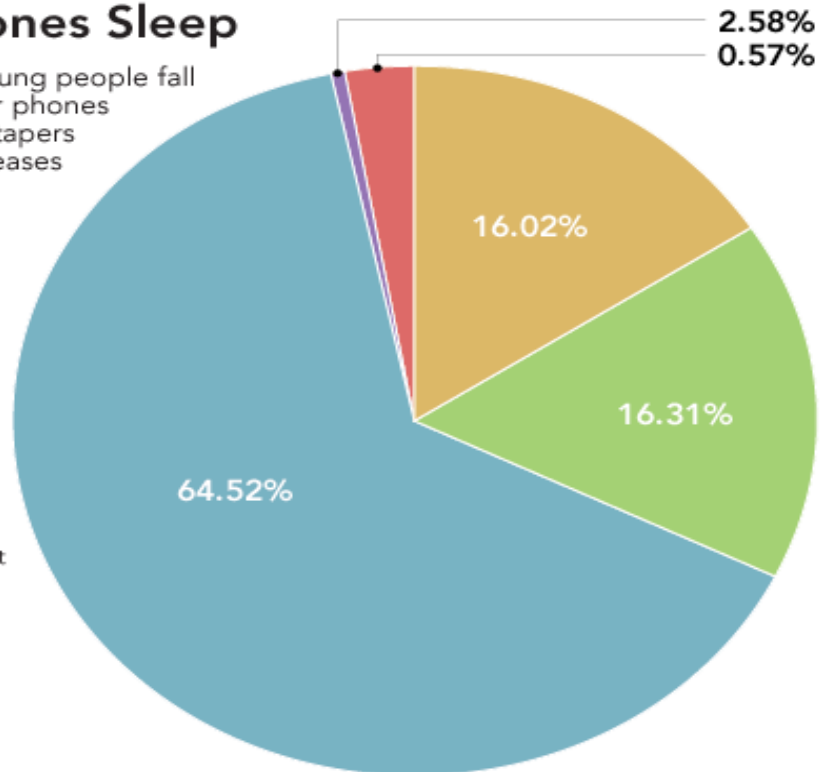
Participants that otherwise had no self-reported symptoms related to mobile phone use appear to have more headaches during the actual radiofrequency exposure as compared to sham exposure,"

"We did find an effect from mobile phones from exposure scenarios that were realistic," Professor Arnetz was quoted as telling the newspaper.

Where Our Phones Sleep

Nearly three-quarters of young people fall asleep each night with their phones within reach. That number tapers off in middle-age and decreases in the 65+ category, where people are equally likely to sleep with their phone in another room. Using a phone before bed has been shown to interfere with length and quality of sleep.

- In a different room from where I sleep
- In my bedroom, but not in a place where I can reach it
- Next to my bed, in a place where I can easily reach it
- In the car
- Other / Varies



Source: Qualcomm; Time, via Statista

THE HUFFINGTON POST

Power-off your wireless devices while you sleep. It's easy:

- Each evening follow these 7 easy steps :
 - Power-off [Cell phones](#) or [PDA's](#) (iPhone, Blackberry) – do not leave on standby.
 - Unplug [cordless phones](#) (you can plug in a corded phone for emergencies - \$12.95).
 - Turn-off [WiFi](#) (you must unplug the router as most don't have an on-off switch).
 - Power-off all [laptop computers](#) (most transmit, even on standby).
 - Turn off all [games consoles](#).
 - Turn off all computer monitors and televisions
-
- **If you want to even be healthier**
 - Perform the above steps and
 - Remove all [compact fluorescent light bulbs](#)(CFL's) from living areas. Use incandescents.
 - Move [alarm clock](#) more than 5 feet from body (battery-powered clocks can stay).
 - Avoid [recharging devices](#): always keep recharging devices away from people and avoid recharging while sleeping, if possible.

“Distance is our Friend”

distance² = reduction in force

Top 10 Things You Can Do – Cell Phones (1 of 7)

1. Minimize the time spent talking on a cell phone
2. Use an air tube headset (hollow tube headset different than a blue tooth) when speaking on the phone
3. Use the speakerphone
4. Text information, but never when driving
5. When not in use, keep your phone away from your body in a purse or bag
6. Keep cell phones off or in airplane mode when not needed
7. Allow older children to text and only speak on the phone in an emergency
8. Don't talk on a cell phone in a car, bus, or train
9. Avoid wearing metal-rimmed glasses. These glasses can reflect cell phone radiation and all other radiofrequency towards the eye.
10. Keep cell phones away from small children. *(formal safety warning in cell phone booklet)*



The 90 Other Things You Can Do - More Cell Phones Tips (2 of 7)

11) Read the directions

12) Use airplane mode when sleeping – this allows the alarm and clock to be used, rather than turning completely off . For other EMR reasons, many experts recommend turning off completely if in a room used for sleeping. 13) Don't sleep with it in your bed, as the phones have been know to catch on fire. Children may try to do this if they keep a cell phone at night.

14) If you have to charge it in the bedroom while sleeping (like a hotel room) make sure it is off – just plug it in, the battery will still charge

15) Don't use vibrate or mute thinking it is not “on” as much – it is still full powered and radiating

16) Keep a cell phone in your purse or backpack and out of your pocket

17) Keep at end of extended arm when turning on and off (higher surge, using 3 times the power, by cell phone for on and off connectivity)

18) Only use belt clips that do not have metal parts

19) Purchase a cell phone shield for hip holster



The 90 Other Things You Can Do - More Cell Phones Tips (3 of 7)

20) Refrain from using your cell phone in a car, bus or train. Metal reflects RFR, and it bounces around you when on a cell phone in this environment.

21) Avoid using a cell when traveling fast (including on train or bus) – it uses triple strength RF trying to switch cell towers quickly

22) Yes, use your built-in car cell phone (in the steering wheel these days), it's a little safer than a handheld cell. It still produces RFR. If we could turn this off entirely when not in use, we would be safer.

23) Disconnect the bluetooth in your car

24) Crack a window if you have to make a quick call while in the car



The 90 Other Things You Can Do - More Cell Phones Tips (4 of 7)

- 25) Disconnect the GPS if you can – know where you’re going or use a map
- 26) Use a roof antenna on your car for safer cell phone usage
- 27) Roll up the window when passing a cell phone tower
- 28) If you have lost a cell phone signal, do not try to reestablish it in the same location. The amount of RFR you are exposed too will be high. Wait until you are in a different location to reestablish the connection.
- 29) Don’t buy cars that have a lot of wireless components to them – they’re more expensive too!

The 90 Other Things You Can Do - More Cell Phones Tips (5 of 7)

30) Keep at end of arm's length in your office if you have to have it on, such as at the edge of your desk

31) In conference rooms, place it as far in front of you as possible on a conference table, not near your body (try not to check texts during meetings, it shouldn't be that close – or pull close to check, then move it away)

32) Refrain from using in an elevator. It's like being in a metal container and the RFR bounces all around it. Everyone in the elevator is exposed to this. Imagine what the radiation level is when three people are using their phone at the same time!



The 90 Other Things You Can Do - More Cell Phones Tips (6 of 7)

33) Require your children to hand in their cell phones to you at 9 p.m. each night (with explanation, and watching a video with them about teen breast cancer, other info)

34) Children should NEVER carry a cell phone in bra or pants pocket – make that serious enough that the cell will be taken away if they do.

35) Arrange times to check in with your child on their cell – arriving at school, leaving school - so they only turn it on for 10-15 minutes, until you connect. But they can call you in an emergency (including call your home or office phone, not just your own cell).



The 90 Other Things You Can Do - More Cell Phones Tips (7 of 7)



36) Don't use your phone near a pregnant woman or children.

37) Don't buy "smart clothing" – smart watches, jogging monitors, health monitors unless prescribed by a doctor – anything that touches the body

38) Keep it fully charged – don't use it when the charge is low because it has to use more RFR strength to send out the signal

39) On an airplane with wifi, if a seatmate is using a cell ask if they would refrain, or ask to move to another row (and say why) – even a small distance will help a lot

40) If the airplane is full, stand up in the back of the plane as much as possible, away from anyone using a cell.

41) If living within ¼ mile of a cell phone tower, move. Sorry. Cancer is even less convenient.

Laptops and Computers



42) Place as far away from you as possible when using.

43) Set up a monitor and keyboard (docking station) on your desk, allowing you to place the laptop 18 inches or more away from the body.

44) Carry a standard keyboard with you to plug into your wireless laptop to create distance between you and the laptop – for trips and meetings

45) If traveling, get a specially insulated, flexible laptop bag to lay on your lap or on a table, protecting your legs and abdomen from the radiation.

46) Learn where the antennas are (from the directions) and keep them properly oriented and away from the body.

47) Turn off whenever not using. Shutting the cover does not stop it from emitting RFR.



Laptops and Computers

- 48) Replace your wireless computer with a standard wired desktop computer
- 49) Replace your wireless mouse with a wired mouse
- 50) Replace your wireless keyboard with a wired keyboard
- 51) Remove computer equipment from your bedroom
- 52) Charge laptops at a distance from your body, and run them off their batteries or with a grounded power supply. Try not to charge while you're using it.
- 53) If you have to use a laptop a lot, and/or close to you, buy a shielding hard tablet designed to reflect RFR.

Wi-Fi –

Your Home Computer Wireless System*

54) Starting tonight, shut off your wireless router when you go to sleep; no need to radiate yourself for nothing (a power strip can simplify this)

55) Don't turn on the wireless router in the morning until you need it. For instance, if not using a computer until noon, save yourself three or four hours of radiation.

56) If you use a wireless router, reduce its strength through shielding or putting aluminum foil around the antenna during the time you use it

57) Replace the wireless with wired connections, by buying long cords and running them from the router along the edges of walls to bedrooms and offices. The data packet integrity is better, which means better transmission and streaming video as well!

58) Run one wire up or down to different levels in the house, then use a \$10 splitter to branch out cables to computer-using rooms on each level.

Even though you may get several neighbors' wifi showing up on your system, they are not necessarily at a level of concern. Having a home or office assessment will tell if they are strong enough. More sophisticated protective techniques are available for blocking signals coming into the home.

*** Is radiating you for hundreds of feet ⁷³**



iPads, Kindles, Tablets

- 59) Learn where the antennas are (from the device's directions) and keep them properly oriented and away from the body.
- 60) Give your eyes and body a break - take a 5 minute break every 45 minutes.
- 61) Use them in airplane mode as much as possible
- 62) When downloading, set them on a table and keep some distance
- 63) Turn them off when you are not using them

Cordless Home Phones



THIS IS YOUR TOP PRIORITY IN REDUCING YOUR WIRELESS EXPOSURE

64) Unplug every cordless phone and the primary base tonight. Disable the system entirely.

65) Buy replacement phones for about \$60 each tomorrow – good speaker phones are available now, with caller ID (which may require batteries)

66) Buy a 10 or 25 foot cord to allow lots of movement

67) Call your family and immediate friends, and tell them you will be using your home phone for night-time emergency calls. Remind them of your (old) number.

68) Check all the jacks are working, and have them all activated. Gradually buy enough phones to make it convenient to answer from anywhere in the house – just like about five years ago 😊.

69) Don't donate the cordless phones to charity. Make sure they go to electronics recycling for disassembly.

Smart Meters

70) Opt out – cancer is more expensive than the monthly fee. Opting out also protects privacy. “Opt out” is keeping your analog meter. Note the smart meters consume energy, and cost you about \$7/month anyway.

71) Move beds and desks away from the wall with the meter on it in the interim. Find out your exposure from an assessment.

72) Don't sit near the meter when outside. Place lawn furniture away from that area.

73) Write appliance manufacturers to ask how to disable/disconnect the RFID chip in your new appliance, and disable it. The chip will keep sending microwaves after your smart meter is replaced, to keep trying to report your appliance use. Note if you disconnect the chip the warranty is void. An RF meter will check how much is being sent by your refrigerator (for real).

“We call for an immediate moratorium on ‘smart meter’ installation until these serious public health issues are resolved. Continuing with their installation would be extremely irresponsible.”- American Academy of Environmental Medicine, January 2012.



Wii Entertainment Systems



74) Use wired controllers for video games whenever possible

75) It is difficult to find wired controllers for these games. You can use shielding fabric for your laps when you or your child is playing the games.

76) Unplug the gaming consoles when not in use – XBOX will keep radiating from the console even when the RF antenna is removed, and the control device is hard wired. Teach your child they have to plug it in and unplug it.

77) Limit the time that you are on it to give you/your child's body a break

78) Limit total time. Send your child outside to play.

79) Reduce exposure at friends' houses. Talk to your child's friend's parents, educate them especially with "Wireless Radiation Rescue" book, which is home and family oriented. Ask for a common policy of limited time, and support for non-electronic hobbies, games, and toys. Limit time at friends' houses if necessary.

80) Invite your child's friends to your house for protected gaming or other activities, if her friend's houses are full of RFR

Other Wireless Devices

81) Replace wireless baby monitors with wired monitors

82) Don't buy a wireless home security system

83) Don't use wireless speakers in your living room and recreation rooms

84) Get a home or office radiation assessment from the Center for Safer Wireless to ascertain your exposure to radiofrequency radiation and electromagnetic radiation and follow recommendations on reducing your exposure



Other EMF



85) Don't use microwave ovens

86) Don't eat microwaved food

87) Buy your own meter(s) – enforce the laws and federal safety standards yourself

88) Avoid underwire bras

89) Avoid using electric blankets and electric heating pads

90) Keep electric alarm clocks at least 3 feet from your bed

91) Have the phone company install a Radio Frequency (RF) Filter on your phone line; some people also install shielded phone wire. You may be able to simply plug in a filter at each phone jack.

92) Only buy new electronics that have appropriate harmonic noise filters already installed

93) Ask for a pat-down at airport security. When they say “it's only as much radiation as a cell phone” now you know the problem.



Lights Including Compact Fluorescents and Other Fluorescents

94) Replace compact fluorescent lights that are turned on a lot or frequently, such as kitchen lights, with LED (for efficiency), as the priority

95) Replace compact fluorescent lights that are not on a lot with LED or old incandescent lights

96) Replace dimmer switches with regular switches

97) Replace halogen lights, such as small desk lamps, with LED or incandescent bulbs

98) Replace any other fluorescent lights, such as long tube lights over a basement workbench, with LED or incandescents



Do Not Throw Fluorescents in the Trash. They are hazardous waste due to mercury, and must be taken to hazardous waste recycling/collection.



New, Near-Term & Future Threats: Wireless Eyeglasses, Watches, Cars, Restaurant Drones

99) Don't buy any new wireless technology. Choose wired or go without. The damage is a lifetime accumulation. Create a market demand for wired solutions, not wireless.

100) Don't stand near someone wearing wireless technology – watches may already be on your friends' arms

“Smart Cars Project Wireless Future at Paris Motor Show”

<http://www.wsbtv.com/videos/news/smart-cars-project-wireless-future-at-paris-motor/vfYgc/>

October 12, 2012

“Restaurant chain introduces mistletoe drones”

TGIF restaurant's drones are equipped with an HD camera and a sprig of mistletoe. Restaurant workers control where the drone flies using wireless radiation. Couples caught on the “kiss cam” smooching under the mistletoe drone will receive a gift certificate.

<http://www.journal-news.com/news/entertainment/restaurant-chain-introduces-mistletoe-drones/njDJY/>

Nov. 21, 2014



11 Reasons To Bring Back Landlines In 2014 (Seriously)

By Brie Dyas, Huffington Post

1. It can save you're butt in an emergency.

If the power goes out, your phone will still work. You won't have to do what I did after Superstorm Sandy knocked out my power for over a week, which was travel nearly a state over to find a working outlet to recharge my phone.

2. No weird health concerns.

Though research is still ongoing (and hotly debated), there are concerns that cell phones might have a connection to anything from cancer to anxiety.

3. You can hear everyone much better.

I strongly believe that there's a deadzone specifically over my apartment.

4. Your connection doesn't suddenly drop off mid-sentence.

5. You're probably paying for it anyway.

I once tried to get rid of my landline in an attempt to decrease my cable bill. Without it, the bill was actually higher. Like Grandmas everywhere, I'm of the opinion that if you're paying for it, you might as well use it.

6. Old-school phones look really cool.

7. You can focus a little bit more on the conversation.

Or, you can actually have a conversation instead of relaying everything in text form.

8. No one can make you upgrade your home phone.

9. You can slam down the receiver when angry.

10. You'll get a better night's sleep.

Having a phone by your bed is an invitation to check your damn email right before you go to sleep, which is a surefire way not to go to sleep.

11. You can't accidentally butt-dial anyone.

It's happened to every single one of us, usually at the worst times.

Be wary:

- Belt clips that deliberately reflect RFR away from your body. You may instead be radiating someone else standing nearby, such as a friend, a stranger on an elevator, even a pregnant person standing nearby that you can't see is pregnant.
- Crystals – we haven't seen them work. Some say they really help.



Colemanite
Photo by Rob
Lavinsky of
irocks.com

Protecting Your Community

- Talk to friends
- Share this presentation and inform others about the Center for Safer Wireless - volunteer
- Buy a video or two from the Resources list at the end of this presentation, and circulate to friends
- Talk to your local school board members to educate them on the facts of this issue. There are schools pulling out wireless- Ashburn, MA and some private schools
- Oppose Bill Gates' project for wireless birth control implants:

'Remote control' contraceptive chip available 'by 2018'

- Bill and Melinda Gates Foundation

<http://www.bbc.com/news/technology-28193720>

(bonus problem - anyone can stop your birth control and you wouldn't know until you were pregnant)



This article also reports the pharmaceutical industry is planning to **distribute many drugs by microwave-controlled chips** in the future.

Some Final Questions

Why are the speakers located on the back of a cell phone, pointing away from us, making it harder to hear? (except for one company)

Why have the cell phone companies emphasized developing the camera quality, and not the speaker quality?

Why is the health and safety information in a separate booklet from the “Welcome/How to Use this Device” booklet, and instead combined with the warranty information?

Why is the font size of the health and safety warnings half the size of the text on how to use the device?

Answer: Our health, safety, and survival is not an important priority for the telecommunications industry.

You must protect yourself.

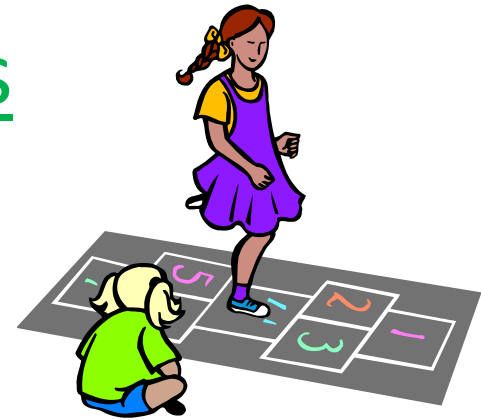
*Every wireless device is a small
microwave oven with the door open.*

How close do you want to be?



More Wireless Solutions

Love attention hugs time
books cards boardgames hikes
puzzles hobbies daydream
volunteer visit a museum
scavenger hunt massage dance
sleep talk to a neighbor listen to
stories paint garden learn a
language exercise play with pets



Appendices

Resources for More Information (1 of 4)

Documentaries available on CD:

- Resonance: Beings of Frequency <https://www.facebook.com/resonancebeingsoffrequency>
- Mobilize – about cell phones <http://www.mobilizemovie.com/>
- Take Back Your Power - about smart meters takebackyourpower.net
- Full Signal: The Hidden Cost of Cell Phones (rent online for \$2.99)
<https://www.youtube.com/watch?v=n7DPO7QAFfs>

Websites and Organizations (hundreds on the web):

- Center for Safer Wireless <http://www.centerforsaferwireless.us/>
- Environmental Health Trust <http://ehtrust.org/> – Devra Davis, Executive Director
- Electrical Pollution Solutions <http://www.electricalpollution.com/> - petition against FirstNet
- Canadians for Safe Technology c4st.org – founded by Frank Clegg, former President of Microsoft Canada
- <http://microwavenews.com/>
- No Radiation For You norad4u.org (norad4u.blogspot.com)

Resources for More Information (2 of 4)

Prominent doctors:

- Dr. Stephen Sinatra
- Dr. David Carpenter
- Dr. Steven Servan-Schreiber (brain tumor survivor)

Prominent experts and advocates:

- Devra Davis, PhD MPH
- Kerry Crofton, MS
- Joel Moskowitz, PhD – Director, Center for Community Health, UC Berkeley
- Cindy Sage, Sage Associates, co-editor of Bioinitiative.org

Resources for More Information (3 of 4) – Books

Books in order of recommendation, though all are fine:

- Wireless Radiation Rescue: Safeguard Your Family from ElectroPollution - Dr. Kerry Crofton (*basic practical guidance*)
- Disconnect: The Truth About Cell Phone Radiation, What the Industry Is Doing to Hide It, and How to Protect Your Family – Dr. Devra Davis
- An Electronic Silent Spring: Facing the Dangers and Creating Safe Limits – Katie Singer (*marvelous indepth coverage of all issues including wildlife*)
- Dirty Electricity: Electrification and the Diseases of Civilization, by Samuel Milham, M.D., MPH
- More Silent Fields: Cancer and the Dirty Electricity Plague – Donna Fisher
- Earthing: The Most Important Health Discovery Ever? – Clinton Ober, Stephen Sinatra, MD, Martin Zucker
- Public Health SOS: The Shadow Side of the Wireless Revolution - Camilla Rees and Magda Havas

Resources for More Information (4 of 4) - Books

- Zapped: Why Your Cell Phone Shouldn't Be Your Alarm Clock and 1,268 Ways to Outsmart the Hazards of Electronic Pollution - Ann Louise Gittleman
- Cell Phones: Invisible Hazards in the Wireless Age: An Insider's Alarming Discoveries about Cancer and Genetic Damage – Dr. George Carlo, Dr. Martin Schram (*Carlo was the primary telecom industry researcher until he found problems with wireless; then was denied any additional funding*)
- Overpowered: The Dangers of Electromagnetic Radiation (EMF) and What You Can Do About It – Martin Blank PhD
- Electromagnetic Radiation Survival Guide: Step by Step Solutions -Protect Yourself & Family NOW – Dr. Jonathan Halpern (*electrohypersensitivity*)

Where Can I Go That is RFR-Free?

National Radio Quiet Zone (NRQZ):

http://en.wikipedia.org/wiki/United_States_National_Radio_Quiet_Zone

The **National Radio Quiet Zone** is a large area of land on the borders of Virginia and West Virginia in which radio frequency transmissions are strongly restricted by law, to facilitate scientific research and military intelligence.

The Zone is approximately 13,000 square miles (34,000 km²) in size. The NRQZ houses the National Radio Astronomy Observatory in Green Bank, West Virginia and other facilities.

Some people with Electro-Hypersensitivity have moved there to regain their health.

Abstract

The last twenty years have seen an explosion of wireless devices in our daily lives. We depend on our cell phones, laptops, iPads, Wi-Fi, e-readers such as Kindle, baby monitors, wireless headphones, wireless video game controllers, and home security systems. Yet due to a scientific “mistake” in the 1990s by the Federal Communications Commission, their actual environmental and health impacts have been marginalized in our society, not covered by the media, and ignored in federal regulation. One of the world’s largest industries, the consumer electronic device manufacturers, has exploited this mistake to stop further regulation in the US and education of the public. Meanwhile, environmental and health activists, especially mothers, have created a self-protection movement around the world to stop the harmful and fatal effects of this wireless radiation.

What’s true in all this, and what can we do about it?

This presentation provides a fact-based, comprehensive survey of the science, politics, and self-protection for wireless radiation-based devices.

Ms. Jaworski has been the Executive Director of the Center for Safer Wireless, a national nonprofit, for 31/2 years and was a member of the Board of Directors for 2 years prior to that position. She has studied the topic of wireless radiation extensively and has been on the local news 4 times and has done a national podcast.

Direct Questions

Desiree Jaworski
Executive Director
Center for Safer Wireless
P.O. 166
Haymarket, VA 20168

djaworski@centerforsaferwireless.us

<http://www.centerforsaferwireless.us/>