



Wireless Stress Syndrome

Delicate Balance: *Natural* Electromagnetic Fields (EMF) are essential to Life

- ❑ **Brain Function:** Brain waves regulate thinking (**alpha** 8-12 hertz), cognitive abilities and action (**beta** 13-22 hertz) and meditation and sleep (**delta** 0-4 hertz, **theta** 4-8 hertz). (natural frequencies < 33)
- ❑ **Heart Function:** The Heart utilizes electrical impulses to regulate blood flow.
- ❑ **Mitosis (cell division/growth):** billions of cells utilize *charged* calcium ions as neurotransmitters regulating cell division and growth.
- ❑ **Endocrine Function:** Pineal Gland synchronizes with the Earth's natural micro-pulsation – the Schumann Resonance (7.83 hertz) to regulate endocrine function. (melatonin/ serotonin balances)
- ❑ **Healing** – Nobel-prize nominated Robert Becker found essential negatively charged EMF at the point of injury. Healing is stimulated by negative currents and slowed by positive currents.

***Artificial* Electromagnetic Fields (EMF) have exploded since 1980**

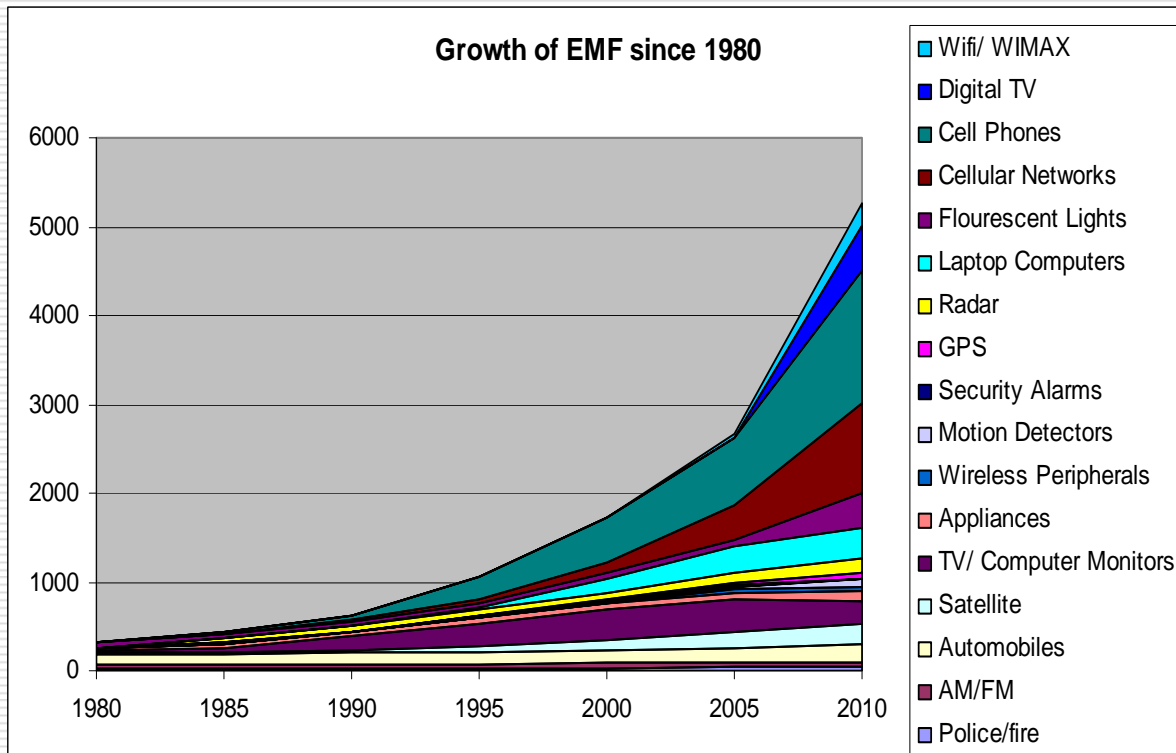
□ Background EMF (everywhere)

- **Satellite Communications**
- **Cellular Networks**
- **Missile Defense radar**
- **AM/FM radio**
- **Digital TV**
- **Police/ Fire communication**
- **Delivery services**
- **National security systems**
- **WiMax**
- **GPS systems**
- **CB/ Amateur Radio**

□ Ambient Signals (up close and personal)

- **Cell phones**
- **WiFi**
- **Laptop computers**
- **TV/ Computer monitors**
- **Fluorescent lights**
- **Automobiles**
- **Appliances**
- **Game Consoles**
- **Blue tooth devices**
- **Motion detectors**
- **Security Alarms**
- **Wireless peripherals**

Growth of EMF since 1980



Disruptive? Chemical Imbalances: Sample Bio-effects from Artificial EMF

- ❑ **Calcium Efflux** (Ca⁺ ions ejected from cells) - Heart disease, strokes, Alzheimer's
- ❑ **Pineal Gland disruption** - Melatonin regulation - Number one cancer defense disabled
- ❑ **Pineal Gland disruption** – Serotonin regulation - Attitude and mood swings; depression
- ❑ **DNA/ Chromosome Damage** - Pre-cancerous cell clusters formed; free-radical production; oxygenation
- ❑ **Permeates Blood Brain Barrier** - Allows toxins to flow into brain cavity leakage of albumin; neuronal damage
- ❑ **Rise in Triglycerides** - Increase cholesterol; heart attacks,
- ❑ **Promotes rapid cell growth** - Promotes malignant cell growth
- ❑ **Creates Immune dysfunction** - Immune dysfunction; deregulation
- ❑ **Interferes with Hippocampus Function** - Disrupts memory and cognitive abilities
- ❑ **Promotes release of Stress Proteins (HSP)** - Imposes stress on immune system

Theta Factor:

Explosion of Unexplained Symptoms

□ Four or more symptoms being reported by 31% of US adults (ages 25-60):

- Fatigue, chronic exhaustion
- Memory loss, increased forgetfulness
- Concentration issues
- Headaches, migraines
- Sleep Disturbances
- Joint pain
- Muscle pain
- Anxiety/ irritability
- Mood disturbances - depression
- Immune system changes
- Heart/ Chest Pain

What's Happening?

■ Making the Link to Wireless Stress from EMF/ Microwaves

- More than *1100 scientific studies* link microwave radiation from wireless technologies with dozens of diseases and all ten of the symptoms of Wireless Stress Syndrome (**WSS**). (www.marinproject.org)
- **BioInitiative Report:** 620 page study demonstrates bioeffects from microwaves and electromagnetic fields and calls current safety standards, “thousands of times too low.” (www.BioInitiative.org)
- **Freiburger Appeal:** in 2002, 30,000 physicians and medical practitioners connect wireless technologies to explosion of **WSS** symptoms in their patient populations. (www.WirelessStress.com)
- Since 1980 there has been explosion of 22 illnesses with links to EMF plus exponential growth of the all symptoms of **WSS**.



Wireless Stress Syndrome:

Hypothesis or Reality?

Research on the Stress Response – BioInitiative Report

Martin Blank, PhD

Department of Physiology and Cellular Biophysics; Columbia University

- ❑ **Radio-frequency (RF) activates the synthesis of stress proteins.**
- ❑ The stress response is an important protective mechanism that enables cells from animals, plants and bacteria to survive environmental stressors with the aid of *heat shock proteins* (HSP).
- ❑ **Stress Response is linked to changes in DNA and Chromosomes.**
- ❑ RF fields stimulate DNA to start protein synthesis, which can lead to changes in DNA that can interfere with the copying and repair processes, which can lead to mutations and cancer.
- ❑ **The interaction between low-level RF fields and DNA can lead to strand breaks, which can cause mutation, an initiating step in the development of cancer as well as many other diseases.**
- ❑ Studies have linked low-level RF fields with the production of stress proteins, resulting in oxidative damage, DNA damage, melatonin inhibition, impacts to reproduction, chromosomal damage, breast cancer and leukemia.

Evidence for Effects on the Immune System

Olle Johansson, PhD

Department of Neuroscience, Karolinska Institute, Stockholm, Sweden

- ❑ Human and animal studies report large immunological changes with exposures to environmental levels of RF fields.
- ❑ Measurable physiological changes (mast cell increases) that are bedrock indicators of allergic response and inflammatory conditions are stimulated by low-level RF exposures.
- ❑ Chronic exposure increase allergic and inflammatory responses which can be hazardous to health.
- ❑ It is possible that chronic provocation by exposure to RF fields can lead to immune dysfunction, chronic allergic responses, inflammatory responses.
- ❑ Electrical Hypersensitivity is reported in the US, Sweden, Switzerland, Germany, Denmark and many other countries. Estimates range from 3% to 10% of populations may be affected.

WSS Symptom Comparison

Wireless Stress Syndrome	Freiburger	US	Studies	BioInitiative	Growth
☠ Fatigue/ chronic exhaustion	Yes	21%	40	Yes	214%
☠ Memory loss, increased forgetfulness	Yes	34%	17	Yes	269%
☠ Concentration issues	Yes	29%	23	Yes	276%
☠ Headaches/ Migraines	Yes	41%	18	Yes	311%
☠ Sleep Disturbances	Yes	21%	56	Yes	214%
☠ Joint Pain	Yes	23%	4	Yes	146%
☠ Muscle Pain	Yes	22%	4	Yes	223%
☠ Anxiety/ irritability	Yes	22%	11	Yes	223%
☠ Mood disturbances - depression	Yes	27%	15	Yes	181%
☠ Immune System changes	Yes	17%	22	Yes	337%
☠ Heart/ Chest pain	Yes	21%	18	Yes	313%

Germany Warns its Citizens

- **September 17, 2007; The Independent**
- “The German government is advising its citizens to avoid using Wi-Fi and cell phones as much as possible, suggesting they use cable connections for computers and landlines instead. Their advice goes even further, and warns people of the dangers of electro-smog from other household electrical products. The German Environment Ministry is recommending that people minimize their exposure to Wi-Fi radiation and is *“actively informing people about possibilities for reducing personal exposure”*.
- “The German equivalent of the UK Health Protection Agency, the Federal Office for Radiation Protection, is calling for caution in the use of electrical equipment. A representative of the office, Florian Emrich said Wi-Fi should be avoided *“because people receive exposures from many sources and because it is a new technology and all the research into its health effects has not yet been carried out”*

EU Environmental Agency Warns of Wireless Dangers

- **On September 11, 2007, Professor Jacqueline McGlade, Executive Director of the European Environmental Agency (EEA), warned:**
- "Recent research and reviews on the long-term effects of radiations from mobile telecommunications suggest that it would be prudent for health authorities to recommend actions to reduce exposures, especially to vulnerable groups, such as children."

Proving Microwave Health Impacts:

Inertia and Complexity

- Inertia: call for more definitive research
 - **Burden of Proof:** Why is the *Burden of proof* placed on the 'harmed?'
 - **Catch 22:** The Federal regulatory *standard of proof* (nearly 100% certainty) to definitively prove wireless (microwave) bioeffects at low-levels is beyond what scientists will ever conclude.
 - **EPA Falls Short:** 250 epidemiological studies make the cancer case – EPA Draft Resolution failed in 1990; only 16 studies indicted Benzene.
 - **Wrong Studies:** 5000 one-signal research studies miss RF complexity.
 - Non-microwave exposure control groups are now non-existent.
- Complexity: Modern Wireless Reality in the US.
 - **Infrastructure:** 1200+ signals 24 x 7 transmit within one mile radius.
 - **Ambient:** eight to fifteen signals transmit 24 x 7 in the home
 - **RF Density** = 10-25 Nanowatts (100 to 250 times year 2000)
- Complexity: Radio Waves act in Non-Linear ways
 - **Low-level signals cause bioeffects** when higher levels do not.
 - **Frequency Windows:** brain-wave (0-75 hertz) and PCS-level (1800 Megahertz and above) are particularly disruptive.
 - **Modulation Effects:** coupling of frequencies magnify effects.

The Experiment is already on!

- Cellular, WiFi, WiMax, compact fluorescent lights (CFL) and a myriad of consumer wireless technologies are going into service everyday.

What can you do?

□ Adopt the Precautionary Principle in the US

- Reduce your own dependence on wireless. Turn off all wireless technologies when you sleep.
- Call for moratorium on WiFi; WiMax until proven safe
- Hold off on compact fluorescent (CFL) replacements until studies declare them as safe.
- Call for Congressional investigation on the effects of electrosmog (microwaves and EMF) on our health.
- Replace WiFi in schools/ libraries with corded solutions
- Restrict use of cell phones for children under 18.
- Allot \$100 million for *human studies* on health impacts of microwaves at non-thermal levels.