



# Wireless Stress Syndrome

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

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- **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***

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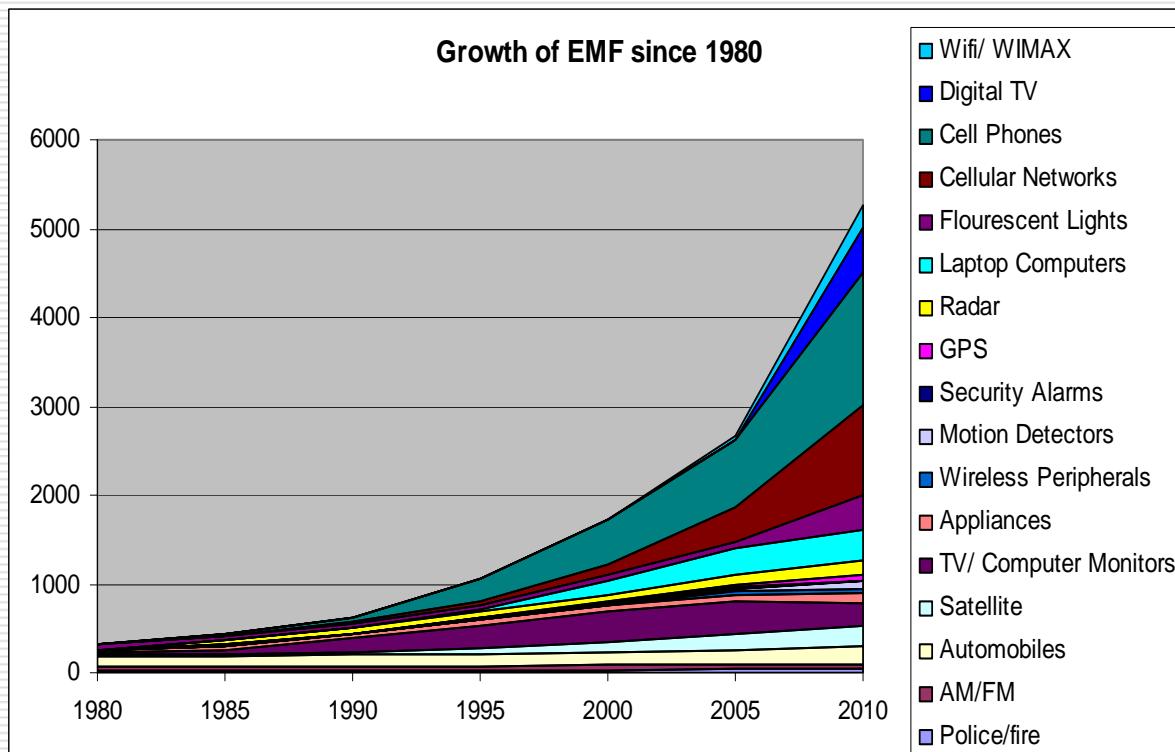
**Background EMF  
(everywhere)**

- 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

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- **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**

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- 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?

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## ■ 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](http://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](http://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](http://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

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- **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

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- 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

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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

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- 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**

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- 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*

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- 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!

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

# What can you do?

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## 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.