Smart Meter Health Impacts Testimonials



Image source: Grant Cochrane, http://www.freedigitalphotos.net/images/view_photog.php?photogid=2365

Smart Meter Health Impacts – comments

EMFSN (2011), Smart Meter Health Complaints, EMF Safety Network, http://emfsafetynetwork.org/?page_id=2292

Excerpts

The following comments about how the new wireless utility Smart Meters have [apparently – present author's comment] affected people's health were sent to the EMF Safety Network, or publicly posted. Most are posted anonymously. ...

"My name is Diane Nagby and I and my pets are also a victim of the Smart Meter. Dizziness, ringing in my ears, insomnia, nausea, rapid heart beat. I had none of these problems prior to the installation of the Smart Meter. I came home from work and they had just finished installing the Smart Meter. That very night my animals started acting agitated. There is a constant feeling of uneasiness in my household now and at night a loud buzzing/humming noise takes place, which was never present prior to the installation of the Smart Meter. It is just plain old common sense that should tell us any amount of radiation in our household is NOT going to be good for us. A friend of mine that lives in Upland, California experienced a stroke just days after her Smart Meter was installed. How many people have to die, have their homes burned down (because the Smart Meter has been proven to be a fire hazard in some houses), get sick, watch their animals suffer, as I have, before we stand up and say ENOUGH is ENOUGH."

"... My patients, Shivani Arjuna and her husband Dan Small, have asked me to write to you with regard to how Shivani is affected by exposure ... I share their concern.

People who are aware of experiencing symptoms as soon as they are exposed to radio (RF) and microwave (MW) frequencies are currently termed "electrically hypersensitive," or EHS.

... However, these individuals are by no means the only people actually being affected by such exposure, ... chronic [RF/MW] exposure causes health damage to people who note no immediate symptoms.

Please see, for example, the bibliography of reported biological phenomena associated with radio-frequency and microwave radiation compiled by the US Navy Medical Research Institute in 1971, with over 2,000 references, at:

www.dtic.mil/cgibin/GetTRDoc?AD=AD750271&Location=U2&doc=GetTRDoc. pdf

Also, please see the summary of EMF effects at:

www.icswebsite.com/emf/emfissues.html with 62 more recent references.

... here is brief information regarding a few known mechanisms:

• It is established from multiple, independent studies that EMR from ELF to RF/MW reduces melatonin in animals and human beings.

Melatonin is not only vital for healthy sleep, it is the most potent, naturally produced antioxidant that helps to protect cells from genetic damage that leads to cancer, neurological, cardiac and reproductive damage, illness and death.

• Exposure to intensities and field strengths that are extremely low cause a biological effect called calcium ion efflux. Calcium ion alteration of cells by EMR is linked to neurological degeneration, to cancer and many other health effects. The heart is also an electromagnetic organ, with an electric pulse initiating a cascade of calcium ions that cause the cells in the heart to contract and produce a heartbeat. Exogenous electromagnetic signals can interfere with this regular, electrical pulse leading to heart disease and heart attack of the arrhythmic kind.

The most commonly reported symptoms from exposure to wireless Smart Meters are: difficulty concentrating, dizziness, fatigue, headaches, heart palpitations, irritability, short-term memory loss, nausea, difficulty sleeping and tinnitus.

• Physiological changes that are bedrock indicators of allergic response and inflammatory conditions that are stimulated by EMF exposures include: overreaction of the immune system;

morphological alterations of immune cells; profound increases in mast cells in the upper skin layers, increased degranulation of mast cells and larger size of mast cells in EHS individuals; presence of biological markers for inflammation that are sensitive to EMF exposure at non-thermal levels; changes in lymphocyte viability; decreased count of NK cells; decreased count of T-lymphocytes; negative effects on pregnancy (uteroplacental circulatory disturbances and placental dysfunction); suppressed or impaired immune function; and inflammatory responses that can result in cellular, tissue and organ damage if exposure occurs on a continuing basis over time.

Mast cells are also found in the brain and heart, and this might account for some of the other symptoms commonly reported: headache, sensitivity to light, arrhythmias and other cardiac symptoms.

• Many studies have shown that RF/MW radiation and ELF fields cause increased DNA strand breakage and chromosome aberrations. ..." Roy D. Ozanne, MD, HMD

"... Five people have reported symptoms in my home: My father has experienced headaches and visual migraines. My mother reported having pressure on the upper part of her chest and palpitations. One neighbor exposed to these 16 cluster meters is experiencing headaches and chest tightness. Another neighbor has difficulty opening her eyes in the mornings after 8 hours by the meters. Her ophthalmologist could find no explanation. She said she uses her fingers to open her lids. All of the above symptoms have occurred since the smart meter installations. The symptoms are worsening for everyone. ..." R.H., San Diego CA

The following letter is from a prominent doctor in Napa:

"I have a patient who is being injured from the SmartMeter. She has a history of Cardiomyopathy from infection and was doing well until the SmartMeter went in last fall. She is now back in Atrial Fibrillation and needs meds she does not tolerate well. It is all a result of the extra EMF. I will send you copies of articles about how EMF affects patient's heart rate. Is there are special complaint form I could send off to the SmartMeter company that you use? I was going to dictate something for my patient and reference the EMF and heart rate issue".

"I have been in the ER overnight three times this week, with unexplained sickness. I have had a CT Scan of the brain, Stress

Test, CTA, EKGs, Ultra Sounds, Blood work and still no definite answer. We recently had a Smart Meter installed and these symptoms began about a week after: Extreme Stress, diagnosed TIAs, dizziness, headaches, nausea and fainting. I mentioned this to a doctor and he suggested that the Smart Meters may have something to do with it because the hospital has had quite a rise in illness of this kind reporting to the ER. "J.W. (anon). ...

"Smart Meters were installed in my neighborhood on April 15, 2011. Since then I have had constant ringing in my ears. Smart Meters violate my constitutional right to be safe and secure in my home, 4th Amendment. Smart Meters violate my privacy and my health. This is a KILLER and you know it. S.B. Orange County CA"

"I am (was) a very healthy individual, and have all the past medical information to prove it. In the last year I have been suffering illness that I feel is omm. nt related to the Smart Meter on my home. ... I have no alternative but to move to a house outside of the PG &E territory. Removing my meter alone won't solve the problem. My house is at the hub, the terminal, for the neighborhood distrubution and the adjacent neighbor's meters are on my side of their houses, putting me in direct line of currect for three homes. I want these things removed so I can resume my life, which is on hold. C.L. Yolo County."

"Like many with the symptoms, I am on my last and giving up... exhausted from trying to get help, afraid of my health, depressed, crying all the time, difficult to work, cannot get the proper sleep...I Don't know how much more I can tolerate w/o major support. All I want is my life back." ZEENA QUINN, Marin

"Though I never was electrically sensitive before, an extreme exposure to Electro Magnetic Frequencies (EMFs) from just one of PG&E's digital SmartMeters, (from 10/31/09 to 3/3/10), left me as an electrically sensitive person. ... Now, a year after the SmartMeter was removed, 30% of the symptoms still rule my life. ..."

There are numerous other comments posted about the suggested health impacts of wireless Smart Meters at the above site (EMFSN 2011) – *present author's comment.*

Reference

EMFSN (2011), Smart Meter Health Complaints, EMF Safety Network, http://emfsafetynetwork.org/?page_id=2292

Health Impacts from Smart Meters – the CCST report

The California Council on Science and Technology (CCST 2011) agreed to gather and assess the evidence available on the impacts of RF/microwaves from Smart Meters on health.

The CCST assessed two particular questions:

1. "Whether FCC [US Federal Communications Commission] standards for Smart Meters are sufficiently protective of public health taking into account current exposure levels to radiofrequency and electromagnetic fields."

2. "Whether additional technology specific standards are needed for Smart Meters and other devices that are commonly found in and around homes, to ensure adequate protection from adverse health effects."

For the first question the CCST found that "*The FCC standard provides an adequate factor of safety against <u>thermally</u> induced <i>health impacts of smart meters and other electronic devices in the same range of RF emissions.*"

The CCST also noted that "in some of the studies reviewed, contributors have raised emerging questions from some in the medical and biological fields about the potential for biological impacts other than the thermal impact that the FCC guidelines address."

"Non-thermal effects ..., including cumulative or prolonged exposure to lower levels of RF emissions, are not well understood. Some studies have suggested non-thermal effects may include fatigue, headache, irritability, or even cancer,..." (CCST 2011).

The CCST suggests additional research and monitoring are required to help better document and understand non-thermal effects.

Comments

United States Environmental Protection Agency

In 2002 the United States Environmental Protection Agency (US EPA), in correspondence with the President of the EMR Network stated that the FCC guidelines had been "*recommended by the EPA with certain reservations*."

The US EPA stated that since its comments were submitted to the

FCC in 1993:

- the amount of scientific research documenting effects associated with both acute and chronic low-level exposure to RF/microwave radiation had risen.

- health and safety agencies have still to develop policies relating to risk from long-term, *non-thermal* exposures.

The US EPA also declared that:

- exposures complying with the FCC's guidelines are usually presented as "*safe*" by many RF/microwave operators and service providers in spite of uncertainties over possible risks from intermittent non-thermal exposures.

- The FCC guidelines are considered to protective against effects arising from thermal mechanisms but *not all* possible mechanisms.

- the generalisation by many that FCC guidelines protect humans from harm by any or all mechanisms is unjustified. US EPA (2002).

Maret (2011), commenting on the CCST Report, mentions that the biological effects of low-level, non-thermal EMFs have been investigated for over 30 years.

He provides the following quote from Professor Arthur Pilla, PhD (*Professor of Biomedical Engineering, Columbia University and Director of the Bioelectrochemistry Laboratory, Mount Sinai School Of Medicine, New York*) taken from the Handbook of Biological and Medical Aspects of Electromagnetic Fields (Third Edition):

"The biophysical lore ... and lingering to this day is that, unless the amplitude and frequencies of an applied electric field were sufficient to trigger an excitable membrane (e.g. heart pacemaker), produce tissue heating or move an ion along a field gradient, there could be no effect. However, this position had to be changed as the evidence for weak (non-thermal) EMF bioeffects became overwhelming," (Pilla, 2006).

This latter point is in agreement with the thoughts of Associate Professor Magda Havas, as documented in the written report CCST asked her to submit to it on Smart Meters (Havas 2011). With regard to the 'Thermal vs. Non-thermal Debate', citing Inglis (1970), she also notes that (non-thermal) biological effects can take place at levels far below the FCC thermal guidelines.

Maret (2011) goes further on this topic, stating that there is a large body of scientific literature describing several key mechanisms for non-thermal effects. He cites early reports by Frey (1993), Hyland (2000) and Lai (2000) on the potential health effects on non-thermal EMFs, then mentions that many relevant scientific findings are covered by the BioInitiative Working Group (2007), and that last year the European Journal of Oncology published an entire monograph outlining non-thermal effects of EMFs (Giuliani & Soffritti 2010).

Key mechanisms that he mentions for the action of weak EMFs are:

- changes in the blood-brain barrier of test-animals after microwave exposure

- change of calcium ion leading to changes in cells' metabolic processes

- removal of calcium ions bound to cellular membranes, leading to their weakened structure and changed cellular functioning

- leakage of calcium ions into neurons creating spurious action potentials

- defined cellular stress response, including production of heat shock proteins (HSP), which are triggered electromagnetically at non-thermal levels (that need far less energy than when triggered by heat)

- fragmentation of DNA in cells as shown through Comet assay

- activation of specific genes through exposure to non-thermal EMFs leading to gene transcription to form RNA, the first stage in the synthesis of proteins.

All the biological effects Dr Maret lists are found to exist at far lower levels than the current FCC standards which wireless Smart Meters are designed to comply with.

Havas (2011) notes that the FCC standard was originally based "on the amount of radiation that would heat an adult male in the US military exposed to radar," and that other countries, such as China, Poland, Russia and Switzerland, have substantially lower 'biologically-based' guidelines (i.e. 10 μ W/cm² instead of 1,000 μ W/cm² as advocated by the FCC).

<u>Unlike</u> the FCC standard, those guidelines take into account children, pregnant women, the elderly, and those with debilitating conditions.

For the second question, "Whether additional technology specific standards are needed for Smart Meters and other devices that are

commonly found in and around homes, to ensure adequate protection from adverse health effects," the CCST found the following:

"At this time there is no clear evidence that additional standards are needed to protect the public from smart meters or other common household electronic devices." (CCST 2011).

The CCST notes, however, that there is a need to further identify gaps in research and research priorities relating to potential biological or adverse health effects from RF/microwave emissions, particularly as related to non-thermal mechanisms not presently covered by FCC guidelines (NRC 2008) – *a point with which the present author agrees.*

Comments

In answer to the second question, Havas (2011) wrote that she considered additional standards are required for Smart Meters (in addition to DECT baby monitors, cordless phones, wireless routers "and all of the other devices that emit radio frequency radiation").

She further commented that she has received correspondence from individuals who have experienced ill health after wireless Smart Meters were installed, "... many are unable to use the room closest to the smart meter. ... Sickness contributes to time off work and away from school, growing medical costs and a general poorer quality of life." Such responses from the general public indicate a need for the precautionary principle to be applied.

"... Children are particularly vulnerable as are pregnant women and those with compromised immune systems." Havas (2011).

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http://www.emrpolicy.org/litigation/case_law/docs/noi_epa_response.pdf

"...there is no federally developed national standard for safe levels of exposure to radiofrequency (*RF*) energy, ..." US Federal Communications Commission (FCC 2011).