

# Wireless Health Effects

Pittsfield, MA 2/28/2022

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# Who am I/Why am I Presenting Today?

- Board Certified in Internal Medicine since 2000, I practice in Santa Fe, NM
- I consulted on several of the cases of microwave injured residents in Pittsfield
- Associate Professor of Medicine, Community Faculty, UNM
- Course Director, EMF Medical Conference 2021
- Editorial Board Member, *Electromagnetic Biology and Medicine*

My office gets 3-5 calls per month from new patients with microwave syndrome

“There is international and global consensus amongst all bodies that wireless radiation is safe.”

Wireless Industry Statement

# RF Toxicity is Not New

1931 Navy <sup>1</sup>

1972 Navy <sup>2</sup>

1974 Gordon<sup>3</sup>

1976 DIA <sup>4</sup>

1981 NASA<sup>5</sup>

1988 Air Force\* <sup>6</sup>

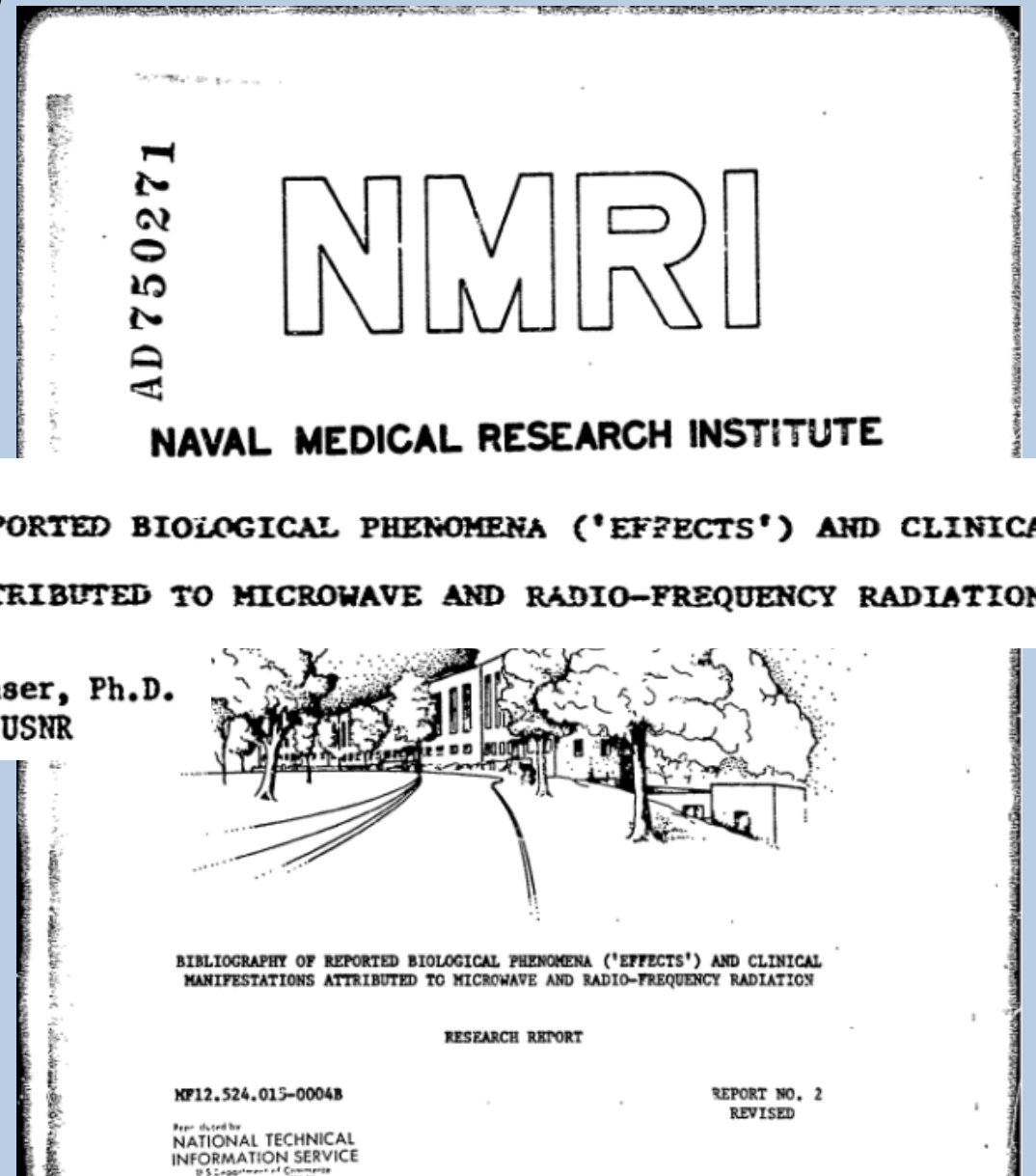
*\*“Experimental evidence has shown that exposure to low intensity radiation can have a profound effect on biological processes”*

1. Bell WH 1931. Effects of super-high frequency radio current on health of men exposed under service conditions. US Navy Medical Bulletin 29: 525-551.
2. Glaser 1972. Bibliography of reported biological phenomena ('effects') and clinical manifestations attributed to microwave and radiofrequency radiation. Naval Medical Research Inst, National Naval Medical Center. Bethesda MD. Second Printing, with Revisions, Corrections, and Additions: 20 April .
3. Gordon VZ 1974. Biological effects of radiofrequency electromagnetic fields. Translation from the Russian, Biologich-eskom Deystvii. Elektromagnitnykh Poley Radiochastot 4 1973, Moscow, US Joint Publications Research Service
4. Adams RL, William RA 1976. Biological effects of electromagnetic radiation. Radiowaves and microwaves – Eurasian Communist Countries. Defense Intelligence Agency. Report # DST-1810S-074-76. March. 34 pp.
5. Raines 1981. Electromagnetic field interactions with the human body: observed effects and theories. NASA CR 166661.
6. Bolen SM. 1988. Radiofrequency/microwave radiation biological effects and safety standards: a review. Air Force Materiel Command. Report #: RL-TR-94-53. Rome Laboratories, Jun

# Neurologic Effects of RFR/MW

## 1971 U.S. Naval Report

- Headaches
- Insomnia, restlessness, fatigue
- EEG changes/seizures
- Memory loss
- Depression, impotence, anxiety, irritability, anorexia, dizziness
- Cranial nerve disorders
- Sympathetic and parasympathetic N.S. changes



Glaser, Z. (1971). Bibliography of reported biological phenomena ('effects') and clinical manifestations attributed to microwave and radiofrequency radiation. Naval Medical Research Institute Research Report Project MF12. 524.015-0004B. Res. Inst., Nat. Naval Med. Center, Bethesda, Md.

# Scientific Evidence of Harm – A Snapshot

Thousands of peer-reviewed studies demonstrate that wireless radiation causes:

- Reproductive harm including sperm damage and hormonal effects
  - Increased cancer risk
  - DNA damage
  - Neurological disorders (Alzheimer's, etc.)
  - Learning and memory deficits (childhood development)
  - Cellular stress
  - Oxidative stress (increase in harmful free radicals)
- <https://www.emfscientist.org/> – 253 EMF scientists from 44 nations
    - Call upon the United Nations, the WHO and UNEP, and all U.N. Member States, for greater health protection on EMF exposure.
  - <http://www.5gappeal.eu/> - 403 scientists and medical doctors from 47 nations
    - Call for a moratorium on the roll-out of 5G.

# As of 2022, 2 CME Accredited Medical Conferences Have Educated Physicians on Wireless Harms

- CME Accreditation is a standardized, structured and regulated process.
- Both conferences provided qualified attendees with continuing medical education credits.
- CME credits are required to renew medical licenses.
  - EMF Medical Conference 2021 (19.5 credits)
  - EMF Conference 2019 (16 credits)



<https://emfconference2021.com/>



## CME CERTIFICATE

An example of a CME Certificate  
(Certificate of Continuing Medical  
Education)

**Sharon Goldberg**

has successfully completed an activity titled:

**Fundamentals of Liver Disease- Cirrhosis, Module 8**

and is awarded 0.50 *AMA PRA Category 1 Credits™*.

Completed on January 29, 2019

The American Association for the Study of Liver Diseases (AASLD) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The AASLD designates this enduring material for a maximum of 0.50 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

A handwritten signature in black ink, appearing to read "Matthew D'Uva", is positioned above the printed name.

Matthew D'Uva, FASAE, CAE  
Chief Executive Officer



Please contact [online\\_education@asld.org](mailto:online_education@asld.org) with any questions about your participation in this activity.



# The EMF Medical Conference 2021

Prevention, Diagnosis and Treatment of EMF Associated Illness

January 28 – 31, 2021


A Virtual Conference

💡 The EMF Medical Conference (EMFMC) 2021 will convene leading physicians, clinicians, and scientists for a series of presentations on the prevention, diagnosis, and treatment of EMF associated illness. Experts in EMF assessment will present proven methods that can prevent or limit EMF exposure hazards. Attendees will benefit from the Pre-Conference Course, “Electrosmog and Electrotherapeutics 101” on October 23 & 24, 2020 with Magda Havas PhD, Global EMF Expert.

## Continuing Medical Education/CME

CME/CE Credit Provided by AKH Inc., Advancing Knowledge in Healthcare. This activity is jointly-provided by AKH Inc., Advancing Knowledge in Healthcare and The Electromagnetic Safety Alliance, Inc.

# Mobile Phone Base Station Tower Settings Adjacent to School Buildings: Impact on Students' Cognitive Health

American Journal of Men's Health  
1–6  
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DOI: 10.1177/1557988318816914  
journals.sagepub.com/home/jmh  


Sultan Ayoub Meo, MBBS, PhD<sup>1</sup>, Mohammed Almahmoud, MBBS<sup>1</sup>,  
Qasem Alsultan, MBBS<sup>1</sup>, Nawaf Alotaibi, MBBS<sup>1</sup>, Ibrahim Alnajashi, MBBS<sup>1</sup>,  
and Waseem M. Hajjar, MD, FRCS<sup>2</sup>

## Abstract

The use of mobile phones has remarkably increased the installation of mobile phone base station towers in residential areas including near school buildings. This study aimed to assess the impact of electromagnetic field (RF-EMF) radiation generated by mobile phone base station towers on the cognitive functions of school adolescents. A total of 130 volunteer male students aged between 13 and 16 years were from School 1 and 93 students were from School 2. In School 1, RF-EMF was 2.010  $\mu\text{W}/\text{cm}^2$  and in School 2, RF-EMF was 1.010  $\mu\text{W}/\text{cm}^2$  with a frequency of 925 MHz. Students were exposed to RF-EMF for a period of 2 years. The Narda Safety Test Solution Genie 6000 was used to measure RF-EMF in both schools, and cognitive functions tasks were measured by the Cambridge Neuropsychological Test Automated Battery (CANTAB). Significant impairment in Motor Screening Task (MOT;  $p = .03$ ) and Spatial Working Memory (SWM) task ( $p = .04$ ) was identified among the group of students who were exposed to high RF-EMF produced by MPBSTs. High exposure to RF-EMF produced by MPBSTs was associated with delayed fine and gross motor skills, spatial working memory, and attention in school adolescents compared to students who were exposed to low RF-EMF.

**Conclusion: Significant impairment in motor screening task and spatial working memory was identified among the group of students exposed to the high RF-EMF from mobile phone base station.**

Meo, S. A., Almahmoud, M., Alsultan, Q., Alotaibi, N., Alnajashi, I., & Hajjar, W. M. (2019). Mobile Phone Base Station Tower Settings Adjacent to School Buildings: Impact on Students' Cognitive Health. *American Journal of Men's Health*.



# EMFs – An Emerging Risk Factor for Cardiovascular Disease

- Increasing proportion of ST elevation MI patients lack traditional cardiac risk factors (Vernon ST, *Eur J Prev Cardiol* 2017)
- RF is an environmental pollutant with cytotoxic effects
- RF generates oxidative stress, which is implicated in CVD
- RF may contribute to CVD via oxidative cellular damage

**Bandara, P., & Weller, S. (2017). Cardiovascular disease: Time to identify emerging environmental risk factors. In: SAGE Publications Sage UK: London, England.**



Invited editorial

## Cardiovascular disease: Time to identify emerging environmental risk factors

Priyanka Bandara and Steven Weller

Vernon et al.<sup>1</sup> recently reported a significant increase in the proportion of first-time ST elevation myocardial infarction (STEMI) patients without standard modifiable cardiovascular risk factors (hypercholesterolaemia, hypertension, diabetes and smoking). While the authors correctly highlighted the need for discovering new mechanisms of coronary heart disease based on theirs and other complementing data, we would like to draw the attention of researchers in cardiovascular disease (CVD) to emerging environmental risk factors, focusing here on microwave radiofrequency electromagnetic radiation (RF-EMR).

Human exposure to RF-EMR has exponentially increased over the past three decades due to rapid and widespread deployment of wireless communication and surveillance infrastructure and the use of personal wireless devices. Public exposures have increased from extremely low natural radiofrequency levels<sup>2</sup> below  $10^{-15}$  W/m<sup>2</sup>, to above  $10^{-2}$  W/m<sup>2</sup> now.<sup>3,4</sup> RF-EMR is an environmental pollutant with cytotoxic effects.<sup>5,6</sup>

Despite the European Academy for Environmental Medicine (EUROPAEM)<sup>7</sup> and the American Academy of Environmental Medicine (AAEM)<sup>8</sup> publishing evidence linking RF-EMR to adverse health effects and calling for exposure reduction, there is widespread ignorance about the scientific evidence of radiofrequency-induced biological/health effects within the medical fraternity. This appears to be largely due to the controversial approach by the International EMF Project at the World Health Organization (WHO),<sup>4</sup> which has ignored the calls by a large group of international electromagnetic field (EMF) scientists<sup>9</sup> for improved exposure regulation.

The WHO's International Agency for Research on Cancer (IARC) appointed an expert panel to examine the evidence related to cancer in 2011 which classified

such evaluation of CVD risk has been carried out. Furthermore, there are serious shortcomings in the few panel reports that have so far evaluated biological/health effects.<sup>15</sup>

In our latest review, 242 RF-EMR studies that investigated experimental endpoints related to oxidative stress (OS)<sup>16</sup> were identified. A staggering 216 (89%) of them found significant effects related to OS, similar to a previous review.<sup>17</sup> These are being further analysed following presentation at the recent Australasian Radiation Protection Society conference.<sup>18</sup> Mostly in-vivo animal studies and in-vitro studies have demonstrated increased markers of endogenous OS and/or affected antioxidant levels in different tissue/cell types upon exposure to RF-EMR. Some studies have further demonstrated amelioration of RF-induced OS upon treatment with various antioxidants. Limited human studies at this stage complement these studies demonstrating OS and/or reduced antioxidant status upon acute radiofrequency exposure under experimental settings,<sup>19</sup> in mobile phone users<sup>20</sup> and residents near mobile phone base stations.<sup>21</sup> Renowned physical scientists have recently presented experimental evidence and a theoretical explanation on how low-intensity RF-EMR can generate OS.<sup>22</sup>

OS is known to be implicated in CVD<sup>23,24</sup> and therefore RF-EMR, a new ubiquitous environmental exposure, may contribute to CVD by maintaining chronic OS, and thereby causing oxidative damage to cellular constituents and altering signal transduction pathways.

Acute RF-EMR exposure has been shown to increase blood pressure under experimental conditions,<sup>25</sup> while chronic exposure has been found to be associated with an increased CVD risk<sup>26</sup> as well as alteration in the diurnal rhythms of blood pressure

Oceania Radiofrequency Scientific Advisory Association (ORSAA) Inc., Brisbane, Australia

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# RFR Causes Oxidative Stress

REVIEW ARTICLE

## Oxidative mechanisms of biological activity of low-intensity radiofrequency radiation

Igor Yakymenko<sup>1</sup>, Olexandr Tsybulin<sup>2</sup>, Evgeniy Sidorik<sup>1</sup>, Diane Henshel<sup>3</sup>, Olga Kyrylenko<sup>4</sup> and Sergiy Kyrylenko<sup>5</sup>

<sup>1</sup>Institute of Experimental Pathology, Oncology and Radiobiology of NAS of Ukraine, Kyiv, Ukraine, <sup>2</sup>Department of Biophysics, Bila Tserkva National Agrarian University, Bila Tserkva, Ukraine, <sup>3</sup>School of Public and Environmental Affairs, Indiana University Bloomington, Bloomington, IN, USA, <sup>4</sup>A.I.Virtanen Institute, University of Eastern Finland, Kuopio, Finland, and <sup>5</sup>Department of Structural and Functional Biology, University of Campinas, Campinas, SP, Brazil

### Abstract

This review aims to cover experimental data on oxidative effects of low-intensity radiofrequency radiation (RFR) in living cells. Analysis of the currently available peer-reviewed scientific literature reveals molecular effects induced by low-intensity RFR in living cells; this includes significant activation of key pathways generating reactive oxygen species (ROS), activation of peroxidation, oxidative damage of DNA and changes in the activity of antioxidant enzymes. It indicates that among 100 currently available peer-reviewed studies dealing with oxidative effects of low-intensity RFR, in general, 93 confirmed that RFR induces oxidative effects in biological systems. A wide pathogenic potential of the induced ROS and their involvement in cell signaling pathways explains a range of biological/health effects of low-intensity RFR, which include both cancer and non-cancer pathologies. In conclusion, our analysis demonstrates that low-intensity RFR is an expressive oxidative agent for living cells with a high pathogenic potential and that the oxidative stress induced by RFR exposure should be recognized as one of the primary mechanisms of the biological activity of this kind of radiation.

### Keywords

Cellular signaling, cancer, free radicals, oxidative stress, radiofrequency radiation, reactive oxygen species

### History

Received 10 January 2015  
Accepted 12 April 2015  
Published online 7 July 2015

- Review of 100 available peer reviewed studies of oxidative effects of low intensity RFR
- 93/100 confirmed that RFR induces oxidative effects in biological systems
- **Conclusion: Low intensity RFR is an oxidative agent for living cells with a high pathogenic potential**

Yakymenko, I., Tsybulin, O., Sidorik, E., Henshel, D., Kyrylenko, O., & Kyrylenko, S. (2016). Oxidative mechanisms of biological activity of low-intensity radiofrequency radiation. *Electromagnetic Biology and Medicine*, 35(2), 186-202.

# Oxidative Stress – Clinical Relevance

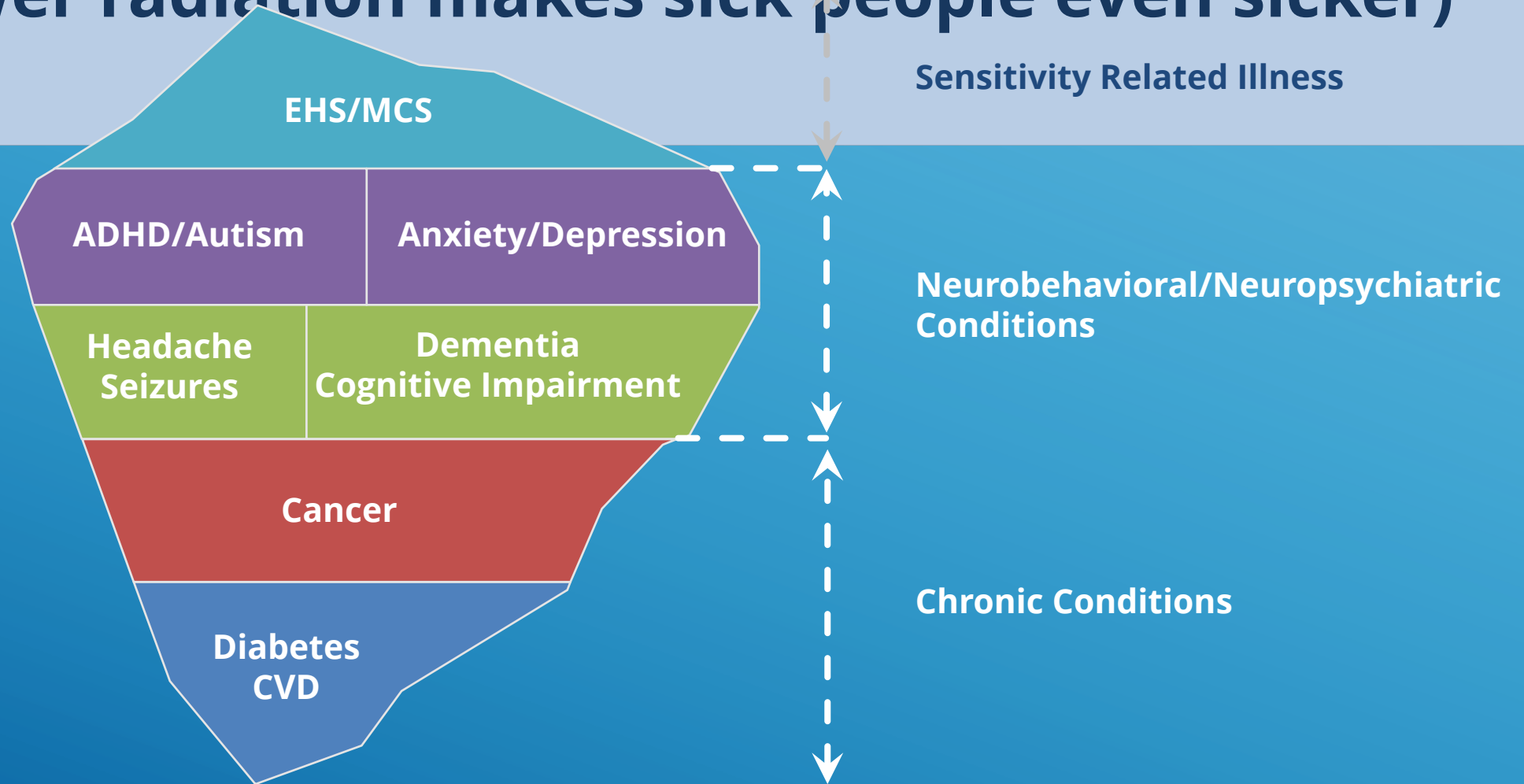
**“Oxidative stress is now thought to make a significant contribution to ALL inflammatory diseases”**

- Cardiovascular disease: HTN, stroke, myocardial infarction, CHF
- Neurodegeneration: MS, Alzheimer’s, Parkinson Disease, ALS
- Autoimmunity including SLE and various forms of vasculitis
- Diabetes: including complications (retinopathy, diabetic cardiomyopathy, NAFLD)

McCord, J. M. (2000). The evolution of free radicals and oxidative stress. *The American journal of medicine*, 108(8), 652-659.

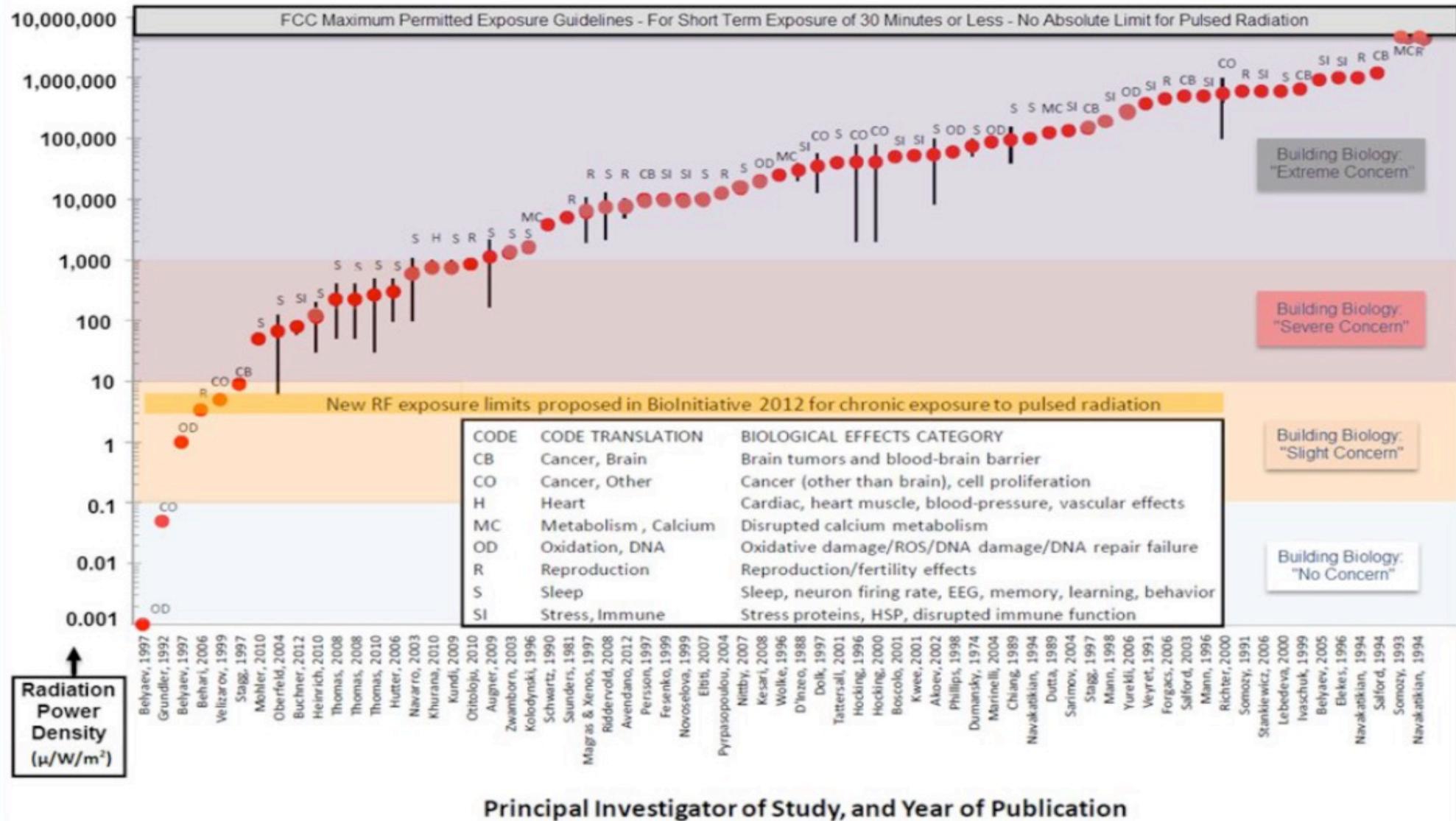
# Many Medical Conditions are Exacerbated by Microwave Exposure

## (Cell tower radiation makes sick people even sicker)





# RF Radiation Levels



Ray Pealer, BBEC, EMRS [www.EMRsafety.net](http://www.EMRsafety.net)

Original: Ronald M. Powell, PhD

[https://skyvisionsolutions.files.wordpress.com/2013/06/powell-report-bioinitiative-report-2012-applied-to-smart-meters-and-smart-appliances\\_june\\_11\\_2013.pdf](https://skyvisionsolutions.files.wordpress.com/2013/06/powell-report-bioinitiative-report-2012-applied-to-smart-meters-and-smart-appliances_june_11_2013.pdf)

## Statement From the EPA Regarding the Irrelevance of FCC Guidelines (Before the EPA's Division on RF Radiation Research Was Defunded)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUL 16 2002

OFFICE OF  
AIR AND RADIATION

"The FCC's current exposure guidelines, as well as those of the Institute of Electrical and Electronics Engineers (IEEE) and the International Commission on Non-ionizing Radiation Protection, are thermally based, and do not apply to chronic, non-thermal exposure situations. They are believed to protect against injury that may be caused by acute exposures that result in tissue heating or electric shock and burn."

"The exposure guidelines did not consider information that addresses non-thermal, prolonged exposures, i.e., chronic/prolonged, low-level (non-thermal) exposures."

"The FCC's exposure guidelines are considered protective of effects arising from a thermal mechanism but not from all possible mechanisms. Therefore the generalization by many that the guidelines protect human beings from harm by any or all mechanisms is not justified."

Sincerely,

A handwritten signature in black ink that reads "Norbert Hankin".

Norbert Hankin  
Center for Science and Risk Assessment  
Radiation Protection Division

Stripping Tool

(Excerpted from Full Statement)