



Dr Pri Bandara

***Children's Health and Wellbeing
in the 5G & Wireless Era***



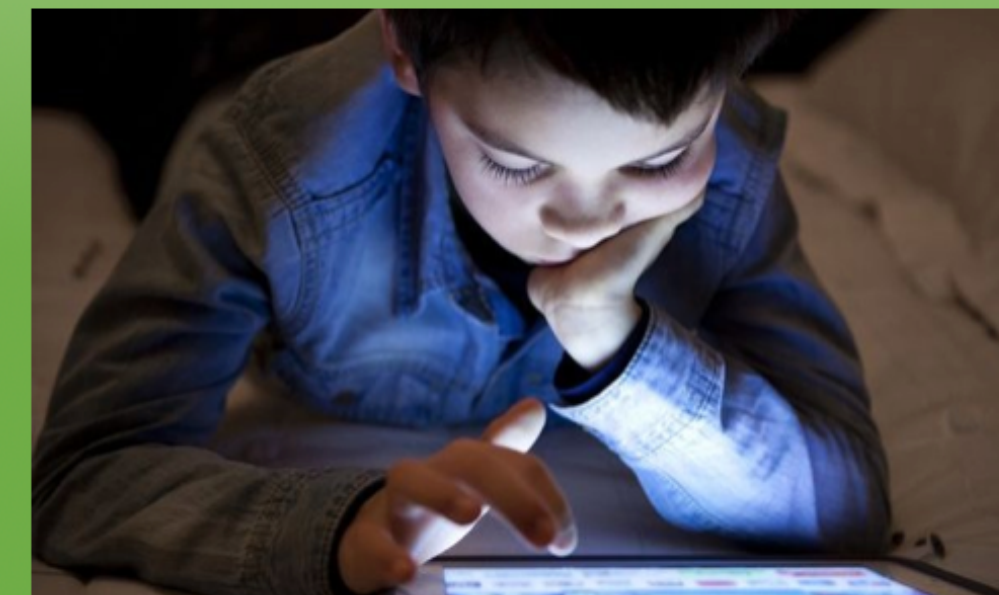
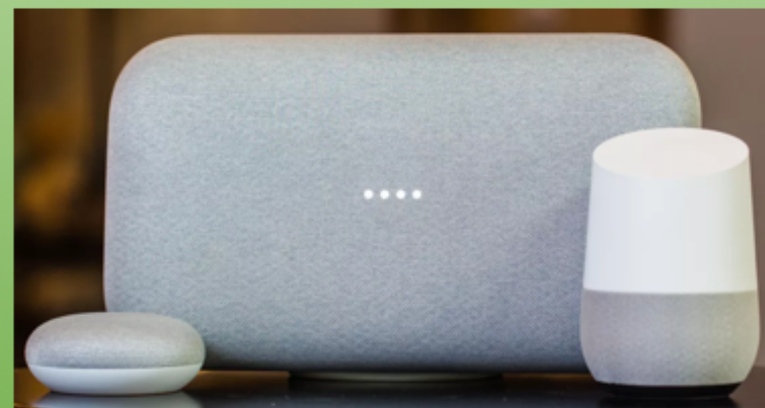
Children's Health & Wellbeing in the 5G Wireless Era

Dr Pri Bandara

Aims of this Presentation

- Explain “wireless radiation” (radiofrequency electromagnetic radiation, RF-EMR) and its critical importance in this 5G era
- Why RF-EMR is a toxic exposure
- Why the exposure regulation is flawed
- Who failed the WHO and other agencies when it comes to public health protection from EMR?
- What we can do to protect our children, families and communities

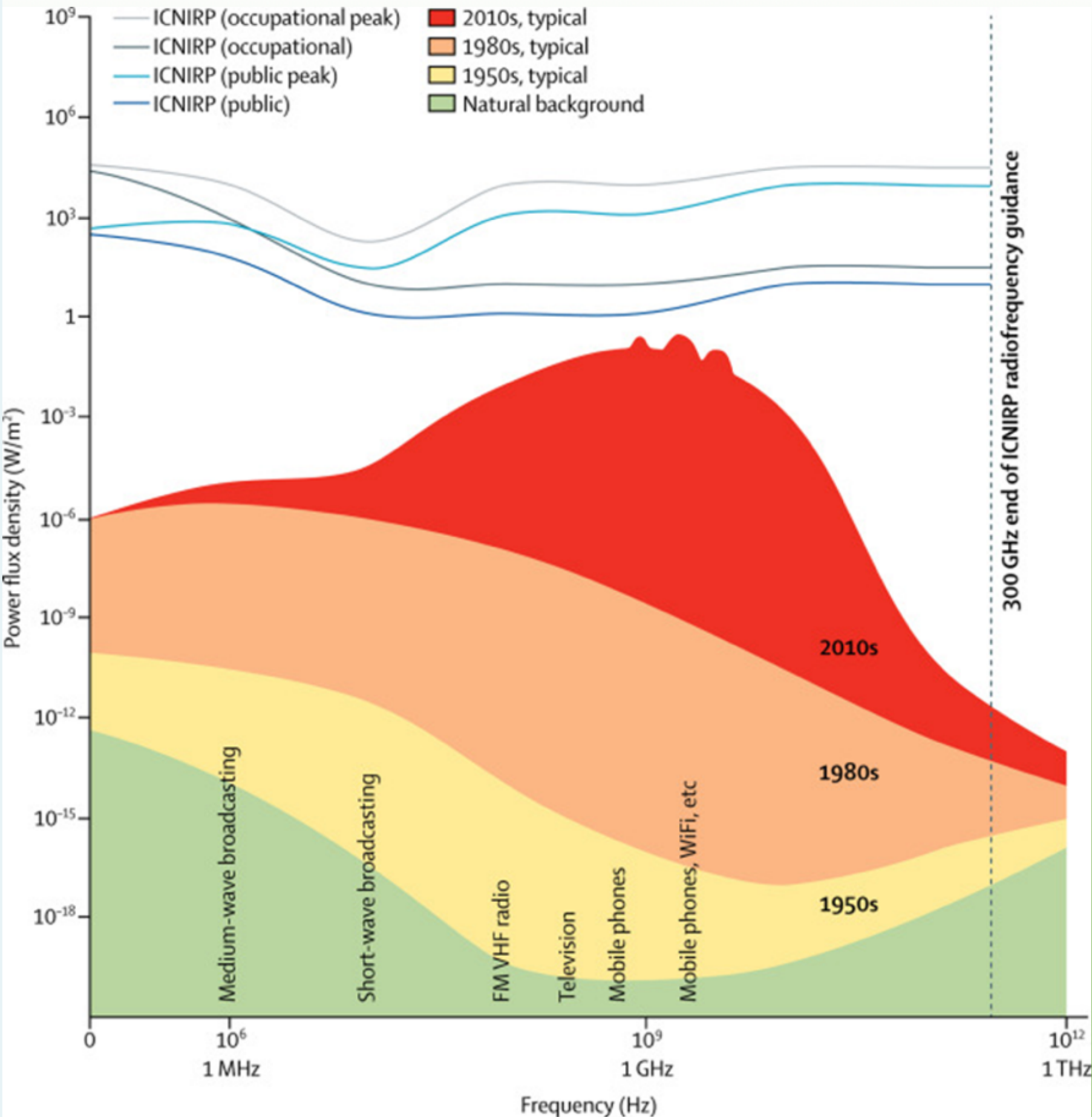
Electromagnetic Pollution of the Environment by RF-EMR



Children's Exposure to Wireless Radiation (RF-EMR) in the 21st Century



Electromagnetic Pollution with RF-EMR



- Radiofrequency radiation levels increased by 10¹⁸ times.
- Compare with CO₂ levels
- Impact on biological systems

Bandara P and Carpenter D, Lancet Planetary Health 2018.
Image credit Philips A. and Lamburn G.

5G: A Massive Leap in RF-EMR Exposure



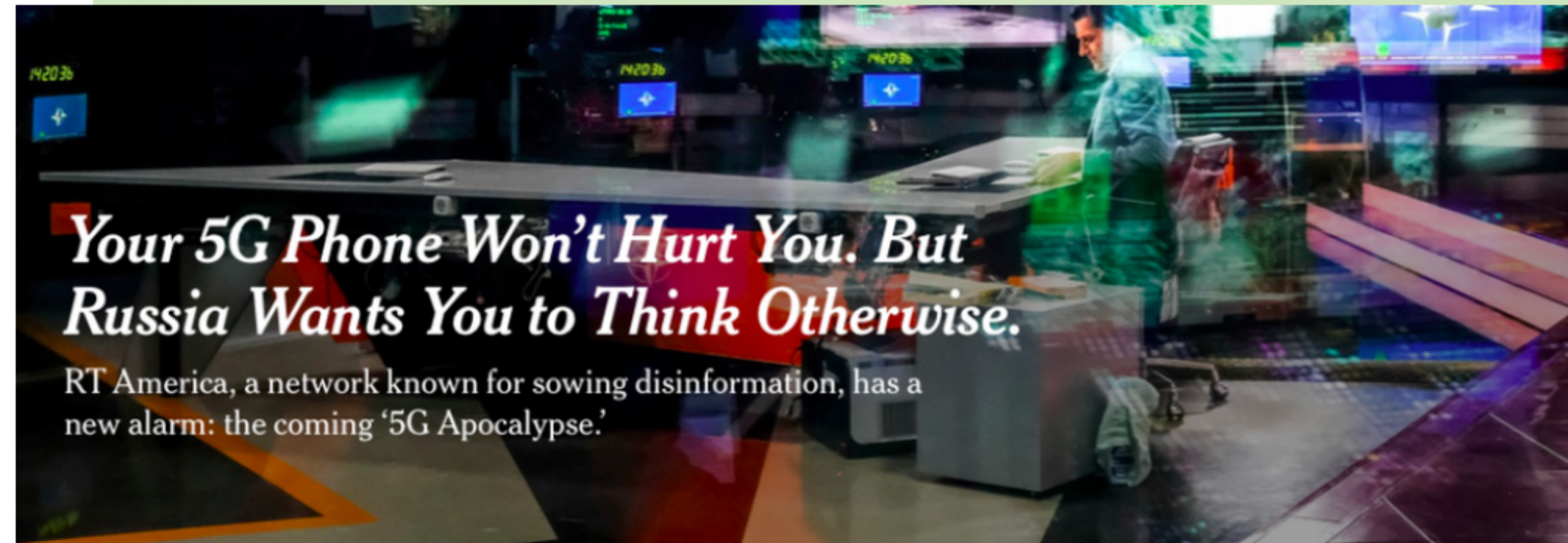
Mainstream Media Serving Industry Interests

The 5G Health Hazard That Isn't

How one scientist and his inaccurate chart led to unwarranted fears of wireless technology.



Golden Cosmos



A Russia Today anchor in Moscow preparing to go on air. The network's American version, RT America, has been exaggerating the health hazards posed by 5G networks, the next, most powerful generation of cell phone connectivity.
Yuri Kadobnov/Agence France-Presse — Getty Images

By [William J. Broad](#)

July 16, 2019



In 2000, the [Broward County Public Schools](#) in Florida received an alarming report. Like many affluent school districts at the time,

By [William J. Broad](#)

May 12, 2019



[Leer en español](#)

ARPANSA – No Established Evidence of Adverse Health Effects

[Home](#) > 5G: the new generation of the mobile phone network and health

5G: the new generation of the mobile phone network and health

At exposure levels below the limits set within the ARPANSA safety standard, it is the assessment of ARPANSA and international organisations such as the [World Health Organisation](#) (WHO) and the [International Commission on Non-Ionising Radiation \(ICNIRP\)](#), that there is no established scientific evidence to support any adverse health effects from very low RF EME exposures to populations or individuals.

<https://www.arpansa.gov.au/news/5g-new-generation-mobile-phone-network-and-health>

International EMF Scientist Appeal



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Welcome to EMFscientist.org

The International EMF Scientist Appeal serves as a credible and influential voice from EMF (electromagnetic field) scientists who are urgently calling upon the United Nations and its sub-organizations, the WHO and UNEP, and all U.N. Member States, for greater health protection on EMF e

VIDEO: International Scientist Appeal on Electromagnetic Fields, Martin Blank, PhD Spokesperson

from [ElectromagneticHealth.Org](#)

To: His Excellency Antonio Guterres, Secretary-General of the United Nations;
Honorable Dr. Tedros Adhanom Ghebreyesus, Director-General of the World Health Organization;
Honorable Inger Andersen, Executive Director of the UNEP Environment Programme;
U.N. Member Nations

As of July 14, 2023, 259 EMF scientists from 44 nations and 15 Supporting Scientists from 11 nations have signed the Appeal.

<https://emfscientist.org/>



International EMF Scientist Appeal to the WHO and UN



Calls of Thousands of Scientists and Physicians to Protect People from RF-EMR



2020 Consensus Statement of UK and International Medical and Scientific Experts and Practitioners on Health Effects of Non-Ionising Radiation (NIR)


German Doctors Warning & Protesting Against 5G



23 Oct 2019, in front of the State Department in Stuttgart

Public and Scientific Campaigns to Stop 5G

5G APPEAL

[Home](#) [About](#) [What is 5G?](#) [The 5G Appeal](#) [The signatories](#) [News](#) [Contact](#) [Sign 5GAppeal](#) 

The 5G appeal

Scientists and doctors call for a moratorium on the roll-out of 5G.

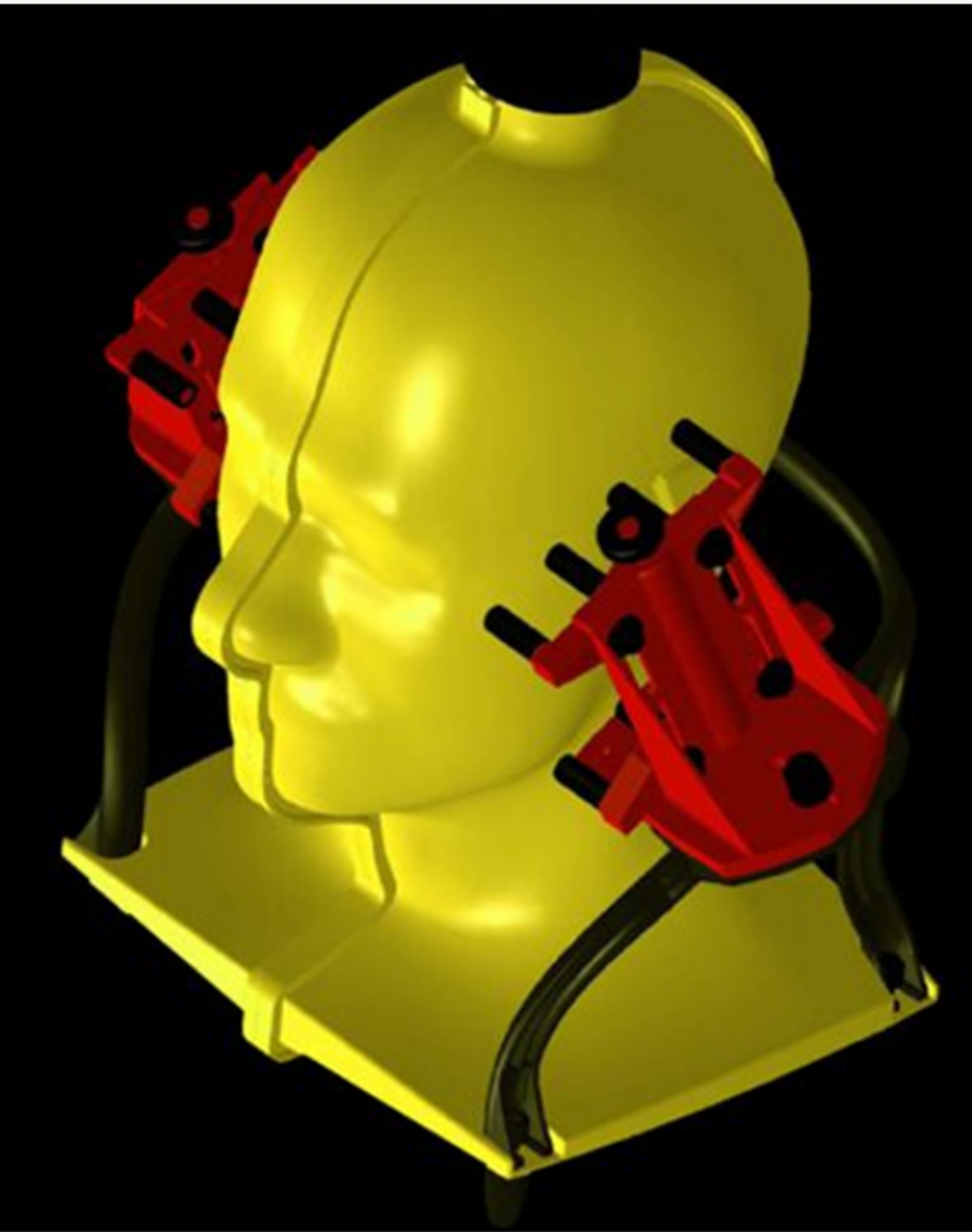
5G will substantially increase exposure to radiofrequency electromagnetic fields RF-EMF, that has been proven to be harmful for humans and the environment.

[Read more](#)

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<http://www.5gappeal.eu/>

Public Exposure Regulation – Prevents Acute Heating



**SAM
Head phantom**

- Guidelines - International Commission on Non-Ionizing Radiation Protection (ICNIRP) and Institute of Electrical and Electronic Engineers (IEEE)
- Only account for thermal (heating) effects in acute exposures - 6 minutes
- Non-thermal & chronic effects ignored
- Followed by most countries in the West (FCC, ARPANSA)

WHO - The International EMF Project



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WHO Knew of RF-EMR Adverse Health Effects from Own Research

suggests that the human body may be more sensitive to the nonthermal effects of RF/MW radiation [3].

In response to earlier Soviet reports, the World Health Organization (WHO) decided to conduct a comprehensive study on the biological effects of exposure to RF/MW radiation. In 1976, M. Zaret published the results of the study (reference found in [8]). The WHO investigation focused on the population of North Karelia, a remote area of Finland that borders the Soviet Union. This region was selected because of its close proximity to a then Soviet early warning radar station. North Karelia is geographically located in the path of intercontinental ballistic missiles that would originate from the midwest United States. To detect these missiles, the Soviets constructed a number of high power tropospheric scattering radar units adjacent to nearby Lake Ladoga. The operation of these units exposes the residents of North Karelia to large doses of ground and scatter radiation. The WHO investigation found evidence linking exposure of RF/MW radiation to cardiovascular disease and cancer. The North Karelian population suffered from an unusually high number of heart attacks and cases of cancer. In addition, it was found that the affliction rate of these diseases was much higher among residents living closest to the radar site [8].

Experts Who Pioneered WHO & Military RF Research Warned

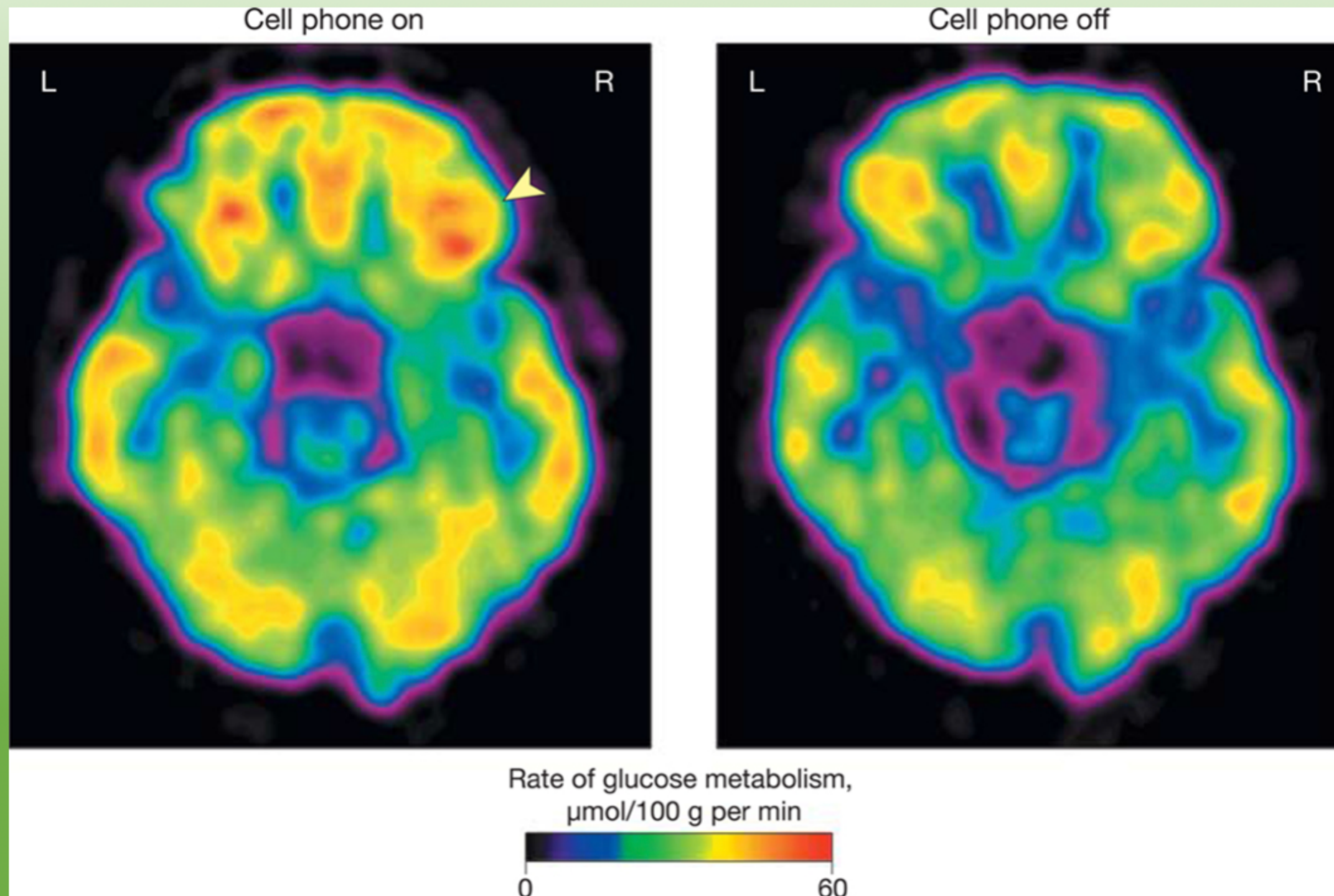
Dr. Milton Zaret MD (US military Microwave research pioneer) was the first medical doctor to testify in Congress on the hazards of microwave radiation (March 9, 1973):

"There is a clear, present and ever-increasing danger to the entire population of our country from exposure to the entire non-ionizing portion of the electromagnetic spectrum. The dangers cannot be overstated because most non-ionizing radiation injuries occur covertly, usually do not become manifest until after latent periods of years, and when they do become manifest, the effects are seldom recognized."

<https://microwavenews.com/news-center/milton-zaret-early-prophet-microwave-hazards-dies-91>

Wireless Radiation Alters Brain Glucose Metabolism

Brain glucose metabolic images showing axial planes at the level of the orbitofrontal cortex. Glucose metabolism in right orbitofrontal cortex was higher for the “on” than for the “off” condition (Volkow N et al., JAMA. 2011; 305(8): 808–813).



- NIH USA study
- 47 healthy participants in a blind study.
- “on”: 50 min mobile phone exposure on right side

Wireless Radiation Can Increase Blood Pressure

THE LANCET

Log i

RESEARCH LETTERS | [VOLUME 351, ISSUE 9119, P1857-1858, JUNE 20, 1998](#)



Purchas

Resting blood pressure increase during exposure to a radio-frequency electromagnetic field

[S Braune](#) • [C Wrocklage](#) • [J Raczek](#) • [T Gailus](#) • [CH Lücking](#)

Published: June 20, 1998 • DOI: [https://doi.org/10.1016/S0140-6736\(98\)24025-6](https://doi.org/10.1016/S0140-6736(98)24025-6)

- German study with mobile phone – single blind, placebo-controlled
- 10 healthy participants, age 26 -36 years, each participant underwent the same protocol five times on different days
- GSM 900 MHz, 2 Watt, 217 Hz frame repetition rate) on blood pressure (BP), heart rate (HR), capillary perfusion (CP), and subjective well-being.

RF-EMR Exposure, Metabolic Disruption and Increased CVD Risk

- 110 occupationally exposed (mean age 47.9 yr) vs. matched controls.
- BP, lipid profile, BMI, waist/hip ratio, smoking, and family history of CVD investigated.
- BP (both SBP and DBP), TC and LDL-C were significantly higher in the exposed
- *“Radiofrequency EMR exposure was associated with greater chance of becoming hypertensive and dyslipidemic” ...“In conclusion, our data show that the radiofrequency EMR contributes to adverse effects on the cardiovascular system”*

Vangelova K et al., Int J Hyg Environ Health. 2006;209(2):133-8.

Increasing Heart Attacks in those Without Standard Risk Factors

› [Eur J Prev Cardiol.](#) 2017 Nov;24(17):1824-1830. doi: 10.1177/2047487317720287. Epub 2017 Jul 13.

Increasing proportion of ST elevation myocardial infarction patients with coronary atherosclerosis poorly explained by standard modifiable risk factors

Stephen T Vernon^{1 2}, Sean Coffey^{1 3}, Ravinay Bhindi^{1 2}, Soon Yeng Soo Hoo¹, Gregory I Nelson¹, Michael R Ward¹, Peter S Hansen¹, Kaleab N Asrress^{1 2}, Clara K Chow^{2 4 5}, David S Celermajer^{2 6}, John F O'Sullivan^{2 7}, Gemma A Figtree^{1 2}

- Australian study at RNSH, Sydney. Standard Modifiable Cardiovascular Risk Factors (SMuRFs; hypercholesterolaemia, hypertension, diabetes and smoking)
- 132/695 (25%) STEMI patients had no SMuRF – this proportion didn't change with age, gender or family history.
- Patients without SMuRF in 2006 was 11%, which increased to 27% by 2014
- proportion of patients with hypercholesterolaemia and smoking decreased, no change in diabetes and high BP

RF-EMR Exposure – a Modifiable Cardiovascular Risk Factor

European Journal of Preventive Cardiology



EAPC
European Association
of Preventive Cardiology
European Society of Cardiology

Cardiovascular disease: Time to identify emerging environmental risk factors

Priyanka Bandara, Steven Weller

First Published October 3, 2017 | Editorial | [Find in PubMed](#)



<https://doi.org/10.1177/2047487317734898>

- Presented evidence for RF-EMR to be considered a standard modifiable cardiovascular risk factor
- We offered the cardiology team our help to assess RF-EMR exposure (free of charge) of their patients and investigate if it could explain the increase in heart attacks
- Lead investigator did not even reply to my emails

Wireless Radiation Worsens Allergic Reactions

International Archives of
**Allergy and
Immunology**

Short Communication

Int Arch Allergy Immunol 2002;129:348-350
DOI: 10.1159/000067592

Received: April 9, 2002
Accepted after revision: August 13, 2002

Enhancement of Allergic Skin Wheal Responses by Microwave Radiation from Mobile Phones in Patients with Atopic Eczema/Dermatitis Syndrome

Hajime Kimata

Department of Allergy, Unitika Central Hospital, Uji, Kyoto, Japan

> [Allergy](#). 2005 Jun;60(6):838-9. doi: 10.1111/j.1398-9995.2005.00802.x.

Microwave radiation from cellular phones increases allergen-specific IgE production

H Kimata¹

Kimata H. Int Arch Allergy Immunol. 2002 Dec;129(4):348-50.

Kimata H. Allergy. 2005;60(6):838-9

- Japanese hospital studies with young participants (in 20s)
- 26 AD pts vs. 26 controls, 60 min exposure vs sham- blinded
- Increased wheal size, Substance P (SP1) and vasoactive intestinal peptide (VIP) in AD pts
- Young 30 AD cases with latex/JCP allergy vs controls
- 30 min exposure vs. sham - blinded.
- Increased allergen-specific IgE and Th2 cytokines (IL-4, IL-13), decreased Th1 cytokines (IFN- γ , IL-12). Controls did not respond.

Lives Affected by Wireless Radiation Exposure

"I threw up most days. I felt like the life was being sucked out of me. It was like my body was exploding."

Starting in grade 8, Solveig's life became a nightmare.

Stories of Hope ~ a teen's foggy brain, rash, itch, fatigue, nausea

Allergy Immune Health Mood Learning & Behaviour Skin Video



~Solveig's skin in grade 8



**Riina Bray, MD BASo,
MSc, MCFP, MHSc**

Medical Director - Environmental Health
Clinic, Women's College Hospital, Toronto
(Canada)

Young Lives Lost Due to Electromagnetic Hypersensitivity (EHS)



National | World | Lifestyle | Travel | Entertainment | Technology | Finance | Sport



lifestyle health > health problems

Schoolgirl took her own life after 'Wi-Fi allergy made her life miserable'

A SCHOOLGIRL who suffered blinding headaches, exhaustion and bladder problems when she was near a Wi-Fi router has taken her own life, her mum said.

The Sun and Network Writers

News Corp Australia Network DECEMBER 1, 2015 9:00AM



Tragic ... Debra Fry said her daughter Jenny Fry (pictured) was allergic to Wi-Fi. Picture: Facebook/RIP Jenny Fry Source:Supplied

Jenny took her own life on June 11. Mrs Fry told the inquest in the UK her daughter had suffered from the mystery illness for three years but there was no indication she was planning suicide.

“Jenny was getting ill and so was I. I did some research and found how dangerous Wi-Fi could be so I had it taken out of the house,” she said.

“Both Jenny and I were fine at home but Jenny continued to be ill at school in certain areas. She was receiving lots of detentions — not for being disruptive in class or misbehaving, but often because she used to take herself out of the classroom to find another where she was able to work. She took her schoolwork seriously.”

Suffers of Wireless Radiation



Strålskyddsstiftelsen
Swedish Radiation Protection Foundation

Hem Risker ▾ Råd ▾ Fakta ▾ Tema ▾ Föredrag rådgivning Infomaterial N

Former WHO Director General Gro Harlem Brundtland: "No doubt there are health effects from mobile phone radiation"

Publicerad 2015-08-27 - 09:51



The former Director General of the UN World Health Organisation and former Prime Minister of Norway Gro Harlem Brundtland recently said during an interview with Norwegian newspaper *Aftenposten* that she gets a headache right away if she puts a mobile phone to the head. She also said that she has had health problems from mobile phone radiation for 25

GALLERY

Former Nokia Technology Chief: Mobile phones wrecked my health

This is translation of the one of the articles published in the Finnish newspaper [Satakunnan kansa](#). Translation provided generously by Henrik Eiriksson.



Nokia's former Technology Chief, **Matti Niemelä**

Dr. Gro Brundtland – former Director General, the WHO

Prenatal & Postnatal Maternal Mobile Phone Use is Linked to Behavioural Problems in Children

> [J Epidemiol Community Health](#). 2016 Dec;70(12):1207-1213. doi: 10.1136/jech-2016-207419. Epub 2016 May 23.

Prospective cohort analysis of cellphone use and emotional and behavioural difficulties in children

Madhuri Sudan¹, Jorn Olsen², Oyebuchi A Arah¹, Carsten Obel³, Leeka Kheifets¹

Affiliations

Affiliations

- ¹ Department of Epidemiology, Fielding School of Public Health, University of California, Los Angeles (UCLA), Los Angeles, California, USA.
- ² Department of Public Health, Danish Epidemiology Science Centre, Aarhus University, Aarhus, Denmark.
- ³ Institute of General Medical Practice, Center for Collaborative Health, Aarhus University Hospital, Aarhus, Denmark.

Danish National Birth Cohort – data on 54,908 children’s exposure to mobile phones from mother.

Only a partial assessment of RF-EMR exposure from mobile phone use – would underestimate effects.

<https://pubmed.ncbi.nlm.nih.gov/27217533/>

Methods: Based on maternal reports, prenatal and postnatal cellphone exposures were assessed at age 7 years, and emotional and behavioural difficulties were assessed at 7 and 11 years with the Strengths and Difficulties Questionnaire. We used multivariable-adjusted logistic regression models to estimate ORs and 95% CIs relating prenatal exposure and age-7 cellphone use to emotional and behavioural difficulties at age 11 years.

Results: Children without emotional and behavioural difficulties at age 7 years, but who had cellphone exposures, had increased odds of emotional and behavioural difficulties at age 11 years, with an OR of 1.58 (95% CI 1.34 to 1.86) for children with both prenatal and age-7 cellphone exposures, 1.41 (95% CI 1.20 to 1.66) for prenatal exposure only, and 1.36 (95% CI 1.14 to 1.63) for age-7 use only. These results did not materially change when early adopters were excluded, or when children with emotional and behavioural difficulties at age 7 years were included in the analysis.

Conclusions: Our findings are consistent with patterns seen in earlier studies, and suggest that both prenatal and postnatal exposures may be associated with increased risks of emotional and behavioural difficulties in children.

RF-EMR and Cancer – Human Evidence on Brain Cancer

Use of a mobile phone >10 years increases brain cancer risk > 100%

- Interphone (13 countries, WHO study with industry funds): 5,117 cases
- Hardell study (Swedish study, independent): 3, 439 cases
- CERENAT study (French independent, Interphone protocol): 447 cases

Meta-analysis - 26,846 brain tumour cases and 50, 013 controls - a significantly higher risk for mobile phone use over 10 years

Bortkiewicz A et al. Int J Occup Med Environ Health 2017;30(1):27-43)

Australia – increased childhood leukaemia incidence and mortality near radio/TV transmitters in N. Syd (Hocking B et al., Med J Aust. 1996; 165(11-12):601-5)

UK – increased cancer near radio/TV towers(Dolk et al., Am J Epidemiol, 1997a; 145 (1):1-9, and 1997b;145(1):10-17), increased cancer incidence near MBS (Stewart A et al., Perspect Pub Health. 2012;132(6):299-304).

Vatican city – increased leukaemia (Micholozzi P. et al., Regional Health Authority, Rome, Italy. Epidemiology, July 1998, Vol 9, Number 4, Supplement 354P)

USA - increased childhood cancer near radio/TV tower (CCSFDPH, 1988: Report on Cancer Incidence in San Francisco. Department of Public Health, San Francisco, CA) and increased childhood leukaemia in Hawaii (Maskarinec, G., and Cooper, J. 1993;Am. J. Epidemiology:138:666)

Sweden – correlation between melanoma and FM radio transmitters (Hallberg O and Johansson O. Arch Environ Health, 2002;57(1):32-40).

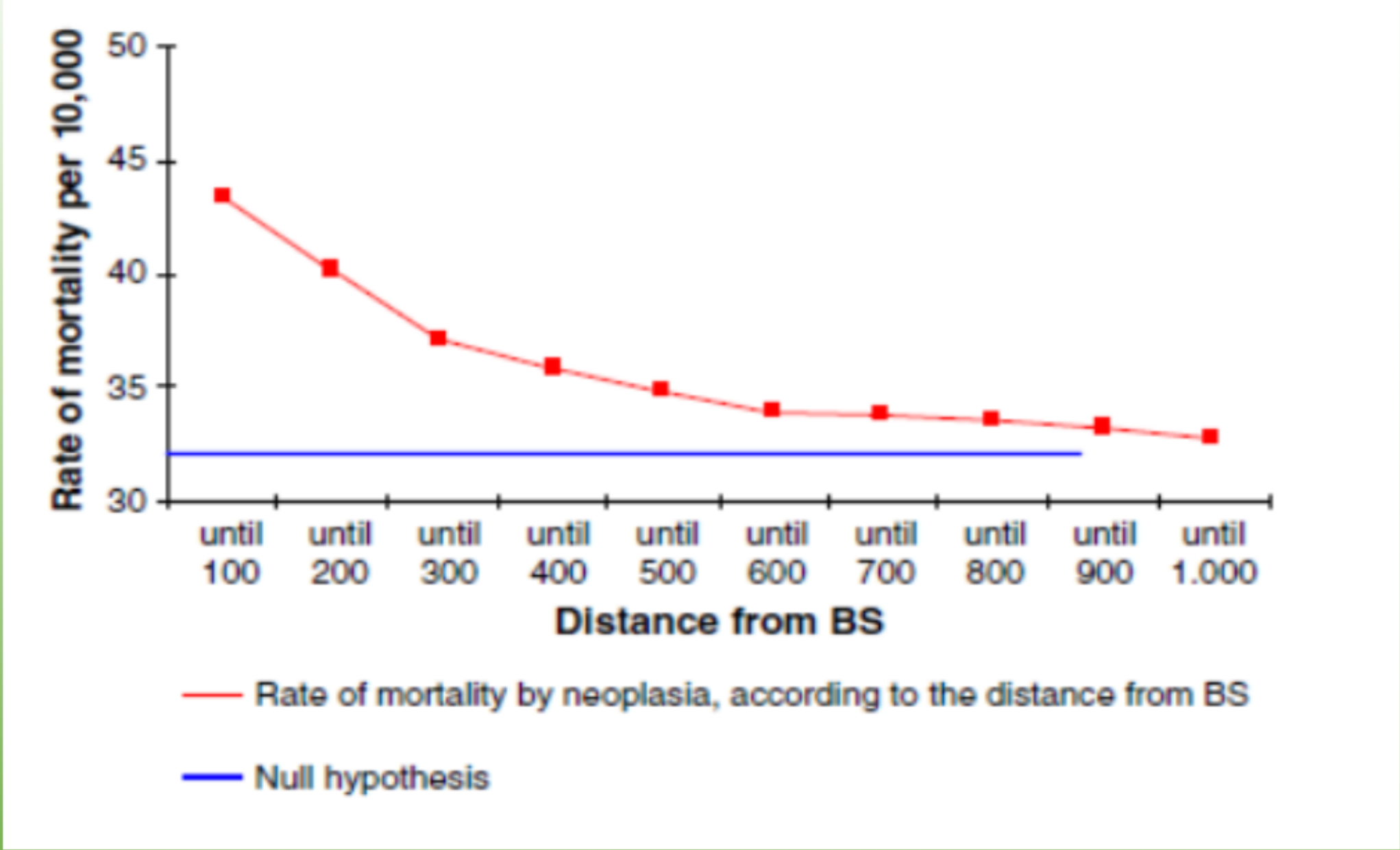
Germany – increased cancer within 400 m of MBS (Eger et al., Umwelt Medizin Gesellschaft 2004;17(4) 1-7)

Israel – increased cancer (Wolf & Wolf, 2004 Int J Cancer Prevention 1(2):2-19)

Korea – increased cancer in women near a radio tower (Ha M et al., Arch Environ Health,2003; 58(12) 756-62) and increased childhood leukaemia (Ha M et al., Am J Epidemiol. 2007;166(3):270-9)

Brazil – Increased cancer mortality near MBS (Dode et al., Science of The Total Environment 2011;409:3649–65)

Cancer Deaths Near Mobile Phone Base Stations (MPBS)



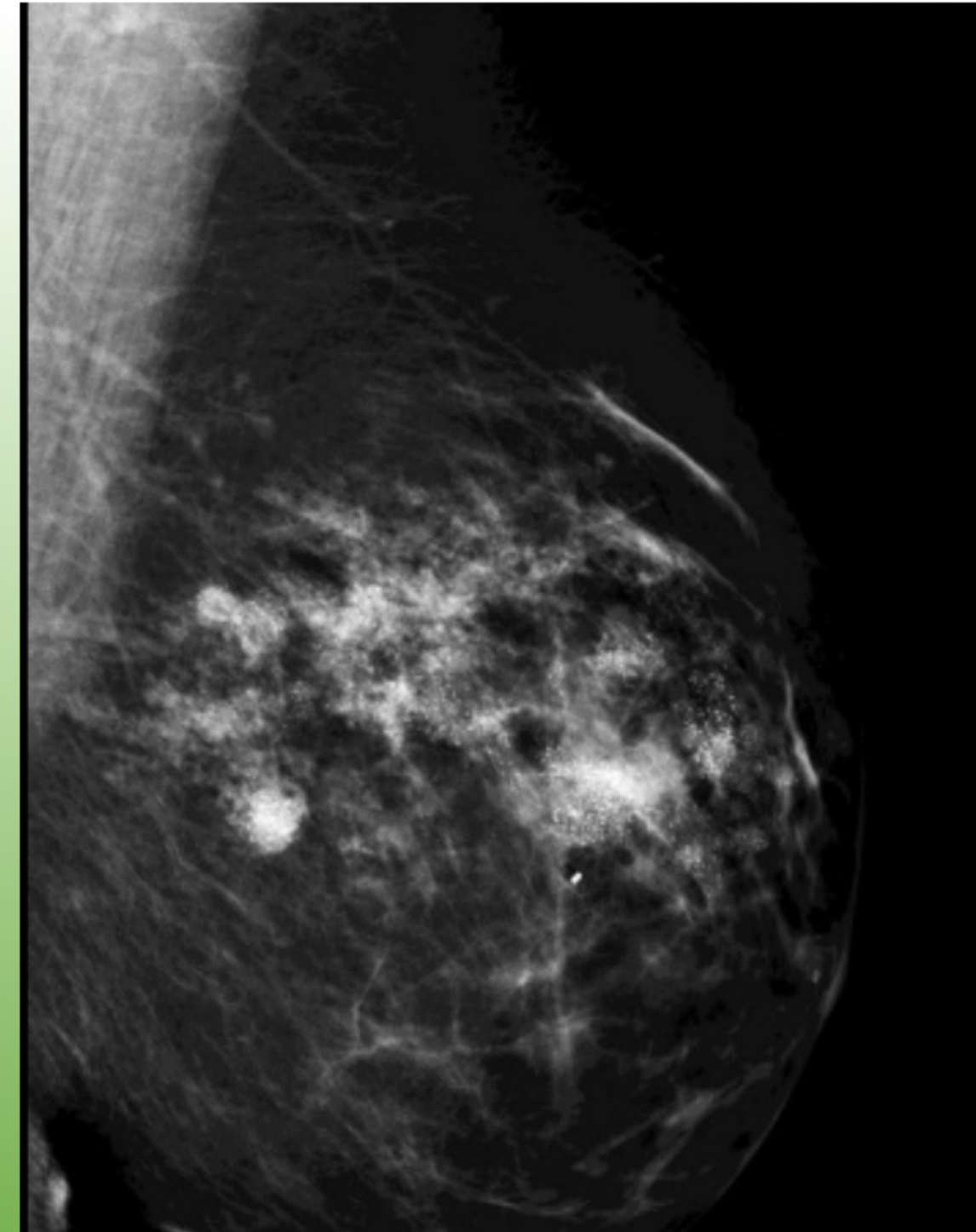
Distance from MBS	Number of Cancer deaths
0-100 m	3569
100-200 m	1408
200-300 m	973
300-400 m	482
400 -500 m	292
Total 0 – 500 m	6724
Beyond 1000 m	147

Cancer deaths within 500m from MPBS

$$6724/7191 = 93.5\%$$

Dode et al., Science of The Total Environment 2011;409:3649–65

Mobile Phones Can Cause Breast Cancer

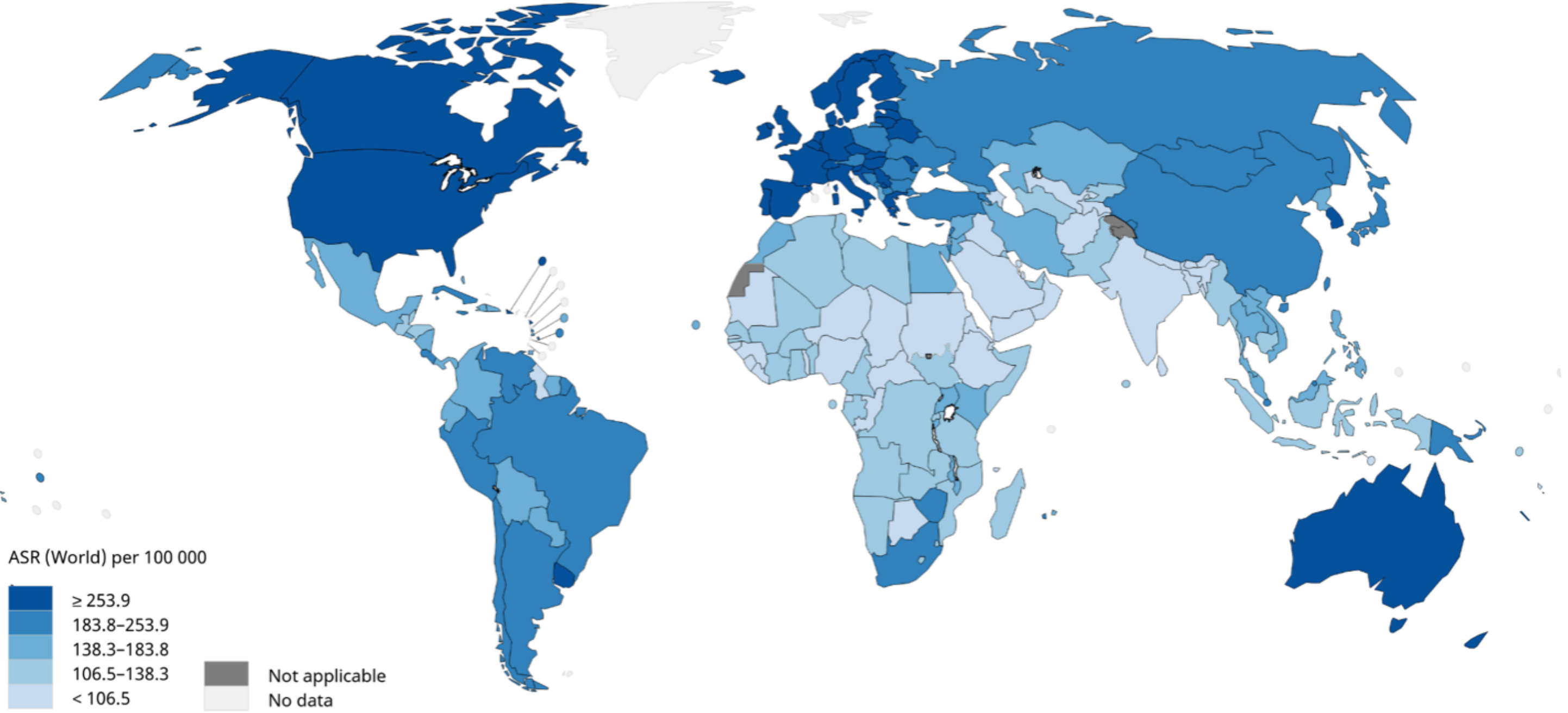


West JG et al.

Multifocal breast cancer in young women with prolonged contact between their breasts and their cellular phones. Case Rep Med. 2013;2013:354682.

Cancer Map of the World – Australia Has the Highest Cancer Rate

Estimated age-standardized incidence rates (World) in 2018, all cancers, both sexes, all ages

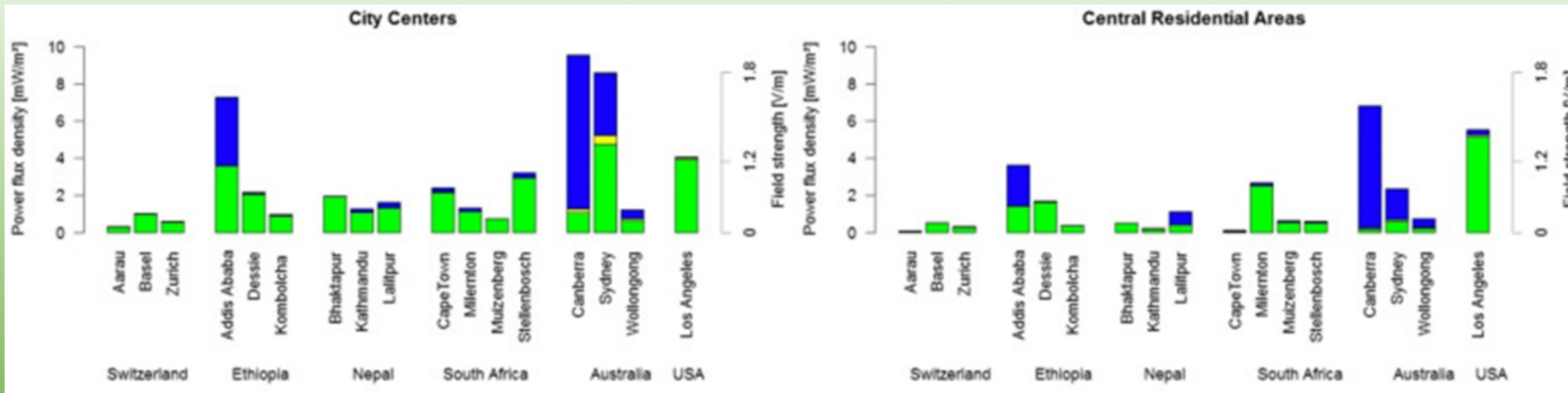


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Data source: GLOBOCAN 2018
Graph production: IARC
(<http://gco.iarc.fr/today>)
World Health Organization



Australians are exposed to higher levels of RF-EMR from wireless communication systems



Sagar et al. Environment International, Volume 114, 2018, 297–306

- Wifi 2.4GHz
- Broadcasting
- Uplink
- Downlink

DNA Damage and Oxidative Stress in People Near MPBS

Healthy young people living near MPBS show increased:

Oxidative Stress: GSH, CAT, SOD, lipid peroxidation

DNA damage: micronuclei formation

Zothansiana et al. *Electromagnetic Biology and Medicine* 2017;36(3):295-305.

Gulati et al. *Mol Cell Biochem.* 2018 Mar;440(1-2):1-9.

DNA damage: DNA breaks, worse in females

Gandhi et al. *Electromagnetic Biology and Medicine*, 2015; 34(4):344-54.

Gulati et al. *Arch Environ Contam Toxicol.* 2016;70(3):615-25.

OS and DNA damage increase with exposure closer to the MPBS

Significantly associated with mobile phone use



ARPANSA Review of Scientific Literature to Assess Health Risks of Wireless: TRS-164



Australian Government

Australian Radiation Protection and Nuclear Safety Agency

*Report by the ARPANSA
Radiofrequency Expert Panel*

**Review of Radiofrequency Health
Effects Research – Scientific
Literature 2000 – 2012**

Expert Assessment of In vitro/in vivo research

Prof. Andrew Wood – physical scientist

Expert Assessment of Human/provocation research

Prof. Rodney Croft – psychology researcher

Expert Assessment of Dosimetry

Prof. Andrew Wood – physical scientist

Expert Assessment of Epidemiology

Dr Geza Benke – physical scientist

Epidemiology – Literature Review

Dr Ken Karipidis – physical scientist

2000 to Aug 2012, expert panel met twice, did not review paper by paper. Published in 2014.

Assisted by ARPANSA staff, Dr Ken Karipidis, Dr Lindsay Martin, and Don Wijayasinghe

<https://www.arpansa.gov.au/sites/default/files/legacy/pubs/technicalreports/tr164.pdf>

ARPANSA False Position Regarding Oxidative Stress



ARPANSA TRS164 (2014): *“The putative link between RF energy and altered ROS production is tenuous”*

Bandara & Weller (2017): 89% of 242 peer-reviewed studies (from 26 countries) on oxidative stress found significant effects. RF-EMR causes altered ROS production.

Radiation Protection in Australasia (2017) Vol. 34, No. 2

ARPS42 Conference Paper

BIOLOGICAL EFFECTS OF LOW-INTENSITY RADIOFREQUENCY ELECTROMAGNETIC RADIATION – TIME FOR A PARADIGM SHIFT IN REGULATION OF PUBLIC EXPOSURE

**Priyanka Bandara (1,2) PhD (Biochemistry & Molecular Genetics, UNSW)
and Steve Weller (1) BSc (Biochemistry and Microbiology, Monash).**

Submitted 28/8/2017; Accepted 31/10/2017

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ARPS42 Conference Paper

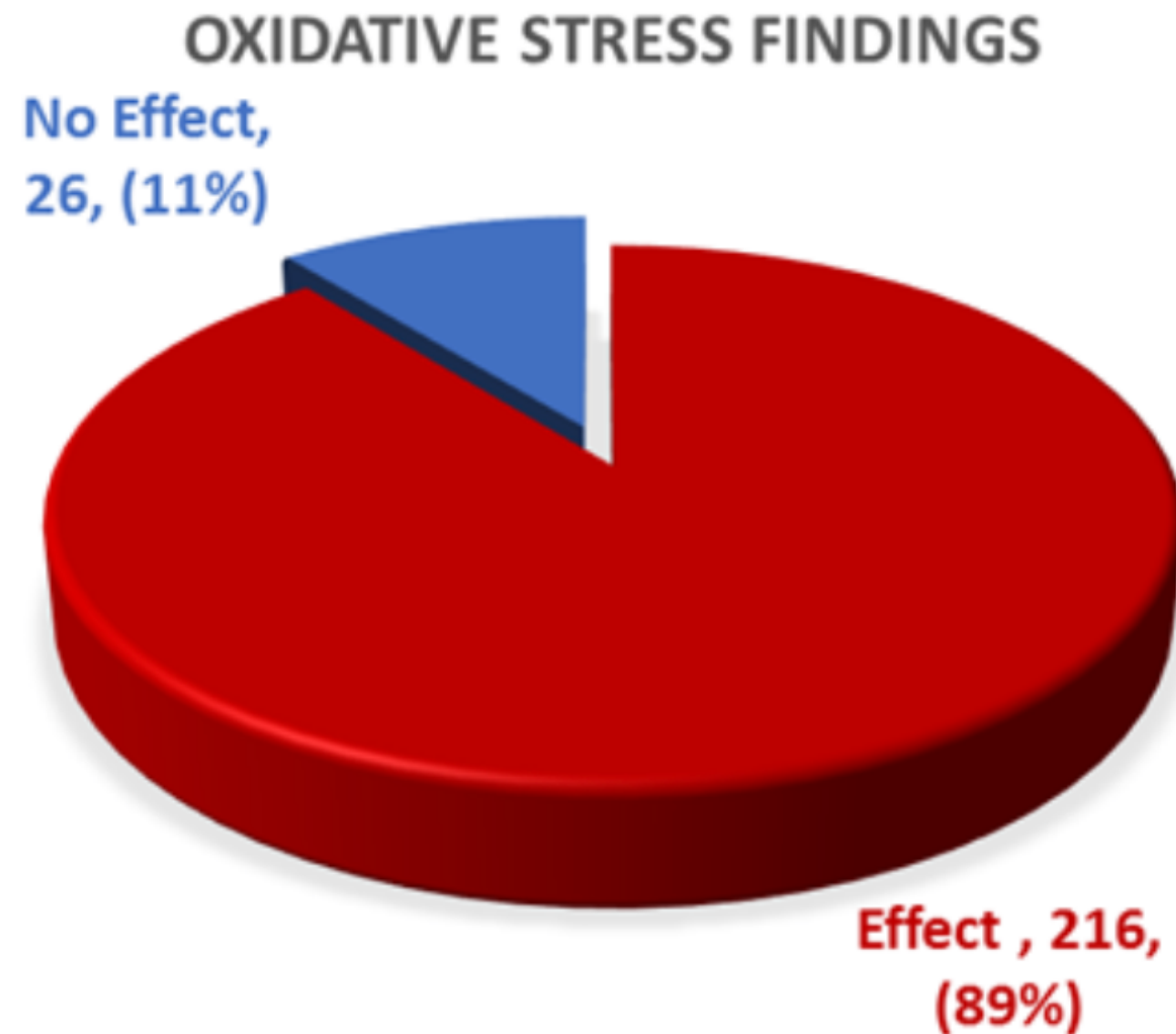
BIOLOGICAL EFFECTS OF LOW-INTENSITY RADIOFREQUENCY ELECTROMAGNETIC RADIATION – TIME FOR A PARADIGM SHIFT IN REGULATION OF PUBLIC EXPOSURE

Priyanka Bandara (1,2) PhD (Biochemistry & Molecular Genetics, UNSW)
and Steve Weller (1) BSc (Biochemistry and Microbiology, Monash).

Submitted 28/8/2017; Accepted 31/10/2017

Low Intensity RF-EMR Causes Oxidative Stress in Cells

- Review reported 93 out of 100 studies to find RF-EMR to cause Oxidative Stress (OS)
Yakymenko, I. et al. Electromag Biol Med. 35, 186-202 (2015)
- **We found 216 (89%) of 242 studies to show the same** Bandara P and Weller S.
Radiation Protection In Australasia (2017)



Swiss Expert Group Confirmed RF-EMR Causes Oxidative Stress in 2021



BERENIS – The Swiss expert group
on electromagnetic fields and non-ionising radiation
Newsletter – Special Issue January 2021

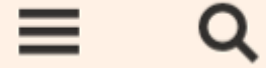
This **special issue** of the BERENIS newsletter contains an up-to-date assessment of a possible correlation between oxidative stress and exposure to magnetic and electromagnetic fields and their putative effects on health. For this purpose, relevant animal and cell studies published between 2010 and 2020 were identified and summarized. An extended report presenting these recent studies in more detail will be published soon by the FOEN¹. This special issue contains a short version of the report.

recovery phase. Pre-existing conditions, such as immune deficiencies or diseases (diabetes, neurodegenerative diseases), compromise the body's defence mechanisms, including antioxidative protection, and it is therefore possible that individuals with these conditions experience more severe health effects. In addition, the studies show that very young and elderly individuals can react less efficiently to oxidative stress induced by EMF, which of course also applies to other stressors that cause oxidative stress. More extensive studies under standardised conditions are necessary, to better understand and confirm these phenomena and observations.

"EMF exposure, even in the low dose range, can lead to changes in oxidative balance"

This is a summary. The full report will be published by the [Swiss Federal Office of the Environment](#).

2020 - Swiss Moratorium on 5G for 3 Years



FINANCIAL TIMES

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“Switzerland halts rollout of 5G over health concerns”

2021 - Swiss Moratorium on 5G Overturned by Industry Legal Action

Geneva 5G ban killed by Federal Court

The three main phone operators united and took the case to court. The judges ruled the ban was illegal as there wasn't sufficient evidence of the alleged danger of the masts to health. [Link](#)

A Snapshot of RF-EMR Experimental Studies

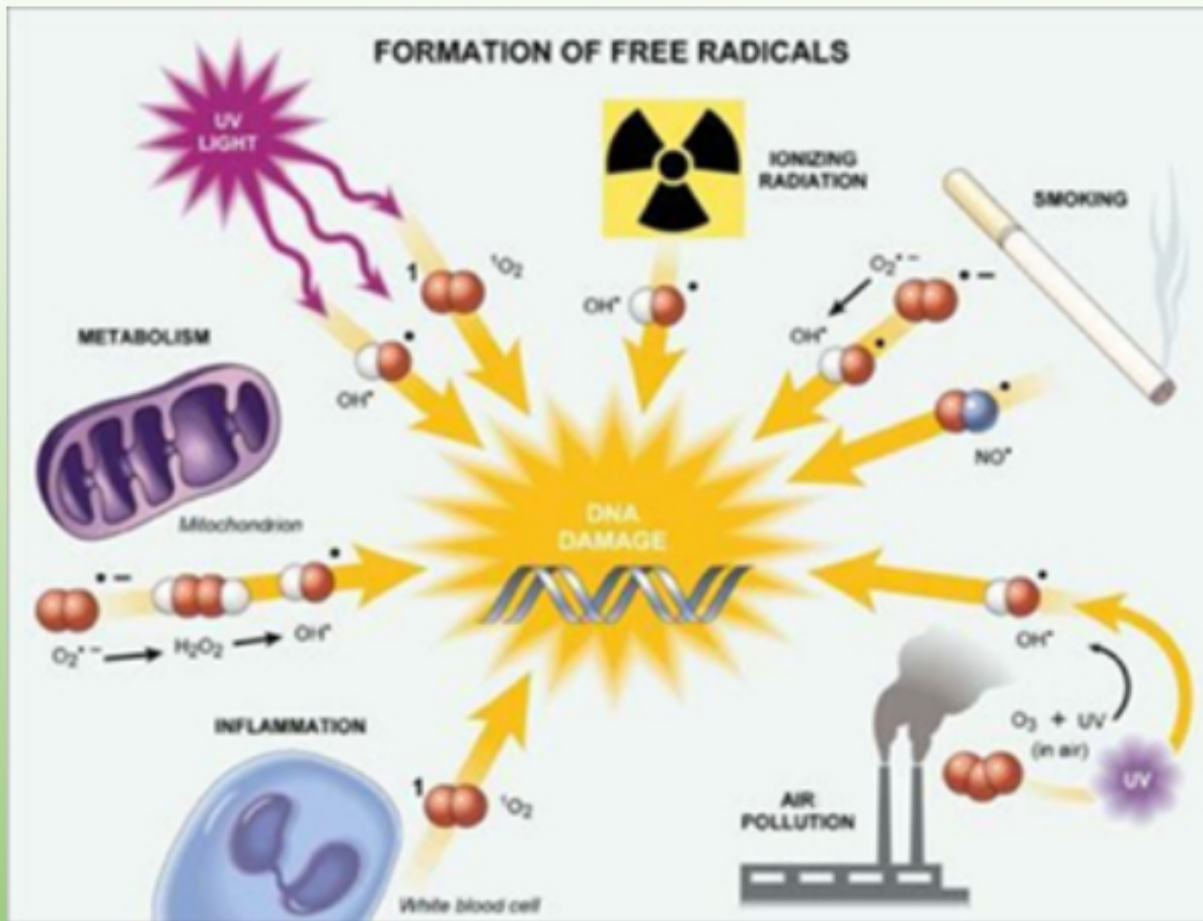
Experimental outcome	Number of studies	% of total
Found biological/health effect/s	1329	68
No Effect/s	469	24
Uncertain outcomes	157	8
Total number of studies	1955	100

<https://www.orsaa.org>

**With 68% of 1955 studies showing biological/health effects,
“wireless is safe” claim is rejected.**



RF-EMR Biological Effects to Adverse Health Effects



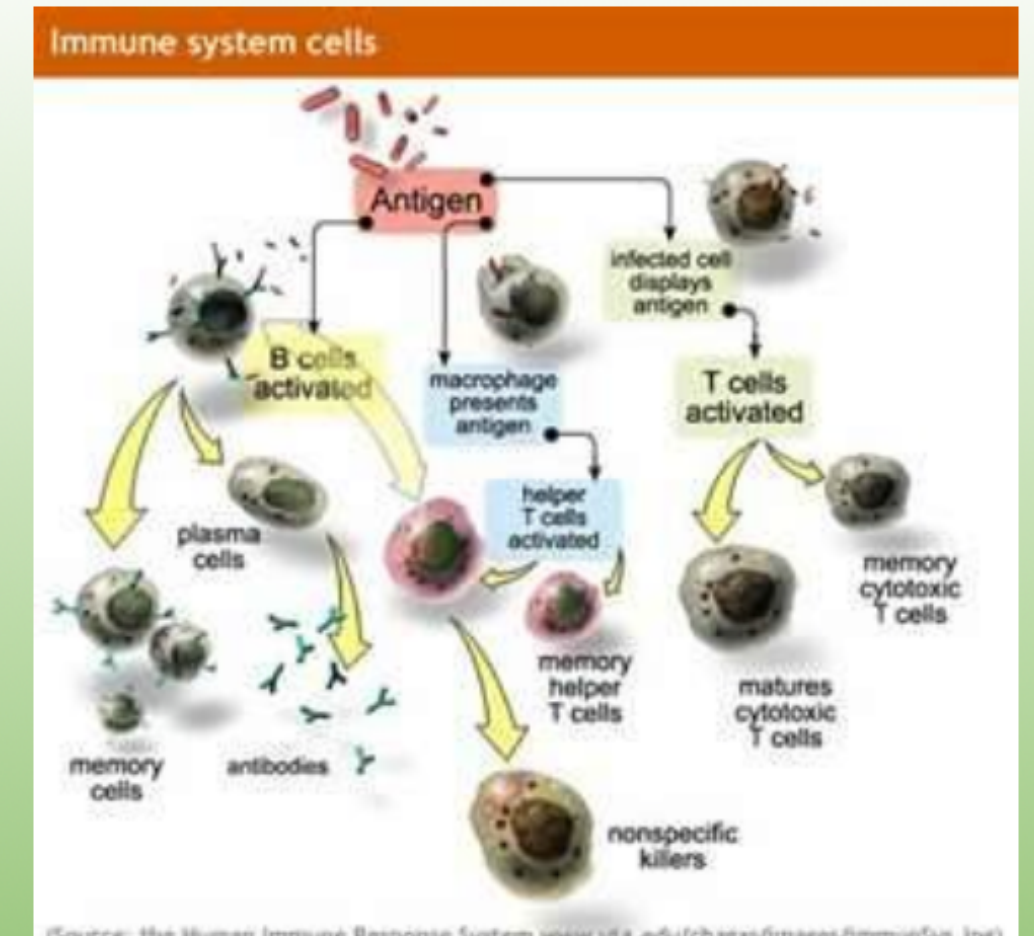
oxidative stress -> cellular damage & dysregulation, Mitochondrial dysfunction



reduced melatonin
reduced antioxidant protection, circadian rhythm disruption

Multi system dysfunction

accelerated ageing with chronic diseases



Neuroimmune, neuroendocrine dysfunction

5G WIRELESS DEPLOYMENT AND HEALTH RISKS: TIME FOR A MEDICAL DISCUSSION IN AUSTRALIA AND NEW ZEALAND



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[https://
www.orsaa.org/
orsaa-research-
papers---part-1.html](https://www.orsaa.org/orsaa-research-papers---part-1.html)

Parents Misled by Reckless Media & Researchers

 **TODAY** ON THE SHOW SHOP WELLNESS PARENTS FOOD

**Ditch books? Study says give newborn babies tablets
'from birth'**

JUNE 15, 2015 / 01:16

WHAT'S TRENDING  TODAY

BETTER THAN BOOKS?

STUDY: NEWBORNS SHOULD GET TABLETS IMMEDIATELY  TODAY

"Tablets should be part of a baby's world from birth," says Professor Annette Karmiloff-Smith

Study watched a small group of babies aged 6-10 months and found number recognition was higher after they were shown digits on a tablet.

Her findings fly in the face of advice from the American Academy of Pediatrics.

<https://www.today.com/parents/toddlers-babies-ok-play-ipads-birth-study-t26171>

Psychology Researcher Promoted Touchscreens to Babies on Scanty Evidence of Faster Learning

> [Front Psychol.](#) 2016 Aug 2;7:1108. doi: 10.3389/fpsyg.2016.01108. eCollection 2016.

Toddlers' Fine Motor Milestone Achievement Is Associated with Early Touchscreen Scrolling

Rachael Bedford ¹, Irati R Saez de Urabain ², Celeste H M Cheung ², Annette Karmiloff-Smith ³, Tim J Smith ⁴

Affiliations + expand

PMID: 27531985 PMCID: PMC4969291 DOI: 10.3389/fpsyg.2016.01108

> [Sci Rep.](#) 2017 Apr 13;7:46104. doi: 10.1038/srep46104.

Daily touchscreen use in infants and toddlers is associated with reduced sleep and delayed sleep onset

Celeste H M Cheung ¹, Rachael Bedford ², Irati R Saez De Urabain ¹, Annette Karmiloff-Smith ¹, Tim J Smith ³

- Psychology researcher Annette Karmiloff-Smith (Birkbeck University of London) promoted digital screens to babies – defying the American Academy of Pediatrics (AAP) guidelines based on evidence of harm
- Her team later found touchscreens to disrupt sleep of babies
- Unfortunately Prof. Karmiloff-Smith passed away from cancer before this finding

Comprehensive Assessments of Risks Vs Benefits by Multidisciplinary Experts are Needed

The Bigger Picture: Touchscreens are Damaging to Small Children

Review > [Psicol Reflex Crit.](#) 2020 Oct 31;33(1):24. doi: 10.1186/s41155-020-00163-8.

Benefits and damages of the use of touchscreen devices for the development and behavior of children under 5 years old—a systematic review

[Bruno Rocha](#)¹, [Cristina Nunes](#)² ³

Affiliations + expand

PMID: 33128692 PMCID: [PMC7603436](#) DOI: [10.1186/s41155-020-00163-8](#)

These effects are likely to be due to RF-EMR and other EMF exposure from digital screens

Some Countries Run Advertising Campaigns To Protect Their Children From Wireless Radiation



Campaign Posters



Campaign on buses

The campaign of the Cyprus Committee on Environment and Children's Health aiming to reduce children's active and passive wireless exposures.



Lyon (Rhône)

12|13 NATIONAL

SOCIETE

Protective Action – Replace WiFi with Wired Internet



Ceremonious removal of WiFi by the mayor at an Italian school after local authority investigated the scientific evidence of harm from microwave RF-EMR. *Source: presentation by Environmental Health Trust, USA at the National Institutes of Health, USA 20 July 2018 for the healthy building conference.*