



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

Author: Dr. Erica Mallery-Blythe Release date: 10/11/2020
(Signed by groups representing > 3500 medical doctors)

On Behalf of:

Physicians' Health Initiative for Radiation and Environment (PHIRE)
British Society for Ecological Medicine (BSEM)

Endorsed by further Medical Groups:

Alborada Foundation (Spain)
American Academy of Environmental Medicine (AAEM)
Australian College of Nutritional and Environmental Medicine (ACNEM)
European Academy for Environmental Medicine (EUROPAEM)
Italian Association of Doctors for the Environment (ISDE Italia)
National Association of Environmental Medicine (NAEM USA)
Ralf Meyer Akademie Komplementärmedizin
Kompetenzinitiative (Germany)

Endorsed by Scientific Groups:

EM Radiation Research Trust (RRT)
Environmental Health Trust (EHT)
International EMF Alliance (IEMFA)
International Guidelines on Non-Ionising Radiation (IGNIR)
Oceania Radiofrequency Scientific Advisory Association (ORSAA)



2020 Consensus Statement of UK and International Medical and Scientific Experts on Health Effects of Radiofrequency Radiation (RFR)



The statement reflects the consensus from the most recent, independent, expert global forums^{1,2,3,4,5,6} on the acute and chronic health effects resulting from Radiofrequency Radiation (RFR).

The statement clarifies the medical community's serious concerns surrounding the deployment of 5G and the continued use of RFR in public spaces.

Urgent action is required to protect the health of humans and wildlife.

Public Health Crisis:

1. RFR has been proven to damage biological systems at intensities below ICNIRP* guidelines.
2. Public exposure to RFR is already harmful and will rise with the deployment of 5G.
3. Exposure is unavoidable, contravening the Human Rights Act for those who do not consent.
4. Multiple international governmental health advisory groups are biased by conflicts of interest.

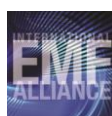
*ICNIRP: International Commission on Non-Ionising Radiation Protection

Required Urgent Actions:

1. Immediate moratorium on 5G, wireless smart metering and any other new RF emissions.
2. Establishment of public safety limits to be biologically protective against adverse health effects.
3. Withdrawal of Wi-fi, wireless phone and other RFR emissions from within / near all schools.
4. Designation of low EMR* areas to protect those who are unwell or do not consent to exposure.
5. Education programmes to inform medical professionals on EMR related illnesses / effects.
6. A zero tolerance approach to industrial influence on public health policy and assured exclusion of those with conflicts of interest from official advisory bodies.

*EMR: Electromagnetic Radiation

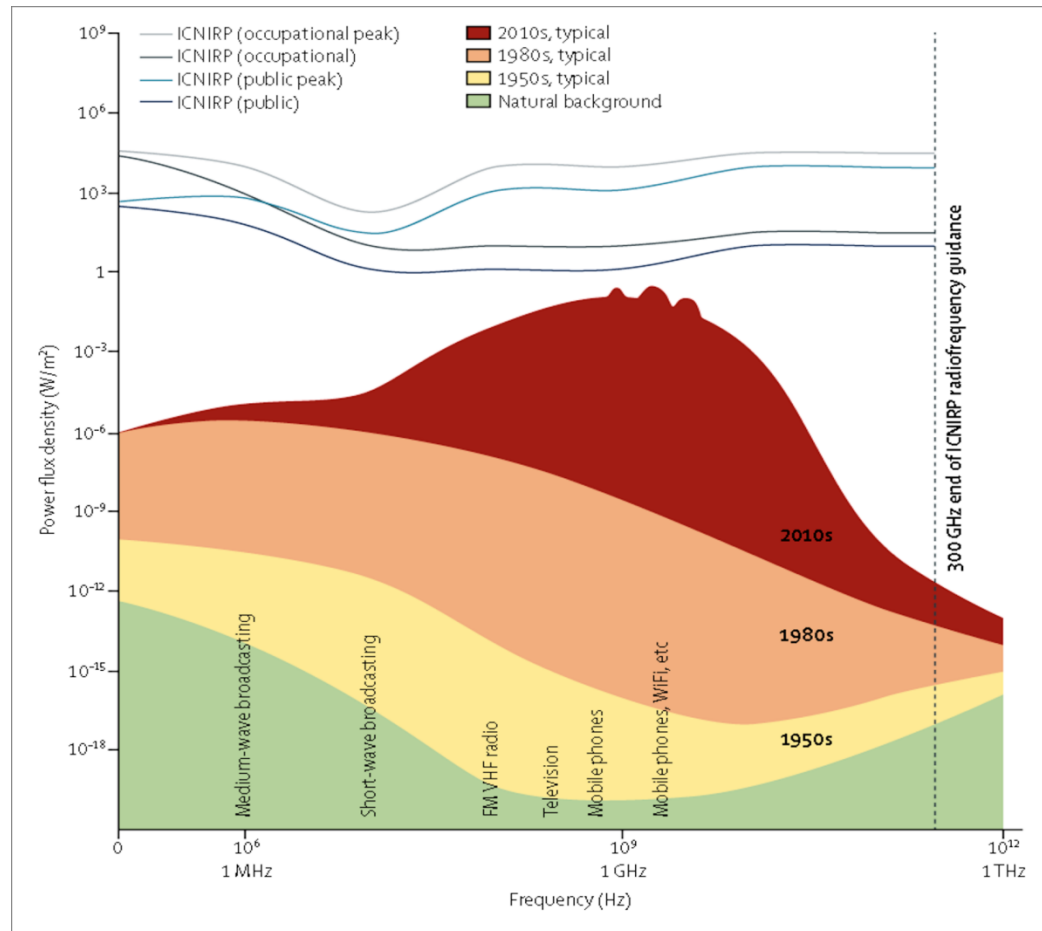
Also endorsed by the following scientific organisations:



Introduction

During the last four decades, there has been an exponential increase in ambient radiofrequency radiation (RFR) that continues to rise at an unprecedented rate. In addition, the increases occupy an unnatural portion of the frequency spectrum and now reach intensities of up to 10^{18} (quintillion) times higher than natural, background levels of RFR (see Figure 1 below).

Figure 1



Typical maximum daily exposure to radiofrequency electromagnetic radiation from man-made and natural power flux densities in comparison with International Commission on Non-Ionizing Radiation Protection safety guidelines¹

Permission: Alasdair Philips, Powerwatch <http://www.powerwatch.org.uk/> published: Bandara P, Carpenter D, The Lancet Planetary Health Vol 2 December 2018 'Planetary electromagnetic pollution: it is time to assess its Impact'¹¹⁰

RFR is emitted by mobile phones, base stations, Wi-fi enabled routers and computers, cordless land line phones, security systems, fitness watches, baby monitors, many other modern devices including wearable tech, internally emitting devices and products advertised for use close to foetuses or newborn babies. 5G will include higher frequencies transmitted by directional phased array antennas which have not been pre-market safety tested under realistic conditions in combination with existing emissions. Additionally the planned Internet of Things (IoT) will lead to higher cumulative exposures. International independent experts agree that this evolution is not safe for deployment^{7,8}. Existing emissions have already been shown to damage biological systems within lifelike exposure parameters^{9,10,11,12}. Damages include: increased cancer risk, increase in harmful free radicals, genetic damage, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans⁷ and the addition of higher frequencies and overall increased exposures are therefore predicted to cause further health damage^{13,14}.

The following pages summarise some of the evidence supporting our concerns.

Correspondence to Dr. Erica Mallery-Blythe: info@phiremedical.org on behalf of Physicians' Health Initiative for Radiation and Environment (PHIRE) and British Society for Ecological Medicine (BSEM)

Background

1) Cancer risk noted from human epidemiological research corroborated by largest new animal studies:

In 2011, the World Health Organisation (WHO) via the International Agency for Research on Cancer (IARC) classified RFR as Group 2B 'Possibly carcinogenic to humans'¹⁵. Glioblastoma Multiforme (GBM), an associated rapidly progressive fatal brain cancer and acoustic neuroma, satisfy the Hill criteria for causality from RFR exposure based on human epidemiological studies¹⁶. Human epidemiological evidence has continued to accumulate since^{17-22,23}. In 2018 the largest animal study so far, published from the highly credible US National Toxicology Program (NTP)^{24,25} declared the evidence for carcinogenesis 'clear', putting pressure on IARC to reassess urgently and elevate RFR to Group 1 'Known Human Carcinogen'^{26,27}. Furthermore, the large-scale Ramazzini Institute study²⁸ which used far field radiation designed to emulate base station type radiation was published shortly afterwards and independently confirmed promotion of carcinogenesis in cells of glial derivation. Legal authorities continue to validate the causal link between RFR and tumours.²⁹ The incidence of these kinds of brain tumours are rising in the UK³⁰, Netherlands³¹, Australia³² and USA^{33,34}.

2) Global medical, scientific, political and ethical warnings are escalating:

Accompanying this warning from WHO / IARC, are warnings from medical doctors groups,^{8,35-44} scientific panels,^{9,10,11,45-56} and numerous, global governmental groups⁵⁷⁻⁶⁷.

3) Enough valid research has been conducted to justify action to protect against health effects:

Many hundreds of peer-reviewed scientific papers have now been published on biological effects of non-ionising radiation demonstrating effects occurring in response to a range of frequencies. It should be noted that modulations to RF communications fall within the Extremely Low Frequency (ELF) range. It remains unclear whether it is the RF or ELF frequencies that are most bioactive, but that academic question does not need to be answered at this point in order to

be clear that the technology is not safe, as both existing and proposed emissions contain both portions of the spectrum integrated in this way. The evidence base for certain types of biological interference is extremely strong. In excess of 90% of publications noted oxidative stress, both in vitro and vivo (animal studies).⁶⁸ Oxidative stress can damage multiple biological systems and is implicated in many diseases of high public health importance such as Alzheimer's, cancer, cardiovascular disease and infertility.

4) ICNIRP 'safety' guidelines are not protective:

The International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines (devised in 1998)⁶⁹ only avoid acute, thermally induced (tissue heating) effects. They do not protect against chronic effects, or the copiously documented non-thermal, low intensity effects of non-ionising radiation which can occur several hundred thousand times below current ICNIRP guidelines⁹. Additionally, non-compliance with these guidelines has been demonstrated^{70,71}. Concerns regarding conflicts of interest have been raised^{72,73}. Analysis of proposed 5G emissions has shown that the exposure limits 'tolerated by ICNIRP may lead to permanent tissue damage even after short exposures'.⁷⁴ Their updated guidelines⁷⁵ address this issue but actually allow higher overall cumulative exposures and concerns persist⁷⁶. They have been shown to make 'extensive incorrect and misleading statements' in important literature appraisals⁷⁷ and independent groups have suggested evidence based replacement guidelines^{9,78,79,94}.

5) A growing global movement to protect citizens by authorities has begun:

Some countries have chosen to adopt safety limits orders of magnitude below ICNIRP guidelines based on scientifically observed biological effects. Furthermore, some such as France⁶⁰ have already banned or restricted Wi-fi in some educational settings accommodating children. Others such as Cyprus have government led, targeted public information campaigns and medical statements published to better inform and educate their citizens⁵⁹. These important steps are overdue in the UK and public health agencies are currently failing in their duty to safeguard and inform the UK population regarding the proven hazards of these emissions.

6) Health Authorities' guidance is often out of date, biased and inaccurate:

Resources from advisory groups including Public Health England (PHE) and WHO, are lacking appraisal of the latest research regarding this fast-moving subject. Additionally, there are often conflicts of interest within these groups and many public statements do not stand up to scientific scrutiny^{72,77}. Specifically, the Advisory Group on Non-Ionising Radiation (AGNIR) report of 2012 that was used to construct current UK policy is out of date and has been found to be 'inaccurate', 'biased' and 'misleading'.⁸⁰ The group has disbanded but, nonetheless, the report is still being used to inform current policy.⁸¹

7) Sensitive sub-groups are neglected:

Age, gender, genetics, Electromagnetic Hypersensitivity (EHS) (see below) and co-morbidities may all affect individual vulnerability. Pregnant females and their foetuses are also especially vulnerable.

Children are more vulnerable due to multiple factors:⁸² It is noteworthy that brain tumours have overtaken leukaemia as a leading cause of cancer death in young people.

- a) Children absorb more radiation:
 - The brain of a child (age 5-8yrs) can absorb 2x the radiation of an adult.⁸³
 - Exposure in bone marrow can be up to 10x greater than an adult.⁸⁴
- b) Outcomes in children may be worse as:
 - Children have systems which are still developing.
 - Children have a longer time ahead for latent effects to manifest.

There is inconsistent advice regarding radiation exposure for children in the UK. The Chief Medical Officers state that:

"children and young people under 16 should be encouraged to use mobile phones for essential purposes only"⁸⁵. This advice is also underpinned by a medical doctors' appeal⁴¹ (signed by more than 1,000 physicians) stating "Children below the age of 8 should not use cell phones and cordless phones;

children and adolescents between the ages 8 and 16 should also not use cell phones or only use them in the case of an emergency". However, this advice was never effectively communicated to the public and children are still encouraged to use RFR emitting tablets, computers and numerous other wireless devices (including sometimes mobile phones) in school. The same caution should apply for tablets and other similar RFR sources as their maximum Specific Absorption Rates (SARs) are comparable and in some cases higher. Additionally, these devices are often held near to sensitive areas such as the reproductive organs. Wi-fi shares the same carcinogenic status as other forms of RFR under the IARC classification and is also "an important threat to human health" in numerous ways, additional to its carcinogenicity.⁸⁶ Hard wired alternatives should clearly be implemented in schools.

Those with Electromagnetic Hypersensitivity (EHS) are also acutely vulnerable:

EHS is a multisystem medical condition characterised by physical symptoms associated with anthropogenic electromagnetic field exposure. Similar constellations of symptoms may also be seen in the general population where exposures to RFR are higher. Some have suggested a 'nocebo response' (symptoms induced by fear of exposure) as the mechanism behind the reaction. This explanation does not withstand scientific scrutiny. EHS is proven to be a physical response under blinded conditions^{87,88}, biomarkers are being identified⁸⁹ and mechanisms that may explain the reaction are evolving^{90,91,92,93}. Advice from multiple international medical doctors groups and governmental groups is to decrease exposures in order to relieve symptoms (also see point 2 above). Additionally, guidelines for EHS diagnosis and management have been peer-reviewed and published which make clear that the mainstay of medical management is avoidance of anthropogenic electromagnetic fields^{94,95,96}. Disability and compensation cases for those with EHS are already being won and will continue to escalate.

8) Human Rights:

There are clear human rights violations, particularly for vulnerable groups⁹⁷. In essence many of these also apply to any individual who does not consent to exposure in their home, place of work or public building and yet is being given no choice. People all over the world are making their unwillingness to be exposed abundantly clear⁹⁸ via protests, letters and where there is resource, legal actions^{71,99,100,101,102,103}. At its core, this is an issue of consent and there can be no defensible argument for forcibly exposing those who do not consent. That is a breach of the Nuremburg Code as well as numerous Human Rights. The 'Rights of a Child' and unborn child are currently also being contravened by these exposures and parents who strive to protect their children currently have no avenue to achieve this without complete public isolation. Indeed, they may even be unable to prevent their children's exposures in their own property given the penetration of EMF over large distances and through walls. There are adults and children who have severe acute symptoms and in some cases they can prove life threatening. Additionally, the extreme measures some are forced to take to avoid exposures (such as primitive camping for example) can also lead to lack of access to medical care, social support, isolation from basic necessities such as food, water and shelter and to hostile exposures such as extremes of temperature.

It is noteworthy also that as individuals prove they have been harmed by RFR exposures, (which is certainly already happening²⁹), there is also likely no insurance coverage, which enhances the injustice of this situation. Following in depth analysis of the scientific literature and thorough risk assessment, underwriters consider risks of RF to be 'high impact'¹⁰⁴. Governmental bodies could therefore be forced to 'self insure'. This

would present the very unethical situation that the taxpayer could ultimately pay for health damages incurred by exposures that they never consented to and in many cases actively refused.

9) Precautionary Principle and public Health:

The application of the Precautionary Principle¹⁰⁵ has been called for over many years, by multiple credible, professional organisations and most recently by the European Parliament⁶⁷. This is now crucial in order to protect both public health and the economy given the already apparent escalating health costs. RFR has been proven to damage biological systems at levels well below those claimed to be safe within the ICNIRP guideline levels. Public exposures to existing levels of RFR are already harmful and will rise substantially with the deployment of 5G^{106,107}.

In truth, we are now beyond the point of precaution and protection of vulnerable groups is an emergency. RF has been shown to cause widespread, multisystem health detriment⁶⁸ and effects on the immune system have been demonstrated in some peer-reviewed published studies¹⁰⁸.

Given the extraordinary pressure on public health provision in 2020, the simple measure of halting further RF exposures via 5G is a proportionate and logical measure in order to optimise the biological resilience of the population.

Given the current planetary environmental crisis and impact of electromagnetic fields also on the health of wildlife^{109,110,111} and with higher 5G frequencies affecting insects in particular¹¹², it is not just protection of human health from harmful effects of anthropogenic radiation which constitutes an emergency but actually that of all global life.

Conclusion:

The short-sighted reason given for this 'race' to deploy 5G, is economic growth. This argument is fallacious given that a physically and mentally unhealthy community will never be able to fulfil their true potential for economic growth and productivity. Even small impairments to certain health parameters can equate to very large public health detriment when large numbers of individuals are affected. In this case the entire population will be affected and this could therefore have highly damaging implications both for the overall health of nations and consequently for their economies.

There need to be sincerely progressive remedies to facilitate technological evolution in ways which are not damaging to biological systems, and these can only be pursued once the current science is honestly appraised and medically ethical solutions are actively sought. Right here and right now, hard wired alternatives present a safer, sustainable and accessible path forward.

We the undersigned state that the above 'Urgent Action Points' must be addressed immediately by the UK Government and other governments internationally, in order to prevent avoidable human injury, disease, deaths and potentially irreversible environmental damage. People must be allowed to retain the right not to be exposed against their will. Where prevention of harm may have already failed we also request clear communication to the public regarding who is accountable and liable for health damages. We request a response from Public Health England and Her Majesty's Government to clarify accountability and the measures which will be taken to address the above 'Urgent Action Points' within 28 days of receipt of this communication.

Disclaimer: This document is based on current knowledge and does not constitute any form of (e.g. medical or legal) advice. Great care has been taken to ensure the validity of the information provided but no liability is accepted by the author(s), parent organisation(s), or any other connected group(s) or individual(s), for damages or any (other) cost or burden arising in relation to its use/interpretation by any person or other entity.

References:

(All are clickable hyperlinks)

-
- ¹ 5th Paris Appeal Congress, 18th May, 2015. Royal Academy of Medicine, Belgium
- ² Physicians' Health Initiative for Radiation and Environment (PHIRE) 5th Nov 2018, London, UK
Press Conference on Health Effects of Non-Ionising Radiation (NIR) and the implementation of 5G
- ³ British Society for Ecological Medicine (BSEM) 5G International Medical Conference, 27th Sept 2019 London, UK.
5G The Fact, Risks and Remedies
- ⁴ International Public Symposium 4th – 6th Oct 2019, Electoral Palace, Mainz, Germany.
Biological effects of wireless technology
- ⁵ Radiation Research Trust (RRT) International Conference on 5G, 28th Sept 2019, London, UK
Can Wireless Communications Damage Your Health?
- ⁶ International EMF Conference 2019 California, USA
Three Day international medical conference with 'Continuing Medical Education' (CME) accreditation for attendees
- ⁷ The 5G Appeal: 2017. As of April 19th 2020, 353 scientists and medical doctors have signed the appeal.
- ⁸ International Society of Doctors for Environment. Di Ciaula, A. 2018 Apr ISDE Scientific Office
International Society of Doctors for Environment 5G networks in European Countries: appeal for a standstill in the respect of the precautionary principle
- ⁹ Bioinitiative Working Group, Sage, C., Carpenter, D., Bioinitiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Radiation December 31, 2012, as updated in 2014, 2018. 2019 and 2020
www.bioinitiative.org
- ¹⁰ The EMF Call, 2018. By November 26th, 2018, signed by 164 scientists and medical doctors together with 95 non-governmental organizations. Call for Truly Protective Limits for Exposure to Electromagnetic Fields (100 kHz to 300 GHz)
- ¹¹ International EMF Scientists Appeal
April 30th, 2020, 253 EMF scientists (published in this field only) from 43 nations have signed the Appeal.
- ¹² Kostoff, N., et al., 2020. Adverse Effects of 5G mobile networking technology under real-life conditions. Elsevier, Toxicology Letters 323 (2020) 35-40 <https://doi.org/10.1016/j.toxlet.2020.01.020>
- ¹³ Russell, C., 2018. "5G wireless telecommunications expansion: Public health and environmental implications". Environ Res. 2018 Aug;165:484-495. doi: 10.1016/j.envres.2018.01.016. Epub 2018 Apr 11th.
<https://www.ncbi.nlm.nih.gov/pubmed/29655646>
- ¹⁴ Di Ciaula A. Towards 5G communication systems: Are there health implications?. Int J Hyg Environ Health. 2018;221(3):367-375. doi:10.1016/j.ijheh.2018.01.011
- ¹⁵ World Health Organization: International Agency for Research on Cancer (IARC), Press Release No. 208, May 31st 2011. IARC Classifies Radiofrequency Electromagnetic Fields as Possibly Carcinogenic to Humans
- ¹⁶ Hardell L, Carlberg M, 2016. Evaluation of Mobile Phone and Cordless Phone Use and Glioma Risk Using the Bradford Hill Viewpoints from 1965 on Association or Causation, BioMed Research International, Volume 2017, Article ID 9218486
<https://doi.org/10.1155/2017/9218486>
- ¹⁷ Bortkiewicz A, Gadzicka E, Szymczak W. Mobile phone use and risk for intracranial tumors and salivary gland tumors - A meta-analysis [published correction appears in Int J Occup Med Environ Health. 2017 Jun 19;30(4):685]. Int J Occup Med Environ Health. 2017;30(1):27-43. DOI: <https://doi.org/10.13075/ijom.1896.00802>
- ¹⁸ Di Donato, I., Federico, A. News on the journal Neurological Sciences in 2017. *Neurol Sci* 39, 15–21 (2018).
<https://doi.org/10.1007/s10072-017-3241-x>
- ¹⁹ Yang M, Guo W, Yang C, et al. Mobile phone use and glioma risk: A systematic review and meta-analysis. *PLoS One*. 2017;12(5):e0175136. Published 2017 May 4. <https://doi.org/10.1371/journal.pone.0175136>
- ²⁰ Cardis E, Armstrong BK, Bowman JD, et al. Risk of brain tumours in relation to estimated RF dose from mobile phones: results from five Interphone countries. *Occupational and Environmental medicine* 2011; 68(9): 631-40.
<https://doi.org/10.1136/oemed-2011-100155>
- ²¹ Momoli F, Siemiatycki J, McBride ML, et al. Probabilistic Multiple-Bias Modeling Applied to the Canadian Data From the Interphone Study of Mobile Phone Use and Risk of Glioma, Meningioma, Acoustic Neuroma, and Parotid Gland Tumors. *Am J Epidemiol*. 2017;186(7):885-893. <https://doi.org/10.1093/aje/kwx157>
- ²² Luo J, Li H, Deziel NC, et al. Genetic susceptibility may modify the association between cell phone use and thyroid cancer: A population-based case-control study in Connecticut. *Environmental Research* 2020; 182: 109013.
<https://doi.org/10.1016/j.envres.2019.109013>
- ²³ Choi, Y.-J.; Moskowitz, J.M.; Myung, S.-K.; Lee, Y.-R.; Hong, Y.-C. Cellular Phone Use and Risk of Tumors: Systematic Review and Meta-Analysis. *Int. J. Environ. Res. Public Health* 2020, 17, 8079. <https://www.mdpi.com/1660-4601/17/21/8079#cite>
- ²⁴ Wyde, M.E. et al., 2018. National Toxicology Program Technical Report on The Toxicology and Carcinogenesis Studies in Hsd: Sprague Dawley SD Rats Exposed to Whole-Body Radio Frequency Radiation at a Frequency (900 Mhz) and

Modulations (GSM And CDMA) Used by Cell Phones, National Institutes of Health Public Health Service U.S. Department of Health and Human Services

²⁵ Melnick, R. L., 2018. Commentary on the utility of the National Toxicology Program study on cell phone radiofrequency radiation data for assessing human health risks despite unfounded criticisms aimed at minimizing the findings of adverse health effects. *Environ Res.* 2019 Jan;168:1-6. doi: 10.1016/j.envres.2018.09.010. Epub 2018 Sep 20.

<https://www.ncbi.nlm.nih.gov/pubmed/30243215>

²⁶ Hardell, L., Carlberg, M., 2019. "Comments on the US National Toxicology Program technical reports on toxicology and carcinogenesis study in rats exposed to whole-body radiofrequency radiation at 900 MHz and in mice exposed to whole-body radiofrequency radiation at 1,900 MHz". *International Journal of Oncology* 54, no. 1 (2019): 111-127.

<https://doi.org/10.3892/ijo.2018.4606>

²⁷ Peleg et al., 2018. Radio frequency radiation-related cancer: assessing causation in the occupational/military setting. *Environ Res.* May;163:123-133. doi: 10.1016/j.envres.2018.01.003

²⁸ Falcioni et al., 2018. Report of final results regarding brain and heart tumors in Sprague-Dawley rats exposed from prenatal life until natural death to mobile phone radiofrequency field representative of a 1.8 GHz GSM base station environmental emission. *Environ Res.* 2018 Aug;165:496-503. doi: 10.1016/j.envres.2018.01.037.

²⁹ The Court of Appeal of Turin full judgment, 13 January 2020 (904/2019 of 3.12.2019), Romeo v. INAIL

<https://www.globalresearch.ca/court-appeal-turin-confirms-link-between-head-tumour-mobile-phone-use/5701050>

³⁰ Philips et al., 2018. Brain tumours: rise in Glioblastoma Multiforme incidence in England 1995–2015 suggests an adverse environmental or lifestyle factor. *Journal of Environmental and Public Health* 2018 Apr 21

<https://doi.org/10.1155/2018/7910754>

³¹ Ho VK, Reijneveld JC, Enting RH, et al. Changing incidence and improved survival of gliomas. *European Journal of Cancer* 2014; 50(13): 2309-18. doi: 10.1002/cam4.1757 DOI: 10.1016/j.ejca.2014.05.019

³² Dobes M, Shadbolt B, Khurana VG, et al. A multicenter study of primary brain tumor incidence in Australia (2000-2008). *Neuro-oncology* 2011; 13(7): 783-90.

doi: 10.1093/neuonc/nor052

³³ Zada G, Bond AE, Wang YP, Giannotta SL, Deapen D. Incidence trends in the anatomic location of primary malignant brain tumors in the United States: 1992-2006. *World Neurosurgery* 2012; 77(3-4): 518-24.

DOI:10.1016/j.wneu.2011.05.051

³⁴ Lehrer S, Green S, Stock RG. Association between number of cell phone contracts and brain tumor incidence in nineteen U.S. States. *Journal of Neuro-Oncology* 2011; 101(3): 505-7. DOI: <https://doi.org/10.1007/s11060-010-0280-z>

³⁵ Cyprus Medical Association, 2017. The Vienna / Austrian Medical Chambers and the Cyprus National Committee on Environment and Children's Health: Nicosia Declaration on Electromagnetic Fields / Radiofrequencies, Nov 2017 Common Position Paper.

http://www.cyprus-child-environment.org/images/media/assetfile/HMA%20S_EN_17.pdf

³⁶ Physician's for Safe Technology

<https://mdsafetech.org/>

³⁷ The American Academy of Pediatrics (AAP), 2013. (60,000 Pediatricians and Pediatric Surgeons).

Letter to Federal Communications Commission (FCC) and the Commissioner of the U.S. Food and Drug Administration (FDA), August 2013.

<http://apps.fcc.gov/ecfs/document/view?id=7520941318>

³⁸ American Academy of Environmental Medicine (AAEM) Statement on AAEM's position on EMF radiation

<https://www.aemonline.org/pdf/emfpositionstatement.pdf>

The AAEM Statement on WiFi in Schools

<https://aemonline.org/pdf/WiredSchools.pdf>

³⁹ International Scientific Declaration on EHS & MCS, 2015. Brussels

http://eceri-institute.org/fichiers/1441982765_Statement_EN_DEFINITIF.pdf

⁴⁰ International Society (17 countries) of Doctors for the Environment (ISDE)

http://www.isde.org/5G_appeal.pdf

⁴¹ German Doctors Freiburger Appeal, 2002 and 2012.

Radio-frequency Radiation Poses a Health Risk. Physicians Demand Overdue Precaution.

<http://freiburger-appell-2012.info/en/home.php?lang=EN>

⁴² Swiss Physicians for the Environment (MfE)

http://www.aefu.ch/fileadmin/user_upload/aefu-data/b_documents/Aktuell/120316_Brief_NIS.pdf

⁴³ Irish Doctors Environmental Association (IDEA)

⁴⁴ Doctors Call for Protection from Radiofrequency Radiation Exposure: Declaration Submitted to Health Canada

<https://magdahavas.com/wp-content/uploads/2014/07/medical-doctors-submission-to-health-canada-english-1.pdf>

⁴⁵ Oceania Scientific Advisory Association

<http://www.orsaa.org/>

⁴⁶ Fragopoulou A, et al. "Scientific panel on electromagnetic field health risks: Consensus points, recommendations, and rationales. Scientific Meeting: Seletun, Norway, November 17-21, 2009", *Rev Environ Health* 2010; 25: 307-317.

<http://wifiinschools.org.uk/resources/Seletun+2010.pdf>

⁴⁷ The Porto Alegre Resolution, 2009, ICEMS (International Commission for Electromagnetic Safety).

Correspondence to Dr. Erica Mallery-Blythe: info@phiremedical.org on behalf of Physicians' Health Initiative for Radiation and Environment (PHIRE) and British Society for Ecological Medicine (BSEM)

- http://www.icems.eu/docs/resolutions/Porto_Alegre_Resolution.pdf
- ⁴⁸ Venice Resolution, 2008, ICEMS (International Commission for Electromagnetic Safety).
http://www.icems.eu/docs/Venice_Resolution_0608.pdf
- ⁴⁹ Benevento Resolution, 2006, ICEMS (International Commission for Electromagnetic Safety).
<http://www.icems.eu/resolution.htm>
- ⁵⁰ Vienna Resolution, 1998, ICEMS (International Commission for Electromagnetic Safety)
http://www.icems.eu/docs/resolutions/Vienna_Resolution_1998.pdf
- ⁵¹ Salzburg Resolution on Mobile Telecommunication Base Stations, 2000, Austria
https://www.icems.eu/docs/resolutions/Salzburg_res.pdf
- ⁵² Catania Resolution, 2002, Italy
<http://www.emrpolicy.org/faq/catania.pdf>
- ⁵³ London Resolution, 2007. Johansson, Pathophysiology 16 (2009) 247–248
http://www.icems.eu/docs/resolutions/London_res.pdf
- ⁵⁴ Helsinki Appeal 2005
http://www.emrpolicy.org/news/headlines/helsinki_appeal_05.pdf
- ⁵⁵ Scientists call for Protection from Radiofrequency Radiation Exposure: Declaration submitted to Health Canada, 2014
<https://magdahavas.com/wp-content/uploads/2014/07/Scientist-Declaration-Canadas-SC6-2014.1-1.pdf>
- ⁵⁶ Scientific Committee on Health, Environmental and Emerging Risks SCHEER, Statement on emerging health and environmental issues (2018) Potential effects on wildlife of increases in electromagnetic radiation – categorised as ‘3’ highest priority https://ec.europa.eu/health/sites/health/files/scientific_committees/scheer/docs/scheer_s_002.pdf
- ⁵⁷ Parliamentary Assembly of the Council of Europe, Resolution, 2011. 1815, Final Resolution
<http://assembly.coe.int/nw/xml/XRef/Xref-XML2HTML-EN.asp?fileid=17994>
- ⁵⁸ Stewart Report, 2000, Independent Expert Group on Mobile Phones (IEGMP), Chairman Sir William Stewart.
- ⁵⁹ Cyprus Government ban on Wi-Fi in nursery schools and halted in elementary schools
Video from the Government subtitled in English (thanks to EHT)
https://www.youtube.com/watch?time_continue=1&v=-kb_KWHPFk0
<https://ehtrust.org/cyprus-issues-decree-banning-wireless-kindergarten-elementary-school-classrooms/>
- ⁶⁰ French National Assembly, Jan 29th 2015
<http://www.assemblee-nationale.fr/14/ta/ta0468.asp>
- ⁶¹ French National Assembly, March 2013
<http://www.assemblee-nationale.fr/14/ta/ta0096.asp>
- ⁶² Israeli Ministry of Education recommendations, Aug 2013
http://translate.google.com.au/translate?sl=auto&tl=en&prev=_t&hl=en&ie=UTF-8&u=http://cms.education.gov.il/EducationCMS/Applications/Mankal/EtsMedorim/3/3-6/HoraotKeva/K-2013-3-3-6-11.htm
- ⁶³ Swiss Government Information Document, 2012. Swiss Agency for the Environment, Forests and Landscapes, SAEFL. Electrosmog in the environment
<https://slt.co/Downloads/News/1081/Electrosmog%20in%20the%20environment.pdf>
- ⁶⁴ German Federal Ministry for Radiation Protection recommends against Wi-Fi in schools, 2007.
http://www.icems.eu/docs/deutscher_bundestag.pdf
- ⁶⁵ Russian National Committee on Non-Ionising Radiation Protection RCNIRP, 2012
Recommendations of the Russian National Committee on Non-Ionizing Radiation Protection of the necessity to regulate strictly the use of Wi-Fi in kindergartens and schools
http://www.icems.eu/docs/deutscher_bundestag.pdf
- ⁶⁶ ANSES (French Government Agency for Food, Environmental and Occupational Health), 15th Oct 2013.
Update of the “Radiofrequencies and health” expert appraisal.
http://www.icems.eu/docs/deutscher_bundestag.pdf
- ⁶⁷ Karaboytcheva, M., 2020. Effects of 5G wireless communication on human health. European Parliamentary Research Service PE 646.172 – March 2020
[https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/646172/EPRS_BRI\(2020\)646172_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/646172/EPRS_BRI(2020)646172_EN.pdf)
- ⁶⁸ Yakymenko et al., 2015, Electromagn Biol Med. Jul 7:1-17.
Oxidative mechanisms of biological activity of low-intensity radiofrequency radiation.
<https://www.ncbi.nlm.nih.gov/pubmed/26151230>
- ⁶⁹ International Commission on Non-Ionizing Radiation Protection (ICNIRP), 1998.
ICNIRP Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300GHz) Health Physics 74 (4):494-522.
<http://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf>
- ⁷⁰ Ghandi, O., 2019, IEEE Access, vol. 7, pp. 47050-47052, 2019,. Microwave Emissions From Cell Phones Exceed Safety Limits in Europe and the US When Touching the Body <https://DOI.org/10.1109/ACCESS.2019.2906017>
- ⁷¹ Phonegate Alert: <https://www.phonegatealert.org/en>
- ⁷² Hardell, L., 2017. World Health Organization, radiofrequency radiation and health - a hard nut to crack (Review) Int J. Oncology. June 2017, P405-413 <https://doi.org/10.3892/ijo.2017.4046>

- ⁷³ Hardell, L., Carlberg, M., 2020, Oncology Letters 20:15, 2020 Health risks from radiofrequency radiation, including 5G, should be assessed by experts with no conflicts of interest. <https://DOI.org/10.3892/ol.2020.11876>
- ⁷⁴ Esra Neufeld and Niels Kuster, 2018. Systematic derivation of safety limits for time-varying 5g radiofrequency on analytical models and thermal dose. *Health Phys.* 115(6):705–711. <https://www.ncbi.nlm.nih.gov/pubmed/30247338>
- ⁷⁵ International Commission on Non Ionising Radiation Protection (ICNIRP), 2020. RF EMF Guidelines 2020 <https://www.icnirp.org/en/activities/news/news-article/rf-guidelines-2020-published.html>
- ⁷⁶ Gultekin, D., Siegel, P., 2020. Absorption of 5G Radiation in Brain Tissue as a Function of Frequency, Power and Time. *IEEE Access.* <https://doi.org/10.1109/ACCESS.2020.3002183>
- ⁷⁷ Melnick R.L., 2018. Critique of the ICNIRP Note of September 4, 2018 Regarding Recent Animal Carcinogenesis Studies <https://ehtrust.org/us-scientist-criticizes-icnirps-refusal-to-reassess-cell-phone-radiation-exposure-guidelines-after-us-national-toxicology-program-studies-show-clear-evidence-of-cancer-in-experimental-animals/>
- ⁷⁸ Barnes, F. and Greenebaum, B. (2020), Setting Guidelines for Electromagnetic Exposures and Research Needs. *Bioelectromagnetics*, 41: 392-397. doi:10.1002/bem.22267
- ⁷⁹ International Guidelines on Non-Ionising Radiation (IGNIR) 2020 https://ignir.org/?page_id=8
- ⁸⁰ Sarah J. Starkey, 2016. Inaccurate official assessment of radiofrequency safety by the Advisory Group on Non-ionising Radiation. *Rev Environ Health* 2016; 31(4): 493–503 <https://www.degruyter.com/downloadpdf/j/reveh.2016.31.issue-4/reveh-2016-0060/reveh-2016-0060.pdf>
- ⁸¹ Starkey S.J., 2018. Official advice on the safety of radiofrequency radiation, risk assessment and adverse effects. Presentation at PHIRE Conference, London, UK. https://cdn.websiteeditor.net/2479f24c54de4c7598d60987e3d81157/files/uploaded/S._Starkey_Presentation_5th_November_2018.pdf
- ⁸² Morgan et al., 2014. Why children absorb more microwave radiation than adults: The consequences *JMAU* 2014; 2 (4): 197 - 204 <https://www.sciencedirect.com/science/article/pii/S2213879X14000583>
- ⁸³ Wiart, J., et al, 2008. Analysis of RF exposure in the head tissues of children and adults. *Physics in Medicine and Biology* vol 53, No.13, p3681-3695
- ⁸⁴ Christ, A., Gosselin, M-C., Christopoulou, M., et al., 2010. Age-dependent tissue-specific exposure of cell phone users. *Phys. Med. Biol.* 55:1767–1783. <https://iopscience.iop.org/article/10.1088/0031-9155/55/7/001/pdf>
- ⁸⁵ NHS leaflet, 2011. Mobile phones and base stations: Health advice on using mobile phones https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/215711/dh_124899.pdf
- ⁸⁶ Pall, M., 2018. Wi-Fi is an important threat to human health. *Environ Res.* Jul;164:405-416. <https://www.ncbi.nlm.nih.gov/pubmed/29573716>
- ⁸⁷ Rea et al., 1991. Electromagnetic Field Sensitivity. *Journal of Bioelectricity*, 10(1&2), 241-256. <https://www.tandfonline.com/doi/abs/10.3109/15368379109031410>
- ⁸⁸ McCarty et al., 2011. Electromagnetic hypersensitivity: evidence for a novel neurological syndrome. *Int J Neurosci.* Dec;121(12):670-6. <https://www.ncbi.nlm.nih.gov/pubmed/21793784>
- ⁸⁹ Belpomme D, Campagnac C, Irigaray P., 2015. Reliable disease biomarkers characterizing and identifying electrohypersensitivity and multiple chemical sensitivity as two etiopathogenic aspects of a unique pathological disorder. *Rev Environ Health.* 2015;30(4):251-71. doi:10.1515/reveh-2015-0027. <https://www.ncbi.nlm.nih.gov/pubmed/26613326>
- ⁹⁰ Stein, Y., Udasin, I., 2020. Electromagnetic hypersensitivity (EHS, microwave syndrome) – Review of mechanisms. *Environmental Research* Vol 186, July 2020, 09445. <https://www.sciencedirect.com/science/article/abs/pii/S0013935120303388>
- ⁹¹ Lai, H. 2019. Exposure to Static and Extremely-Low Frequency Electromagnetic Fields and Cellular Free Radicals, *Electromagnetic Biology and Medicine*, 38:4, 231-248, DOI: 10.1080/15368378.2019.1656645 <https://doi.org/10.1080/15368378.2019.1656645>
- ⁹² Panagopoulos D et al., 2000. A Mechanism for Action of Oscillating Electric Fields on Cells. *Biochemical and Biophysical Research Communications* 272, 634–640 (2000) <https://www.sciencedirect.com/science/article/abs/pii/S0006291X00927463>
- ⁹³ Dimitris J. Panagopoulos, Andreas Karabarbounis and Lukas H. Margaritisa, 2002. Mechanism for action of electromagnetic fields on cells. *Biochemical and Biophysical Research Communications* 298 (2002) 95–102 https://www.researchgate.net/publication/8626458_Mechanism_of_action_of_electromagnetic_fields_on_cells
- ⁹⁴ Belyaev et al, 2016. EUROPAEM EMF Guideline 2016 for the prevention, diagnosis and treatment of EMF-related health problems and illnesses. *Rev Environ Health.* 2016 Sep 1;31(3):363-97. <https://www.ncbi.nlm.nih.gov/pubmed/27454111>
- ⁹⁵ Austrian Medical Association, 2012. Guideline of the Austrian Medical Association for diagnosis and treatment of EMF-related health problems and illnesses (EMF Syndrome) <http://www.magdahavas.com/wordpress/wp-content/uploads/2012/06/Austrian-EMF-Guidelines-2012.pdf>

-
- ⁹⁶ Belpomme, D., Irigaray, P., Electrohypersensitivity as a Newly Identified and Characterized Neurologic Pathological Disorder: How to Diagnose, Treat, and Prevent It *Int. J. Mol. Sci.* 2020, 21(6), 1915; <https://doi.org/10.3390/ijms21061915>
- ⁹⁷ Jamieson I, Electromagnetic hypersensitivity & human rights commentary to the European Economic and Social Committee
https://www.radiationresearch.org/images/rrt_articles/IAJ_EHS__Human_Rights_0141204.pdf
- ⁹⁸ <https://www.5gspaceappeal.org/>
- ⁹⁹ Action against 5G <https://actionagainst5g.org/>
- ¹⁰⁰ Environmental Health Trust V Federal Communications Commission
<https://www.courtlistener.com/docket/47551/environmental-health-trust-v-fcc/>
- ¹⁰¹ 5G Judicial Review 2020 <https://www.crowdjustice.com/case/5g-judicial-review-2020/>
- ¹⁰² CHD v the Federal Communication Commission (FCC)
- ¹⁰³ Kompetenzinitiative: kompetenzinitiative mobile phones and health legal action 2020
- ¹⁰⁴ Swiss re Institute, 2019. "Swiss Re SONAR New emerging risk insights"
<https://ehtrust.org/wp-content/uploads/Swiss-Re-SONAR-Publication-2019-excerpt.pdf>
- ¹⁰⁵ Commission of the European Communities, 2000.
Communication from the Commission on the precautionary principle. Brussels, 2.2.2000, COM(2000) 1 final.
<https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2000:0001:FIN:EN:PDF>
- ¹⁰⁶ Nasim I, Kim S. Adverse impacts of 5G downlinks on human body. 2019 SoutheastCon; 2019: IEEE; 2019. p. 1-6..
DOI: 10.1109/SoutheastCon42311.2019.9020454
- ¹⁰⁷ Nasim I, Kim S. Mitigation of human EMF exposure in downlink of 5G. *Annals of Telecommunications* 2019; 74(1-2): 45-52 <https://doi.org/10.1007/s12243-018-0696-6>
- ¹⁰⁸ Sage, C., 2020. Bioinitiative report update: Disrupted Immune Function from Exposure to Low-Intensity Non-Ionizing Radiation (Radiofrequency Radiation)
<https://bioinitiative.org/wp-content/uploads/2020/04/Final-Published-Studies-Reporting-Disrupted-Immune-Function-from-Low-Intensity-Exposure-to-Radiofrequency-Radiation.pdf>
- ¹⁰⁹ Balmori, A., 2014. 'Electrosmog and species conservation' *Science of the Total Environment* 496 (2014) 314–316
<https://www.sciencedirect.com/science/article/pii/S0048969714010912>
- ¹¹⁰ Bandara, P., Carpenter, D.O., 2018. Planetary electromagnetic pollution: it is time to assess its impact. *Lancet. Planet. Health* 2 (12). [https://doi.org/10.1016/S2542-5196\(18\)30221-3](https://doi.org/10.1016/S2542-5196(18)30221-3).
- ¹¹¹ Waldmann-Selsam, C., et al. 2016. Radiofrequency radiation injures trees around mobile phonebase stations *Science of the Total Environment* 572 (2016) 554–569 DOI: 10.1016/j.scitotenv.2016.08.045
- ¹¹² Thielens, A. Exposure of Insects to Radio-Frequency Electromagnetic Fields from 2 to 120 GHz. *Sci Rep.* 2018 Mar 2;8(1):3924. doi: 10.1038/s41598-018-22271-3.
<https://www.ncbi.nlm.nih.gov/pubmed/29500425>