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FOR THE ATTENTION OF THE UK HEALTH SECURITY AGENCY (UKHSA), THE UK GOVERNMENT MEMBERS OF PARLIAMENT AND LOCAL COUNCILLORS

The EM Radiation Research Trust Call on the UK Government and Council officials to review wireless radiation exposures from 2G, 3G, 4G, 5G and the Internet of Things as a matter of urgency due to our **reasons for concern for public health and especially for children.**

The EM Radiation Research Trust recently received a response to a set of questions from the UK Health Security Agency (HSA) which does not address or acknowledge the UK legal rulings on electrosensitivity or the recent High Court case Thomas vs Cheltenham Borough Council who ruled that there was a potential risk to people with medical implants. The UKHSA also ignored the thousands of publications on the biological effects of exposure to non-thermal RF-EMF wireless radiation. The EM Radiation Research Trust asks why the UKHSA has chosen to ignore proven biological effects at the non-thermal level?

Knowing that the ICNIRP Certificate/guidelines does not certify safety for those suffering with EHS or protect those with metal/medical implants, will the UK Government and local Councillors now take health into consideration when determining phone mast applications, small cell deployment, 5G and the Internet of Things?

The EM Radiation Research Trust letters containing questions and information submitted to Sefton Council are available to download here: [5G Supplementary Question for Sefton Council public meeting 12th September 2024 – Radiation Research](#)

The EM Radiation Research Trust submitted a Freedom of Information (FOI) request to the UK Health Security Agency (HSA) on 14th October 2024 calling for all evidence to support the HSA's claim that there should be no consequences for public health for the whole population, including children and susceptible groups of individuals, and those with metal/medical implants. The HSA also claims that the guidelines are protective for those who suffer with electromagnetic hypersensitivity (EHS) when exposed to 5G and other wireless technologies within the ICNIRP guidelines. The EM Radiation Research Trust (RRT) FOI request is available to download via our website. [1]

Information received directly from the UKHSA does not confirm public safety for the whole population.

A response to the FOI request was received on 30th October from the UKHSA ref: **14/10/24/AB/413**. It is clear that the UKHSA continues to follow guidelines set by a private organisation of telecommunications-friendly individuals known as ICNIRP that limits itself purely on short term thermal effects for non-ionising radiation exposure over 6 minutes parameter for head, torso and limbs and 30 minutes exposure for core exposure. **The public is exposed 24/7 and from cradle to grave not 6 or 30 minutes.** The EM Radiation Research Trust calls your attention to the absurdity of a "6-minute exposure-test" being declared "safe" for all, particularly for children, sensitive individuals and those with medical implants who will be exposed 24/7.

The UKHSA claim that manufacturers of medical implants should comply with UK Medical Device Regulations 2002 with a **presumption** of conformity and should not be influenced by field levels up to the 1998 ICNIRP guidelines which doesn't offer any reassurance for safety considering that the 2020 and 1998 ICNIRP guidelines confirm interference. Avoiding problems for individuals with medical implants are beyond the scope of the guidelines.

Page 2 – [2020 ICNIRP guidelines](#) **“Radiofrequency EMFs may also interfere with electrical equipment more generally (i.e., not only implantable medical equipment), which can affect health indirectly by causing equipment to malfunction. This is referred to as electromagnetic compatibility, and is outside the scope of these guidelines (for further information, see IEC 2014).”**

Page 3 - [ICNIRP 1998 guidelines](#): **“Compliance with the present guidelines may not necessarily preclude interference with, or effects on, medical devices such as metallic prostheses, cardiac pacemakers and defibrillators, and cochlear implants. Interference with pacemakers may occur at levels below the recommended reference levels. Advice on avoiding these problems is beyond the scope of the present document but is available elsewhere (UNEP/WHO/IRPA 1993). These guidelines will be periodically revised and updated as advances are made in identifying the adverse health effects of time-varying electric, magnetic, and electromagnetic fields.”**

The EM Radiation Research Trust calls for the UK Government and local Councils to NOT ignore these concerns and therefore discriminate against the medically vulnerable.

The UKHSA supplied the [Scientific Committee on Health, Environmental and Emerging Risks \(SCHEER\)](#) report ref 4.2.2.3 confirm that the 2020 ICNIRP guidelines do **not** provide a restriction to account for “microwave hearing”, a biological phenomenon, which can result from brief RF pulses, in the order of several microseconds, exposing the head and causing thermoelastic expansion that is detected by sensory cells in the cochlea via the same processes involved in normal hearing.”

SCHEER ref 4.2.2.5 **Neurodegenerative diseases:**

“Due to ethical considerations, no human experimental studies exist for adverse effects on neurodegenerative diseases. It has been reported that exposure to pulsed RF EMF increased neuronal death in rats, which could potentially contribute to an increased risk of neurodegenerative disease. However, other studies have failed to confirm these results.”

The EM Radiation Research Trust would like to point out that we are all currently part of a global human experiment due to exposure to a combination of frequencies. Parts of [Liverpool in the UK are currently being exposed to unlicensed 60Ghz frequencies.](#) **We are**

not aware of any studies showing long-term safety (longer than 24 hours) of exposure to 60 GHz frequencies? Again, for emphasis, everyone from the unborn to the medically vulnerable to the elderly will be exposed 24/7.

SCHEER ref 4.2.2.8 Fertility, Reproduction, and Childhood Development Several animal studies have shown that exposure to RF EMF leading to a significant temperature increase can cause effects on reproduction and development, which include increased embryo and foetal losses, increased foetal malformations and anomalies, and reduced foetal weight at term. Such exposures can also cause a reduction in male fertility.”

The SCHEER [OPINION](#) supplied by the UKHSA states: “The SCHEER has also noted that new and emerging wireless applications using RF EMF tend to use higher frequencies and lower emitted power in closer vicinity to the human body. **However, there are situations where beam focusing or intense pulsed radiation can increase exposure for short times.**”

Page 8 - 4.2.1.3 Brain physiology and function The SCENIHR found **good evidence** that mobile phone RF EMF exposure might affect brain activities as reflected by EEG studies during wake and sleep.

Information received by the EM Radiation Research Trust from the UKHSA contained a collection of excellent comments, research, professional opinions, and information raising health concerns from independent researchers throughout the world in connection with 5G and RF/EMF wireless radiation exposures sent to the Scientific Committee on Health, Environmental and Emerging Risks (SCHEER).

Included in that excellent information was the following:

“Scientific evidence shows that RF EMF causes chronic oxidative stress, hormonal alteration, fertility problems, opening of the blood brain barrier, DNA damage, cognitive and behavioral alterations and many other biological alterations that causes problems to human health and to nature. Several groups of scientists launched appeals and consensuses to push political decisions for better protection of the population, the animals, and plants from RF EMF damages. Independent science must be included because the RF EMF damages are already increasing the health care cost. The employment of 5G is a clear example of the failure of the process of scientific risk assessment and risk management.”

Exposure to radiofrequency fields and cancer

The UKHSA provided information for a [monograph](#) (published in 2013) claiming that current evidence for cancer in humans was inadequate. The introduction to the monograph mentions the case-control study **INTERPHONE** on mobile-phone. In August 2009 the EM Radiation Research Trust worked with International EMF groups exposing the design flaws contained within the INTERPHONE studies. The report is entitled “[Cellphones and Brain Tumors: 15 Reasons for Concern, Science, Spin and the Truth Behind Interphone](#)”. The exposé discusses research on cellphones and brain tumors and concludes:

1. There is a risk of brain tumors from cellphone use;
2. Telecom funded studies underestimate the risk of brain tumors, and;
3. Children have larger risks than adults for brain tumors.

International Agency for Research on Cancer (IARC) a sub-group of the World Health Organization with its role to monitor and identify global causes of cancer classified the entire RF/EMF spectrum as a "2B Possible Human Carcinogen". We would like to reinforce the fact that members of IARC with collective judgment found scientific consensus in reaching this decision. The vote to classify everything on the RF-EMF spectrum as a possible human carcinogen was nearly unanimous: 29 to 1. Download report here:

https://www.iarc.fr/wp-content/uploads/2018/07/pr208_E.pdf

HSA'S WARNING REGARDING ELETROMAGNETIC INTERFERENCE CONTRADICTS HSA'S ASSURANCES OF SAFETY WITH EXPOSURE WITHIN ICNIRP'S GUIDELINES: Here is the HSA's [Overview with respect to Electromagnetic interference \(EMI\)](#)

1. Overview

Electromagnetic interference (EMI) can affect several types of medical devices that have electrical or electronic systems. EMI can cause electronics to malfunction or stop working altogether.

[Active implantable medical devices UK Government list.](#)

These types of devices are powered implants or partial implants that are left in the human body. Examples of active implantable medical devices include:

1. implantable cardiac pacemakers
2. implantable defibrillators
3. leads, electrodes, adaptors for the above
4. implantable nerve stimulators
5. bladder stimulators
6. sphincter stimulators
7. diaphragm stimulators
8. cochlear implants
9. implantable active drug administration device
10. catheters, sensors for item above
11. Implantable active monitoring devices
12. programmers, software, transmitters

The UKHSA lists the above implements, implants and devices that may be interfered with by RF-EMF. This proves that this radiation goes through the skin, through tissue to major critical organs including the brain and spinal cord (*implanted neurostimulators, programmable hydrocephalus shunts*), the heart (*pacemakers may be in or external to the heart*), muscle and bone (*cochlear implants*), infusion pumps for multiple reasons including but not limited to insulin for diabetes and chemotherapy for cancer treatment (*infusion pumps are typically placed under the skin in the abdomen – belly area – with a catheter inserted into specific blood vessels depending on the medication delivered*).

Logic dictates that with HSA's warning of radiofrequency-electromagnetic radiation interference with the above referenced medical devices, it cannot also state that children with their inherent vulnerability to radiofrequency-electromagnetic radiation will remain unharmed.

In fact, EM Radiation Research Trust would like to point out that independent expert doctors and scientists in the UK and at an international level have examined the accumulated body of research and disagree with ICNIRP's assertions of safety below their extraordinarily high allowable limit of RF-EMF. The same doctors and scientists are calling for lower levels of radiation to protect public health. [2]

We would like to point out that the following critical organs in the human body most affected by RF-EMF are:

Eyes: Since the 1950's eyes are deemed to be a potentially radiosensitive organ. RF radiation can cause heating of the eyes, especially the cornea, which can lead to cataracts. Also, the thickness of the sclera of the eyes is very thin in children.

Skin: The late Professor Yury Grigoriev stated: The skin is rich in nerves and very sensitive. It connects to the brain and central nervous system (CNS) and blood vessels which in turn are critically interconnected with the other organs of the body." Millimeter wave "window's, showing that various frequency ranges are more biologically active (Devyakov, Betsky & Golant, 1986; Eidy, 1980). [3]

Testes: RF radiation can cause heating of the testes (reference sperm damage below). [4]

Sperm: RF radiation can impair sperm motility and morphology, and lower sperm counts. [5]

Brain: RF radiation can affect the central nervous system, brain chemistry, and blood-brain barrier. It can also cause neurological and neuropathological changes. [6]

Developing brain [This means children.] RF radiation can expose deeper brain structures in children to greater radiation doses. [7]

Heart: RF radiation can affect heart rate variability and trigger tachycardia and cardiac arrhythmia. [8]

Science tells us that the bone marrow of the skull of children can exceed that in adults by a factor of about 10, which is due to the high electric conductivity of the tissue at a young age. [9] Children are more vulnerable than adults because of their thinner skulls and smaller heads, radiation goes deeper into their brains, they have rapidly developing brains, they have higher water content in their brains and RF radiation is more easily absorbed as a result, they have smaller body mass so exposure has greater impact in their small bodies than it would with an adult, and children have more active stem cells in their bodies. Stem cells are more reactive to low levels of microwave radiation than other cells. Stem cells are the cells that differentiate into specialized cell types, and they make more cells. They are the critical cells responsible for children's development yet the cells most impacted by RF radiation.

With the above-mentioned biological vulnerabilities in mind, how can the UKHSA and Government say the existing ICNIRP standards are safe for children? If electrical devices can be interfered with, so can developing brains and bodies of children.

The EM Radiation Research trust is asking the UKHSA to please provide any evidence that would support the HSA theory that the critical human organs are less sensitive to EMFs than the artificial medical aids listed above, and again referenced directly below. The human body relies upon electrical impulses to function. The heart would cease to function without

electrical impulses. Each cell in the human body generates a small electrical potential due to the movement of ions across its membrane. These movements are crucial for multiple cellular functions.

Both the ICNIRP 1998 and 2020 caution of the risk to certain individuals with metallic and medical implants. Radiofrequency EMFs may also interfere with electrical equipment more generally (i.e., not only implantable medical equipment), which can affect health indirectly by causing equipment to malfunction. This is referred to as electromagnetic compatibility and is **outside the scope of these guidelines**. [10]

A recent High Court case Thomas vs Cheltenham Borough Council ruled that there was a potential risk to people with medical implants below the ICNIRP limits. This needs to be taken into account by the authority. [11] **The EM Radiation Research Trust wants to know how the Government is planning to adhere to this recent High Court ruling?**

PUBLIC HEALTH IS INDEED AT RISK

With this information readily available through science, how is it the UKHSA can claim **“there should be no consequences for public health”** in the face of the 5G rollout in general and particularly following the deaths of school children at Millstead School, Everton, Liverpool for no known reason with a phone mast next to the school? A peak reading of **1,554932 $\mu\text{W}/\text{m}$** was recorded outside Millstead school. The postcode area for the school provides details for a number of telecom operators that are currently using 2G, 3G, 4G, 5G and 5G ultra. [12]

These levels are within the International Commission on Non-Ionizing Radiation Protection [ICNIRP] guidelines, but much higher than limits allowed in other countries such as Russia, China, Italy, and much of Eastern Europe, and higher than recommendations from many independent scientists and medical doctors. [13]

ICNIRP has never offered proof of safety of wireless technologies. They claim RF radiation does not have health consequences "under the level of heating." This thermal only-theory of safety has been disproven time and again by thousands of peer-reviewed independent studies showing biological harm at the non-thermal level. That is to say, significant harm has been found at below the threshold of heating. This harm includes but is not limited to cancer, neurodegenerative diseases, learning disabilities, behavioural problems, adverse impacts on the central nervous system, peripheral nervous system, and immune system as well as infertility and miscarriage. The UKHSA response to our FOI request admits that they are aware of alternative sources of information on this topic such as the Bioinitiative Reports and has considered their contents, but has not responded to them because other organisations have reviewed these reports." The EM Radiation Research Trust calls on the UK Government and the UKHSA to review the 1000s of publications within the independent Bioinitiative Report. [14]

The UKHSA also refer to the SCHEER reports with regards to electrosensitivity. The SCHEER working group members are heavily criticized as extremely biased belonging to a small self-referencing circle of "no-risk" pro-ICNIRP advocates, with ties to telecoms industry, about the current scientific evidence confirming health risks. Electrosensitivity is increasingly recognised by the medical community. There is now a network of medical doctors in Germany, throughout Western Europe and the United States providing support for those

who suffer with this condition. Electrosensitivity has been known since the 1970's as "Microwave illness" via reports from military personnel as described by NASA in [military](#) research [literature](#) confirming these effects.

The UKHSA refers to the EU Commission report. This report highlights the fact that scientific committees do not conduct scientific research, but review all relevant scientific data, carrying out metadata analyses to put forth an opinion and said **further research should be conducted, particularly as pertains to very long-term exposure and potential risks to multiple sources.**

The HSA advises the UK government with respect to electromagnetic frequencies, for guidance to the United Kingdom and continue to rely on ICNIRP. If you really want to know about the source that is advising you as to how you should protect the residents of the United Kingdom, as you are tasked with doing, then perhaps you should read an exceedingly well-researched article by **Investigate Europe - How Much is Safe? 4 January 2019.** [15]

It is known that ICNIRP is not a government agency but rather a nonprofit well-funded by telecommunications interests and criticized by the court for conflicts of interests. Their safety guidelines are an illusion, slanted most heavily in favor of the telecommunications industry and each new generation of technology. [16] The EM Radiation Research Trust would like to emphasize the fact that safety guidelines upon which HSA relies are indeed an illusion.

The UK HSA and ICNIRP have also totally ignored the recent scientific case reports on Microwave Syndrome associated with 5G. These studies reinforce the urgency to inhibit the deployment of 5G until more safety studies have been performed. [17]

Microwave Syndrome, also known as eletrosensitivity cannot be ignored, and these people should not face discrimination. A new paper by Peter Hensinger and Bernd I. Budzinski published in the journal umwelt-medizin-gesellschaft entitled "**Why electrosensitivity (EHS) is a biologically expected reaction to harmful radiation**" concludes:

"There is a science-based explanation as to why people become electrohypersensitive: The non-ionising radiation from wireless communication leads to oxidative cell stress, this is undisputed in science. Oxidative cell stress leads to inflammatory processes in the organism. The claim that electrohypersensitivity cannot exist because the limit values protect against the harmful effects of electromagnetic fields is used to market digital products. **The ICNIRP limits are scientifically untenable.**

The argument of a lack of causality is being instrumentalized to undermine the precautionary principle and thus a protection policy. **The effects of non-ionising radiation on the metabolism in the organism have been proven by over a thousand studies.** These effects, triggered by EMF, are felt by people with electrohypersensitivity. The arguments to cast doubt on electrohypersensitivity are not based on medical-biological facts, but on business interests and expert opinions of convenience. It is damaging to the industry's business if its products are associated with the consequences of illness. It created the "mental disorder" narrative, a marketing story to protect its products. The authorities continue to spread it and ignore the medical causes." [18]

Paolo Vecchia, ICNIRP Chair from 2004 until 2012 said, “The ICNIRP guidelines are neither mandatory prescriptions for safety, the 'last word' on the issue nor are they defensive walls for Industry or others.” [19]

The Health and Social Care Act 2012, obliges local (and national government) to protect their residents from ionising and non-ionising radiation.

HEALTH SECURITY AGENCY (HSA) & THE UK GOVERNMENT MUST ACCEPT LIABILITY FOR HARM IN EXCHANGE FOR BASELESS ASSURANCES OF SAFETY

We ask if the UK Government and the UKHSA will stand by reassurances of safety regarding exposure to 5G and the Internet of Things within the millimeter range (including within the ICNIRP guidelines) so much so that you will accept liability if anyone with metal or medical implants, those with electrosensitivity or children with their inherent vulnerabilities suffer harm – including, but not limited to, loss of life.

THE EM RADIATION RESEARCH TRUST CALLS FOR A FULL INVESTIGATION INTO DEATHS OF TWO YOUNG SCHOOLCHILDREN AT MILLSTEAD SCHOOL, LIVERPOOL. THIS CANNOT AND SHOULD NOT BE IGNORED.

Sincerely and without ill will, vexation, or frivolity,

Eileen O'Connor
Director EM Radiation Research Trust

&

Susan Foster
Medical Writer
USA Advisor for the EM Radiation Research Trust
Honorary Firefighter San Diego Fire Department

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