

Problem of 'captured' agencies continues

Captured agencies adopt views aligned with the military-industrial clique.
They arbitrarily deny long-term, non-thermal effects, such as EHS established in 1746.

WHO interference

The World Health Organization, an agency of the United Nations, arbitrarily rejected adverse non-thermal RF effects in 1972. The WHO reportedly tried to interfere in a review which found a 'high certainty of evidence' that RF-EMF can cause cancer.

("They Kept Telling Us What To Do": A Rare Look Behind the RF Curtain at WHO Review of Animal Studies Takes Center Stage" *Microwave News*, 11 February 2026. [Link](#))

Science is 'crystal clear'

Kent Chamberlin, professor and chairman emeritus of electrical and computer engineering at the University of New Hampshire, said, 'The science documenting the harm of wireless radiation is crystal clear, and that harm is not being conveyed to the public for the same reason that the risks of smoking were not acknowledged decades ago.'

(Hollie McKay: "...., Scientists Draw Connection Between Cell Phones and Physical Ills" *New York Sun*, 7 April 2026. [Link](#))

UKHSA, COMARE and EHS harm

Captured agencies, which still deny EHS despite proof, thereby harm EHS people. The UKHSA chooses to follow the WHO's arbitrary claim of 2004 instead of the Scientific Consensus International Report of 2021 and the ICBE-EMF statement of 2024.

(UKHSA Guidance: Electromagnetic fields: electromagnetic hypersensitivity, Updated 15, 18 May 2026. [Link](#))

International Scientific Consensus on EHS harm

The majority mainstream independent Scientific Consensus International Report of 2021 by 32 worldwide experts confirmed that EHS is physical, as known since 1746, not the WHO's invalidated psychological claim.

(Belpomme D et al., "The Critical Importance of Molecular Biomarkers ... in the Study of Electrohypersensitivity. A Scientific Consensus International Report" *Int J Mol Sci*. 2021. [Link](#))

The ICBE-EMF Statement on EHS harm

The independent International Commission on the Biological Effects of Electromagnetic Fields confirms that EHS is a 'multisystemic physical response'.

'Common outcomes of this are job, school and home loss, separation from family and friends, inability to access medical care and general lack of access to all areas of the public domain. The unmitigated, neglected widespread disruption of lives is inhumane and deeply troubling.'

(ICBE-EMF: "Electromagnetic Hypersensitivity (EHS) is a Humanitarian Crisis that requires an Urgent Response" 2024. [Link](#))

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Electrosensitivity-UK (ES-UK)

Aims

1. To help people suffering from Electrosensitivity (ES).
2. To educate the public about ES and related areas.

www.es-uk.info

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Founded 2003

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Thank you for your support

The trustees remain greatly appreciative of generous financial donations. They are also grateful for the time and skills from those able to further the charity's twin aims of providing information for all and support for people harmed by RFR and EMFs. Do offer if you feel you can help.

No doctor's letter needed: don't be bullied!

Under the Equality Act 2010 you do not need a doctor's letter for reasonable accommodation, e.g. utility companies, airport security scanners, switching off Wi-Fi or mobile phones.



Keep them informed!

We are aware of supporters of ES-UK who contact their MPs, local councillors and GPs with details of the way phone masts, mobile phones, smart meters, Wi-Fi and Bluetooth cause them life-changing harm. Some MPs, councillors and GPs still follow captured agencies and are unaware that the UKHSA's ICNIRP short-term heating-only limits do not prevent EHS and other long-term effects like cancer.

Smart Meters: refuse them!

You have the legal right to refuse smart meters. 'it will not be an offence for householders to refuse to accept a smart meter' (Hansard, 29 November 2011, Column 903W [82920] [Link](#)).

NEW ES-UK BOOKLET: SOCIAL EXCLUSION

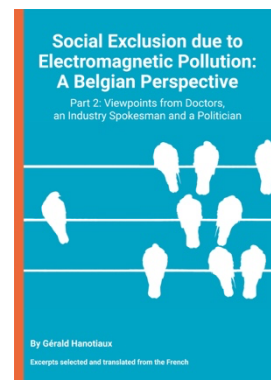
Social Exclusion Due To Electromagnetic Pollution:

A Belgian Perspective: Part 2.

Viewpoints from Doctors, an Industry Spokesman and a Politician

by Gérald Hanotiaux: excerpts selected and translated from the French by Annelie Fitzgerald. [Link](#).

Copies are available for £11 each, from ES-UK for postage within the UK; available for £15 for postage within Europe; available for £20 for postage outside UK & Europe.



NEW STUDY ON CHILDREN'S EHS

M. Bevington: "Children's Sensitivity to Environmental Electromagnetic Fields" *International Journal of Research in Medical and Clinical Science (IJRMCS)*. (2026) [Link](#).

International Journal of Research in Medical and Clinical Science (IJRMCS)

ISSN: 2997-6189 | Volume 4, Issue 1, 2026

www.journalserapublications.com



Literature Review

Children's Sensitivity to Environmental Electromagnetic Fields

Michael Bevington

Chair of Trustees, Electrosensitivity UK, BM Box ES-UK, London, WC1N 3XX.

Abstract

This review concerns children's health in relation to their typical environmental exposure at home and school to electromagnetic fields (EMFs), including radiofrequency from Wi-Fi, mobile phones and masts. It examines the extent to which children, here defined as including adolescents up to adulthood, are physiologically more sensitive to EMFs than adults, especially in the early years and while the brain is still developing myelin. It is challenging for parents, teachers and clinicians to identify the level of sensitivity to EMFs in a particular child and whether that child suffers electromagnetic hypersensitivity (EHS). There are well established short-term and long-term health hazards associated with EMF exposure. In addition, the psychological and social harms from digital addiction are becoming better recognised. Finally, children's rights and the appropriate protection of children from EMF exposure are considered. This includes the problems of the ICNIRP's thermal guidelines which are unprotective of sensitive groups like children, and the World Health Organization's arbitrary denial of physiological sensitivity to EMFs. With accurate information and appropriate long-term guidelines, parents, teachers and general practitioners can help ensure that children's EMF environments are safe and healthy.

Key words: Sensitivity; hypersensitivity; electromagnetic fields; radiofrequency; home; school.

NEW ES-UK E-BOOK ON EHS

Current knowledge about Electromagnetic Hypersensitivity (EHS)

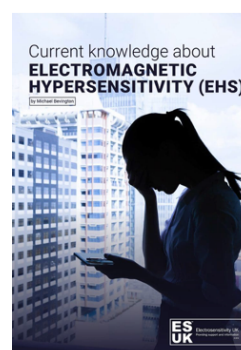
by Michael Bevington outlines what is known about EHS at present.

This eBook includes 40 scientific references.

It is available without charge from Open Access Government as:

[eBook](#)

or [pdf](#)



ES-UK SOCIAL 2026: TUESDAY 15 SEPTEMBER

You are invited to the 11th Annual ES Social taking place on Tuesday, 15th September 2026 at a fruit farm on the shores of Bewl Water in East Sussex. The location is well known for outdoor activities and visitors enjoy the woodland trails and good walking countryside.

As organisers, we hope that the annual ES Social gives many the opportunity to meet new friends in a relaxed rural setting. The site is booked entirely for our use and you will be free from any public access.

The highlight of the rural day out is a hike out for lunch, where we sit outside and either walk or drive back to the farm.

There are campsite spots available for tents or caravans and there is a kitchen for refreshments and meals; and a mains-connected toilet block.

There is other local accommodation available in pubs and B&Bs although these have not been tested for EMFs.

If you would like to attend the Social, please email Sarah on electrosensitivity-uk@protonmail.com or post your cheque for a ticket(s) to the BM Box ES-UK, London WC1N 3XX or you can pay by PayPal on the website: www.es-uk.info. Please add your name in full, with an email address.

For new visitors, we will ask you for photo ID and to complete a basic questionnaire so that we understand more about your health concerns.

The event is unsuitable for commercial ventures and those hoping to sell items.

Social Tickets: £25/person. Camping tickets: £25/person/night.



Photo: Explore Kent

YORKSHIRE ES SOCIAL

In 2022, a small group of ES sufferers managed to meet up on two occasions in Yorkshire. They all enjoyed being able to share their experiences and the sense of support and understanding they got from the group.

So far this has been a free event and has taken place as a bring to share light lunch. Eight people have managed to make the time / date and place each time (people new to the core group have been welcomed). The venue is a private home, in a city in

mid Yorkshire, and the environment is subject to change from outside. Nonetheless everyone so far has had a positive time. The host is willing to broaden the invite list. It works well with 8 but 12 on the day could be trialled, and who knows what other possibilities might exist.

If you would like to be informed of any future meetings or to discuss your needs should you attend, ES-UK can pass on your contact details to the host.

ES-UK EXPLAINER VIDEOS

What is Electromagnetic Hypersensitivity?

3 min. English: [Link](#) Welsh: [Link](#)

How do radio frequency radiation and electromagnetic fields affect human beings?

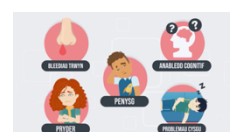
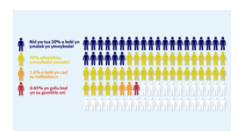
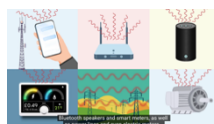
3 min., [Link](#)

The Hidden Health Risks of Wi-Fi in Schools – What Parents & Teachers Should Know

2 min. English: [Link](#) Welsh: [Link](#)

Does Radiation from Mobile Phones and Wi-Fi Affect Human Health?

4 min. [Link](#). ES-UK YouTube Channel [Link](#)



READERS' COMMENTS

Name for EHS

Regarding the article by Dr Janet Menage in the winter 2025 ES-UK Newsletter, I agree that saying 'I am electro-hypersensitive' to someone who knows little or nothing about the subject can produce bewilderment, so I generally say something like 'along with a growing number of people I have an intolerance to wireless communication signals, commonly referred to as Electro-sensitive'. This I adjust depending on circumstances, but it usually produces understanding and questions.

Dr Menage's 'allergic' is probably an even better description. My *Readers Digest* dictionary describes an allergy as 'excessive sensitivity to some environmental factor or substance'.

I do however oppose changing the terms 'ES' and 'EHS'. They have been used in the literature for decades and they should remain to for continuity.

There are many groups raising awareness of the harm being caused by modern communication technologies, especially for our children and future generations. Some concentrate on screen time and content, others on the harm from the signals. I would like to see greater dialogue between all parties, to give strength in numbers. (Peter Gane)

Allergy

I would opt for the use of the word 'allergy'. Whilst it is not as accurate, it carries more weight than 'intolerance' or 'sensitivity'. It causes people to sit up and listen. I don't like the word 'victim'; I find it very negative. (Margaret Penny)

'Wireless' Card Reader In Churches

The problem of card readers in churches became apparent for myself, being EHS, on 6th December 2025. This was when my daughter and her fiancé were married in their local village church in South Somerset. Prior to this 'special day' my wife and I attended an informal service with them that they call a 'café church' to hear the banns read out and to socialise. I sat next to one of the church wardens, with whom I had a pleasant chat. Sadly, I had to leave the service before the end due to the onset of my EHS symptoms.

A few days later I returned to the church with my Acoustimeter and discovered the card reader was emitting strong Wi-Fi signals, so I phoned the warden to discuss my dilemma. She had heard of ES, but knew little about it and agreed to have the card reader disconnected during the service, but could do nothing about even the lighting being Wi-Fi controlled! So they did do their best.



Come the 'big day', the church looked glorious with the Christmas decorations and special flower arrangements by the Church volunteers to complement the bride's dress. However, I still

had to leave whilst the register was being signed and returned for the photos at the end as, despite the card reader being disconnected, the other Wi-Fi and guest's devices were too much. (Peter Gane)



BT HOME HUB HEALTH WARNING

We have received reports, including indirectly from BT engineers, that the two or more Wi-Fi transmitters on the BT Home Hub currently being installed can be switched off, but not the radiation from their wireless DECT telephone (1.8 GHz). People must change to a broadband supplier which provides a router where all radiation can be switched off (please check carefully, but some people report that Hey Broadband's router can have wireless switched off, and Zen). Other commercial routers can provide wired internet and VoIP for a wired telephone receiver, but may require an Optical Network Terminal (ONT).

In 2023 Jessica's BT caseworker consulted the BT technical team who said that only the wired technology in their Digital Voice is necessary for customers unable to use wireless for health reasons.

'WIRELESS RADIATION, THE ELEPHANT IN THE CLASSROOM'

Two papers by Dr Erica Mallery-Blythe from the Conference held at
Michael Hall School, Forest Row, East Sussex on 9th November 2024

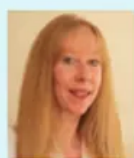
Wireless Radiation the Elephant in the Classroom

Evidence-based medical, scientific and engineering information regarding health
effects of wireless radiation and mitigation, with a focus on children's health

Lectures and Q+A with globally recognised experts in the field



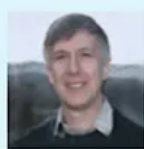
Dr. Devra Lee Davis (EHTrust.org)
Acclaimed Special Guest Speaker from USA:
Nobel winning team member, Environmental Health
Trust Founder, US National Research Council, US
National Academy of Sciences, former adviser to
the Clinton Administration. Dr. Davis will explain
evidence on vulnerabilities of children to EMR.



Dr. Erica Mallery-Blythe (PHIREmedical.org)
Special Expert at International Commission on
Biological Effects of Electromagnetic Fields,
Founder of Physicians' Health Initiative for
Radiation and Environment. Dr Mallery-Blythe will
explain evidence on variation in sensitivity to EMR.



Debra Fry
Children's EMR Health Ambassador (on behalf of
her beloved daughter Jenny Fry), dental nurse,
mercury and radiation badge monitor. Mrs Fry
will share her personal experience.



Alasdair Philips (powerwatch.org.uk)
EMR mitigation and metering expert. Philips,
Special Expert at ICBE-emf.org, explains
reducing exposure and answers common
questions as well as those raised on the day.

Lecture content not recommended for children under 15 yrs

Introduction

by Dr Erica Mallery-Blythe,
Medical Adviser to Electrosensitivity-UK

Introducer:

*Dr Erica Mallery-Blythe is the founder of
Physicians' Health Initiative for Radiation and
Environment (PHIRE) and a special expert at the
prestigious International Commission on Biological
Effects of Electromagnetic Fields.*

*She spent a decade practising as an NHS
medical doctor within hospital medicine, and has led
trauma teams in, and taught on, emergency trauma
medicine courses throughout the UK and abroad. In
2008, Dr Mallery-Blythe began researching biological
effects of non-ionizing radiation with a special interest
in electromagnetic hypersensitivity, and she formally
transitioned from clinical medicine to full-time research
in 2015.*

*In addition to the groups already mentioned,
she's an advisor to the Oceania Radio Frequency
Scientific Advisory Association, Electrosensitivity-UK,
and International Guidelines on Non-Ionizing Radiation,
IGNIR. She's also an honorary member of the British*

*Society of Ecological Medicine. She has provided
evidence regarding radiation exposure and public
health at the highest political level in the UK and
Europe.*

*She will first give us a short introduction to this
topic, and then lecture again, after Dr Davis, on
variations in human sensitivity.*

Dr Mallery-Blythe:

Thank you very much. I'm also an advisor
now to the Environmental Health Trust, and I'm
incredibly honoured that we have Prof. Davis, who's
the former president of the Environmental Health
Trust, here with us today.

So with no further ado, we will move on. I
just wanted to highlight what I think is a really
important headline from the Royal College of
Paediatrics and Child Health, and this was from a
couple of years ago, 2020, saying that we're in
danger of failing a generation of children.



They go on to talk about various health concerns that they're really worried about because in some areas, morbidity and mortality in our children is increasing.

And that's obviously something that, as a group, we have to take really seriously and look very carefully into any possible explanation for why that could be happening.

This whole conference today is dedicated to a subject that has remained very dark on this spectrum because medical doctors are not formally trained in non-ionizing radiation health. So I really hope that we're going to illuminate a new area of medicine and science that is rapidly evolving.

And to begin, I wanted to bring us back to basics, really, and just think on a very humble level, what does a child actually need in order to be healthy and acutely, in the short term, to survive? Of course, they need oxygen, water, shelter, food, but to flourish, they need a lot more than that. They need an environment that is a genuine natural human environment, and in many different ways, that has changed.

But the one that we're going to really focus on today is electromagnetism. And I want to mention that, of course, natural light is part of that environment as well. Now, it's no secret that this is a contentious issue, and scientific dispute is really healthy. It's one of the reasons that our introducer, at the beginning, drove home, please do ask your questions, because we know that this is a heated debate at present.

And what's interesting about this particular one is it's quite polarised – what we see here is one group of scientists who say, we've put some

exposure limits in place, and these are safe, you've got nothing to worry about.

Often, that's people deriving from that group that set the guidelines themselves. And these are guidelines that are in place for many years.

But there's another extremely strong voice on this. A very big and rapidly growing expert community of scientists and doctors who say entirely the opposite, that these exposure limits are not safe, they're not protecting health, and, in particular, they're not protecting our vulnerable groups.

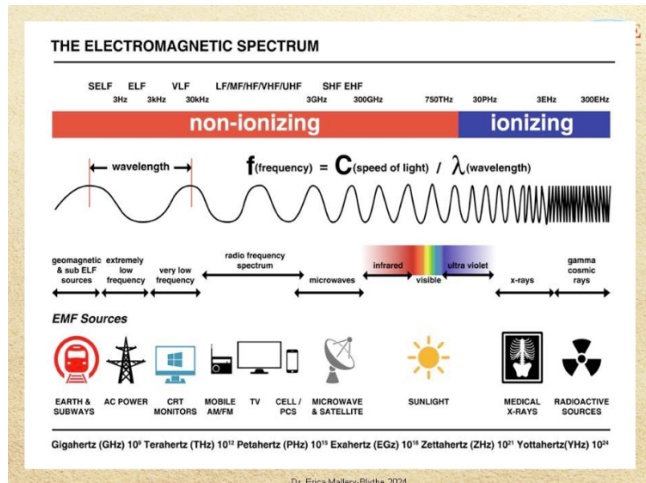
So with that in mind, we're going to discuss the very strong evidence on that second side of this debate because it's often not heard. Again, we'll keep it very basic because this is a basic introduction short talk. The reason I ask this question (and I'm not going to get into the spiritual nature of it or anything like that it's far too vast), is because in a very humble and simple sense (to a medical doctor in my previous life in accident and emergency or in intensive care), this is a very simple question because it is, in itself, electromagnetism. That is what tells us about the presence or absence of life, and indeed, whether it's resurrectable if it's there, because the EEG, the brainwaves, show the electromagnetism of the brain, the ECG of the heart, even a muscle action potential is electromagnetic.

It's quite literally what makes us tick. So there's a really common-sense theme here that I'm coming back to, that we should've always expected that all parts of the electromagnetic spectrum could interfere with our biology. Even our DNA has been shown to be structured like a fractal antenna.

And we have some very important particles, as do many other species, called cryptochromes and magnetite, which are actually deliberately designed to sense these kinds of fields and potentially make use of them, although some species make obvious use of them more than others. We often thought, for many years, even in the medical world, that the ionising portion of the spectrum at the far end in blue here, was the only bit that could really do damage, that people needed protection from.

As evidence has accumulated, it's very clear that actually, the whole of this spectrum can interact with biology in a myriad of different ways. We're focusing today on the radio frequency portion, that's wireless devices. And also, we

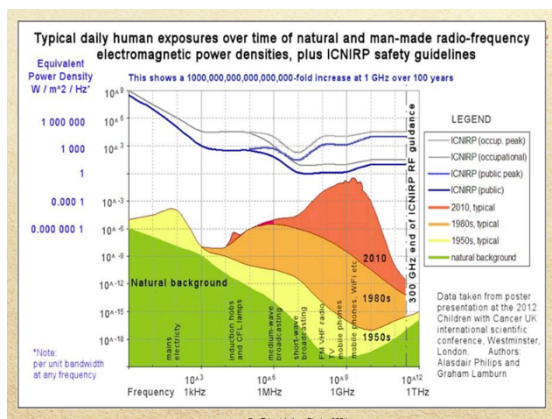
mustn't forget, these are usually pulse modulated at extremely low frequencies at the lower end. Things like your household wiring, your overhead power cables, those are extremely low frequencies, and both are important in health, as, of course, is visible light. So these are some common devices, and, of course, more are on the market continuously, and I know Prof. Davis will talk a little bit more on some of that as well.



But people often, in order to reassure, say you don't need to worry about these new exposures because actually, radiofrequency radiation has been in our environment since before the dawn of man. And that's a bit of a distortion of the reality of this.

We know one of the reasons our planet is called a Goldilocks planet is because life – and this isn't just human life, this is all life – has a very delicate and specific balance where things must be just right. This is true for all aspects of our environment. We know that even small changes can cause profound biological disruption.

Electromagnetism is the one element, again, that is so often not talked about. Whilst, yes, there was some RF around before the dawn of man, it didn't look like this.



(with permission and thanks to author Alasdair Philips). So we now see ten to the 18 -that's a billion, billion, or a quintillion times higher intensities of this portion of the spectrum than was there before man.

And it's very unnatural in a number of different ways.

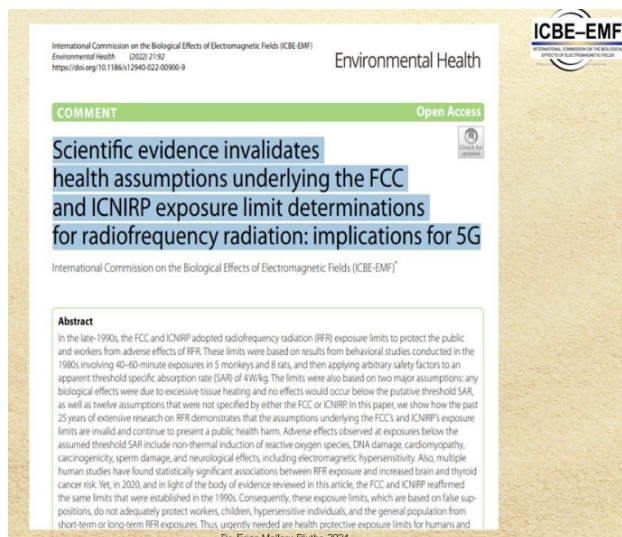
You can see here in green how background radiation dips at around a gigahertz. And unfortunately, this natural radio quiet zone is the exact area of the spectrum that we have filled in with these anthropogenic or man-made frequencies. This is a logarithmic scale on the left, which means the difference between the bottom and top of this chart is far greater than it looks, hence the term ten to the 18 times higher.

Here we see massive intensity rises in this previous natural quiet zone. Despite all of that, you would naturally, I think, assume that there are safety limits in place to protect your biology. I certainly thought that for many years, all the way through my career in the NHS, for sure. It wasn't until I started reading the source literature that it became very clear to me that that is, unfortunately, not the case.

Because here in the UK, we use something called the ICNIRP guidelines, and they were designed to stop your tissue from heating. Because the same frequency ranges as you get in a microwave oven are the same ones your mobile phone uses. It's just they're much more intense in a microwave oven.

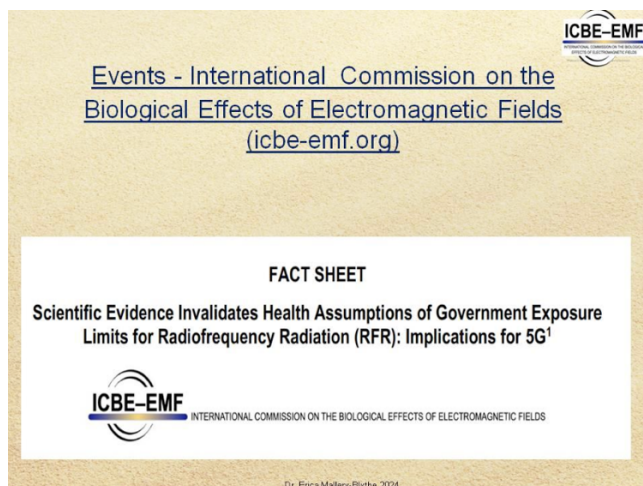
So there's obviously the potential for tissue heating, and they didn't want to be literally cooking your tissues, so these limits were set to stop that happening. The problem is there's a grayscale of effects that happen well under that tissue heating limit and these exposure limits were not designed to protect against those low intensity effects.

I'm delighted to say we've got quite a lot of medical doctors and scientists in the audience today. We've also got a lot of laypeople, so I'm going to continuously be giving resources for the scientific and medical brains to dig further, and for everyone else.



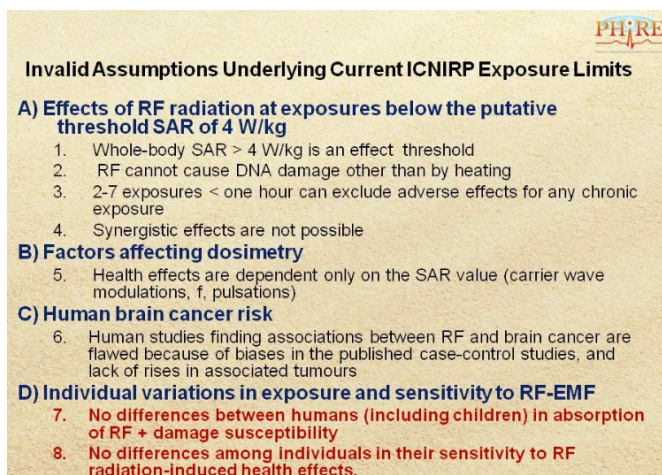
This is an important publication that I've co-authored with my colleagues at the International Commission on Biological Effects of Electromagnetic Fields. That's ICBE-EMF.org. You can find this publication freely available as a PDF.

And what we map out here is 14 assumptions that underlie the current exposure limits which are not valid, which invalidate the limits themselves. We've also got some very detailed science available for you to explore that in more detail, and a factsheet to distil it down for those who don't want to get so deep into the science.



And of those 14 assumptions, I'm actually only talking about these two in red, the vulnerable groups, and increased susceptibility. But all of these are really important. I just want to mention, these last two, these limits were not set up to guard against environmental effects. They were only designed to protect human health, so there's never been a formal guideline put together for protecting the environment. Of course, 5G is very novel and we

have almost no literature at all on looking at that in combination with all of the other frequencies that are still active.



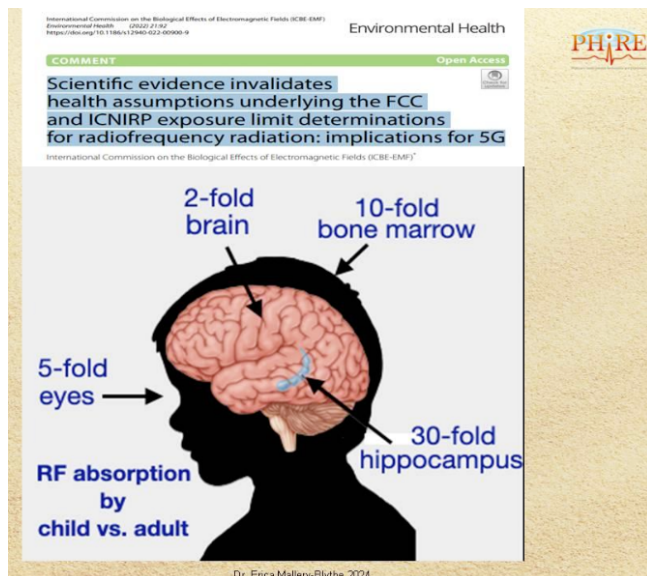
So ICNIRP, as I mentioned, are the group that set the guidelines we're using here in the UK. Very importantly, in 2002, they themselves pointed out that children, the elderly and chronically ill, may all be more susceptible to the effects of radio frequency radiation. So they questioned, do we need separate guidelines to keep those groups safe? And they anticipated failure where there could be concomitant exposures to synergistic toxicants, like, for example, co-carcinogenic effects, and also where there were underlying health complaints that might elevate sensitivity levels.

So what was a great shame was that they abandoned these actually very important scientific principles. And you can see that, in fact, in 2020, they did not set specific restrictions for children. They used the adult limits for children, and they set no limits for people with EHS at all. The reason they gave for not giving special limits for children was because they said their core body temperature doesn't increase more than that of an adult.

Now, what's interesting is that the exposure limits actually do allow the core body temperature to rise by a degree, which to many medical doctors if they understood and knew this, would be deeply concerning. And what happens if you have a child that is already febrile? Pushing them up by another degree can actually really be biologically significant.

Now, children might have quite good thermoregulation mechanisms, but it's not all about core body temperature. That's a very strong message of these talks. That is a gross over-

simplification of the truth of the biology here. So in reality, the unique anatomy, tissue dielectrics, and physiology of children all make them potentially more vulnerable.



And you can see in this graphic here how much more. We've got references in that first publication I told you about to all of these important papers. One of them showing, for example, 30-fold increases expected in the hippocampus, within the delicate brain structure, important brain sub-structure of a child.

Now, we're quite reductionist these days in science and medicine, and we like to know every single step in the pathway. If A causes B, what are all the steps by which you get there? And I think that's great. That's very important scientifically. But we shouldn't allow the lack of understanding of that to hold back important public health policy.

This has been a big problem, especially given that we actually do have valid mechanisms that really make sense to explain some of the symptoms and chronic effects that we're seeing. One of those is oxidative stress. So many of you will have heard of this. Many of you will take antioxidants or look for foods that are rich in antioxidants because they mop up these free radicals which can cause ageing and degeneration of cells.

Now, how robust is this? If I'm saying this is a mechanism of harm by EMF below the allowable guidelines, you want to know how strong that evidence is. You should want to know. The reason I'm comfortable sharing this with you is because there are hundreds of papers that show this as a

valid mechanism, and a very high percentage show effect. Back in 2015, Yakymenko et al. showed here 93% of studies, and that was well over 100 papers. Then in The Lancet Journal of Planetary Health, once again, they looked at over 200 and found 89%.

And then in the ICBE-EMF paper I shared with you at the beginning we have documented 124 out of 131 studies all showing this as a valid effect. So it becomes pretty indisputable at this level.

And one of the things oxidative stress can do is it can damage DNA. So this is an important study that was EU-funded. You can see on the left here that's a healthy ball of DNA with no toxic exposure. And it should look like that, like a big, radiant sun. In the middle, that's DNA that's been irradiated with the equivalent of about 1,600 chest X-rays. We know that will do DNA damage. And you can see that damage in this comet-like tail of fragments.

Then on the right there, that is only 24 hours of mobile phone radiation at below the current allowable guidance levels. So when we look at these kinds of cellular level effects or molecular level effects, we have to assume that if those are allowed to continue, we will see this grayscale of acute short-term illness, which if that is not treated, moves on to long-term illness. Of course, some people won't get conscious acute illness, they will just arrive at a chronic diagnosis.

DNA damage is something obviously implicated in carcinogenesis in cancer formation. And the oxidative stress is implicated in many other long-term health consequences. Radiation can affect all of our bodily systems, so it's no surprise that we see all of these different endpoints that can be associated with that.

So just to touch on chronic health effects very briefly one more time, (and my colleague, Prof. Devra Davis, is going to speak more about carcinogenicity). I'd just like to point out that in our factsheet, we have shown references for very robust epidemiological studies, finding increased risk of brain tumours, particularly schwannoma and glioma of the brain. And this was reinforced by animal studies showing concordance of data, really strongly corroborating this as a valid effect.

So the International Agency for Research on Cancer - even before these large-scale animal studies were performed - actually designated this as

a group 2B possible human carcinogen, and we are still waiting for them to reassess this.



This was in 2011, Unfortunately, some of the relevant tumour types that I mentioned are escalating or have been shown to be rising in young people in the UK population. So you might be asking yourself, if the International Agency for Research on Cancer (IARC) is calling this a possible human carcinogen, and we've got signs that our children have relevant cancers rising, why are we not being warned to restrict their use? And that would be, I think, a really healthy and important question. And the truth is, you are being warned to restrict their use.

It's just really well-buried on an NHS website:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/215711/dh_124899.pdf



UK Chief Medical Officers advise
“that children and young people under 16 should be encouraged to use mobile phones for **essential purposes only, and to keep calls short.**”

So this is one of the areas where you can see a warning, pointing out that children under 16 should not be using mobile phones unless it's an

emergency, and keeping calls short. This is so important. This needed to be disseminated to parents, to schools, to governing bodies, and, of course, to children themselves, who often have very impressive capacity.

So we've seen so much in the news recently about phone bans. This centres around distraction, addiction, social media use, etc, but we really must bring this issue of EMF in too, to strengthen that call. Just because you take phones away and perhaps store them in the corner of a classroom, that won't necessarily fix the radiation exposure all on its own. But also, of course, we've got i-Pads, tablets, wireless printers, and other gadgets in the classroom that we need to be thinking about.

You can have a comparable or even, in some cases, found to be higher, specific absorption rate which is a measure of dose of radiation from an iPad, for example, than from a phone in some cases. So we mustn't give this mixed messaging. If the government is warning that children should be keeping their phone calls short, they should be warning about all of these other exposures at the same time.

What I was talking about there in terms of dose, was really about intensity, however, power and intensity are not the end of the story. It's very tempting for us to think things like, well, the higher the frequency, the worse it is, or the higher the power, the worse it is.

But it's actually, scientifically, really not that simple. Why? Because we can have low intensity windows where actually, a low intensity radiation can have more of an effect than its higher counterpart. We also have frequency windows of specific frequencies that seem bioactive in specific types of body physiology. And all of these other aspects are important. The signal shape is very important. The morphology, whether it's intermittent or continuous, if it's pulsed. That's been shown in some studies to have more of a response, biologically.

And, of course, our children are not all like the routers that came off the production lines. They all have different levels of vulnerability. And we'll talk more about that in my second talk.

So that was a quick, brief introduction to some basic concepts. I hope that's been useful. Thank you so much.

'Are some children more sensitive than others?'

by Dr Erica Mallery-Blythe

At the beginning of our conference, I shared some information with you that I hope set the stage - some really basic information about electro-magnetic fields and how they can interact with health. We talked a little bit about biomarkers, these early signs of biological interaction, like oxidative stress and DNA damage studies.

We also touched on chronic health effects. Professor Davis has talked more about the cancer studies, where we have seen that human epidemiological data showing increased tumour types, especially Schwannoma and glioma, has been corroborated and reinforced by some of the largest animal studies ever done to date, - the National Toxicology Program data and the Ramazzini Institute data, which, looked at far-field radiation.

We now have the same tumour types seen in human epidemiological data from the highest long-term users and studies of cell phone radiation on rats and mice, and, again, on far-field radiation emulated from base station-type exposures. So, really, it becomes highly illogical to try to refuse to accept that kind of concordant evidence all working together.

Given biological issues and chronic issues, in the middle it is not surprising that we are seeing some groups of people who have acute (that means short-term symptoms) that is actually exactly what we would expect. And this is termed, at the moment, most commonly in the scientific literature, electromagnetic hypersensitivity or EHS.

What is this? Well, if I had to sum it up in one sentence, I would say acute symptoms attributed to non-ionizing radiation exposures, and that can be the low-frequency fields you get with your household wiring and overhead power cables or it can be the high-frequency fields from your mobile wireless devices. The most common symptoms are headache and sleep disturbance, but also common are dizziness, tinnitus, palpitations and rashes, (a very objective sign). Interestingly, there is also chemical sensitivity and food sensitivity. This is really important when we're looking at our young childhood populations, where we're seeing these issues rising. So many people are asking, why is everyone becoming allergic and sensitive to everything? We see this interaction. It's proposed

that we have a united mechanism possibly joining these two together, that one can fuel the other, and vice versa.

Now, this issue is often marginalised and brushed under the table, where people are a bit uncomfortable. They say, well, maybe it's all psychological, maybe it's not, but either way, barely anyone is affected. However, that just isn't true. Unfortunately, this is a growing number of people.

In 2019, the European Economic and Social Committee, the EESC, estimated between 3-5% of the European population are affected. Actually, some studies from individual European countries more recently have shown figures up to 10%, or even higher in some cases. In Britain, that would translate to up to potentially seven million people. So, this is something that we can't simply bury our heads in the ground about.

Now, you might look to the WHO when you're trying to understand this and get information. But there is, unfortunately, a lot of very outdated information there. This is on their landing pages from 2005. But let's enlarge this.

WHO 2005

Sensitivity to EMF has been given the general name "Electromagnetic Hypersensitivity" or EHS. It comprises nervous system symptoms like headache, fatigue, stress, sleep disturbances, skin symptoms like prickling, burning sensations and rashes, pain and ache in muscles and many other health problems. Whatever its cause, EHS is a real and sometimes a disabling problem for the affected persons. Their EMF exposure is generally several orders of magnitude under the limits of internationally accepted standards.

I do agree with everything that's written here. They point out the classic central nervous system symptoms that I've already mentioned and then they say, 'whatever its cause, EHS is a real and sometimes disabling problem for the affected persons'. Their EMF exposure is often several orders of magnitude under the internationally

accepted standards. All quite true. But why did they raise this question mark about causality?

Now, causality is complex in medicine and science, and we go through a number of steps to try and determine causality. But we start with the plausibility test. So, would we expect, from a common sense point of view, that these kinds of fields could cause those kinds of symptoms? We don't have to look laterally very far in the literature base to see that we have studies showing, for example, cardiovascular disturbance from, in certain human sensitive subpopulations, from things like solar flare activity or geomagnetic storm activity, and there are many reports of people who have headaches with fluorescent lighting, etc.

So, that gives us a hint that, yes, it actually does seem quite reasonable that these anthropogenic, manmade fields could also be disrupting our physiology. I mentioned to you at the beginning that we're electromagnetic in our very essence. That also tells us we shouldn't be sidelining these reports. Actually, it makes a lot of sense – when you look at the fact that UVA and UVB are both listed currently as carcinogens, and these are non-ionizing radiation fields, there are so many different layers of evidence.

Let's think about the fact we have magnetite and cryptochromes, like animal species, that are deliberately designed to interact with our electromagnetic environment, so there is much in terms of plausibility and common sense to make us extremely suspicious that this could cause health effects.

However, the reason the WHO asked this question – ‘what is the cause? Is it really EMF?’ is because groups like the guideline-setting group, ICNIRP, have suggested this is a psychological reaction, that it's all in the head, that it is something they refer to as the nocebo response, which would be physical symptoms from a negative expectation.

So we have a large number of people reporting the same constellations of symptoms which, by the way, are not classic of a phobia reaction at all. They're quite a specific constellation all over the world. I'd say it's not actually very plausible that their new best friend, the mobile phone, is upsetting them so much that they're getting a headache.

But let's look more scientifically, because the only Bradford Hill causality criterion that is essential is ‘temporality’. What I'm saying here is if A is going to cause B, A, obviously, has to precede B. We have a problem here because, in fact, most of this group had no concerns at all about the technology they were using before they got their symptoms. In fact, many of them were completely unaware that it was possible to have symptoms from their device exposures. And this was noted in this questionnaire study.

Temporality Falsifies the Nocebo Response:

Does electromagnetic hypersensitivity originate from nocebo responses?

Indications from a qualitative study

Maël Dieudonné

Bioelectromagnetics 37(1) September 2015,

DOI:10.1002/bem.21937

“Overall, symptoms appear before subjects start questioning effects of EMF on their health, which is not consistent with the hypothesis that IEI-EMF originates from nocebo responses to perceived EMF exposure.”

So, those who claim EHS is not caused by EMF rely really on two basic principles. One, they say low intensity effects are not possible. We talked about that at the beginning. Then they look at the outcome of what we call EMF provocation studies. I'm going to briefly look at these two in turn.

Firstly, number one, can we have low-intensity effects below these thresholds? I think my first talk and Professor Davis' talk have both been clear that there are many, many papers demonstrating a huge myriad of different biological effects. But just to recap, oxidative stress, in our recent paper here we showed over 100 papers, 95% of which showed effect.

Let's translate this up to a relevant system, the neurological system, which we know is heavily impacted. Thank you to Henry Lai and colleagues at BioInitiative Report, a very highly qualified group – they've got three former presidents of the Bioelectromagnetics Society. Henry Lai found in this study, 244 out of 336 papers showing neurological effects from these kinds of exposures. These studies

are not limited to people with EHS. Some of these studies are involving animal groups.

Now, we know animals are not reading newspapers and scaring themselves about their mobile phones. So, really, we have to take number one off the table. All of those papers cited were below the allowable guidance levels at low intensity. So, we need to abandon this outdated dogma that there's no such thing as low-intensity effects. In fact, what we have failed to do is find a no-effect threshold. The doctors and scientists know what I mean by this. We have not found a no-effect threshold in this literature base.

Let's look at number two, EMF provocation studies. What are these? Well, these were an attempt to look at the relationship between EMF exposure and symptom development in the setting of a laboratory under scientific conditions. Now, that sounds like a great idea in essence and, in certain ways, it is. But you have to understand EHS and any other condition very well to be able to structure a study like this correctly.

Unfortunately, people rushed into these studies and they clearly did not understand EHS because they made a huge number of errors. Almost all the literature in this relatively small study pool is fatally flawed for a long list of reasons, and they're basics like not looking at the timing of the reaction. This is not a time-locked response, like seeing a light go on. It's not like that.

Many of you will understand this entirely. Think of dairy sensitivity or gluten sensitivity. If a mother brought in her child and said, "I think my child may have gluten intolerance" and the GP said, "here, eat a piece of bread" and then watched the child, and 15 minutes later says, "how do you feel"? And the child says, "I feel okay". The doctor says, "right, you're not gluten sensitive", and then does that with a few more children and says, "oh, there's no such thing as gluten sensitivity". That's what's actually happened with this literature base.

There is such a myriad of problems with these studies it would take me an entire lecture to describe them, but the other problem with these is their sham condition – which, in many cases, is not really a sham. So, if you're going to look for effect, then you have to look when the substance is present and when it's truly not. You can't give somebody a big loaf of bread and then a little bit of bread, and

have the little bit of bread be the sham condition. But that's kind of what they've done.

In the sham they often had anthropogenic or manmade radiation actually present and we know that the way hypersensitivity works is that infinitesimally small levels of the substance can set up a reaction. So, these studies are shambolic at best. The problem is that, then, these appalling studies have been collated together and people have tried to do a systematic review of them, and they've made exactly the same errors again.

They've failed to recognise the correct study design. They've failed to understand the clinical characteristics of EHS and, therefore, put together the incorrect risk of bias tools. This is, again, for scientists in the audience. Therefore, they have missed the fatal flaws in these studies and inappropriately tried meta-analysis. Also, the study group is extremely heterogeneous.

So, that's provocation studies, but they've also done a systematic review looking at the longer-term EHS-type symptoms. ICBE have put out a publication calling for a retraction of this systematic review already, even though this literature is only just published – because they've pointed out that the body of evidence is not adequate to support or refute the safety limit.

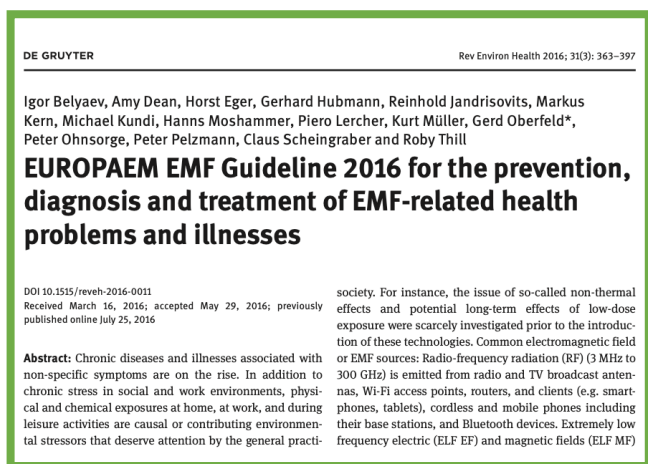
The small number and low methodological quality of those primary studies they looked at was inadequate and there was inappropriate meta-analysis, once again, in this group as well, given the heterogeneity of the studies. So, that's for the scientific group. And if people want to understand that more at the end, I'll explain it a bit more in the question time.

Just to recap, there are major, major problems with the hypothesis, that this is all in the head, the placebo explanation. Firstly, most people had no concerns about their phone before they got symptoms. Fear is not a cause in that situation. Many of this group, in fact, were technophiles. They desperately tried to keep using their technology because they were dependent on it for their job or for their enjoyment of life. It doesn't fit with a fear response at all.

Even though these studies were terribly put together from a methodological point of view, some of these double-blinded provocation studies actually did show a reaction, and that completely

excludes psychological causes in that group. Then, we have the animal and plant studies that I mentioned and, obviously, psychological mechanisms aren't possible in that group and biological effects are proven, that could be valid mechanisms explaining some of these symptoms.

So, we have to take both of these off the table and we don't have any scientifically valid way to invalidate the testimonies of this growing group of people claiming hypersensitivity and acute symptoms. And, therefore, I want to thank groups like the EUROPAEM EMF 2016 Guideline group, who have just got on with it and put together guidelines for diagnosis, management and support of people with EMF illness, including, but not limited to EHS.



Now, ICNIRP, who set the guidelines, admit themselves in 2020, here, that it's not always easy to draw a clear distinction between biological effects and health effects, and this will vary from individual to individual - absolutely right. What we know is that, in fact, it's a grey spectrum, as I pointed out at the beginning.

So the biological disturbance that we have is actually crucial. That is where we have the ability to enact preventative healthcare, something we're supposed to be all about here, in the UK. That is what you have to pay most attention to because that is the only place you have a chance of preventing acute illness and the subsequent chronic illness, which will transpire if you don't.

Unfortunately, exactly the opposite is what has happened in reality. And they've tried to draw a line, the guideline-setting group, they've drawn a line between biological damage and health damage. They've tried to put them in two baskets. Now, that doesn't make sense medically. You can't really do

that. But I understand if you're trying to set a safety threshold with something that you've actually never found a no-effect level for, then you are drawing an arbitrary line.

But if you were forced to do that, I would say you definitely wouldn't want to do it here because they are classifying things like tingling sensations, light flickering, microwave hearing, and pointing out that these perceptions, (as they're calling them), can lead to discomfort and annoyance and the exposure circumstances will vary between individuals as to where their threshold is in developing them.

The problem is that in reality, medically, symptoms like this can signify substantial biological disruption and people with EHS are absolutely not experiencing merely discomfort. Some of them are experiencing severe pain and broad-ranging, disabling symptoms as noted by the WHO way back in 2005. So, it's no surprise, really, that we're seeing international legal actions won by people with EHS, in some cases mandating a low EMF environment.

Now, when we're talking about sensitivity and increased sensitivity, it would be wrong for us to be so insular as to only look within the human population. Never has the wildlife around us been more important than it is right now and all of these species have very clear dependence on their electromagnetic environment, sometimes for survival, and certainly to flourish.

So, these aquatic species, these aviators, and these land-dwelling mammals, including us, all have these specialised cells that we've identified and substances we've identified. Some of these are really hypersensitive groups. We might raise this a bit more in question time because there's a slightly different biological spectrum of activity with the higher frequency uses in 5G that may be particularly prejudicial to pollinators, etc., because of their body size and the wavelength used. But to find more, there's a three-part series looking at effects on flora and fauna that you may be interested in reading.

Now, very quickly, to wrap up, I'm going to move on. I realise we've shared a lot of science today and not everybody in the audience has a scientific background. I'm just going to mention some collateral evidence that can help you, because it's really hard - you've got one group of scientists saying, everything's fine, there's nothing to see here, and another group saying, this is really not fine.

How are you supposed to make a judgement in there? I think it's really difficult when you can't necessarily get to grips with the fundamental science. So, in terms of further evidence, some people have done some important work. This has happened partly in courts. There are courts that have ruled that brain tumours have been caused by the mobile phone, and people compensated for that. I should mention, glioma is a fairly rapidly fatal tumour. The five-year survival is very, very low. Compensation cases are not what we want to be seeing. We want preventative healthcare for this.

Then, Professor Davis already mentioned this, that some companies are warning their shareholders. There's a major problem with insurance because I'm not personally aware of any underwriters currently who will insure for RF-related health effects. This is just a report from Swiss Re rating 5G as a high-impact risk affecting property and casualty claims, especially after three years of deployment.

So, we now have legal firms stepping up and saying that they're willing to take on no win, no fee Wi-Fi injury cases. Bringing this down to a really humble level, there's been a lot to take in. I know that. But I find this interesting. I put this slide together many years ago and I thought to myself, parents have to sign a consent form if their child steps out of school, really, to do almost anything, and there's a risk assessment that takes place when that happens.

Now, when anything changes in a school environment that could possibly pose a threat to child health, there is supposed to be a risk assessment, but this has not been happening. If it were, people would be a lot better educated about the science, actually. But we all risk assess as well. We've got some doctors in the audience. We have to do consent forms, and the consent has to be informed, doesn't it? We can't just say, oh, everything's fine. Sign here. You have to have a full understanding of the literature base.

Now, if you were having to sign a consent form for Wi-Fi, I worry that you would have all of this on it. We're going to irradiate your child with a Group 2B possible human carcinogen, expose them to radiation shown to cause DNA damage and other biological disruption such as... And, really, there are many multi-systemic effects of this. I'd feel very

uncomfortable about that. But this discussion is not currently taking place and parents and schools remain extremely unaware of the science.

Now, I talked about risk-benefit assessment, and that is what this is all about. We all do take risks. We put our child in a car every day, quite often. And we know we're taking a risk when we do that but we calculate that the benefit is worth it. Here, when we do this risk-benefit calculation, I am struggling to find where we can offset the risk. Even if you determine that you think this risk is very low, one thing nobody can say is that there is no risk.

Even the WHO have this currently listed as a possible carcinogen. Nobody can say, this is all fine, there's no risk. That's ludicrous at this point. But where is our benefit to offset that risk? The fact is it's just not there because we can provide internet to children through hardwired connections. This is what the last part of our conference is going to be all about – easy, accessible solutions that schools can use. So, we don't need to be taking these risks. It's that simple. And I'm not personally fond of a half measure, either.

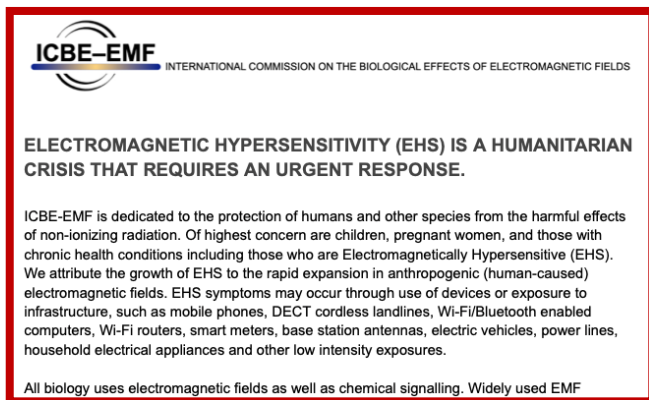
People will say, well we'll turn the routers off when we're not using them or we'll move them away but, really, that kind of attitude is often about convenience for staff. Everything can be done generally with hardwired connections. If we look at half measures, I think it's very akin to this advertisement that was put out by Cancer Research UK many years ago pointing out, unfortunately, when it comes to low tar cigarettes there's no such thing as cancer extra mild. That's not really how it works.

In a nutshell, what do we need to do? Remove, replace and reduce. And I'm going to round up here with the EESC again, because they wrote a really nice piece of literature about EHS. They've pointed out the importance of reinforcing independence of bodies setting limits, binding safeguarding legislation to reduce electromagnetic radiation exposures, and recognising these exposures as a cause of functional disability and environmental illness, because we now have a crisis.

We have children who can no longer safely go to school, adults who can't access their workplace and, in both cases, people who actually can no longer access their own home because of penetration of radiation through the walls of their

building, let alone a hospital bed. So, we have people who have life-threatening illness, who cannot be seen by a medical professional.

The group that I work with, International Commission on Biological Effects of Electromagnetic Fields, has put together this statement pointing out this is now a humanitarian crisis that requires an urgent response.



Please don't think that we're alone. I think it's very easy when we get on with our daily lives to miss what's happening scientifically on this front, but there are appeals from all over the world from scientists and doctors who are specialists in this field, experts.

The EMF Scientist Appeal can only be signed by people who've published papers in this field and they have well over 200 signatories.

Here, in the UK, this was put together by my group, PHIRE (PHIREmedical.org).

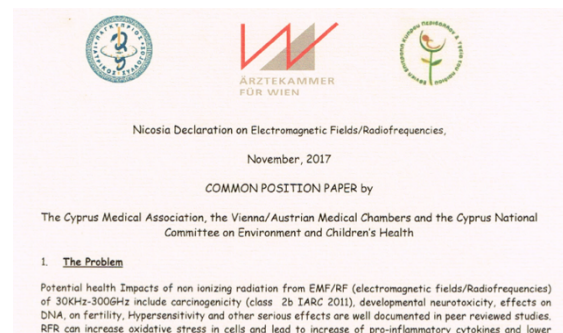


This is still open for signing. Scientists, doctors, and anyone else who wants to sign this can.

The American Academy of Paediatrics has put out some really important points about hardwiring.



This is from the Cyprus Medical Association, who have got very strong wording,



Some of these are on the PHIRE website, pointing out carcinogenicity, neurotoxicity, EHS, and pointing out how low these effects can occur and that, in some cases, it appears some of these effects are irreversible.

So, in summary, non-thermal, or better called low-intensity effects, can induce biological damage. Present exposure limits must be urgently revised. Children are especially vulnerable. Hardwired connectivity can immediately protect children, as can low EMR areas to protect vulnerable groups in general - both adults and children -and, frankly, anyone who does not wish to be exposed, because that's very important. At its very heart this is a consent issue and anyone who does not wish to be exposed should be able to avoid that exposure. Thank you so much.

Further scientific resources can be found at:

- • babysafeproject.org
- • bioinitiative.org
- • ehtrust.org
- • emfscientist.org
- • icbe-emf.org
- • mdsafetech.org
- • phiremedical.org
- • saferemr.com
- • thechildrensdeclaration.org
- • wirelessriskassessment.org

EHS and Energy Suppliers

'Persecution' by energy suppliers: you must have these symptoms to know what some of us live with
Sue T. writes to The Team at ES-UK

I have been a supporter of ES-UK for about five years. I look forward to the arrival of your Newsletter. I am 77 and I have had ME/MCS/EHS virtually since birth: – allergies diagnosed aged ten, ME aged 20, MCS from birth but not recognised. The number of symptoms of these disabilities amount to about 3,500; some overlap. Since childhood I affected equipment as I walked past it.

Living with any disability is difficult, but I think ME/MCS/ES/EHS are disbelieved and mocked. Others need to have these symptoms and disabilities to know what some of us live with.

Like many others, I have to battle with my council and energy suppliers regarding my disabilities. These situations make us want to give up living (I am not suicidal). For many years I've battled with my electricity supplier regarding smart meters. Likewise British Gas joined the bandwagon of pressures to change to smart meters.



I experience all the symptoms you mention in your Newsletter except nosebleeds. I spend most of my time in bed due to the dizziness, exhaustion and paralysis. Joe Public & Companies do not understand and are unwilling to accept how mobiles, computers and electrical equipment affect us. Joe Public has changed into robots – mobile glued to hand, fingers pinching the screen. Whether these mobiles are on or off, they adversely affect some of us, and no one cares.

For the past six months I have experienced paralysis, severe inflammation, breathing problems and digestive problems to name a few symptoms. Joe Public/Energy Suppliers/Councils do not accept that electricity flows through the body, skin and tissues. My energy company has had full knowledge of my health situation since I have had my own home from 1970. I previously advised my electricity supplier (E.ON Next) that I felt they verged on harassment to a disabled person and that I am not legally obliged to have the analogue meter changed to a smart meter.

The meter was checked by an E.ON rep., who kindly adhered to my MCS requests. E.ON has

made no provision for obtaining replacement new analogue meters.



They are destroying meters that are perfectly safe and in working condition, for smart meters. 'Persecution' as I see it has continued for many years.

My battle with my energy supplier has now very happily changed to a situation which is the best for me. They are leaving my meter in situ until or unless it develops a fault and has to be replaced. Why can't companies forward think and prepare for customers like myself who have ME/MCS/EHS? E.ON said they were unable to source another analogue meter for me. They can change the meter when I am dead.

We have had a similar problem with BT until recently, when they said that many customers cannot tolerate digital or do not want it and that they have adapted their exchanges thankfully to accommodate people like me. There are problems and my BT landline is frequently out of action due, I am told, to old copper wiring and weather. The telephone goes 'out of order' virtually every day and it is my only lifeline. Most representatives of BT are helpful and check the line. Sadly, not all BT representatives are as helpful. I had to make a complaint recently to BT as a representative due to call at my home did not turn up. I had sat at the bottom of my stairs all day.



I apologise for my rambling details. I am so grateful for ES-UK help and the kindness of Mr Peter Gane who has talked to me about my health and the situation some of us find ourselves in. He has helped me keep my sanity in a time of great difficulty, ill health and stress.

Please keep updating us with information. Life is difficult for all of us. The information in your Newsletters I feel made E.ON Next decide to leave my analogue 'life expired' meter in situ, as they have with other E.ON Next customers. 55 years of loyalty to E.ON Next means nothing. Doctors and MPs in the past have been no help whatsoever in our battles with councils and Energy Suppliers.

Thank you all so much, ES-UK! We need you!

'I have lost my career, my hair and my voice'

From: Ann Tomoko Rosen 'I Have Lost My Career, My Hair and My Voice' (*Children's Health Defense*, 19 May 2026. [Link](#))

Within weeks of smart meters being installed in her condo complex in 2018, Diane Grossi's life has been taken apart by symptoms linked to EMR exposure. Over the past five years she's experienced a steady physical decline. She sounds like she's been crying when she answers the phone. "This is my radiation voice," she says quietly. "I used to have a beautiful voice, but now that's gone too." Diane has a long list of debilitating symptoms: anxiety, migraines, nosebleeds, hair loss, rashes, nausea, tinnitus, tooth grinding, loss of balance, body aches and profound weakness.

But for Diane, the most devastating losses are her career, independence and ability to function in daily life. "Since August 2018, I have lost my career, my hair and my voice," she says. "My hands are numb so

I can't type and I can't work. It feels like the radiation paralyzes you. You just can't function."

Despite refusing a smart meter for her own unit, she is surrounded by wireless, including electric, gas and water meters. "I have not slept in my bedroom since the meters were installed," she explains. "What little sleep I get is on the couch. My heart races. My body goes numb. My eyes burn. Sometimes I wake up and vomit. It's like being tortured 24/7."

Unable to work, Diane had been surviving on a modest inheritance from 2017. She is now in debt for the first time in her life. She cannot remain in her home due to her symptoms, but she also cannot afford to leave, pursue legal action or access disability support.

ES AND EMF NEWS

Dr Ellie Cannon (*Mail on Sunday*, 15 February 2026):

ARE YOU SUFFERING FROM 'PHONE DEMENTIA'?

I'M INCREASINGLY concerned about the effects mobile phones may be having on our brains.

Last week, two patients in row at my clinic asked for a memory test – a way doctors look for dementia. This is not an uncommon occurrence. However, what makes these cases exceptional is that both were women in their 30s and both had exactly the same story: they were regularly forgetting people's names, as well as words, to a point where they were worried they might have dementia.

The good news is that neither had the disease. However, my theory is that younger people are losing the ability to retain crucial information due to the amount of time they spend glued to digital devices. I've even coined a name for it: phone dementia. Do you think you might be experiencing this issue? Please write in and let me know.

Discrimination and Harassment



eass Equality Advisory & Support Service

<https://www.equalityadvisoryservice.com/app/work/>

This link is for Template Letters for Work, ranging from Direct Discrimination and Harassment to Request To Make Reasonable Adjustments.

The Right to Disconnect

A new International Disconnection Manifesto calls for a fundamental right to be offline. It warns

against mandatory digital connectivity in daily life and defends freedom of choice, human autonomy, and access to non-digital alternatives. [Link](#).

EHS diagnosed prevalence of 10%

Numbers of people suffering EHS appear to be rising. More doctors are diagnosing EHS, more males than females are affected and more younger rather than older adults are identified.

(McCredden JE et al.: "Wireless sensitivity and co-morbidities: A prevalence study in Australia, Canada, and the United States"

Next Research. (2026) [Abstract](#))

UKHSA's invalidated non-thermal denial: difficulty

Ashley Dalton MP, then Parliamentary Under-Secretary of State for Public Health and Prevention at the Department of Health and Social Care, wrote on 10th February 2026: 'UKHSA acknowledges the difficulty in development of exposure protection guidance – the interpretation of studies of potential health effects is a matter of judgement, and there is a spectrum of opinion within the scientific community and elsewhere. UKHSA is aware that different groups have concerns about EMFs; where alternative limits have been proposed, these do not appear to have a scientific rationale based on health

effects in the same way as the ICNIRP guidelines.’
[‘Captured’ ICNIRP’s guidelines are only short-term and thermal, so not protective against EHS and cancers, whereas other limits aim to be so. – Ed.]

Ms Dalton made no reference to mainstream independent scientists such as ICBE-EMF. She also referred to the flawed ‘captured’ AGNIR 2012 report, which was not peer-reviewed but was convincingly shown in a devastating peer-reviewed critique to be invalidated by the evidence it contained, with ‘incorrect and misleading statements ... omissions and conflict of interest, which make it unsuitable for health risk assessment’. (Starkey SJ, ‘Inaccurate official assessment of radiofrequency safety by the Advisory Group on Non-ionising Radiation’, *Rev Environ Health*, 2016, [Link](#); Gillian Jamieson: “UK’s consultation on getting rid of planning barriers to telecoms masts, small cells and other digital infrastructure” *Substack*, 4th March 2026. [Link](#))

FDA removes health reassurance and restarts mobile phone assessment

The USA’s Food and Drug Administration quietly removed its webpages saying that the ‘weight of scientific evidence has not linked exposure to RF energy from cellphone use with any health problems.’

The FDA operates under the U.S. Department of Health and Human Services which at the same time launched a new review of wireless radiation and potential health risks, building on Secretary Robert F. Kennedy Jr’s criticism linking them to neurological damage and cancer. HHS spokesperson Andrew Nixon said the effort was directed by President Donald Trump’s Make America Healthy Again (MAHA) Commission. He did not name the study’s leaders or provide a timeline.

However, the Federal Communications Commission (FCC), which sets legal limits on wireless emissions with scientific input from the FDA, continues to state on its website that there is no proof wireless devices cause cancer. The FCC’s position aligns with the World Health Organization’s (WHO) public guidance stating that evidence of health risks is inconclusive. Yet, a WHO-commissioned systematic review of 2025 concluded there is ‘high certainty’ of evidence that RF radiation causes cancer in animals. Researchers noted that the same tumour types identified in animals previously were observed in human studies.



In 2023, toxicologist and epidemiologist Dr Devra Davis called out the FDA’s 2008-2018 internal review that claimed ‘no consistent or credible scientific evidence’ of harm from cellphone radiation. Davis said the review was never signed, unusual for a major public health document. She said the FDA review followed the National Toxicology Program’s (NTP) \$30-million ‘gold standard’ study that found ‘clear evidence’ of cancerous heart tumours in male rats exposed to RF radiation and ‘some evidence’ of tumours in the brain and adrenal glands. Davis said the FDA ignored those findings and relied on a ‘skewed interpretation of the literature’, and the review was unsigned because ‘no one in the FDA was willing to put their name behind such a piece of junk’.

(Liz Essley Whyte and Patience Haggin: “RFK Jr.’s Health Department Quietly Removes Webpages Saying Cellphones Aren’t Dangerous: Department of Health and Human Services undertakes a study on the health effects of cellphones” *The Wall Street Journal*, 15 January 2026; “US health department to launch study on cellphone radiation” *Reuters*, 16 January 2026; Jill Erzen: “HHS to Study Cellphone Health Risks, as FDA Scrubs Online Safety Claims” *The Defender*, 16 January 2026)

Mobile phones to be banned in schools in England

A ban on mobile phones in schools in England is to be introduced by the government, through an amendment to the children’s wellbeing and schools bill in the House of Lords. It will make existing guidance on mobile phone bans in schools statutory. The government capitulated to pressure, describing it as ‘a pragmatic measure’ to get the bill through.

(Sally Weale: “Mobile phones to be banned in schools in England under new plans: Government amendment to children’s wellbeing and schools bill to replace existing guidance with statutory ban” *Guardian*, 20 April 2026)

NHS hearing aids without wireless

Peter writes: ‘The Danalogic Ambio 77 hearing aid has a ‘Flight mode’ function which must be switched on at the audiologist’s computer. Now I simply switch my hearing aids to Flight Mode every time I put them on. (I do this by switching them on, listening for one beep, then switch them off and on again. When I get a double beep I know they are safe.) If this applies to other Danalogic aids it just needs someone to link them to the audiologist’s computer and switch on the Flight Mode function.’

Neil writes: ‘I spoke with Starkey and they confirmed that their ‘Signature’ range does NOT have wireless, both the IIC and CIC types.’



ELECTROSENSITIVITY: KEY FACTS

Electrosensitivity is being physically affected by electric, magnetic and electromagnetic fields (EMFs), e.g. RF, voltage transients ('dirty electricity', VLF), power lines and ELF.

- **Radio frequency radiation (RFR)** and ELF EMFs are emitted by mobile phones, phone masts, Wi-Fi, smart meters, Bluetooth, smart watches, trackers, radio and TV masts.
- **Voltage transients** ('dirty electricity') and very low frequency can be emitted from induction cooker hobs, battery chargers, CFL and some LED lights etc.
- **Power lines** (extremely low frequency EMFs) produce electric and magnetic fields, like transformers, electric motors, hair dryers, shavers, washing machines.

Electrosensitivity is a spectrum condition:

- Everyone is electrosensitive since all cells in the body can react subconsciously to magnetic and electric fields and RF EMFs.
- Some people are more consciously sensitive to EMFs than others.
- Some people are hypersensitive, severely disabled by EMFs.

Electrosensitivity is also called:

- EMF-Biological Effects: EMF Syndrome
- EMF Intolerance Syndrome
- [RF] Electromagnetic Radiation Syndrome
- [RF] Microwave / Radio Wave Sickness

Electrosensitivity covers a wide range of conscious and subconscious reactions, like other environmental allergies or sensitivities, such as to particular foods, pollens or amounts of sunshine.

- The conscious adverse symptoms of Electrosensitivity (ES), like headaches, physical weakness and muscular pains, were first recorded from 1733 by scientists researching the effects of electricity.
- More disabling Electromagnetic Hypersensitivity (EHS) was first recorded in 1746.
- In the 19th and early 20th centuries telegraph lines, electricity supplies and radio caused conscious symptoms among workers. Simultaneously, most people were affected subconsciously by the 'diseases of civilisation'.
- Since then, conscious effects, and subconscious ones like disturbed sleep, cancers, infertility and heart problems, spread more widely, with computers, mobile or cordless phones, Wi-Fi and smart meters.

SOLUTION: removal of man-made RF/EMF exposures causing intolerance

HISTORY: SCIENCE

1733: ES: non-thermal adverse symptoms, EMF
1746: EHS: hypersensitivity specific symptoms, EMF
1893: ES: specific non-thermal adverse symptoms, RFR
1926: RFR non-thermal lethal effects on some mice
1930: Non-thermal effects primary, heating secondary
1932: EHS: hypersensitivity specific symptoms, RFR
1945: Military use of non-thermal RFR in warfare
1953: Cancer, an ES symptom, from non-thermal RFR
1991: ES shown in provocation tests, screened subjects
1995: RF causes DNA breaks, which can lead to cancer
2000: More brain tumours on side of head near phone
2002: More ES symptoms near mast than further away
2003: Risk of cancer x 3 nearer mast than further away
2014: Genetic variants associated with EHS
2015: Cerebral blood hypoperfusion in people with EHS
2017: 3d fMRI: EHS brain harm; RF antibiotic resistance
2018: NTP study confirms mobile phones cause cancer
2019: Subconscious human magnetoreception shown
2021: Scientific Consensus by 32 Experts on real EHS
2022: Ecological study confirms proof of EHS
2023-24: Health studies: EHS symptoms near 5G masts
2024: NOAEL-based safety limit: 0.005 V/m proposed
2024: Mobile phones linked to prostate and skin cancer
2024: Phone masts cause unrepairable genetic damage
2025: WHO review: 'high certainty' RF causes cancer

HISTORY: REGULATORY

1935: 1st RFR guidelines USSR: non-thermal & thermal
1957: US 'conspiracy' imposing Schwan's thermal myth
1968: US law: public must be protected from RF/EMF
1974: Health & Safety at Work Act protects ES workers
1990s: Insurers: RFR high risk only, like cancer, asbestos
2001: WHO/IARC classifies ELF as a 2B cancer agent
2001: Geneva: mast dismantled, residents compensated
2002: WHO/ICNIRP recognise 'sensitive' ES people
2006: UK employers remove RFR for ES people
2007: UK £15k compensation for EHS discrimination
2009: EU Parl.: biological, not ICNIRP heating, limits
2009: EU Parl.: protect EHS and grant them equality
2010: Equality Act protects people disabled by ES
2011: WHO/IARC classifies RFR as a 2B cancer agent
2012: NHS consultants and GPs diagnose physical ES
2012: Courts accept ES and award compensation/fines
2013: H&SC Act: local authority duty to improve health
2017: US city stops phone mast after cancer cluster
2019: France: smart meters removed for health reasons
2021: US Court: FCC must assess non-thermal effects
2021: Court: ES person is interested party in siting mast
2022: US city bans phone mast after ES symptoms harm
2022: UK court: Wi-Fi/phones removed for EHS person
2022: US: \$187,300 for RFR injuries to Havana officials
2024: EMF light sensitivity: LED streetlights replaced

ELECTROSENSITIVITY: KEY FACTS

Radio Frequency Radiation (3 MHz – 300 GHz) Adverse Biological Effects and Limits NB: Specific frequencies not listed Firstenberg, Some Biological Effects of Radio Waves , 2022; Powerwatch .		$\mu\text{W}/\text{m}^2$
Cosmic Background Level, ~1,800 MHz		~ 0.0000000001
Genetic alterations– E.Coli		0.000000001
Natural Background Level, all frequencies		0.000001
Human sensitivity		~ 0.000001
	Altered EEG	0.00001
	Immune effects - mice	0.0001
International Scientific Limits, Bionitiative, Building Biology, EUROPAEM, IGNIR, Seletun, etc.		≥ 0.1
Adverse Biological Effects	Conditioned 'avoidance' reflex – rats	0.1
	Premature aging - pine needles; smaller growth rings - trees	0.24
	100 yards from home Wi-Fi	4
	Disturbed sleep, abnormal blood pressure, digestive problems, weakness, pain, anxiety	20
	100 yards from a mobile phone, peak power	40
	1 mile from a mobile phone mast	1 – 100
	Disturbed metabolism, changes: EEG, heart liver, spleen, testes, brain: rats, rabbits	600
	Irreversible infertility - mice	1,680
	Childhood leukaemia, <12 km from TV mast	2,000
	Impaired motor function, memory and attention; altered sex ratio (fewer boys)	3,000
	Blood-brain barrier impaired by mobile phones	4,000
	Altered calcium flux in brain tissue	6,000
	Tinnitus, buzzing and other auditory effects	20,000
	Leukaemia, skin melanoma and bladder cancer, near TV and FM mast	50,000
	Head and chest exposure from a laptop on a table	80,000
	Metal redistributed in the lungs, brain, heart, liver, kidney, muscles, spleen, bones, skin	100,000
	Head and chest exposure from a mobile phone on a table	1,500,000
	Mobile phone against the brain; laptop on the lap exposure to genitals	17-20,000,000
ICNIRP: Arbitrary, unscientific, unprotective, thermal limits, averaged 6 or 30 min.		$\leq 40,000,000$

ELF EMF Biological Effects and Limits (Bevington, 2013, p.48, Table 7, Link)		
Background Level (earth's static MF: 22,000-67,000 nT)		0.0001 V/m
Sandbar Sharks: behavioural threshold (Crawford et al, 2024)		0.2 nV/m
Human subconscious sensitivity	Aurora Disturbance (solar flare)	0.0004 nT rise/fall at 0.0013 nT
	Schumann Resonance	0.05 nT
	*Transmembrane, **retina effects (Attwell, 2003)	*0.6 $\mu\text{V}/\text{m}$, **10mV/m
Human conscious sensitivity	Power lines (some EHS people)	>100 nT diastolic BP (Dimitrova,2004)
IGNIR 2018 limit, for children, elderly and EHS (*excluding MRI etc.)		~5 nT rise/fall at ~7 nT
Below/*100m from 400 kV overhead power line (Swiss, 2005; RPS, 2014)		1 V/m (average)
Childhood Leukaemia: Relative Risk x 3.8 (Feychting et al, 1993)		~5,000 / *0.24 V/m
ICNIRP 1998 limit, 50 Hz		*210 nT
		≥ 300 nT

ABBREVIATIONS		
ASSESSMENTS	METRICS	THERMAL
EIA environmental impact assessment	m:milli 10 ⁻³ ; μ :micro 10 ⁻⁶ ; n:nano 10 ⁻⁹ ; p:pico10 ⁻¹²	SAR specific absorption rate (heat)
HRA health risk assessment	k: kilo 10 ³ ; M: mega 10 ⁶ ; G: giga 10 ⁹ ; T: tera 10 ¹²	W/kg Watts per kilogram (SAR heat)
CONDITIONS	NON-THERMAL	PHYSICAL AGENTS
CFS chronic fatigue syndrome	Frequencies (F):	CME coronal mass ejection (geomagnetic disturbance)
EHS electromag. hypersensitivity	ELF extremely low frequency	GEC global electrical circuit (atmospheric electricity)
EI environmental intolerance	VLF very low f., VHF very high f.	EF electric field
ES electrosensitivity	UHF ultra high f. (microwave)	MF magnetic field
FI functional impairment	Hz Hertz (one cycle per second)	EMF electromagnetic field
HS Havana (EHS) Syndrome	kHz kiloHertz, MHz megaHertz	RFR radio frequency radiation
MCS multiple chemical sensitivity	GHz gigaHertz, THz teraHertz	
ME myalgic encephalomyelitis	Magnetic fields: mG. milliGauss	
MS multiple sclerosis	μT , nT microTesla, nanoTesla	
MWS microwave sickness	Electric fields, transients:	
DEVICES	V/m Volts per metre	ALARA as low as reasonably achievable
ATA analogue telephone adaptor	G-S Graham-Stetzer (transients)	HC10 harmful concentration at 10%
CFL compact fluorescent light		HFP health first principle
LED light-emitting diode	NON-THERMAL & THERMAL	NDP non-discrimination principle
ONT optical network terminal	dBm decibel-milliWatts (each 3: x2)	NET no effect threshold
SM (wireless) smart meter	$\mu\text{W}/\text{m}^2$ microWatt per metre squared (power density)	NOAELno observable adv. effect level
		PP precautionary principle

ELECTROSENSITIVITY: KEY FACTS

CONSCIOUS SPECIFIC SYMPTOMS

- Anxiety
- Asthma
- Cancer
- Confusion
- Cramp
- Depression
- Diarrhoea
- Dizziness
- Fatigue
- Hair loss
- Headache, brain pain
- Heart palpitations
- Indigestion
- Irritability
- Light sensitivity
- Memory loss
- Menstrual changes
- Muscle/nerve pains
- Nausea
- Noise sensitivity
- Nosebleeds
- Restless legs
- Sinusitis
- Skin rashes
- Sleep disturbance
- Smell sensitivity
- Thirst, Tics, Tinnitus
- Visual effects

SUBCONSCIOUS SYSTEMIC EFFECTS

- Brain wave changes (alpha); Chromosomal aberrations
- Cancer: bioelectrical dysregulation, DNA breaks
 - e.g. brain, breast, prostate, skin, thyroid
- Cell cycle disturbance, mitochondrial dysfunction
- Cell membrane depolarisation, ion channel effects
- Fertility reduced, changes in offspring, more females
- Heart: changes to rate, variability, cerebral perfusion
- Immune system: chronic inflammation, oxidative stress
- Nervous (peripheral and central) system effects:
 - Demyelination, axonal and microglia
 - Hippocampus: enzymes, proteins
 - Hormonal: cortisol, testosterone
- Skin: mast cell degranulation, allergic sensitivity

CAUSES

- Bluetooth, TETRA, Wi-Fi
- CFLs, LEDs, transients
- Cordless DECT phones
- Mobile phones, masts
- Powerlines, transformers
- Smart meters, Fitbits

MECHANISMS

- BBB. Cilia. Hairs. Cryptochromes
- Demyelination. DNA damage
- Genetic variants. Glial/synapses
- Magnetite. NALCN. Pineal gland
- Radical pair. Retina. ROS. SCN
- Voltage-gated ion channels (VGIC)

PATHWAYS (like some Ultrasound effects)

- Antioxidant glutathione. Metabolism
- GABA. Hormones: melatonin, thyroid
- LDLox, oxidative stress (like ionising rad.)
- Metal implants, dental amalgam, fluoride
- Protein expression: ERK, Hsp70, p53 etc.
- Signalling: Ca, CaSR, NMDA, T cells, TGF

FUNCTIONAL IMPAIRMENT AND EHS SYMPTOMS

- Electrical Hypersensitivity (EHS), established since 1746, is an environmental systemic spectrum syndrome.
- EHS is caused by the person's exposure to RFR/EMF.
- EHS disables people with a range of symptoms which vary as the condition and its causes change in severity.
- Symptoms are disabling, causing functional impairment under the Health & Safety 1974 and Equality 2010 Acts.

EHS SYNDROME: CLINICAL DIAGNOSIS

- Clinical history: cause/effect from exposure/symptoms.
- The absence of symptoms when the RFR/EMF source is removed (positive reverse provocation testing).
- Multiple biomarkers, but only a few may be elevated or suppressed, depending on RF/EMF toxicity; GC-MS.
- Brain blood perfusion and 3d fMRI scans, where the potential benefits outweigh health risks of an MRI scan.

PREVALENCE IN UK 67m POPULATION

- 0.65%, 435,500 people: work restricted because of EHS
- 1.2%, 800,000 people: severe electrical hypersensitivity
- 3.6%, 2.4m [2026: c.10%]: moderate electrical sensitivity
- 100% subconsciously sensitive, 80% chronic inflammation

TREATMENT: AVOIDANCE OF RFR/EMF

- Avoid RFR: e.g. masts, mobiles, smart meters, Wi-Fi
- Keep: 10m from mobiles in use, 100m from Wi-Fi
- Live: 500m from masts, 600m from powerlines
- Protect sleep: e.g. military nets, shielded rooms.

NON-IONISING (RFR/EMF) and IONISING RADIATION

Both cause oxidative stress and cancer; sensitivity varies. 24 hours of mobile phone harms DNA like 1,600 X-rays. Both: primary non-thermal effects, thermal secondary. Both: hormetic (change low/high dose), no threshold. MFs engender genomic instability like other carcinogens, such as ionising radiation and chemical carcinogens.

NATURAL RFR/EMF EFFECTS

All life in the Earth's biosphere is electrically sensitive to natural geomagnetic and global electrical circuit changes at levels far below most man-made electrosmog. An EMF increase of 20-30% triggers health effects via VGIC.

EHS HEALTH EFFECTS CAUSED BY EMFs, NOT HEAT

No experiment proves that EMFs below Infrared involve quantized photons, meaning EMFs, not heat, cause EHS.

RESEARCH INTO ES AND EHS

ES research started in 1730 at the Royal Society, London. Centres for research into ES and EHS include: ARTAC Paris, Breakspear Herts, EMC Dallas USA, DARPA Caltech USA, HUSM Lleida, CES Moscow, UC San Diego USA, Toronto WCH, JMU Virginia USA.

ICD-10 CODES

- ICD-10: W90.0 (RFR); W90.8 (ELF); Z58.4 (radiation).
- EHS, known since 1746, does not have an ICD-10 code.

ELECTROSENSITIVITY: KEY FACTS

SCIENTIFIC MAINSTREAM CONSENSUS

- Covers all scientific evidence, including cancer, EHS and other long-term non-thermal adverse effects, known since 1733, not just short-term thermal effects

Two Key Documents:

1. INTERNATIONAL SCIENTIFIC CONSENSUS ON EHS

- 32 International Independent Experts (2021): EHS is a 'neuropathological disorder', not psychological. [Scientific Consensus International Report on EHS](#)

2. INTERNATIONAL EMF COMMISSION (ICBE-EMF)

- International Commission on the Biological Effects of EMF: [EHS is 'A Humanitarian Crisis'](#) (2024).

LONG-TERM NON-THERMAL GUIDELINES

[Bioinitiative 2012](#); [Building Biology \(sleep areas\) 2015](#); [EUROPAEM 2016](#); [IGNIR 2018](#); [Seletun 2010](#)

IMPARTIAL MAINSTREAM ORGANISATIONS

These independent groups include experts on real EHS and accept established scientific evidence including the NTP and WHO/IARC cancer classifications.

Bioinitiative Group <https://bioinitiative.org>

EHT: Environmental Health Trust, USA <https://ehtrust.org>

EMF Scientist: International EMF Scientist Appeal [link](#)

EPA: Environmental Protection Agency, USA

ES-UK: Electrosensitivity-UK <https://www.es-uk.info>

EUROPAEM: European Acad. for Environ. Medicine [link](#)

IARC: International Agency for Research on Cancer [link](#)

ICBE-EMF: International Commission on the Biological Effects of Electromagn. Fields (ICBE-EMF) icbe-emf.org

ICEMS: Internat. Commission on EM Safety www.icems.eu

IEMFA: International EMFs Alliance <https://www.iemfa.org>

IGNIR: Internat. Guidelines on Non-I. Rad. <https://ignir.org>

NTP: National Toxicology Program, USA [link](#)

PHIRE: Physicians' Health Init Rad. & Envir. phiremedical.org

1st MYTH: UNSCIENTIFIC THERMAL-ONLY CLAIM

- Ongoing 'conspiracy' from 1957 to impose Schwan's unscientific arbitrary short-term heating-only myth of 1953 claiming that only a 1°C rise causes adverse effects
- Short-term heating limits are unprotective for humans against cancer and EHS, and unprotective for wildlife

2nd MYTH: INVALIDLY CONFUSING EHS WITH EPH

- The WHO's Backgrounder (2005) arbitrarily confuses (a) physiological EM hypersensitivity, known since 1746, with (b) psychological EPh (Electrophobia, IEI-EMF), a placebo response, known since 1903, which cannot apply to children, unaware adults, animals and in warfare. (But ICNIRP recognises non-thermal ES adverse effects, 2002)

3rd MYTH: INVALIDLY DENYING CANCER

- However, a WHO Review (2025) confirmed cancer.

'JUNK' SCIENCE, DENIALS & MISINFORMATION

Most 'captured' single-viewpoint groups have no experts on real EHS. They ignore the WHO/IARC cancer evidence, the International Scientific Consensus on EHS and the ICBE-EMF warning on EHS, and still issue short-term heating-only limits.

DHSC: Depart. for Health & Social Care (follows ICNIRP)

- UKHSA: UK Health Security Agency (advises Ofcom/DCMS)

- COMARE: Com.on Med.Aspects of Radiat. & the Envir.

- EAHS: EMF and Health Subgroup (2022-); AGNIR (1990-2017) Pub. Health Engl. (PHE)'s Advis.Gp on NI Rad.

FCC: Federal Communications Commission, USA

GLORE: Global Coord. of Res. & Health Pol. on RF EMFs

SCHEER: Sci. Comm. on Health Env & Em Risk (Eur.Com.)

ITU: Internat. Telecommunications Union (UN agency)

WHO: World Health Organiz.(UN agency): - EMF Project

- ICNIRP: Int.Com.on Non-Ion.Rad.Prot.(WHO agency)

- WHO† is subject to Int. Atomic Energy Agency (IAEA) ††

- IAEA is subject to Int. Comm. on Radiol. Prot. (ICRP)

- WHO/ICNIRP recognises ES risk: to 2004, from 2018

† WHO has no jurisdiction over national health work. †† WHA 12-40.

Electric Field [Red = thermal metric]	Back-ground level	International Radio Frequency Radiation Guidelines and Reference Levels (3 MHz-300GHz)						
		Non-thermal and Thermal effects				Thermal effects only (WHO, 1972)		
		Long-Term and Short-Term				Short-Term only (6-30 minutes); not Long-Term**		
	Safe for wildlife, humans	Peak				Averaged		
		Scientific				Arbitrary, Unscientific		
		Protective for most humans				Unprotective for humans, especially sensitives		
	Johans-son et al.	USSR		Bioinitiative	EUROPAEM, IGNIR	USA Schwan	ICNIRP USA FCC	ICNIRP, WHO
		Occup.	Public					
	1997	1935	1967	2012	2016, 2018	1953***	1982, 1998***	2020***
	V/m	~0.00002	6	1.9	0.03 - 0.05	≤ 0.002 - 0.2 *	194	61
μW/m²	0.000001	100,000	10,000	3 to 6	0.1 to 100	100,000,000	10,000,000	≤40,000,000
dbm	< - 90	-1	-11	- 26 to - 23	≤ - 40 to - 10	+ 50	+ 40	≤ + 46
W/kg	(SAR) < 0.00002		Seletun (2010)		0.0003	1980,1984: 0.08 whole body; 1.6/2.0 head; 4.0 limbs		
(No Observable Adverse Effect Level) Safety Level				(< 0.05) 0.005 V/m\$		WHO/ICNIRP's Thermal Limits are Unprotective		

* Wi-Fi: 0.02 V/m (20 mV/m) = 0.03% ICNIRP heating limits.

\$0.005 V/m = 0.01% ICNIRP heating limits.

**WHO 2003: duration needed

***Excludes implants, long-term effects, non-thermal effects, cancer, EHS, people sensitive to EMFs.

Further information: www.es-uk.info