

FAST FACTS on ELECTROMAGNETIC HYPERSENSITIVITY (EHS) referenced text:

Prevalence of EHS:

In 2019, the EESC noted that, “Each day the number of EHS sufferers increases: according to new estimates, between 3% and 5% of the population are electro-sensitive, meaning that some 13 million Europeans may suffer from this syndrome, which has various names (electro-sensitivity, Wi-Fi syndrome, microwave syndrome, electromagnetic hypersensitivity, etc.). Exposure to electromagnetic fields has been increasing in recent years, following the expansion of technologies. In addition to health problems, this can result in limited access to many public or private facilities, especially in buildings where devices have been installed for transmitting wireless technology. These people may sometimes suffer the incomprehension and scepticism of doctors who do not deal with this syndrome professionally and therefore fail to offer proper diagnosis and treatment. Due to the serious differences in scientific opinion, the independence of bodies involved in establishing maximum exposure levels must be reinforced. The EESC is in favour of adopting binding safeguarding legislation that reduces or mitigates exposure to electromagnetic fields. The EU should assist currently affected groups and limit exposure fields in light of the recommendations set out in this opinion, especially with respect to recognising this exposure as a cause of functional disability and environmental illness.”¹

Extrapolated figures for the UK were estimated in 2019, “The current evidence is assessed as indicating that, in addition to subconscious sensitivity, the prevalence of IEI-EMF/EHS is between about 5.0 and 30 per cent of the general population for mild cases, 1.5 and 5.0 per cent for moderate cases and < 1.5 per cent for severe cases. The prevalence of people restricted in their access to work in a man-made electromagnetic environment is estimated at 0.65 per cent of the general population, at about 18% of the general population with moderate IEI-EMF/EHS. The estimate of 0.65% equates to 435,500 people in the UK’s population of 67 million. Some reasons for possible under-reporting are discussed. Adjustments can enable some people with this disability to remain in employment, suggesting that rates of restriction in access to work may fall as employers become aware of what adjustments are needed.”²

1. Symptoms: Headache, sleep disturbance, dizziness, tinnitus, palpitations, skin rashes and dysaesthsias and many more. The effects are multisystemic.^{3,4}

2. Triggers: Classically pulsed, modulated radiofrequency radiation (RFR), e.g. from mobile phones and base stations, Wi-Fi routers and computers, cordless landlines, smart meters, and Extremely Low Frequency (ELF) emissions from household wiring, appliances, electrical infrastructure and transportation, etc.⁵

3. Is the reaction physical or psychological? Whilst this question has inspired scientific dispute, physical symptoms from EMF exposures have been shown under blinded and in some cases double-blinded exposure conditions.^{6,7,8,9} The reason for continuing dispute is that many of these tests also failed to demonstrate a link between exposure and symptoms. Only a small number of these tests have been performed and the vast majority of them suffer fatal flaws in their methodology which generally bias towards no effect, so it is not surprising that most fail to exhibit the relationship. The fact that some do demonstrate statistically significant effects combined with broad evidence of neurological disturbance¹⁰ resulting from these exposures in both human and animal populations and also evidence of valid mechanisms by which biological damage can occur, sums to adequate evidence that some humans are experiencing acute, physical, symptomatic reactions – EHS. In some

cases these reactions can be very severe, rendering the individual disabled. As with any chronic illness or disability, there can be secondary mental health impact.

4. Can it be cured? Central medical management is reduction of exposure¹¹. If this is done in the early stages of EHS then rapid symptomatic resolution can occur. Often, those with EHS need long-term support, including provision of low-EMF environments. This is increasingly challenging due to the widespread proliferation of emitting technology.

5. Are any other illnesses associated with EHS? Persons with EHS have a tendency to be sensitive to chemicals / foods¹² and there can be multiple sensory up-regulation so some may also experience auditory, olfactory and/or visual sensitivity, for example. Some may also become photosensitive.

6. Are any other illnesses associated with EMF exposure? RFR is shown to cause oxidative stress in over 200 studies and links have been made in peer-reviewed publications with multiple disease endpoints including cancer. RFR and ELF are currently classified as Group 2B possible human carcinogens and animal studies have corroborated the human evidence of increased risk¹³.

7. Are any other groups especially vulnerable to negative health effects from EMF exposure? Children, pregnant women, the elderly, and the infirm may be at greater risk, e.g. owing to differences in their anatomy, absorption characteristics, and repair capacities¹⁴. Additionally, those whose exposures are highest – such as workers with high levels of occupational EMFs or those with heavy recreational wireless device use may also carry greater risk. Those with body metalwork which can conduct and reflect EMFs may also be more vulnerable.

8. Is there peer-reviewed published science regarding EHS? Links below cite many articles explaining how EMFs can affect health (including EHS). Find relevant citations at:

5gappeal.eu

appel-de-paris.com

bioinitiative.org

ehtrust.org

emfscientist.org

icbe-emf.org

mdsafetech.org

orsaa.org

phiremedical.org

saferemr.com

Most countries also have support groups, such as es-uk.info here in the UK: es-uk.info

9. Has EHS been legally recognised? Multiple legal actions have led to compensation, pension, and low-EMF disability accommodation of people with EHS^{15,16}.

10. Do medical doctors recognise EHS? An increasing number of doctors are diagnosing EHS¹⁷. However, unfortunately most doctors are not currently taught how to recognise or manage EHS, and it can be hard to find a specialist. GPs who have researched the condition are able to diagnose it and CME accredited courses are available for medical professionals who wish to know more.

11. What can I do to help someone with EHS? Listen to them and ask what they need. Your personal EMF emissions can be reduced via multiple pathways, some of which can be easily achieved¹⁸. People with EHS face major obstacles such as:

- **Disbelief / ignorance** of their medical condition
 - **Homelessness** because there is nowhere to live where EMFs are low
 - **Poverty** due to inability to work or access adequate financial support
 - **Hunger and thirst** if they are severely ill, living rough and unable to access shops/services due to EMFs
 - **Unable to travel** due to EMFs in cars and public transport
 - **Isolation** due to lack of understanding / unwillingness of others to reduce emissions, communication limitations and inability to access most areas
 - **Severe ill health** due to the reaction and also inability to access medical services for support with these symptoms or other health issues
 - **Loss of independence** leading to pressure on personal relationships and emotional distress.
- Many people with EHS are reliant on family and friends to support their basic needs as society has not yet adapted to accommodate them.

Loss of this kind of support can lead to feelings of hopelessness and despondency, and there have been multiple preventable suicides.

Even if you are unable to give a person with EHS what they need, **your support, understanding and credible witness to their suffering and needs could prove life saving.**

12. Are there any positive aspects?

Although this reaction can cause great suffering, related learning and EMF-lowering can reduce risk for not just those with EHS but also those they connect with, such as family members, friends, colleagues and professionals who become involved. Lowering of man-made EMF exposure is important for the health of not just humans but all planetary life¹⁹; and EHS may be the catalyst which ultimately facilitates the protection of many species harmed by man-made EMFs.

The leaflet provided is also endorsed by the Environmental Health Trust and British Society for Ecological Medicine

¹ European Economic and Social Committee (2019). Digitalisation – Challenges of Europe: <https://www.eesc.europa.eu/sites/default/files/files/qe-01-19-295-en-n.pdf>

² Bevington, M The Prevalence of People With Restricted Access to Work in Man-Made Electromagnetic Environments, 2018 Journal of Environment and Health Science, <https://doi.org/10.15436/2378-6841.19.2402>

³ Belpomme D, Irigaray P. Electrohypersensitivity as a newly identified and characterized neurologic pathological disorder: how to International Commission on the Biological Effects of Electromagnetic Fields (ICBE-EMF) Environmental Health (2022) 21:92 Page 24 of 25 diagnose, treat, and prevent it. Int J Mol Sci. 2020;21:1915. <https://doi.org/10.3390/ijms21061915>.

⁴ Stein Y, Udasin IG. Electromagnetic hypersensitivity (EHS, microwave syndrome) - review of mechanisms. Environ Res. 2020;186:109445. <https://doi.org/10.1016/j.envres.2020.109445>

⁵ Hagström M, Auranen J, Ekman R. Electromagnetic hypersensitive Finns: symptoms, perceived sources and treatments, a questionnaire study. Pathophysiology. 2013;20:117–22.

- ⁶ Rea WJ, Pan Y, Fenyves EJ, Sujisawa I, et al. Electromagnetic field sensitivity. *J Bioelectricity*. 1991;10:241–56
- ⁷ McCarty DE, Carrubba S, Chesson AL, Frilot C, et al. Electromagnetic hypersensitivity: evidence for a novel neurological syndrome. *Int J Neurosci*. 2011;121:670–6.
- ⁸ Havas M. Radiation from wireless technology affects the blood, the heart, and the autonomic nervous system. *Rev Environ Health*. 2013;2013(28):75–84
- ⁹ Leitgeb N, Schröttner J. Electrosensitivity and electromagnetic hypersensitivity. *Bioelectromagnetics*. 2003;24:387–94
- ¹⁰ BioInitiative Working Group; Sage C, Carpenter D, et al. (2012). *BioInitiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Radiation; As updated in 2014, 2018, 2019 and 2020*: <https://bioinitiative.org>
- ¹¹ Belyaev I, Dean A, Eger H, Hubmann G, et al. European EMF guideline 2016 for the prevention, diagnosis and treatment of EMF-related health problems and illness. *Rev Environ Health*. 2016;31:363–97.
- ¹² Belyaev et al. 2016. International Scientific Declaration on EHS & MCS, 2015. Brussels http://eceri-institute.org/fichiers/1441982765_Statement_EN_DEFINITIF.pdf
- ¹³ International Commission on Biological Effects of Electromagnetic Fields (ICBE-EMF), 2022, Scientific evidence invalidates health assumptions underlying the FCC and ICNIRP exposure limit determinations for radiofrequency radiation: implications for 5G, *Environmental Health*, (2022) 21:92 <https://doi.org/10.1186/s12940-022-00900-9> Scientific evidence invalidates health assumptions underlying FCC and ICNIRP exposure limits determinations for radiofrequency radiation: implications for 5G (icbe-emf.org)
- ¹⁴ International Commission on Biological Effects of Electromagnetic Fields (ICBE-EMF), 2022, Scientific evidence invalidates health assumptions underlying the FCC and ICNIRP exposure limit determinations for radiofrequency radiation: implications for 5G, *Environmental Health*, (2022) 21:92 <https://doi.org/10.1186/s12940-022-00900-9> Scientific evidence invalidates health assumptions underlying FCC and ICNIRP exposure limits determinations for radiofrequency radiation: implications for 5G (icbe-emf.org)
- ¹⁵ Physicians’ Health Initiative for Radiation and Environment_ ‘Early ill-health retirement and Employment Support Allowance awarded on the basis of Electromagnetic Hypersensitivity (EHS) – Further detailed Press Release’ – Phire Medical. PHIREmedical.org 2022 Press Releases
- ¹⁶ Physicians’ Health Initiative for Radiation and Environment. Education Health Care Plan (EHCP) awarded (Aug 2022) for UK child on the basis of Electromagnetic Hypersensitivity (EHS). – Phire Medical_ PHIREmedical.org 2022 Press Releases
- ¹⁷ Belyaev I, Dean A, Eger H, Hubmann G, et al. European EMF guideline 2016 for the prevention, diagnosis and treatment of EMF-related health problems and illness. *Rev Environ Health*. 2016;31:363–97.
- ¹⁸ Physicians’ Health Initiative for Radiation and Environment. Radiofrequency Radiation Reduction: ‘How to’ Guide 2021 Resources PHIREmedical.org
- ¹⁹ Bandara P, Carpenter DO. Planetary electromagnetic pollution: it is time to assess its impact. *Lancet Planet Health*. 2018;2:e512–4. [https://doi.org/10.1016/S2542-5196\(18\)30221-3](https://doi.org/10.1016/S2542-5196(18)30221-3)