

***Electrosensitivity (ES), Electromagnetic Hypersensitivity (EHS),
Electrophobia (EPH)***

Overview

FACT:	ES and EHS are real physiological conditions
<i>Based on:</i>	Hundreds of studies since 1932 which show real ES and EHS exist
<i>Majority viewpoint:</i>	86% of scientific studies show this fact*
<i>Held by:</i>	Majority of expert scientists and physicians
FALSEHOOD:	Only psychological EPH exists, not real ES and EHS
<i>Based on:</i>	Schwan's 1953 mistake that short-term heating is the only effect
<i>Minority viewpoint:</i>	14% of scientific studies show this false claim*
<i>Held by:</i>	Minority, industry and government propaganda, eg ICNIRP, PHE

FACTS

1. **Electrosensitivity (ES) or Electromagnetic-Hypersensitivity (EHS) is a real physical intolerance.** It can develop from electromagnetic exposure from e.g. mobile and cordless phones, masts, WiFi, smart meters, TETRA, CFLs, LEDs, and powerlines.
2. **Common symptoms:** headaches, skin problems, sleep disruption, lethargy, anxiety, depression, irritability, memory loss, cognitive confusion, muscle pains, cardiac palpitations, nose-bleeds and some cancers. Some EHS people also react to chemicals.
3. **The key treatment is avoiding radiation,** especially from mobile phones, masts, Wifi and in bedrooms. Some sufferers use military-style shielding or protective clothing, or are forced to live in a remote area away from man-made radiation, if they can find one.
4. **Mechanisms:** e.g. EM effects on cerebral blood perfusion, cryptochromes, demyelination, Hsp70, retroviruses, ROS, subtle energy, VGCCs, etc. (see [Sel. Studies](#))
5. **4% of the UK (2.7m) has some EM sensitivity,** according to a UK government-sponsored study, 0.1% has **severe sensitivity** sometimes preventing employment, and 40% of adults have **subconscious sensitivity** through chronic inflammatory conditions.
6. **The World Health Organization classifies Electrosensitivity as an Environmental Intolerance (IEI-EMF) and states that it can be disabling.** Various ICD-10 codes apply.
7. **Diagnosis of ES and EHS, by some NHS hospitals and GPs since 2014,** includes: 3d fMRI, cerebral blood perfusion scans (UCTS), DNA, HRV, markers (eg histamine, Hsp, melatonin, sAA), personal history of (hyper-) sensitivity, its onset and EM exposure.
8. **Electrosensitivity is recognised legally by UK tribunals as a disability** (since 2012) for adults and children. Employers have to provide protection (H&S At Work Act 1974). ES functional impairment requires reasonable adjustments (Equality Act 2010).
9. **The WHO's IARC classifies EMFs, both ELF and Radio Frequency, as 2B possible human carcinogens** (since 2001 and 2011), known since 1953. Since 2013 experts have said that EMFs should be reclassified as class 1 certain human carcinogens.
10. **EUROPAEM EMF 2016 and IGNIR are long-term biological exposure guidelines.** The European Parliament voted ICNIRP's short-term heating limits obsolete (2009).
11. **Electrosensitivity was first described in the medical literature in 1932.** It began with electrical, radar and radio workers. Since then it has spread into the general population, as wireless devices like mobile phones, masts and Wifi became common.
12. **The different condition of Electrophobia (EPH, nocebo effect, or radiophobia) is psychological.** It affects about 1% of EHS people. EPH's cause is prior psychological conditioning which cannot apply to children, unaware adults and animals with EHS.

*Selected Studies on ES and EHS ([2018](#)) (2,000 studies); of 515 relevant: 445 ES (86%), 70 EPH (14%).

FACTS:

Majority viewpoints, supporting facts:

- [American Academy of Pediatrics](#)
- [Bioinitiative Group](#)
- [Electrosensitivity UK](#)
- [EMF Radiation Research Trust](#)
- [International EMF Scientist Appeal](#) (240 scientists)
- [Powerwatch](#)
- [Russian National Committee on N-IR Protection](#)
- [Links](#) to many other websites
- [Diagnosis of ES, EHS and EPH](#)
- Research: [Select Studies on ES, EHS and EPH](#)

A few of many studies, including the proof or diagnosis of ES and EHS:

- Austrian Medical Association: [Guideline of the Austrian Medical Association for the diagnosis and treatment of EMF related health problems and illnesses \(EMF syndrome\)](#) (2012).
- Belpomme D et al: [Reliable disease biomarkers characterizing and identifying electrohypersensitivity and multiple chemical sensitivity as two etiopathogenic aspects of a unique pathological disorder](#) (2015).
- Belyaev I et al.: [EUROPAEM EMF Guideline 2016 for the prevention, diagnosis and treatment of EMF-related health problems and illnesses](#) (2016).
- Bogers RP et al.: [Individual variation in temporal relationships between exposure to RF electromagnetic fields and non-specific physical symptoms: A new approach in studying 'electrosensitivity'](#) (2018).
- De Luca C et al: [Metabolic and genetic screening of electromagnetic hypersensitivity subjects as a feasible tool for diagnostics and intervention](#) (2014).
- Dieudonné M: [Does EHS originate from placebo responses? Indications from a qualitative study](#) (2016).
- Havas M: [Radiation from wireless tech affects the blood, the heart, and the autonomic nervous system](#) (2013).
- Heuser G et al.: [Functional brain MRI in patients complaining of electrohypersensitivity after long term exposure to electromagnetic fields](#) (2017). Heuser G et al.: [Corrigendum \(images\)](#) (2017).
- Irigaray P et al.: [How Ultrasonic Cerebral Tomography can Contribute to the Diagnosis of EHS](#) (2018).
- Irigaray P et al.: [Oxidative stress in electrohypersensitivity self-reporting patients: Results of a prospective in vivo investigation with comprehensive molecular analysis](#) (2018).
- Lamech F: [Self-Reporting of Symptom Development From Exposure to Radiofrequency Fields of Wireless Smart Meters in Victoria, Australia: A Case Series](#) (2014).
- McCarty DE et al.: [Electromagnetic hypersensitivity: evidence for a novel neurological syndrome](#) (2011).
- Nordic Council of Ministers, 'El-Allergy': [The Nordic Adaptation of Classification of Occupationally Related Disorders \(Diseases and Symptoms\) to ICD-10](#) (2000). p.33 (ICD-10.R68.8), p.55.
- Pall ML: [Electromagnetic fields act via activation of voltage-gated calcium channels to produce beneficial or adverse effects](#) (2013).
- Pall ML: [Wi-Fi is an important threat to human health](#) (2018).
- Rea WJ et al.: [Electromagnetic field sensitivity](#) (1991).

RF has been known as a carcinogen since 1953, most recently from the \$30m [NTP](#) ([Lin](#)) and [Ramazzini](#) studies (2018).

FALSEHOODS:

Minority viewpoints, propagating 'falsehoods' and causing ill health; almost all these statements are not peer-reviewed and could not be passed by proper peer-review (website dates):

- [ICNIRP](#), a private self-appointed group holding mainly the minority scientific viewpoint based on falsehoods arising from Schwan's 1953 mistake, is followed by the UK's Department of Health and Social Care (DHSC); DHSC/Public Health England (PHE) has conflict of interests, and shares members, with ICNIRP, as also with WHO EMF groups. The following were/are required to follow the DHSC's minority viewpoint and 'falsehoods':
- [AGNIR](#) (01/04/12), [COMARE](#) (13/03/18), [MTHR](#) (11/02/14), [NHS](#) (01/04/16), [PHE](#) (28/06/17)
- [UK House of Commons Library](#) (26/11/18; also letter 07/12/18); [CRUK](#) (05/10/18)
- World Health Organization (subserving to the IAEA, ionising radiation, 1959): EMF Project's [Backgrounder 296](#) was not peer-reviewed and could not pass peer-review; it references no studies after 2005 (12/05).

All experts now accept non-thermal effects (USSR 1959, USA eg [1971](#)), rejecting the Specific Absorption Rate (SAR) still used by ICNIRP, PHE, and AGNIR, to which the House of Commons Library, NHS and PHE still refer, although shown as 'unsafe', propagating 'inaccuracies' and 'falsehoods' based on 'cherry-picking' and 'undocumented claims', with 'conflicts of interest':

- Belpomme D et al.: [EHS as a new pathological disorder which should be acknowledged by WHO](#) (2018).
- Hardell L: [World Health Organization, RF radiation and health – a hard nut to crack \(Review\)](#) (2017).
- Pall ML: [Response to 2018 ICNIRP Draft Guidelines and Appendices on Limiting Exposure to Time-Varying Electric, Magnetic and EMFs \(100 kHz to 300 GHz\)](#) (2018).
- Pall ML: [Microwave EMFs act by activating VGCCs: why the current international safety standards do not predict biological hazard](#) (2014).
- Panagopoulos DJ et al.: [Evaluation of SAR as a dosimetric quantity for electromagnetic fields bioeffects](#) (2013).
- Starkey SJ: [Inaccurate official assessment of radiofrequency safety by the AGNIR](#) (2016).