

Electrical Hypersensitivity (ES)

The Electrical hypersensitivity set of articles is separated into 8 sections, each of which can be individually downloaded. It is a 'work in progress' incorporating new information whenever time permits.

Section 7

References

1. Electrical Hypersensitivity, a reaction to the environment; introduction, should ES be diagnosed as an illness? Should ES be diagnosed as an allergic (atopic) condition? Should ES be diagnosed as a 'functional impairment'?
2. What ES is and what produces it; ES and the problems of diagnosis; Allergy/functional impairment; what produces ES? The Hum; ultrasound
3. The Triggers and Symptoms; what can provoke symptoms; the symptoms; behavioural disturbances; haematological (blood) effects; breathing problems; cardiac problems; cognitive changes; eyes; headaches and migraines; other symptoms experienced on the face or in the head; ingestion and digestion disturbances; joint, muscle, limb and nerve sensations; light sensitivity; psychological effects; skin; sleep disturbance, tiredness & dizziness; other reactions
4. The Biology; the living being; what effects do EMFs have on living beings? Why do only some people become ES if all people are coping with increasing EMF stress? Research problems; what different countries have found, or are finding
5. What you can do; Reducing your exposure to EMFs, in the home, in the work place, in the community; treatments and other things that can help, acupuncture, chiropractic, diet including supplements, pulsed electromagnetic field therapy, exercise, geopathic stress, grounding, holidays, homeopathy, hydration, injections, ionised environments, medication, oral treatment, osteopathy, oxygen therapy, plants, prayer and healing, protection 'devices', provocation therapy, psychological improvements, water supply; screening products; raising public awareness; campaigning and information organisations
6. The Challenges; what can the ES person do? Recognition by the general public; employment and benefits advice; Disability Discrimination Act 1995, words (or phrases) defining disability according to the DDA, mobility, memory or ability to concentrate, learn or understand; accidents, incidents and liability; policy makers abroad; normal day-to-day activities; education needs; employment needs; medical needs; housing needs; transport needs
7. References – 150 references

8. Appendices:

Appendix 1- The Powerwatch response to the October 2005 Health Protection Agency–Radiation Protection Division report on Electrical Sensitivity; definition of ES; epidemiology of ES; management of ES

Appendix 2 - Powerwatch Comments on Rubin et al study, 2006

Appendix 3 - Study Flaws (Essex), Flaw counter-arguments, discussion, conclusion, Essex University study on Health Effects from TETRA radiation (2010)

References

Arnsten AF 1998 - *The biology of being frazzled* Science 280(5370):1711-12 PMID: 9660710

Augner C & GW Hacker 2009 – *Are people living next to mobile phone base stations more strained? Relationship of health concerns, self-estimated distance to base station, and psychological parameters* Indian J Occup Environ Med 13(3):141-5 PMID: 20442833

Baliatsas C et al 2014 – *Comparing non-specific physical symptoms in environmentally sensitive patients: Prevalence, duration, functional status and illness behaviour* J Psychosom Res 76(5):405-13 PMID: 24745783

Beck M 2003 - The Joy Diet, Piatkus ISBN 0 7499 2441 1

Belpomme D et al 2015 – *Reliable disease biomarkers characterizing and identifying electrohypersensitivity and multiple chemical sensitivity as two etiopathogenic aspects of a unique pathological disorder* Rev Environ Health 30(4):251-71 PMID: 26613326

Belyaev I et al 2016 – *EUROPAEM EMF guideline 2016 for the prevention, diagnosis and treatment of EMF-related health problems and illnesses* Rev Environ Health 31(3):363-97 PMID: 27454111

Belyaev I et al 2015 – *EUROPAEM EMF guideline 2015 for the prevention, diagnosis and treatment of EMF-related health problems and illnesses* Rev Environ Health 30(4):337-71 PMID: 26613329

Belyaev IY et al 2009 – *Microwaves from UMTS/GSM mobile phones induce long-lasting inhibition of 53BP1/gamma-H2AX DNA repair foci in human lymphocytes* Bioelectromagnetics 30(2):129-41 PMID: 18839414

Belyaev IY et al 2005 - *915 MHz microwaves and 50 Hz magnetic field affect chromatin conformation and 53BP1 foci in human lymphocytes from hypersensitive and healthy persons* Bioelectromagnetics 26(3):173-84 PMID: 15768430

Bensefa-Colas L & D Dupas 2014 – *[Idiopathic environmental intolerance: 2 disabling entities to recognize]* Rev Prat 64(3):358-62 PMID: 24851372

Bergdahl J et al 1998 - *Odontologic survey of referred patients with symptoms allegedly caused by electricity or visual display units* Acta Odontol Scand 56(5):303-7 PMID: 9860100

Binhi VN & FS Prato 2017 – *A physical mechanism of magnetoreception: Extension and analysis* Bioelectromagnetics 38(1):41-52 PMID: 27859403

Binhi VN 2002 - *Magnetobiology – Underlying Physical Problems*, Academic Press ISBN 0 12 100071 0

Brand S et al 2009 - *Patients with environment-related disorders: comprehensive results of interdisciplinary diagnostics* Int J Hyg Environ Health 212(2):157-71 PMID: 18672398

Carlsson F et al 2005 – *Prevalence of annoyance attributed to electrical equipment and smells in a Swedish population, and relationship with subjective health and daily functioning* Public Health 119(7):568-77 PMID: 15925670

Carpenter DO 2015 – *The microwave syndrome or electro-hypersensitivity: historical background* Rev Environ Health 30(4):217-22 PMID: 26556835

Choudhry NK et al 2002 - Relationships between authors of clinical practice guidelines and the pharmaceutical industry JAMA 287(5):612-7 PMID: 11829700

Christensen D 2000 - Weight matters, even in the womb: status at birth can foreshadow illnesses decades later Science News 158:1711-12

Cohen A et al 2008 - Sensitivity to mobile phone base station signals Env Health Perspect 116(2):A63-A64 PMID: 18288297

Dahmen N et al 2009 - Blood laboratory findings in patients suffering from self-perceived electromagnetic hypersensitivity (EHS) Bioelectromagnetics 30(4):299-306 PMID: 19259984

De Ninno A & M Pregnolato 2017 - Electromagnetic homeostasis and the role of low-amplitude electromagnetic fields on life organization Electromagn Biol Med 36(2):115-122 PMID: 27399207

De Luca C et al 2014 - Metabolic and genetic screening of electromagnetic hypersensitive subjects as a feasible tool for diagnostics and intervention Mediators Inflamm 2014:924184 PMID: 24812443

Dodic M et al 2002 - Programming effects of short prenatal exposure to cortisol FASEB 16(9):1017-26 PMID: 12087063

Eltiti S et al 2007 - Development and evaluation of the Electromagnetic Hypersensitivity Questionnaire Bioelectromagnetics 28:137-151 PMID: 17013888

Eltiti S et al 2007 - Does short-term exposure to mobile phone base station signals increase symptoms in individuals who report sensitivity to electromagnetic fields? A double-blind randomized provocation study Environ Health Perspect 115(11):1603-8 PMID: 18007992 **For the Powerwatch critique of this study, see Appendix 3**

Eltiti S et al 2004 - Is there a relationship between electromagnetic hypersensitivity and multiple chemical sensitivity?

Flannery T 2005 - The Weather Makers, the history and future impact of climate change - Allen Lane, Penguin Books

Furubayashi T et al 2009 - Effects of short-term W-CDMA mobile phone base station exposure on women with or without mobile phone related symptoms Bioelectromagnetics 30(2):100-13 PMID: 18780296

Gangi S & O Johansson 2000 - A theoretical model based upon mast cells and histamine to explain the recently proclaimed sensitivity to electric and/or magnetic fields in humans Medical Hypotheses, March, 54(4), 663-71 PMID: 10859662

Genuis SJ & CT Lipp 2012 - Electromagnetic hypersensitivity: Fact or fiction? Sci Total Environ 414:103-12 PMID: 22153604

Ghezel-Ahmadi D et al 2010 - Heavy metal exposure in patients suffering from electromagnetic hypersensitivity Sci Total Environ 408(4):774-8 PMID: 19932500

Gibson PR 2016 - The hidden marginalization of persons with environmental sensitivities Ecopsychology 8(2):131-137

Gibson PR et al 2016 - Women growing older with environmental sensitivities: A grounded theory model of meeting one's needs Health Care Women Int 37(12):1289-1303 PMID: 27211781

Gibson PR et al 2015 - Unmet health care needs for persons with environmental sensitivity J Multidiscip Healthc 8:59-66 PMID: 25670904

Gibson PR et al 2010 - Of the world but not in it: barriers to community access and education for persons with environmental sensitivities Health care Women Int 31(1):3-16 PMID: 20390633

Godfrey ME et al 2003 - Apolipoprotein E genotyping as a potential biomarker for mercury neurotoxicity J Alzheimers Dis 5(3):189-95 PMID:12897404

Gómez-Perretta C et al 2013 - *Subjective symptoms related to GSM radiation from mobile phone base stations: a cross-sectional study* BMJ Open 3(12):e003836 PMID: 24381254

Goodman R & M Blank 2002 - *Insights into electromagnetic interaction mechanisms* J Cell Physiol 192(1):16-22 PMID: 12115732

Greenberg G 2003 - *Is it Prozac? Or placebo?* Mother Jones 76-81

Hagström M et al 2013 - *Electromagnetic hypersensitive Finns: Symptoms, perceived sources and treatments, a questionnaire study* Pathophysiology 20(2):117-22 PMID: 23557856

Hagström M et al 2012 - *Reducing electromagnetic irradiation and fields alleviates experienced health hazards of VDU work* Pathophysiology 19(2):81-7 PMID: 22364840

Hallberg O & G Oberfeld 2006 - *Letter to the editor: Will We All Become Electrosensitive?* Electromagnetic Biology and Medicine 25:189-91 PMID: 16954121

Hardell L et al 2008 - *Increased concentrations of certain persistent organic pollutants in subjects with self-reported electromagnetic hypersensitivity – a pilot study* Electromagn Biol Med 27(2):197-203 PMID: 18568937

Harlacher U 1998 - *'Hypersensitivity to electricity': an explanatory model, some characteristics of sufferers and effects of psychological treatment with cognitive-behavioural methods*, University of Lund, Sweden, Series Altera 135

Havas M 2013 - *Radiation from wireless technology affects the blood, the heart, and the autonomic nervous system* Rev Environ Health 28(2-3):75-84 PMID: 24192494

Havas M & J Marrongelle 2013 - *Replication of heart rate variability provocation study with 2.4-GHz cordless phone confirms original findings* Electromagn Biol Med 32(2):253-66 PMID: 23675629

Havas M et al 2010 - *Provocation study using heart rate variability shows microwave radiation from 2.4 GHz cordless phone affects autonomic nervous system* Published in Non-thermal effects and mechanisms of interaction between electromagnetic fields and living matter: 273-300

Hedendahl L et al 2015 - *Electromagnetic hypersensitivity – an increasing challenge to the medical profession* Rev Environ Health 30(4):209-15 PMID: 26372109

Hemdan NY et al 2007 - *Alterations of TH1/TH2 reactivity by heavy metals: possible consequences include induction of autoimmune diseases* Ann N Y Acad Sci 1109:129-137 PMID: 17785298

Hillert L et al 2002 - *Prevalence of self-reported hypersensitivity to electric or magnetic fields in a population-based questionnaire survey* Scand J Work Environ Health 28(1):33-41 PMID: 11871850

Hillert L et al 1999 - *Hypersensitivity to electricity: working definition and additional characterization of the syndrome* J Psychosom Res 47(5):429-38 PMID: 10624841

Hillert L et al 1998 - *Cognitive behavioural therapy for patients with electric sensitivity – a multidisciplinary approach in a controlled study* Psychother Psychosom 67, 302-10 PMID: 9817951

Hojo S et al 2016 - *Development and evaluation of an electromagnetic hypersensitivity questionnaire for Japanese people* Bioelectromagnetics 37(6):353-72 PMID: 27324106

Hondou T - Journal of the Physical Society of Japan (Vol 71, p.432)

Horgan J 1999 - Chapter 4 "Prozac and other placebos. In The Undiscovered Mind: How the human brain defies replication, medication and explanation. New York, The Free Press 102-136

Huss A et al 2016 - *Novel exposure units for at-home personalized testing of electromagnetic sensibility* Bioelectromagnetics 37(1):62-8 PMID: 26661464

Huss A et al 2004 - *Are environmental medicine problems relevant in Switzerland?* Swiss Med Wkly 134:500-507 PMID: 15517502

- Huss A & M Röösli** 2006 - *Consultations in primary care for symptoms attributed to electromagnetic fields – a survey among general practitioners* BMC Public Health 6:267 PMID: 17074080
- Irvine N** 2005 - *Epidemiology and Management of Electrical Hypersensitivity*, HPA-RPD publication
- Jensen K** et al 2007 – *Nanotube Radio Nano Letters* 7(11):3508-11 PMID: 17973438
- Jin M** et al 2000 - *ERK1/2 phosphorylation,, induced by electromagnetic fields, diminishes during neoplastic transformation* J Cell Biochem 78(3):371-9 PMID: 10861836
- Johansson O & M Redmayne** 2016 – *Exacerbation of demyelinating syndrome after exposure to wireless modem with public hotspot* Electromagn Biol Med 35(4):393-7 PMID: 27355805
- Johansson O** 2015 – *Electrohypersensitivity: a functional impairment due to an inaccessible environment* Rev Environ Health 30(4):311-21 PMID: 26613327
- Johansson O** 2006 - *Electrohypersensitivity: State-of-the-art of a functional impairment* Electromag Biol Med 25(4):245-258 PMID: 17178584
- Johansson** et al 2001 - *Cutaneous mast cells are altered in normal healthy volunteers sitting in front of ordinary TVs/PCs - results from open-field provocation experiments* J Cutan Pathol; 28(10): 513-519 PMID: 11737520
- Kato Y & O Johansson** 2012 - *Reported functional impairments of electrohypersensitive Japanese: A questionnaire survey* Pathophysiology 19(2):95-100 PMID: 22458999
- Kennedy** et al 2007 - *Differences in brain glucose metabolism between responders to CBT and Venlafaxine in a 16-week randomised controlled trial* Am J Psychiatry 164:778-788 PMID: 17475737
- Kim DW** et al 2011 - *Origins of electromagnetic hypersensitivity to 60 Hz magnetic fields: A provocation study* Bioelectromagnetics 33(4):326-33 PMID: 22012875
- Kimata H** 2002 - *Enhancement of allergic skin wheal responses by microwave radiation from mobile phones in patients with atopic eczema/dermatitis syndrome* Int Arch Allergy Immunol 129(4):348-50 PMID: 12483040
- Kirsch I** 2002 - *The Emperor's new drugs; an analysis of antidepressant medication data submitted to the US Food and Drug Administration Prevention and Treatment* (American Psychological Association) 5: Article 23
- Kitaoka K** et al 2016 - *Exposure to an extremely-low-frequency magnetic field stimulates adrenal steroidogenesis via inhibition of phosphodiesterase activity in a mouse adrenal cell line* PLoS One 11(4):e0154167 PMID: 27100201
- Kjellqvist A** et al 2016 - *Psychological symptoms and health-related quality of life in idiopathic environmental intolerance attributed to electromagnetic fields* J Psychosom Res 84:8-12 PMID: 27095153
- Kopp MS & J Réthelyi** 2004 - *Where psychology meets physiology: chronic stress and premature mortality – The Central-Eastern European health paradox* Brain Res Bull 62(5):351-67 PMID: 15168900
- Kwon MS** et al 2008 - *Perception of the Electromagnetic Field Emitted by a Mobile Phone* Bioelectromagnetics 29(2):154-9 PMID: 18027840
- Lambrozo J** et al 2013 - [French general practitioners and electromagnetic fields.] Presse Med 42(5):e133-43 PMID: 23419463
- Lamech F** 2014 - *Self-reporting of symptom development from exposure to radiofrequency fields of wireless smart meters in victoria, Australia: a case series* Altern Ther Health Med 20(6):28-39 PMID: 25478801

Landgrebe M et al 2009 - *Association of tinnitus and electromagnetic hypersensitivity: hints for a shared pathophysiology?* PloS ONE 4(3):e5026 PMID: 19325894

Landgrebe M et al 2008 - *Cognitive and neurobiological alterations in electromagnetic hypersensitive patients: results of a case-control study* Psychol Med 38(12):1781-91 PMID: 18366821

Landgrebe M et al 2007 - *Altered cortical excitability in subjectively electrosensitive patients: results of a pilot study* J Psychosom Res 62(3):283-8 PMID: 17324677

Legros A & A Beuter 2006 - *Individual subject sensitivity to extremely low frequency magnetic field* Neurotoxicology 27(4):534-46 PMID: 16620992

Leighton TG 2016 - *Are some people suffering as a result of increasing mass exposure of the public to ultrasound in air?* Proc Math Phys Eng Sci 472(2185):20150624 PMID: 26997897

Leitgeb N et al 2007 - *Perception of ELF electromagnetic fields: Excitation thresholds and inter-individual variability* Health Physics 92(6):591-5 PMID: 17495660

Leitgeb N et al 2005 - *Does "electromagnetic pollution" cause illness? An inquiry among Austrian general practitioners* Wien Med Wochenschr 115:237-241 PMID: 15999632

Leitgeb N & Schröttner 2003 - *Electrosensitivity and Electromagnetic Hypersensitivity* Bioelectromagnetics; 24; 387-394 PMID: 12929157

Lentwyler K 1998 - *Don't stress: it is now known to cause developmental problems, weight gain and neurodegeneration* Scientific American 28-30

Lesage J et al 2004 - *Prenatal stress induces intrauterine growth restriction and programmes glucose intolerance and feeding behaviour disturbances in the aged rat* J Endocrinol 181(2):291-6 PMID: 15128277

Levallois P et al 2002 - *Study of self-reported hypersensitivity to electromagnetic fields in California* Environ Health Perspect 110 (S4):619-23 PMID: 12194896

Li DK et al 2002 - *A population-based prospective cohort study of personal exposure to magnetic fields during pregnancy and the risk of miscarriage* Epidemiology 13(1):9-20 PMID: 11805581

Liboff AR 2017 - *The electromagnetic basis of social interactions* Electromagn Biol Med 36(2):177-181 PMID: 27786565

Liboff AR 2004 - *Toward an electromagnetic paradigm for biology and medicine* J Altern Complement Med 10(1):41-7 PMID: 15025877

Lin JC & Z Wang 2007 - *Hearing of microwave pulses by humans and animals: effects, mechanism, and thresholds* Health Phys 92(6):621-8 PMID: 17495664

Lyskov E et al 2001 - *Neurophysiological study of patients with perceived "electrical hypersensitivity"* International Journal of Psychophysiology, 42, 233-241

Lyskov E et al 2001 - *Provocation study of persons with perceived electrical hypersensitivity and controls using magnetic field exposure and recording of electrophysiological characteristics* Bioelectromagnetics, 22(7), 457-462 PMID: 11568930

Manzetti S & O Johansson 2012 - *Global electromagnetic toxicity and frequency-induced diseases: Theory and short overview* Pathophysiology 19(3):185-91 PMID: 22841384

Mårell L et al 2016 - *"Struggle to obtain redress": Women's experiences of living with symptoms attributed to dental restorative materials and/or electromagnetic fields* Int J Qual Stud Health Well-being 11:32820 PMID: 27938629

McCarty DE et al 2011 - *Electromagnetic hypersensitivity: evidence for a novel neurological syndrome* Int J Neurosci 121(12):670-6 PMID: 21793784

McEwen BS & T Seeman 1999 - *Protective and damaging effects of mediators of stress: elaborating and testing the concepts of Allostasis and allostatic load* Ann N Y Acad Sci 896:30-47 PMID: 10681886

McEwen B & EN Lasley 2002 - *The End of stress as we know it* Washington. National Academies Press

Milham S & E Ossiander 2001 - *Historical Evidence that Residential Electrification caused the emergence of the childhood Leukaemia peak* Medical Hypotheses 56(3):290-295 PMID: 11359349

Mirowska M & E Mroz 2000 - *Effect of low frequency noise at low levels on human health in light of questionnaire investigation* Proc Inter-Noise 2000, 5, 2809 - 2812

Møller H & M Lydolf 2002 - *A questionnaire survey of complaints of infrasound and low frequency noise* Jnl Low Freq Noise Vibn 21: 53 – 65

Monro JA & BK Puri 2014 – *The effect of pulsed electromagnetic field therapy on food sensitivity* Electromagn Biol Med 34(4):298-301 PMID: 24712751

Moseley JB et al 2002 - *A controlled trial of arthroscopic surgery for osteoarthritis of the knee* N Engl J Med 347(2):81-8 PMID: 1211 0735

Mueller – The NEMESIS Project, Institute for Hygiene and Applied Physiology, Swiss Federal Institute of Technology, Zurich

Nam KC et al 2009 - *Hypersensitivity to RF fields emitted from CDMA cellular phones: a provocation study* Bioelectromagnetics 30(8):641-50 PMID: 19551766

Navarro E A et al 2003 - *About the effect of microwave exposure from cellular phone base stations: a first approach.* 2nd International Workshop on Biological Effects of EMFs Oct 7-11, Rhodes, Greece

Nieto-Hernandez R et al 2010 - *Can exposure to a terrestrial trunked radio (TETRA)-like signal cause symptoms? A randomised double-blind provocation study* Occup Environ Med 68(5):339-44 PMID: 20864469

Nijs J et al 2011 - *In the mind or in the brain? Scientific evidence for central sensitisation in chronic fatigue syndrome* Eur J Clin Invest 42(2):203-212 PMID: 21793823

No Place to Hide - Cellular Phone Taskforce publication edited by Arthur Firstenberg. \$35 subscription to Cellular Phone Taskforce, PO Box 1337, Mendocino, CA 95460, USA. An excellent publication.

Nordin S et al 2014 – *Odor and noise intolerance in persons with self-reported electromagnetic hypersensitivity* Int J Environ Res Public Health 11(9):8794-805 PMID: 25166918

Palmquist E et al 2014 – *Overlap in prevalence between various types of environmental intolerance* Int J Hyg Environ Health 217(4-5):427-34 PMID: 24029726

Persson Waye K 2004 - *Effects of low frequency noise on sleep* Noise Health Apr-Jun 6(23):87-91 PMID: 15273026

Persson Waye K et al 2003 - *A descriptive cross-sectional study of annoyance from low frequency noise installations in an urban environment* Noise Health Jul-Sept; 5(20):35-46 PMID: 14558891

Persson Waye K et al 2001 - *Low frequency noise “pollution” interferes with performance* Noise Health 4(13):33-49 PMID: 12678934

Rajkovic V et al 2006 - *Light and electron microscopic study of the thyroid gland in rats exposed to power-frequency electromagnetic fields* J Exp Biol 209(Pt 17):3322-8 PMID: 16916968

Rajkovic V et al 2005 - *Histological characteristics of cutaneous and thyroid mast cell populations in male rats exposed to power-frequency electromagnetic fields* Int J Radiat Biol 81(7): 491-499 PMID: 16263652

Rajkovic V et al 2005 - *The effect of extremely low-frequency electromagnetic fields on skin and thyroid*

amine- and peptide-containing cells in rats: an immunohistochemical and morphometrical study Environ Res 99(3):369-77 PMID: 16307979

Redmayne M & O Johansson 2014 – Could myelin damage from radiofrequency electromagnetic field exposure help explain the functional impairment electrohypersensitivity? A review of the evidence J Toxicol Environ Health B Crit Rev 17(5):247-58 PMID: 25205214

Reiter RJ et al 2005 - *Melatonin in walnuts: influence on levels of melatonin and total antioxidant capacity of blood* Nutrition 21(9):920-4 PMID: 15979282

Röösli M et al – *Sense and sensibility in the context of radiofrequency electromagnetic field exposure*

Röösli M et al 2004 - *Symptoms of ill-health ascribed to electromagnetic field exposure – a questionnaire survey* Int J Hyg Environ Health 207(2):141-50 PMID: 15031956

Rubin GJ et al 2010 - *Idiopathic environmental intolerance attributed to electromagnetic fields (formerly 'electromagnetic hypersensitivity'): An updated systematic review of provocation studies* Bioelectromagnetics 31(1):1-11 PMID: 19681059

Rubin GJ et al 2006 - *Are some people sensitive to mobile phone signals? Within participants double blind randomised provocation study* BMJ 332:886-891 PMID: 16520326 **For the Powerwatch critique of this study, see Appendix 2**

Rubin GJ et al 2005 - *Electromagnetic Hypersensitivity: A systematic review of provocation studies* Psychosomatic Medicine 67:224-232 PMID: 15784787

Sae-Teaw M et al 2013 - *Serum melatonin levels and antioxidant capacities after consumption of pineapple, orange, or banana by healthy male volunteers* J Pineal Res 55(1):58-64 PMID: 23137025

Sage C 2015 – *The implications of non-linear biological oscillations on human electrophysiology for electrohypersensitivity (EHS) and multiple chemical sensitivity (MCS)* Rev Environ Health 30(4):293-303 PMID: 26368042

Sandström M et al 2003 - *Holter ECG monitoring in patients with perceived electrical hypersensitivity* International Journal of Psychophysiology 49(3), 227-35 PMID: 14507441

Schooneveld H & J Kuiper – *Electrohypersensitivity (EHS) in the Netherlands – A Questionnaire survey* http://www.powerwatch.org.uk/news/20071218_ehs_netherlands.pdf

Schreier N et al 2006 - *The prevalence of symptoms attributed to electromagnetic field exposure: a cross-sectional representative survey in Switzerland* Soz Praventivmed 51(4):202-9 PMID:17193782

Schröttner J & N Leitgeb 2008 - *Sensitivity to electricity--temporal changes in Austria* BMC Public Health 12;8:310 PMID: 18789137

Schüiz J et al 2006 – *The "Mainzer EMF-Wachhund": results from a watchdog project on self-reported health complaints attributed to exposure to electromagnetic fields* Bioelectromagnetics 27(4):280-7 PMID: 16511876

Schwartz SA & L Dossey 2010 – *Nonlocality, intention, and observer effects in healing studies: laying a foundation for the future* Explore(NY) 6(5):295-307 PMID: 20832762

Segerstrom SC & GE Miller 2004 - *Psychological stress and the human immune system: a meta-analysis of 30 years of inquiry* Psychol Bull 130(4):601-30 PMID: 15250815

Simopoulos AP et al 2005 - *Purslane, a plant source of omega-3 fatty acids and melatonin* J Pineal Res 39(3):331-2 PMID: 16150116

Simpson CR et al 2009 - *Trends in the epidemiology and prescribing of medication for eczema in England* J R Soc Med 102(3):108-17 PMID: 19297652

Sivitz L 2000 - *Cells proliferate in magnetic fields* Science News 158:195

Song R et al 2009 - Adhering to a t'ai chi program to improve glucose control and quality of life for individuals with type 2 diabetes J Altern Complement Med 15(6):627-32 PMID: 19500007

Stenberg B et al 2002 - Medical and social prognosis for patients with perceived hypersensitivity to electricity and skin symptoms related to the use of visual display terminals Scand J Work Environ Health 28(5):349-57 PMID: 12432989

Szemerszky R et al 2010 - Polluted places or polluted minds? An experimental sham-exposure study on background psychological factors of symptom formation in 'Idiopathic Environmental Intolerance attributed to electromagnetic fields' Int J Hyg Environ Health 213(5):387-94 PMID: 20538519

Tell R & R Kavet 2016 - Electric and magnetic fields <100 KHz in electric and gasoline-powered vehicles Radiat Prot Dosimetry 172(4):541-546 PMID: 26769905

Tran MTD et al 2017 - A randomised, placebo-controlled trial of transcranial pulsed electromagnetic fields in patients with multiple chemical sensitivity Acta Neuropsychiatr 29(5):267-277 PMID: 27919300

Tuengler A & L von Klitzing 2013 - Hypothesis on how to measure electromagnetic hypersensitivity Electromagn Biol Med 32(3):281-90 PMID: 23301924

Wallace D et al 2012 - Cognitive and physiological responses in humans exposed to a TETRA base station signal in relation to perceived electromagnetic hypersensitivity Bioelectromagnetics 33(1):23-39 PMID: 21647932

Waterland RA & RL Jirtle 2003 - Transposable elements: targets for early nutritional effects on epigenetic gene regulation Molecular & Cell Biology 23(15):5293-5300 PMID: 12861015

Waye KP et al 2003 - Effects of nighttime low frequency noise on the cortisol response to awakening and subjective sleep quality Life Sciences 72:863-875 PMID: 12493567

Waye K et al 2002 - Low frequency noise enhances cortisol among noise sensitive subjects during work performance Life Sciences 70:745-758 PMID: 11833738

Weitzen R et al 2007 - Diagnosing diseases by measurement of electrical skin impedance: a novel technique Ann N Y Acad Sci 1109:185-192 PMID: 17785305

Yeh GY et al 2009 - Tai Chi exercise for patients with cardiovascular conditions and risk factors: A systematic review J Cardiopulm Rehabil Prev 29(3):152-60 PMID: 19471133

Yeh GY et al 2008 - The effect of Tai Chi exercise on blood pressure: A systematic review Prev Cardiol 11(2):82-9 PMID: 18401235

Zwamborn APM et al 2003 - Effects of global communication system radio-frequency fields on well being and cognitive functions of human subjects with and without subjective complaints TNO Reports FEL03C148:1-89