

## In your home

The In your home set of articles article is separated into 9 sections, each of which can be individually downloaded. It is a 'work in progress' incorporating new information whenever time permits.

### Section 9

## Grounding & references

1. Introduction; powerfrequency (ELF) EMFs; radiofrequency (RF) EMFs; measuring EMFs; the importance of timing
2. Appliances A-C; air conditioners, amateur radio transmitters, amplifiers, electric guitars and keyboards, aquarium, baby monitors, bath hoists, battery operated equipment, battery re-charging mats, beds, blood glucose monitors, bottle warmer, bra, burglar alarm, camcorder, carbon monoxide detectors, CD player, central heating, motor-controlled chairs, clock radio, clothes dryer, coffee grinder, coffee maker
3. Computers; monitors (Visual Display Units or VDUs), wired and optical mice, health effects, parental guidelines, laptop computers, wireless enabled laptop, PDA (Personal digital assistant), computer wireless LAN (local area network), Schools' reactions, parents, broadband, computer games consoles, tablets, computers and Electrical Hypersensitivity (EHS), protection devices against EMFs from computers
4. Internet addiction
5. Cooking; electric ovens and hobs, microwave cooking, barbecues, deep fat fryers
6. Appliances D-H; dehumidifier, dishwasher, doorbell, electric (el) blankets, el can opener, el clock, el drill, el guitar, el kettle, el knife, el lawn mowers, el shavers, el shower, el toothbrush, el vehicles, electricity meter, exercise machine, extractor fan, fan, fax machines, fire alarm, fitness devices, floor polisher, food processor, foot spa, foot & hand warmer, fridge, fridge/freezer, hair curlers/tongs, hair dryers, headphones, hearing aids
7. Appliances H-S; heart pacemakers, heaters, central heating boilers, heating pads, hi-fi, etc., hostess trolleys, immersion heater, iron, Jacuzzi, musical keyboard, lift, loudspeaker, magnetic field therapy mats, meters, mixer & blender, music centre, nightlights, pagers, PDAs, pencil sharpeners, personal alarms, personal radios, pet fences, photocopiers, plasma balls, power tools, printers, projectors, radar, radios, radio transmitters, sandwich maker, sauna, scanner, security systems
8. Appliances S-Z; sewing machines, smoke detector, sockets, solar panel water heating, solar photovoltaic panels, soldering irons, spinners, stairlift, static electricity, sun beds, sun lamp, tea maker, telephone, television, TV and radio transmitters, TENS unit, toaster, toys, transformers, trouser press, tumble drier, typewriters, vacuum cleaners, vagina speakers, washing machines,

washer/dryer, waste disposal unit, water filters, water heater, water softener, water supply, wheelchairs, wristwatches

## 9. Grounding & 116 references

### Grounding

#### The grounding of electrical appliances with two-wire mains leads

Many electrical appliances now come with two-wire mains leads or adapters and are often described as being double-insulated. This is done for a variety of reasons, including protecting against electric shock. It is cheaper to cover metal objects in plastic than it is to ensure good electrical earthing of exposed metal parts. Also, if you are holding a plastic object it doesn't provide an electrical return path to earth in the most unlikely event of your also happening to touch a 240v live electrical conductor, so you will not get a severe electrical shock.

The downside is that the 'workings' of all these appliances tend to 'float' to half the electrical supply voltage (i.e. to about 120 volts) and this causes them to radiate very high electric fields (often several hundreds of volts per metre nearby).

**The worst offenders that we have found are televisions, electronic organs, some Hi-Fi units, laptop computers when run off their mains adapter / charger units, and battery chargers.**

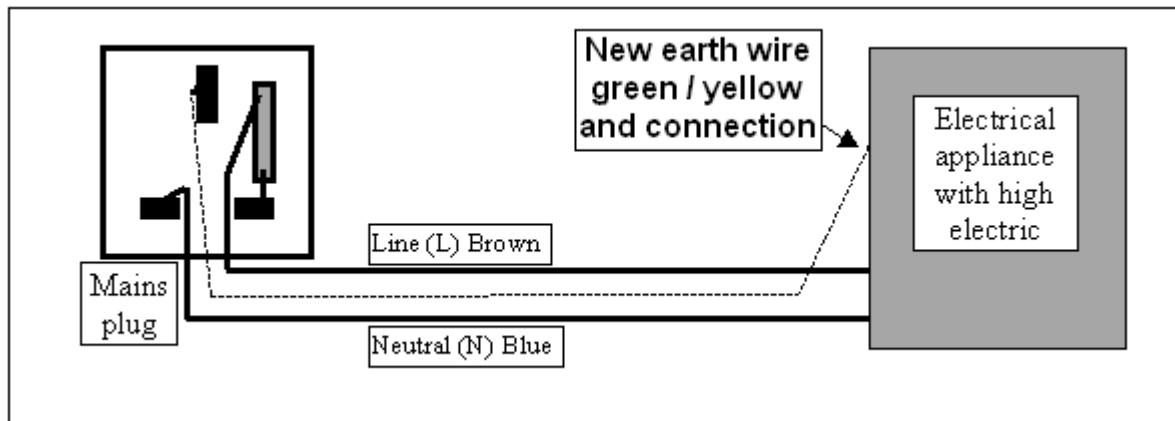
Most of these can be cured of giving off high electric fields by taking an 'earthing' wire from their mains plug to an exposed screw or piece of metal on the appliance.

In the case of an organ, or Hi-Fi unit, the braid screen of one of the audio cables is normally suitable as this is connected to the '0 volt' rail inside the unit.

In the case of a television, the braid (or outside of the co-ax connector) of the aerial lead usually makes a suitable connection point. As the television and DVD player are usually connected together it is not necessary to earth both units.

In the case of a laptop computer, any metal connector shell on the back of the computer will do. It is often convenient to use a 'crocodile' clip on the earth lead so that it is easy to attach and detach when you need to move the computer. If you have an internet connection through a dLAN (through the house wiring, rather than a telephone or wireless system), it is important to earth the laptop even if you run it off batteries, as it will pick up and re-radiate electric fields from the house wiring through the dLAN connection. We have measured 400 V/m at the keyboard of one model.

It is also possible for a qualified electronics engineer to modify the mains charger unit so that it has a three-wire mains lead and the internal 'zero volt' power supply line is connected to the electrical mains safety earth.



Fields from transformers and motors etc., fall off approximately with the cube of the distance, i.e. the field at twice the distance should be about one eighth of the value. There is little you can do to reduce these other than use low-field designs (e.g. toroidal transformers) or increase the distance between you and the source. Steel magnetic screening can be used at the equipment but is rarely economic to do this other than at the time of the manufacture of the appliance.

## References:

**Abel EL** et al 2007 - *Use of electric blankets and association with prevalence of endometrial cancer* Eur J Cancer Prev 16(3):243-50 PMID: 17415095

**Alanko T** et al 2011 - *Assessment of exposure to intermediate frequency electric fields and contact currents from a plasma ball* Bioelectromagnetics 32(8):644-51 PMID: 21538405

**Altpeter ES** et al 2006 - *Effect of short-wave (6-22 MHz) magnetic fields on sleep quality and melatonin cycle in humans: the Schwarzenburg shut-down study* Bioelectromagnetics 27(2):142-50 PMID: 16342198

**Andersen RE** et al 1998 - *relationship of physical activity and television watching with body weight and level of fatness among children: results from the Third National Health and Nutrition Examination Survey* JAMA 279(12):938-42 PMID: 9544768

**Avendaño C** et al 2012 - *Use of laptop computers connected to internet through Wi-Fi decreases human sperm motility and increases sperm DNA fragmentation* Fertil Steril 97(1):39-45 PMID: 22112647

**Ayala F** et al 2013 - *The role of optical radiations in skin cancer* ISRN Dermatol Apr 24;2013:842359 PMID: 23710365

**Barbovschi M** et al 2015 - *Underage use of social network sites: It's about friends* Cyberpsychol Behav Soc Netw 18(6):328-32 PMID: 26075919

**Belanger K** et al 1998 - *Spontaneous abortion and exposure to electric blankets and heated water beds* Epidemiology 9(1):36-42 PMID:9430266

**Bilić V** et al 2014 - *Life satisfaction and school performance of children exposed to classic and cyber peer bullying* Coll Antropol 38(1):21-9 PMID: 24851593

**Brockmann PE** et al 2016 - *Impact of television on the quality of sleep in preschool children* Sleep Med 20:140-4 PMID: 26299471

**Burch JB** et al 2006 - *Radio frequency nonionizing radiation in a community exposed to radio and television broadcasting* Environ Health Perspect 114(2):248-253 PMID: 16451862

**Carbonari K** et al 2005 - *Increased micronucleated cell frequency related to exposure to radiation emitted by computer cathode ray tube video display monitors* Genetics and Molecular Biology 28 (3); 469-474

- Choi K** et al 2009 – *Internet overuse and excessive daytime sleepiness in adolescents* Psychiatry Clin Neurosci 63(4):455-62 PMID: 19490510
- Christakis DA** et al 2004 – *Early television exposure and subsequent attentional problems in children* Pediatrics 113(4):708-13 PMID: 15060216
- Clough-Gorr KM** et al 2008 – *Exposure to sunlamps, tanning beds, and melanoma risk* Cancer Causes Control 19(7):659-69 PMID: 18273687
- Col-Araz N** 2013 – *Evaluation of factors affecting birth weight and preterm birth in southern Turkey* J Pak Med Assoc 63(4):459-62 PMID: 23905441
- Consiglio W** et al 2003 - *Effect of cellular telephone conversations and other potential interference on reaction time in a braking response* Accid Anal Prev 35(4):495-500 PMID: 12729813
- Cook, W E** 2003 - Foodwise, Clairview books
- Corazza M** et al 2016 – *Modern electronic devices: An increasingly common cause of skin disorders in consumers* Dermatitis 27(3):82-9 PMID: 27172301
- Dennison BA** et al 2002 – *Television viewing and television in bedroom associated with overweight risk among low-income preschool children* Pediatrics 109(6):1028-35 PMID: 12042539
- De Santis V** et al 2015 – *Human exposure from pulsed magnetic field therapy mats: a numerical case study with three commercial products* Bioelectromagnetics 36(2):149-61 PMID: 25639237
- Dinleyici M** et al 2016 – *Media use by children, and parents' views on children's media usage* Interact J Med Res 5(2):e18 PMID: 27267624
- Dockerty JD** et al 1998 – *Electromagnetic field exposures and childhood cancers in New Zealand* Cancer Causes Control 9(3):299-309 PMID: 9684710
- Dolk H** et al 1997 - *Cancer Incidence near Radio & TV Transmitters in Great Britain. I. Sutton Coldfield transmitter* American Journal of Epidemiology 145(1): 1- 9 PMID: 8982016
- Estécio MR & AE Silva** 2002 – *Chromosome abnormalities caused by computer video display monitor's radiation* Rev Saúde Pública 36: 330-336 PMID: 12131973
- FAC** 2002 – Food Additive Contamination, June 2002
- Falbe J** et al 2014 – *Longitudinal relations of television, electronic games, and digital versatile discs with changes in diet in adolescents* Am J Clin Nutr 100(4):1173-81 PMID: 25240080
- Fox N** 1997 - Spoiled: The Dangerous Truth About a Food Chain Gone Haywire, Basic Books
- FSA** 2005 - University of Newcastle Research on the Transfer of DNA from GM Food Into Bacteria in the Human Gut, Soil Association (UK) v.2 1 July, and Nature, Biotechnology, January 2004  
<http://www.soilassociation.org/web/sa/saweb.nsf/0/cc6cdacf049756b980257006003ad8ad?>
- Fu KW** et al 2010 – *Internet addiction: prevalence, discriminant validity and correlates among adolescents in Hong Kong* Br J Psychiatry 196(6):486-92 PMID: 20513862
- Gammon MD** 1999 – *Cigarette smoking and other risk factors in relation to p53 expression in breast cancer among young women* Cancer Epidemiol Biomarkers Prev 8(3):255-63 PMID: 10090304
- Gangi S & O Johansson** 1997 – *Skin changes in "screen dermatitis" versus classical UV – And ionising irradiation-related damage – Similarities and differences* Exp Dermatol 6: 283-91 PMID: 9412815
- Garcia-Viguera C** 2003 - Journal of the Science of Food and Agriculture 93; 14
- George DF** 2008 - *Non-thermal effects in the microwave induced unfolding of proteins observed by chaperone binding* Bioelectromagnetics 29(4):324-30 PMID: 18240290
- Gittleman, A L** - Health Scientist Institute

- Ha M** et al 2007 - *Radio-frequency radiation exposure from AM radio transmitters and childhood leukemia and brain cancer* Am J Epidemiol 166(3):270-9 PMID: 17556764
- Ha M** et al 2003 - *Incidence of cancer in the vicinity of Korean AM radio transmitters* Arch Environ Health 58(12):756-62 PMID: 15859510
- Haldimann M** et al 2007 - *Exposure to antimony from polyethylene terephthalate (PET) trays used in ready-to-eat meals* Food Addit Contam 24(8):860-8 PMID: 17613073
- Hale L & S Guan** 2015 - *Screen time and sleep among school-aged children and adolescents: a systematic literature review* Sllep Med Rev 21:50-8 PMID: 25193149
- Hallberg O & O Johansson** 2004 - *Malignant melanoma of the skin - not a sunshine story!* Med Sci Monit 10(7):CR336-40 PMID: 15232509
- Hallberg O & O Johansson** 2002 - *Melanoma incidence and frequency modulation (FM) broadcasting* Arch Environ Health 57(1):32-40 PMID: 12071358
- Hancox RJ** et al 2005 - *Association of television viewing during childhood with poor educational achievement* Arch Pediatr Adolesc Med 159(7):614-8 PMID: 15996992
- Hancox RJ** et al 2004 - *Association between child and adolescent television viewing and adult health: a longitudinal birth cohort study* Lancet 364(9430):257-62 PMID: 15262103
- Hansson Mild K** et al 2017 - *Exposure to the magnetic field from an induction loop pad for a hearing aid system* Int J Occup Saf Ergon 23(1):143-145 PMID: 27541365
- Haque MM & S Washington** 2014 - *A parametric duration model of the reaction times of drivers distracted by mobile phone conversations* Accid Anal Prev 62C:42-53 PMID: 24129320
- Hardy LL** et al 2006 - *Descriptive epidemiology of small screen recreation among Australian adolescents* J Paediatr Childs Health 42(11):709-14 PMID: 17044899
- Hareuveny R** et al 2015 - *Characterization of extremely low frequency magnetic fields from diesel, gasoline and hybrid cars under controlled conditions* Int J Environ Res Public Health 12(2):1651-66 PMID: 25647323
- Hatch EE** et al 1998 - *Association between childhood acute lymphoblastic leukemia and use of electrical appliances during pregnancy and childhood* Epidemiology 9(3):234-45 PMID: 9583414
- Hinkley T** et al 2014 - *Early childhood electronic media use as a predictor of poorer well-being: a prospective cohort study* JAMA Pediatr 168(5):485-92 PMID: 24639016
- Hoff J** et al 2013 - *Distracted driving and implications for injury prevention in adults* J Trauma Nurs 20(1):31-4 PMID: 23459429
- Jensh RP** 1997 - *Behavioral teratologic studies using microwave radiation: is there an increased risk from exposure to cellular phones and microwave ovens?* Reprod Toxicol 11(4):601-11 PMID: 9241682
- Ji S** et al 2011 - *Electric vehicles in China: emissions and health impacts* Environ Sci Technol 46(4):2018-24 PMID: 22201325
- Johansson O** 2002 - *Screen dermatitis and electrosensitivity: Preliminary observations in the human skin* Proceedings of the conference "Electromagnetic Environments and Health in Buildings, May 16-17, at the Royal College of Physicians, London, UK
- Johansson** et al 1999 - *A case of extreme and general cutaneous light sensitivity in combination with so-called 'screen dermatitis' and 'electrosensitivity' - a successful rehabilitation after vitamin A treatment - a case report* J Aust Coll Nutr & Env Med; 18:13-16

- 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: 513-519 PMID: 11737520
- Jordan AB et al 2006** – *reducing children's television-viewing time: a qualitative study of parents and their children* Pediatrics 118(5):e1303-10 PMID: 17079531
- Kabali HK et al 2015** – *Exposure and use of mobile media devices by young children* 136(6):1044-50 PMID: 26527548
- Kameda T et al 2013** – *Magnetic fields from electric toothbrushes promote corrosion in orthodontic stainless steel appliances but not in titanium appliances* Dent Mater J 32(6):959-69 PMID: 24240898
- Karaagac AT 2015** – *Undesirable effects of media on children: Why limitation is necessary?* Indian Pediatr 52(6):469-71 PMID: 26121718
- Kleinerman RA et al 2005** - *Self-reported electrical appliance use and risk of adult brain tumors* Am J Epidemiol 161(2):136-46 PMID: 15632263
- Koivusilta LK et al 2007** – *Orientations in adolescent use of information and communication technology: a digital divide by sociodemographic background, educational career, and health* Scand J Public Health 35(1):95-103 PMID: 17366093
- Kopp W** - US researcher, reporting on Russian findings (KR)
- Lakshmi NK et al 2010** – *Investigations on DNA damage and frequency of micronuclei in occupational exposure to electromagnetic fields (EMFs) emitted from video display terminals (VDTs)* Genet Mol Biol 33(1):154-8 PMID: 21637620
- Lam LT et al 2009** – *Factors associated with Internet addiction among adolescents* Cyberpsychol Behav 12(5):551-5 PMID: 19619039
- Lange K et al 2015** – *Electronic media use and insomnia complaints in German adolescents: gender differences in use patterns and sleep problems* J Neural Transm (Vienna) 124(Suppl1):79-87 PMID: 26577762
- Leitgeb N et al 2008** - *Magnetic emissions of electric appliances* Int J Hyg Environ Health 211(1-2):69-73 PMID: 17611151
- Lewicka M et al 2015b** – *The effect of electromagnetic radiation emitted by display screens on cell oxygen metabolism – in vitro studies* Arch Med Sci 11(6):1330-9 PMID: 26788099
- Lewicka M et al 2015** – *The impact of electromagnetic radiation of different parameters on platelet oxygen metabolism – in vitro studies* Adv Clin Exp Med 24(1):31-35 PMID: 25923084
- Li P et al 2009** – *Maternal occupational exposure to extremely low frequency magnetic fields and the risk of brain cancer in the offspring* Cancer Causes Control 20(6):945-55 PMID: 19224378
- Liu XY et al 2007** – [Risk factors in the living environment of early spontaneous abortion pregnant women] Zhongguo Yi Xue Ke Xue Yuan Xue Bao 29(5):661-4 PMID: 18051725
- Lopez-Berenguer et al 2007** - *Effects of microwave cooking conditions on bioactive compounds present in broccoli inflorescences* J Agric Food Chem 55(24):10001-7 PMID: 17979232
- McNicol ML & EB Thorsteinsson 2017** – *Internet addiction, psychological distress, and coping responses among adolescents and adults* Cyberpsychol Behav Soc Netw 20(5):296-304 PMID: 28414517
- Mills KL 2014** – *Effects of Internet use on the adolescent brain: despite popular claims, experimental evidence remains scarce* Trends Cogn Sci 18(8):385-7 PMID: 25064168

- Mortazavi S** et al 2014 – *Electromagnetic radiofrequency Radiation Emitted from GSM Mobile Phones Decreases the Accuracy of Home Blood Glucose Monitors* J Biomed Phys Eng 4(3):111-6 PMID: 25505778
- Mueller PA & DM Oppenheimer** 2014 – *The Pen is Mightier Than the Keyboard: Advantages of Longhand Over Laptop Note Taking* Psychol Sci 25(6):1159-1168 PMID: 24760141
- O'Leary E** et al 2004 – *Re:Use of electric bedding devices and risk of breast cancer in African-American women* Am J Epidemiol 159(12): 1201
- Papageorgiou CC** 2011 – *Effects of wi-fi signals on the p300 component of event-related potentials during an auditory hayling task* J Integr Neurosci 10(2):189-202 PMID: 21714138
- Park DK** et al 2006 - *Microbial inactivation by microwave radiation in the home environment* J Environ Health 69(5):17-24 PMID: 17190338
- Park SK** et al 2004 – *Ecological study on residences in the vicinity of AM radio broadcasting towers and cancer death: preliminary observations in Korea* Int Arch Occup Environ Health 77(6):387-94 PMID: 15338224
- Pesonen AK** et al 2010 - *Sleep duration and Regularity are Associated with Behavioral Problems in 8-year-old children* Int J Behav Med 17(4):298-305 PMID: 19844792
- Prabhakaran MC** et al 2016 – *Factors associated with internet addiction among school-going adolescents in Vadodara* J Family Med Prim Care 5(4):765-769 PMID: 28348987
- Punamäki RL** et al 2007 – *Use of information and communication technology (ICT) and perceived health in adolescence: the role of sleeping habits and waking-time tiredness* J Adolesc 30(4):569-85 PMID: 16979753
- Rajani R** et al 2008 – *Wii seems safe with pacemakers* BMJ 337:a3103 PMID: 19109329
- Reif JS** et al 2005 – *Human Responses to Residential RF Exposure Final report 2 ROI ES008117-04*
- Romer D** et al 2013 – *Older versus newer media and the well-being of United States youth: results from a national longitudinal panel* J Adolesc Health 52(5):613-9 PMID: 23375827
- Rosen LD** et al 2014 – *Media and technology use predicts ill-being among children, preteens and teenagers independent of the negative health impacts of exercise and eating habits* Comput Human Behav 35:364-375 PMID: 25717216
- Sage C & DO Carpenter** 2009 - *Public health implications of wireless technologies* Pathophysiology 16(2-3):233-46 PMID: 19285839
- Sage C** et al 2007 - *Personal digital assistant (PDA) cell phone units produce elevated extremely-low frequency electromagnetic field emissions* Bioelectromagnetics 28(5):386-92 PMID: 17357117
- Sakurai T** et al 2009 – *Intermediate frequency magnetic fields generated by an induction heating (IH) cooktop do not affect genotoxicities and expression of heat shock proteins* Int J Radiat Biol 85(10):883-90 PMID: 19863202
- Sandström M** et al 1997 - *Neurophysiological Effects of Flickering Light in Patients with Perceived Electrical Hypersensitivity* J Occup Environ Med 39(1): 15-22 PMID: 9029427
- Serino M** et al 2016 – *Pokémon Go and augmented virtual reality games: a cautionary commentary for parents and paediatricians* Curr Opin Pediatr 28(5):673-7 PMID: 27479151
- Seyrek S** et al 2017 – *Factors associated with Internet addiction: Cross-sectional study of Turkish adolescents* Pediatr Int 59(2):218-222
- Sirav B & N Seyhan** 2009 – *Radio frequency radiation (RFR) from TV and radio transmitters at a pilot region in Turkey* Radiat Prot Dosimetry 136(2):114-7 PMID: 19671591
- Spada MM** 2014 – *An overview of problematic internet use* Addict Behav 39(1):3-6 PMID: 24126206

- Spartari G** et al 2007 - [Screen dermatitis and visual display units] *G Ital Med Lav Ergon* 29(3 Suppl):846-7 PMID: 18409994
- Stavropoulos V** et al 2017 - *The longitudinal association between anxiety and Internet addiction in adolescence: The moderating effect of classroom extraversion* *J Behav Addict* May 18:1-11 PMID: 28517956
- Strasburger VC** et al 2010 - *Health effects of media on children and adolescents* *Pediatrics* 125(4):756-67 PMID: 20194281
- Subrahmanyam K** et al 2000 - *The impact of home computer use on children's activities and development* *Future Child* 10(2):123-44 PMID: 11255703
- Swing EL** et al 2010 - *Television and video game exposure and the development of attention problems* *Pediatrics* 126(2):214-21 PMID: 20603258
- Szabó J** et al 2006 - *Occupational 50 Hz magnetic field exposure measurements among female sewing machine operators in Hungary* *Bioelectromagnetics* 27(6):451-7 PMID: 16622866
- Tell RA** et al 2014 - *Very-low-frequency and low-frequency electric and magnetic fields associated with electric shuttle bus wireless charging* *Radiat Prot Dosimetry* 158(2):123-34 PMID: 24043876
- Tomitsch J** et al 2009 - *Survey of electromagnetic field exposure in bedrooms of residences in lower Austria* *Bioelectromagnetics* 31(3):200-8 PMID: 19780092
- Tomopoulos S** et al 2014 - *Children under the age of two are more likely to watch inappropriate background media than older children* *Acta Paediatr* 103(5):546-52 PMID: 24812713
- Von Olshausen G** et al 2016 - *Electromagnetic interference in implantable cardioverter defibrillators: present but rare* *Clin Res Cardiol* 105(8):657-65 PMID: 26825328
- Watanabe F** et al 1998 - *Effects of Microwave Heating on the Loss of Vitamin B(12) in Foods* *J Agric Food Chem* 46(1):206-10 PMID: 10554220
- Weis A** et al 2015 - *Emissions and cost implications of controlled electric vehicle charging in the U.S. PJM connection* *Environ Sci Technol* 49(9):5813-9 PMID: 25830471
- West J** et al 2013 - *Multifocal breast cancer in young women with prolonged contact between their breasts and their cellular phones* *Case Rep Med* 2013:354682 PMID: 24151509
- Yildirim ME** et al 2015 - *What is harmful for male fertility: cell phone or the wireless Internet?* *Kaohsiung J Med Sci* 31(9):480-4 PMID: 26362961
- Yuan Y** et al 2007 - *A comparative study of acrylamide formation induced by microwave and conventional heating methods* *J Food Sci* 72(4):C212-6 PMID: 17995763
- Yuksel T & JJ Michalek** 2015 - *Effects of regional temperature on electric vehicle efficiency, range and emissions in the United States* *Environ Sci Technol* 49(6):3974-80 PMID: 25671586
- Zajdel R** et al 2012 - *The sound of a mobile phone ringing affects the complex reaction time of its owner* *Arch Med Sci* 8(5):892-8 PMID: 23185201
- Zhu K** et al 2003 - *Four authors reply to O'Leary letter - Use of electric bedding devices and risk of breast cancer in African-American women* *Am J Epidemiol* 158(12):1201
- Zhu K** et al 2003 - *Use of electric bedding devices and risk of breast cancer in African-American women* *Am J Epidemiol* 158(8):798-806 PMID: 14561670
- Zimmerman FJ & DA Christakis** 2005b - *Children's television viewing and cognitive outcomes: a longitudinal analysis of national data* *Arch Pediatr Adolesc Med* 159:619-625 PMID: 15996993
- Zimmerman FJ** et al 2005a - *Early cognitive stimulation, emotional support, and television watching as predictors of subsequent bullying among grade-school children* *Arch Pediatr Adolesc Med* 159(4):384-8 PMID: 15809395



**Zuzak TJ** et al 2009 - *Magnetic toys: forbidden for pediatric patients with certain programmable shunt valves?* Childs Nerv Syst 25(2):161-4 PMID: 19057906