

INDEX

Independent Science on the Effect of Wireless Radiation on Human Health
Updated September 2018

- I. Effect on Fetal and Newborn Development
- II. Effects on Young Children
- III. Brain Tumors
- IV. Parotid Gland Tumors
- V. Other Malignancies
- VI. Effects on DNA
- VII. Neurological/Cognitive Effects
- VIII. Effects on Male Fertility
- IX. Electromagnetic Sensitivity
- X. Effects on Implanted Medical Devices
- XI. 5G Effects
- XII. Miscellaneous Articles

I. EFFECTS ON FETAL AND NEWBORN DEVELOPMENT

1. **Exposure to Magnetic Field Non-Ionizing Radiation and the Risk of Miscarriage: A prospective Cohort Study.** Li, De-Kun, et al. Scientific Reports (2017).
<https://www.nature.com/articles/s41598-017-16623-8>
2. **Multiple Assessment Methods of Prenatal Exposure to Radio Frequency Radiation from Telecommunication in the Mothers and Children’s Environmental Health (MOCEH) Study.** Choi, Ha, et al. International Journal of Occupational Medicine and Environmental Health 29(6):959-972 (2016).
<https://www.ncbi.nlm.nih.gov/pubmed/27869246?dopt=Abstract>
3. **The Use of Signal-Transduction and Metabolic Pathways to Predict Human Disease Targets from Electric and Magnetic Fields Using *in vitro* Data in Human Cell Lines.** Parham, Portier, et al. Frontiers in Public Health (2016).
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5013261/>
4. **A Review on Electromagnetic Fields (EMFs) and the Reproductive System.** Asghari, Khaki, et al. Electronic Physician. 8(7):2655-2662 (2016).
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5014506/>
5. **Genotoxicity Induced by Foetal and Infant Exposure to Magnetic Fields and Modulation of Ionising Radiation Effects.** Udroui, Antoccia, et al. PLoS One (2015).
<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0142259>

6. **Oxidative Stress of Brain and Liver is Increased by Wi-Fi (2.45 GHz) Exposure of Rats During Pregnancy and the Development of Newborns.** Çelik, Ömer, et al. Journal of Chemical Neuroanatomy 75(B):134-139 (2015).
<https://www.ncbi.nlm.nih.gov/pubmed/26520617>
7. **Neurodegenerative Changes and Apoptosis Induced by Intrauterine and Extrauterine Exposure of Radiofrequency Radiation.** Güler, Gökür, et al. Journal of Chemical Neuroanatomy 75(B):128-133 (2015).
<https://www.ncbi.nlm.nih.gov/pubmed/26520616>
8. **Maternal Exposure to a Continuous 900-MHz Electromagnetic Field Provokes Neuronal Loss and Pathological Changes in Cerebellum of 32-Day-Old Female Rat Offspring.** Odacı, Ersan, et al. Journal of Chemical Neuroanatomy 75(B):105-110 (2015).
<https://www.ncbi.nlm.nih.gov/pubmed/26391347>
9. **Different Periods of Intrauterine Exposure to Electromagnetic Field: Influence on Female Rats' Fertility, Prenatal and Postnatal Development.** Alchalabi, Aklilu, et al. Asian Pacific Journal of Reproduction 5(1):14-23 (2015).
<https://www.sciencedirect.com/science/article/pii/S2305050015000536>
10. **Use of Mobile Phone During Pregnancy and the Risk of Spontaneous Abortion.** Mahmoudabadi, Ziaei, et al. Journal of Environmental Health Science and Engineering 13:34 (2015). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4416385/>
11. **Oxidative Mechanisms of Biological Activity of Low-Intensity Radiofrequency Radiation.** Yakymenko, et al. Electromagnetic Biology and Medicine 34(3):1-16 (2015).
<https://www.ncbi.nlm.nih.gov/pubmed/26151230>
12. **Effects of Prenatal 900 MHz Electromagnetic Field Exposures on the Histology of Rat Kidney.** Ulubay, et al. International Journal of Radiation Biology 91(1):35-41 (2015).
<https://www.ncbi.nlm.nih.gov/pubmed/25084839>
13. **The Effect of Exposure of Rats During Prenatal Period to Radiation Spreading from Mobile Phones on Renal Development.** Bedir, et al. Renal Failure 37(2):305-9 (2014).
<https://www.ncbi.nlm.nih.gov/pubmed/25691088?dopt=Abstract>
14. **Dosimetric Study of Fetal Exposure to Uniform Magnetic Fields at 50 Hz.** Liorni, et al. Bioelectromagnetics 35(8):580-97 (2014).
<https://www.ncbi.nlm.nih.gov/pubmed/25266786>

15. **Influence of Pregnancy Stage and Fetus Position on the Whole-Body and Local Exposure of the Fetus to RF-EMF.** Varsier, et al. *Physics in Medicine and Biology* 59(17):4913-26 (2014).
<https://www.ncbi.nlm.nih.gov/pubmed/25098501?dopt=Abstract>
16. **Autism-Relevant Social Abnormalities in Mice Exposed Perinatally to Extremely Low Frequency Electromagnetic Fields.** Alsaeed, et al. *International Journal of Developmental Neuroscience* 37:58-6 (2014).
<https://www.ncbi.nlm.nih.gov/pubmed/24970316?dopt=Abstract>
17. **Pyramidal Cell Loss in the Cornu Ammonis of 32-day-old Female Rats Following Exposure to a 900 Megahertz Electromagnetic Field During Prenatal Days 13–21.** Bas, et al. *NeuroQuantology* Volume 11, Issue 4: 591-599 (2013).
<https://neuroquantology.com/index.php/journal/article/viewFile/701/625>
18. **The Effects of 900 Megahertz Electromagnetic Field Applied in the Prenatal Period on Spinal Cord Morphology and Motor Behavior in Female Rat Pups.** Odaci, et al. *NeuroQuantology* Volume 11, Issue 4: 573-581 (2013).
<https://www.neuroquantology.com/index.php/journal/article/view/698>
19. **Fetal Radiofrequency Radiation Exposure From 800-1900 MHz-Rated Cellular Telephones Affects Neurodevelopment and Behavior in Mice.** Aldad, et al. *Science Reports* 2:312 (2012). <https://www.nature.com/articles/srep00312>
20. **Cranial and Postcranial Skeletal Variations Induced in Mouse Embryos by Mobile Phone Radiation.** Fragopoulou, Koussoulakos, et al. *Pathophysiology* 17(3):169-77 (2010). <https://www.ncbi.nlm.nih.gov/pubmed/19854628>
21. **Dysbindin Modulates Prefrontal Cortical Glutamatergic Circuits and Working Memory Function in Mice.** Jentsch, et al *Neuropsychopharmacology* 34, 2601–8 (2009).
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2762021/>
22. **Stress Signalling Pathways that Impair Prefrontal Cortex Structure and Function.** Arnsten, A. F. *National Review of Neuroscience* 10, 410–22 (2009).
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2907136/>
23. **Maternal Occupational Exposure to Extremely Low Frequency Magnetic Fields and the Risk of Brain Cancer in the Offspring.** Li, P, et al. *Cancer Causes & Control* 20(6):945-55 (2009). <https://www.ncbi.nlm.nih.gov/pubmed/19224378>

24. **Reproductive and Developmental Effects of EMF in Vertebrate Animal Models.** Pourlis, A.F. Pathophysiology 16(2-3):179-89 (2009).
<https://www.ncbi.nlm.nih.gov/pubmed/19272761>
25. **Prenatal and Postnatal Exposure to Cell Phone Use and Behavioral Problems in Children.** Divan, Kheifets, et al. Epidemiology 19(4):523-29 (2008).
<https://www.ncbi.nlm.nih.gov/pubmed/18467962>
26. **Effects of Prenatal Exposure to a 900 MHz Electromagnetic Field on the Dentate Gyrus of Rats: A Stereological and Histopathological Study.** Odaci, et al. Brain Research 1238: 224–229 (2008). <https://www.ncbi.nlm.nih.gov/pubmed/18761003>
27. **Exposure to Cell Phone Radiation Up-Regulates Apoptosis Genes in Primary Cultures of Neurons and Astrocytes.** Zhao, et al. Science Digest 412: 34–38 (2007).
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2713174/>
28. **Cell Death Induced by GSM 900-MHz and DCS 1800-MHz Mobile Telephony Radiation.** Panagopoulos, et al. Mutation Research 626, 69–78 (2006).
<https://www.ncbi.nlm.nih.gov/pubmed/17045516>
29. **Ultra High Frequency-Electromagnetic Field Irradiation During Pregnancy Leads to an Increase in Erythrocytes Micronuclei Incidence in Rat Offspring.** Ferreira, A, et al. Life Sciences 80(1):43-50 (2006). <https://www.ncbi.nlm.nih.gov/pubmed/16978664>
30. **Attention-Deficit Hyperactivity Disorder.** Biederman, J. & Faraone, S. V. Lancet 366, 237–248 (2005). <https://www.ncbi.nlm.nih.gov/pubmed/16023516>
31. **Attention-Deficit/Hyperactivity Disorder: An Overview of the Etiology and a Review of the Literature Relating to the Correlates and Lifecourse Outcomes for Men and Women.** Brassett-Harknett, A. & Butler, N. Clinical Psychology Review 27,188–210 (2005). <http://europepmc.org/abstract/med/16081194>

II. EFFECTS ON YOUNG CHILDREN

1. **Electromagnetic Fields, Pulsed Radiofrequency Radiation, and Epigenetics: How Wireless Technologies May Affect Childhood Development.** Sage, C. & Burgio, E. Child Development (2017). <https://www.ncbi.nlm.nih.gov/pubmed/28504324>
2. **Prospective Cohort Analysis of Cellphone Use and Emotional and Behavioural Difficulties in Children.** Sudan, M, et al. Journal of Epidemiology and Community Health (2016). <https://www.ncbi.nlm.nih.gov/pubmed/27217533>

3. **Why Children Absorb More Microwave Radiation than Adults: The Consequences.** Morgan, Kesari, et al. Journal of Microscopy and Ultrastructure 2(4):196-204 (2014). <https://www.sciencedirect.com/science/article/pii/S2213879X14000583>
4. **Epidemiological Characteristics of Mobile Phone Ownership and Use in Korean Children and Adolescents.** Byun, Yoon-Hwan, et al. Environmental Health and Toxicology 28 (2013). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3909745/>
5. **A Prospective Study of In-Utero Exposure to Magnetic Fields and the Risk of Childhood Obesity.** Li, De-Kun, et al. Scientific Reports 2.540 (2012). <https://www.nature.com/articles/srep00540>
6. **Exposure to Extremely Low-Frequency Magnetic Fields and the Risk of Childhood Cancer: Update of the Epidemiological evidence.** Schüz and Joachim. Progress in Biophysics and Molecular Biology 107(3):339-42 (2011). <https://www.sciencedirect.com/science/article/pii/S0079610711001076>
7. **Cell Phone Use and Behavioural Problems in Young Children.** Divan, Kheifets, et al. Journal of Epidemiol Community Health 66(6):524-9 (2010). <https://www.ncbi.nlm.nih.gov/pubmed/21138897>
8. **Mobile Phones, Radiofrequency Fields, and Health Effects in Children- Epidemiological Studies.** Feychting, Maria. Progress in Biophysics and Molecular Biology 107(3):343-348 (2010). <https://www.sciencedirect.com/science/article/pii/S0079610711001210>
9. **Exposure to Radio-Frequency Electromagnetic Fields and Behavioral Problems in Bavarian Children and Adolescents.** Thomas, Silke, et al. Epidemiol European Journal of Epidemiology 25(2):135-41 (2009). <https://link.springer.com/article/10.1007/s10654-009-9408-x>
10. **The Sensitivity of Children to Electromagnetic Fields.** Kheifets, Repacholi, et al. Deventer Journal of Pediatrics 116(2):303-313 (2005). <http://pediatrics.aappublications.org/content/116/2/e303>

III. BRAIN TUMORS

1. **Report of Final Results Regarding Brain and Heart Tumors in Sprague-Dawley Rats Exposed From Prenatal Life Unitl Natural Death to Mobile Phone Radiofrequency Field Representative of a 1.8 GHz GSM Base Station Environmental Emission.** Falcioni, L, et al. Environmental Research (2018). <https://www.ncbi.nlm.nih.gov/pubmed/29530389>

2. **The 2100 MHz Radiofrequency Radiation of a 3G-Mobile Phone and the DNA Oxidative Damage in Brain.** Sahin, D, et al. Journal of Chemical Neuroanatomy 75(B):94-98 (2016).
<http://www.sciencedirect.com/science/article/pii/S0891061816000041>
3. **Mobile Phone and Cordless Phone Use and the Risk for Glioma - Analysis of Pooled Case-Control Studies in Sweden 1997-2003 and 2007-2009.** Hardell and Carlberg. PathoPhysiology 22(1):1-13 (2015). <http://www.ncbi.nlm.nih.gov/pubmed/25466607>
4. **Mobile Phone Radiation Causes Brain Tumors and Should Be Classified as a Probable Human Carcinogen.** Morgan, Miller, et al. International Journal of Oncology 46:1865-1871 (2015).
https://www.researchgate.net/publication/273150433_Mobile_phone_radiation_causes_brain_tumors_and_should_be_classified_as_a_probable_human_carcinogen_2A_Review
5. **Mobile Phone Use and Brain Tumours in the CERENAT Case-Control Study.** Coureau, Bouvier, et al. Occupational & Environmental Medicine 71(7):514-22 (2014).
<http://www.ncbi.nlm.nih.gov/pubmed/24816517>
6. **Use of Mobile Phones and Cordless Phones is Associated with Increased Risk for Glioma and Acoustic Neuroma.** Hardell, Carberg, et al. PathoPhysiology 20(2):85-110 (2013). <http://www.ncbi.nlm.nih.gov/pubmed/23261330>
7. **Mobile Phones and Head Tumours: A Critical Analysis of Case-Control Epidemiological Studies.** Levis, A.G., et al. Open Environmental Sciences 6(1):1-12 (2012).
https://www.researchgate.net/publication/268300569_Mobile_Phones_and_Head_Tumours_A_Critical_Analysis_of_Case-Control_Epidemiological_Studies
8. **On the Association Between Glioma, Wireless Phones, Heredity and Ionising Radiation.** Carlberg and Hardell. PathoPhysiology 19(4):243-252 (2012).
<https://www.ncbi.nlm.nih.gov/pubmed/22939605>
9. **Mobile Phones and Head Tumours. The Discrepancies in Cause-Effect Relationships in the Epidemiological Studies - How Do They Arise?** Levis, A.G., et al. Environmental Health 10:59 (2011). <http://www.ncbi.nlm.nih.gov/pubmed/21679472>
10. **Indications of Possible Brain Tumour Risk in Mobile-Phone Studies: Should We Be Concerned?** Cardis and Sadetzki. Occupational & Environmental Medicine 68:169-171 (2011). <http://oem.bmj.com/content/early/2010/12/15/oem.2010.061358>

11. **Estimating the Risk of Brain Tumors from Cell Phone Use: Published Case-Control Studies.** Morgan, LL. Pathophysiology 16(2-3):137-147 (2009).
<http://www.ncbi.nlm.nih.gov/pubmed/19356911>
12. **Cell Phones and Brain Tumors: A Review Including the Long-Term Epidemiologic Data.** Khurana, V.G., et al. Surgical Neurology 72(3):205-14 (2009).
<http://www.ncbi.nlm.nih.gov/pubmed/19328536>
13. **Epidemiological Evidence for an Association Between Use of Wireless Phones and Tumor Diseases.** Hardell, Carlberg, et al. Pathophysiology 16(2-3):113-122 (2009).
<http://www.ncbi.nlm.nih.gov/pubmed/19268551>
14. **Histopathological Examinations of Rat Brains After Long-Term Exposure to GSM-900 Mobile Phone Radiation.** Grafström, Gustav, et al. Brain Research Bulletin 77(5):257-63 (2008). <http://www.ncbi.nlm.nih.gov/pubmed/18782606>
15. **Mobile Phone Use and the Risk of Acoustic Neuroma.** Lonn, Ahlbom, et al. Epidemiology 15(6):653-659 (2004). <https://www.ncbi.nlm.nih.gov/pubmed/15475713>

IV. PAROTID GLAND TUMORS

1. **Does Cell Phone Use Increase the Chances of Parotid Gland Tumor Development? A Systematic Review and Meta-Analysis.** De Siqueira, de Souza, et al. Journal of Oral Pathology and Medicine 45(11) (2016).
<https://www.ncbi.nlm.nih.gov/pubmed/27935126?dopt=Abstract>
2. **Pooled Analysis of Case-Control Studies on Acoustic Neuroma Diagnosed 1997-2003 and 2007-2009 and Use of Mobile and Cordless Phones.** Hardell, L., and Carlberg, M. International Journal of Oncology 43(4):1036-144 (2015).
<http://www.ncbi.nlm.nih.gov/pubmed/23877578>
3. **Using the Hill Viewpoints from 1965 for Evaluating Strengths of Evidence of the Risk for Brain Tumors Associated with use of Mobile and Cordless Phones.** Hardell, L., and Carlberg, M. Reviews on Environmental Health 28(2-3):97-106 (2013).
<http://www.ncbi.nlm.nih.gov/pubmed/24192496>
4. **Case-Control study of the Use of Mobile and Cordless Phones and the Risk for Malignant Melanoma in the Head and Neck Region.** Hardell, L., and Carlberg, M. Pathophysiology 18(4):325-333 (2011).
<http://www.sciencedirect.com/science/article/pii/S0928468011000320>

5. **Correlation Between Cellular Phone Use and Epithelial Parotid Gland Malignancies.** Duan, Y, et al. Clinical Paper Head and Oncology 40(9):966-72 (2011).
<http://www.ncbi.nlm.nih.gov/pubmed/21474287>
6. **Mobile Phones Use and Risk of Tumors: A Meta-Analysis.** Mynf, Ju, et al. Journal of Clinical Oncology 27(33):5565-72 (2009).
<http://www.ncbi.nlm.nih.gov/pubmed/19826127>
7. **Mobile Phone, Cordless Phones and the Risk for Brain Tumours.** Hardell, L., and Carlberg, M. International Journal of Oncology 35(1):5-17 (2009).
<http://www.ncbi.nlm.nih.gov/pubmed/19513546>
8. **Public Health Implications of Wireless Technologies.** Sage and Carpenter. PathoPhysiology 16(2-3):233-46 (2009). <https://www.ncbi.nlm.nih.gov/pubmed/19285839>
9. **Epidemiological Evidence for an Association Between use of Wireless Phones and Tumor Diseases.** Hardell, L, et al. PathoPhysiology 16(2-3):113-122 (2009).
<http://www.sciencedirect.com/science/article/pii/S0928468009000091>
10. **Cell Phone Use and Risk of Benign and Malignant Parotid Gland Tumors - A Nationwide Case-Control Study.** Sadetzki, Chetrit, et al. American Journal of Epidemiology 167(4):457-467 (2008).
<http://aje.oxfordjournals.org/content/167/4/457.abstract>

V. OTHER MALIGNANCIES

1. **Tumor Promotion by Exposure to Radiofrequency Electromagnetic Fields Below Exposure Limits for Humans.** Lerchl, A, et al. Biochemical and Biophysical Research Communications 459(4):585-590 (2015).
<http://www.sciencedirect.com/science/article/pii/S0006291X15003988>
2. **Swedish Review Strengthen Grounds for Concluding that Radiation from Cellular and Cordless Phones is a Probable Human Carcinogen.** Davis, Kesari, et al. Pathophysiology 20(2):123-129 (2013). <http://www.ncbi.nlm.nih.gov/pubmed/23664410>
3. **Multifocal Breast Cancer in Young Women with Prolonged Contact Between Their Breasts and Their Cellular Phones.** West, Kapoor, et al. Case Reports in Medicine (2013). <http://www.hindawi.com/journals/crim/2013/354682/>
4. **Epidemiological Evidence for an Association Between Use of Wireless Phones and Tumor Diseases.** Hardell, Carlberg, et al. PathoPhysiology 16(2-3):113-122 (2009).
<http://www.ncbi.nlm.nih.gov/pubmed/19268551>

5. **Study on Potential Effects of “902 MHz GSM-type Wireless Communication Signals” on DMBA-Induced Mammary Tumours in Sprague-Dawley Rats.** Hraby, R, et al. Mutation Research 649(1-2):34-44 (2008).
<http://www.ncbi.nlm.nih.gov/pubmed/17981079>

VI. EFFECTS ON DNA

1. **Microwaves from Mobile Phones Inhibit 53BP1 Focus Formation in Human Stem Cells More Strongly Than in Differentiated Cells: Possible Mechanistic Link to Cancer Risk.** Markova, Malmgren, et al. Environmental Health Perspectives 118(3):394-399 (2010). <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2854769/>
2. **Radiofrequency Radiation and Gene/Protein Expression: A Review.** McNamee and Chauhan. Radiation Research 172(3):265-287 (2009).
<http://www.ncbi.nlm.nih.gov/pubmed/19708776>
3. **Evaluation of HSP70 Expression and DNA Damage in Cells of a Human Trophoblast Cell Line Exposed to 1.8GHz Amplitude-Modulated Radiofrequency Fields.** Valbonesi, P, et al. Radiation Research 169(3):270-279 (2008).
<http://www.ncbi.nlm.nih.gov/pubmed/18302482>
4. **Gene and Protein Expression Following Exposure to Radiofrequency Fields from Mobile Phones.** Vanderstraeten and Verschaeve. Environmental Health Perspectives 116(9):1131-5 (2008). <https://www.ncbi.nlm.nih.gov/pubmed/18795152>
5. **Nonthermal Effects of RadioFrequency-Field Exposure on Calcium Dynamics in Stem Cell-derived Neuronal Cells: Elucidation of Calcium Pathways.** Rao, V.S., et al. Radiation Research 169(3):319-329 (2008).
<https://www.ncbi.nlm.nih.gov/pubmed/18302487>
6. **Gene Expression Changes in the Skin of Rats Induced by Prolonged 35 GHz Millimeter-Wave Exposure.** Millenbaugh, Roth, et al. Radiation Research 169(3):288-300 (2008). <http://www.ncbi.nlm.nih.gov/pubmed/18302488>
7. **DNA Damage in Molt-4 T-lymphoblastoid Cells Exposed to Cellular Telephone Radiofrequency Fields in Vitro.** Philips, Ivaschuk, et al. Bioelectrochemistry and Bioenergetics 45(1):103-110 (1998).
<http://www.sciencedirect.com/science/article/pii/S0302459898000749>

VII. NEUROLOGICAL/COGNITIVE EFFECTS

1. **A Prospective Cohort Study of Adolescents' Memory Performance and Individual Brain Dose of Microwave Radiation from Wireless Communication.** Foerster, M., et al. Environmental Health Perspectives 126(7) (2018). <https://ehp.niehs.nih.gov/ehp2427/#tab3>
2. **Electromagnetic Radiation 2450 MHz Exposure Causes Cognition Deficit with Mitochondrial Dysfunction and Activation of Intrinsic Pathway of Apoptosis in Rats.** Gupta, S.K., Mesharam, M.K., and Krishnamurthy, S. Journal of Biosciences 43(2) 263-276 (2018). <https://www.ias.ac.in/article/fulltext/jbsc/043/02/0263-0276>
3. **The Effect of Wi-Fi Electromagnetic Waves in Unimodal and Multimodal Object Recognition Tasks in Male Rats.** Hassanshahi, A., et al. Neurological Sciences 38(6):1069-1076 (2017). <https://www.ncbi.nlm.nih.gov/pubmed/28332042>
4. **Effects of Short and Long Term Electromagnetic Fields Exposure on the Human Hippocampus.** Deniz, O.G., et al. Journal of Microscopy and Ultrastructure 5(4):191-197 (2017). <https://www.sciencedirect.com/science/article/pii/S2213879X17300524>
5. **Effects of Long Term Exposure of 900-1800 MHz Radiation Emitted from 2G Mobile Phone on Mice Hippocampus – A Histomorphometric Study.** Mugunthan, Shanmugasamy, et al. Journal of Clinical and Diagnostic Research 10(8):AF01-6 (2016). <https://www.ncbi.nlm.nih.gov/pubmed/27656427?dopt=Abstract>
6. **Effect of Mobile Phone Radiation on Pentylentetrazole-Induced Seizure Threshold in Mice.** Kouchaki, Motaghedifard, et al. Iranian Journal of Basic Medical Sciences 19(7):800-3 (2016). <https://www.ncbi.nlm.nih.gov/pubmed/27635206?dopt=Abstract>
7. **Effects of 3 Hz and 60Hz Extremely Low Frequency Electromagnetic Fields on Anxiety-Like Behaviors, Memory Retention of Passive Avoidance and ElectroPhysiological Properties of Male Rats.** Rostami, Shahani, et al. J Lasers Medical Science 7(2):120-125 (2016). <http://www.ncbi.nlm.nih.gov/pubmed/27330708>
8. **Short-Term Memory in Mice is Affected by Mobile Phone Radiation.** Ntzouni, Stamatakis, et al. PathoPhysiology 18(3):193-199 (2011). <http://www.ncbi.nlm.nih.gov/pubmed/21112192>
9. **Use of Mobile Phones and Changes in Cognitive Function in Adolescents.** Thomas, S, et al. Occupational Environmental Medicine 67(12):861-866 (2010). <http://www.ncbi.nlm.nih.gov/pubmed/20798018>

10. **Increased Blood-Brain Barrier Permeability in Mammalian Brain 7 Days After Exposure to the Radiation from a GSM-900 Mobile Phone.** Nittby, Brun, et al. Pathophysiology 16(2-3):103-112 (2009). <http://www.ncbi.nlm.nih.gov/pubmed/19345073>
11. **Effects of GSM 1800 MHz on Dendritic Development of Cultured Hippocampal Neurons.** Ning, Xu, et al. Acta Pharmacol Sin 28(12):1873-1880 (2007). <http://www.ncbi.nlm.nih.gov/pubmed/18031599>
12. **Neurological Effects of Radiofrequency Electromagnetic Radiation.** Lai, Henry. Advances in Electromagnetic Fields in Living Systems 1:27-80 (1994). http://link.springer.com/chapter/10.1007%2F978-1-4615-2542-4_2#page-1

VIII. EFFECTS ON MALE FERTILITY

1. **Aloe Arborescens Juice Prevents EMF-Induced Oxidative Stress and Thus Protects from Pathophysiology in the Male Reproductive System In Vitro.** Solek, P., Majchrowics, L., and Kozirowski, M. Environmental Research 166:141-149 (2018). <https://www.sciencedirect.com/science/article/pii/S0013935118301063?via=ihub>
2. **The Effects of Radiofrequency Electromagnetic Radiation on Sperm Function.** Houston, Nixon, et al. Reproduction (2016). <https://rep.bioscientifica.com/view/journals/rep/152/6/R263.xml>
3. **Male Fertility and its Association with Occupational and Mobile Phone Tower Hazards: An Analytical Study.** Al-Quzwini, Al-Tae, et al. Middle East Fertility Society Journal (2016). <https://www.sciencedirect.com/science/article/pii/S1110569016300127>
4. **Sperm DNA Damage – The Effect of Stress and Everyday Life Factors.** Radwan, M, et al. International Journal of Impotence Research 28, 148-154 (2016). <https://www.ncbi.nlm.nih.gov/pubmed/27076112>
5. **Electromagnetic Radiation at 900 MHz Induces Sperm Apoptosis through bcl-2, bax and caspase-3 Signaling Pathways in Rats.** Liu, Si, et al. Journal of Reproductive Health 12:65 (2015). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4523914/>
6. **Habits of Cell Phone usage and Sperm Quality - Does It Warrant Attention?** Zilverlight, Wiener-Megnazi, et al. Reproductive BioMedicine Online 31(3):421-426 (2015). <http://www.ncbi.nlm.nih.gov/pubmed/26206279>
7. **Extremely Low frequency Magnetic Fields Induce Spermatogenic Germ Cell Apoptosis: Possible Mechanism.** Lee, Park, et al. BioMed Research International (2014). <https://www.hindawi.com/journals/bmri/2014/567183/>

8. **In Vitro Effect of Cell Phone Radiation on Motility, DNA Fragmentation and Clusterin Gene Expression in Human Sperm.** Zalata, El-Samanoudy, et al. International Journal of Fertility and Sterility 9(1):129-136 (2014).
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4410031/>
9. **Effect of Electromagnetic Field Exposure on the Reproductive System.** Gye and Park. Journal of Clinical and Experimental Reproductive Medicine 39(1):1-19 (2012).
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3341445/>
10. **Effects of the Exposure of Mobile Phones on Male Reproduction: A Review of the Literature.** Vignera, Condorelli, et al. Journal of Andrology 33(3):350-356 (2012).
<https://www.ncbi.nlm.nih.gov/pubmed/21799142>
11. **Mobile Phone Radiation Induces Reactive Oxygen Species Production and DNA Damage in Human Spermatozoa In Vitro.** Luliis, Newey, et al. PLoS ONE 4(7) (2009).
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0006446>
12. **Exposure to Magnetic fields and the Risk of Poor Sperm Quality.** Li, D.K, et al. Journal of Reproductive Toxicology 29(1):86-92 (2009).
<http://www.ncbi.nlm.nih.gov/pubmed/19910156>
13. **Radio Frequency Electromagnetic Radiation (Rf-EMR) from GSM Mobile Phones Induces Oxidative Stress and Reduces Sperm Motility in Rats.** Mailankot, Kunnath, et al. Clinical Science 64(6):561-5 (2009). <http://www.ncbi.nlm.nih.gov/pubmed/19578660>
14. **Cell Phones: Modern Man's Nemesis?** Makker, Varghese, et al. Reproductive BioMedicine Online 18(1):148-157 (2008).
<http://www.ncbi.nlm.nih.gov/pubmed/19146782>
15. **Indicative SAR Levels Due to an Active Mobile Phone in a Front Trouser Pocket in Proximity to Common Metallic Objects.** Whittow, Panagamuwa, et al. Propagation Conference 149-152 (2008).
<http://ieeexplore.ieee.org/xpl/articleDetails.jsp?reload=true&arnumber=4516888>
16. **Cell Phones and Male Infertility: Dissecting the Relationship.** Deepinder, W.G., et al. Reproductive BioMedicine Online 15(3):266-270 (2007).
<http://www.ncbi.nlm.nih.gov/pubmed/17854521>

17. **Evaluation of the Effect of Using Mobile Phones on Male Fertility.** Wdowiak, Wiktor, et al. *Annals of Agricultural and Medicine* 14(1):169-172 (2007).
<http://www.ncbi.nlm.nih.gov/pubmed/17655195>
18. **Effect of Cell Phone Usage on Semen Analysis in Men Attending Infertility Clinic: An Observational Study.** Agarwal, Deepinder, et al. *American Society for Reproductive Medicine* 89(1):124-8 (2008). <http://www.ncbi.nlm.nih.gov/pubmed/17482179>

IX. ELECTROMAGNETIC SENSITIVITY

1. **Functional Brain MRI in Patients Complaining of Electrohypersensitivity After Long Term Exposure to Electromagnetic Fields.** Heuser, G. & Heuser, S. *Reviews on Environmental Health* 32(3):291-299 (2016).
<https://www.ncbi.nlm.nih.gov/pubmed/28678737>
2. **“Hot Nano Spots” as an Interpretation of So-Called Non-Thermal Biological Mobile Phone Effects.** Pfutzner, Helmut. *Journal of Electromagnetic Analysis and Applications* 8(3):62-69 (2016). <http://www.scirp.org/journal/PaperInformation.aspx?PaperID=65212>
3. **Analysis of the Genotoxic Effects of Mobile Phone Radiation Using Buccal Micronucleus Assay: A Comparative Evaluation.** Banerjee, Singh, et al. *Journal of Clinical and Diagnostic Research* 10 (3):ZC82-ZC85 (2016). <https://www.emf-portal.org/en/article/29426>
4. **Tinnitus and Cell Phones: The Role of Electromagnetic Radiofrequency Radiation.** Medeiros and Sanchez. *Brazilian Journal of Otorhinolaryngology* 82(1):97-104 (2016).
<http://www.sciencedirect.com/science/article/pii/S1808869415001639>
5. **Microwave Frequency Electromagnetic Fields (EMFs) Produce Widespread Neuropsychiatric Effects Including Depression.** Pall, Martin L. *Journal of Chemical Neuroanatomy* (2015).
https://www.researchgate.net/publication/281261829_Microwave_frequency_electromagnetic_fields_EMFs_produce_widespread_neuropsychiatric_effects_including_depression
6. **Subjective Symptoms Related to GSM Radiation from Mobile Phone Base Stations: a Cross-Sectional Study.** Gomez-Perretta, Navarro, et al. *BMJ Open* 3.12 (2013).
<http://bmjopen.bmj.com/content/3/12/e003836.full>
7. **Green Communication- A Stipulation to Reduce Electromagnetic Hypersensitivity from Cellular Phones.** Kumar, Khan, et al. *Procedia Technology* 4:682-686 (2012).
<http://www.sciencedirect.com/science/article/pii/S2212017312003891>

8. **Electromagnetic Hypersensitivity: Fact or Fiction?** Genius and Lipp. Science of the Total Environment 414(1):103-112 (2012).
<http://www.sciencedirect.com/science/article/pii/S0048969711012733>
9. **Neurobehavioral Effects Among Inhabitants Around Mobile Phone Base Stations.** Abdel-Rassoul, G, et al. NeuroToxicology 28(2):434-440 (2007).
<http://www.sciencedirect.com/science/article/pii/S0161813X06001835>
10. **Establishing the Health Risks of Exposure to Radiofrequency Fields Requires Multidisciplinary Research.** Hietanen, Maila. Scandinavian Journal of Work, the Environment, and Health 32(3):169-170 (2006).
http://www.sjweh.fi/show_abstract.php?abstract_id=994
11. **Hypersensitivity of Human Subjects to Environmental Electric and Magnetic Field Exposure: A Review of the Literature.** Levallois, Patrick. Environmental Health Perspectives 110(4):613-8 (2002).
https://www.researchgate.net/publication/11193169_Hypersensitivity_of_Human_Subjects_to_Environmental_Electric_and_Magnetic_Field_Exposure_A_Review_of_the_Literature
12. **Electric Hypersensitivity and Neurophysical Effects of Cellular Phones - Facts or Needless Anxiety?** Harma, Mikko Ilmari. Scandinavian Journal of Work, the Environment and Health 26(2):85-86 (2000).
https://www.researchgate.net/publication/298811242_Electric_hypersensitivity_and_neurophysiological_effects_of_cellular_phones_-_facts_or_needless_anxiety

X. EFFECTS ON IMPLANTED MEDICAL DEVICES

1. **Ad Hoc Electromagnetic Compatibility Testing of Non-Implantable Medical Devices and Radio Frequency Identification.** Seidman and Guag. Biomedical Engineering OnLine 12:71 (2013). <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3716957/>
2. **Electromagnetic Interference of Pacemakers.** Lakshmanadoss, Chinnachamy, et al. Interchopen 229-252 (2011). <http://cdn.intechopen.com/pdfs-wm/13783.pdf>
3. **Interference Between Mobile Phones and Pacemakers: A Look Inside.** Censi, Calcagnini, et al. Annali dell'Istituto superiore di sanità 43(3):254-259 (2007).
<http://www.ncbi.nlm.nih.gov/pubmed/17938456>
4. **Electromagnetic Interference on Pacemakers.** Erdogan, Okan. Indian Pacing and Electrophysiology Journal 2(3):74-78 (2002).
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1564060/>

5. **Electromagnetic Interference in Patients with Implanted Cardioverter-Defibrillators and Implantable Loop Recorders.** Sousa, Klein, et al. Indian Pacing and Electrophysiology Journal 2(3):79-84 (2002).
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1564059/>
6. **Radiofrequency Interference with Medical Devices. A Technical Information Statement.** IEEE Committee on Man and Radiation, Institute of Electrical and Electronics Engineers 17(3):111-4 (1998). <http://www.ncbi.nlm.nih.gov/pubmed/9604711>
7. **Cellular Telephones and Pacemakers: Urgent Call or Wrong Number?** Ellenbogen and Wood. Journal of the American College of Cardiology 27(6):1478-9 (1996).
<http://www.ncbi.nlm.nih.gov/pubmed/8626961>

XI. 5G EFFECTS

1. **5G Wireless Telecommunications Expansion: Public Health and Environmental Implications.** Russell, C.L. Environmental Research 165:484-495 (2018).
<https://www.sciencedirect.com/science/article/pii/S0013935118300161>
2. **The Human Skin As A Sub-THz Receiver – Does 5G Pose a Danger To It or Not?** Betzalel, N., Ishai, P.B., and Feldman, Y. Environmental Research 163:208-216 (2018).
<https://www.sciencedirect.com/science/article/pii/S0013935118300331?via%3Dihub>
3. **The Modeling of the Absorbance of Sun-THz Radiation by Human Skin.** Betzalel, N., Feldman, Y., and Ishai, P.B. IEEE Transactions on Terahertz Science and Technology 7(5):521-528 (2017). <https://ieeexplore.ieee.org/document/8016593/>

XII. MISCELLANEOUS ARTICLES

1. **Non-Ionizing EMF Hazard in the 21st Century.** Koh, W.J., and Moochhala, S.M. IEEE (2018). <https://ieeexplore.ieee.org/document/8393832/>
2. **Thermal and Non-Thermal Health Effects of Low Intensity Non-Ionizing Radiation: An International Perspective.** Belpomme, D., et al. Environmental Pollution 242(A):643-658 (2018).
<https://www.sciencedirect.com/science/article/pii/S0269749118310157?via=ihub>
3. **Comparison of Radiofrequency Electromagnetic Field Exposure Levels in Different Everyday Microenvironments in an International Context.** Sagar, S, et al. Environmental International 114:297-306 (2018).
<https://www.ncbi.nlm.nih.gov/pubmed/29529581>

4. **Radiation from Wireless Technology Elevates Blood Glucose and Body Temperature in 40-Year-Old Type 1 Diabetic Male.** Kleiber, C. *Electromagnetic Biology and Medicine* 36:3 259-264 (2017). <https://www.ncbi.nlm.nih.gov/pubmed/28524704>
5. **Cardiovascular Disease: Time to Identify Emerging Environmental Risk Factors.** Bandara, P. & Weller, S. *European Journal of Preventative Cardiology* (2017). http://journals.sagepub.com/doi/abs/10.1177/2047487317734898?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3dpubmed
6. **An Investigation of the Effect of Extremely Low Frequency Pulsed Electromagnetic Fields on Human Electrocardiograms (ECGs).** Fang, Mahmoud, et al. *International Journal of Environmental Research and Public Health* 13(11) (2016). <https://www.ncbi.nlm.nih.gov/pubmed/27886102>
7. **Effects of Exposure to 2100MHz GSM-like Radiofrequency Electromagnetic Field on Auditory System of Rats.** Celiker, Ozgur, et al. *Brazilian Journal of Otorhinolaryngology* (2016). <https://www.ncbi.nlm.nih.gov/pubmed/27865708?dopt=Abstract>
8. **Evaluation of the Protective Role of Vitamin C on the Metabolic and Enzymatic Activities of the Liver in the Male Rats After Exposure to 2.45 GHz of Wi-Fi Routers.** Shekoohi-Shooli, F., et al. *Journal of Biomedical Physics and Engineering* 6(3):157-164 (2016). <https://www.ncbi.nlm.nih.gov/pubmed/27853723?dopt=Abstract>
9. **Exposure of ELF-EMF and RF-EMF Increase the Rate of Glucose Transport and TCA Cycle in Budding Yeast.** Lin, Yan, et al. *Frontiers in Microbiology* (2016). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5005349/>
10. **Awareness Campaign Against Cell Phone Radiation Hazard: Case Study Oman.** Osmen and Saar. *Procedia - Social and Behavioral Sciences* 205(9):381-385 (2015). <http://www.sciencedirect.com/science/article/pii/S1877042815050351>
11. **Electromagnetic Energy Radiated from Mobile Phone Alters Electrocardiographic Records of Patients with Ischemic Heart Disease.** Alhusseiny, Al-Nimer, et al. *Annals of Medical and Health Science Research* 2(2):146-151 (2012). <https://www.semanticscholar.org/paper/Electromagnetic-Energy-Radiated-from-Mobile-Phone-Alhusseiny-Al-Nimer/30272ec2956c9000f6598f739579c1464f2891aa>
12. **Effects of Radiofrequency Radiation on Human Ferritin: An *in vitro* Enzymun Assay.** Fattahi-asl, Baradaran-Ghahfarokhi, et al. *Journal of Medical Signals and Sensors* 2(4):235-240 (2012). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3662108/>

13. **Apoptosis is Induced by Radiofrequency Fields through the Caspase-Independent Mitochondrial Pathway in Cortical Neurons.** Joubert, Bourthoumieu, et al. Radiation Research 169(1):38-45 (2008). <https://www.ncbi.nlm.nih.gov/pubmed/18159956>
14. **Source of Funding and Results of Studies of Health Effects of Mobile Phone Use: Systematic Review of Experimental Studies.** Huss, Egger, et al. Environmental Health Perspectives 115(1):1-4 (2007). <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1797826/>
15. **Epidemiology of Health Effects of Radiofrequency Exposure.** Ahlbom, Green, et al. Environmental Health Perspectives 112(17):1741-1753 (2004). <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1253668/>
16. **The Possible Role of Radiofrequency Radiation in the Development of Uveal Melanoma.** Stang, Anastassiou, et al. Journal of Epidemiology 12(1):7-12 (2001). <https://www.ncbi.nlm.nih.gov/pubmed/11138823>
17. **Biological Effects of Amplitude-Modulated Radiofrequency Radiation.** Juutilainen and Seze. Scandinavian Journal of Work, the Environment and Health 24(2):245-254 (1998). <https://www.ncbi.nlm.nih.gov/pubmed/9754855>

The documents contained in this digest are the property of the copyright owners and are reprinted for educational purposes only.

Compilation prepared by Grassroots Environmental Education, Inc., 52 Main Street, Port Washington, New York 11050