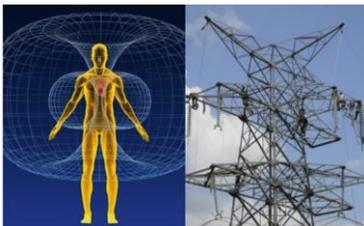


Influence of EMF on Mammalian tissue: A Comprehensive View of the Published Literature

Dr. Jeffrey Marrongelle DC, CCN

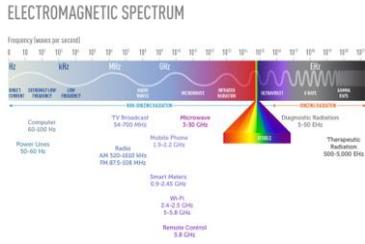
EMF-Electromagnetic Frequency



Why is EMF & What do We Need to Know?

- Electromagnetic Frequency- invisible areas of energy produced by electricity combined with magnetic forces.
- Exposure to electromagnetic field is NOT a new phenomenon.
- Naturally occurring EMF= earth's own magnetic field
- Man Made EMF = radiofrequency radiation, ELF
 - Cell phones, smart meters, portable wireless devices, laptops, tablets, baby monitors, etc.
 - Power lines, "dirty electricity", radio & TV signals, WIFI, etc.

Electromagnetic Spectrum



Concern from scientist, physicians, & health experts around the world!

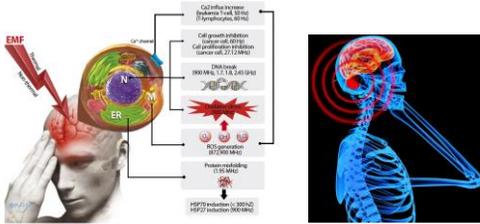
- “Sensitivity to electromagnetic radiation is the emerging health problem of the 21st century. It is imperative health practitioners, governments, schools and parents learn more about it. The human health stakes are significant.” ~William Rea MD
- “There is no question EMFs have a major effect on neurological functioning. They slow our brain waves and affect our long-term mental clarity. We should minimize exposures as much as possible as much as possible to optimize neurotransmitter levels and prevent deterioration of health.” ~Eric Braverman MD

Impact of EMF on various Specific Tissues in Mammalian Physiology



Adolescent and Young Adult Primary Brain and Central Nervous System Tumors Diagnosed in the United States in 2008-2012

• <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4690545/>



Brain Tumor Statistics



- Most common cancer among those age 0-19 (leukemia is the second).
- Second leading cause of cancer-related deaths in children (males and females) under age 20 (leukemia is the first).
- Nearly 78,000 new cases of primary brain tumors are expected to be diagnosed this year. This figure includes nearly 25,000 primary malignant and 53,000 non-malignant brain tumors.
- It is estimated that more than 4,600 children between the ages of 0-19 will be diagnosed with a primary brain tumor this year.
- There are nearly 700,000 people in the U.S. living with a primary brain and central nervous system tumor.
- There are more than 100 histological distinct types of primary brain and central nervous system tumors.
- Survival after diagnosis with a primary brain tumor varies significantly by age, histology, molecular markers and tumor behavior.
- The median age at diagnosis for all primary brain tumors is 59 years.
- <http://www.abta.org/about-us/news/brain-tumor-statistics/>

The effects of radiofrequency electromagnetic fields exposure on tinnitus, migraine and non-specific symptoms in the general and working population: protocol for a systematic review on human observational studies



Highlights:

- There is public concern to develop non-specific symptoms from EMF.
- No up to date comprehensive systematic review is available.
- Priority outcomes for head exposure are tinnitus, migraine, and headaches.
- Further priority outcomes are sleep disturbances and composite symptom scores. <https://www.sciencedirect.com/science/article/pii/S0160412021004773?via%3Dihub>

Effects of Radiofrequency Electromagnetic Radiation on Neurotransmitters in the Brain

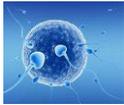


• Abstract

With the rapid development of electronic information in the past 30 years, technical achievements based on electromagnetism have been widely used in various fields pertaining to human production and life. Consequently, electromagnetic radiation (EMR) has become a substantial new pollution source in modern civilization. The biological effects of EMR have attracted considerable attention worldwide. The possible interaction of EMR with human organs, especially the brain, is currently where the most attention is focused. Many studies have shown that the nervous system is an important target organ system sensitive to EMR. In recent years, an increasing number of studies have focused on the neurobiological effects of EMR, including the metabolism and transport of neurotransmitters. As messengers of synaptic transmission, neurotransmitters play critical roles in cognitive and emotional behavior. Here, the effects of EMR on the metabolism and receptors of neurotransmitters in the brain are summarized.

• Open access paper: <https://www.frontiersin.org/article/10.3389/fpubh.2021.691880>

Effects of Radiofrequency Field exposure on male fertility & pregnancy & birth outcomes: Protocols for a systematic review of experimental studies in non-human mammals & in human sperm in vitro

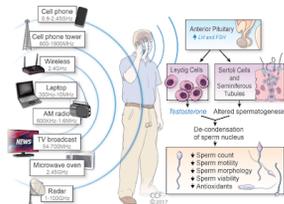


Highlights:

- ◆ Male infertility and adverse pregnancy outcomes are relevant human health problems.
- ◆ Radiofrequency electromagnetic fields are widespread in the human environment.
- ◆ A link between radiofrequency and adverse reproductive outcomes is controversial.
- ◆ This is the protocol of WHO-funded systematic review and meta-analysis on this issue.

<https://www.sciencedirect.com/science/article/pii/S0160412021004311>

Effects of Mobile Phones on Sperm Quality

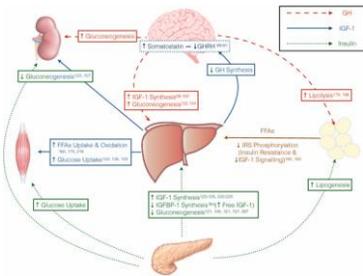


<https://pubmed.ncbi.nlm.nih.gov/34384508/>
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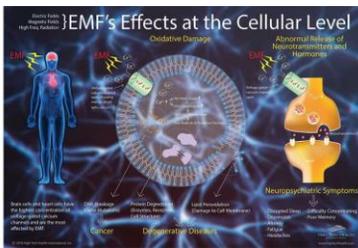
Nutritional Depletion created by EMF



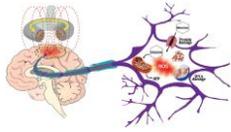
Impact of EMF's on Metabolic Pathways & Systems



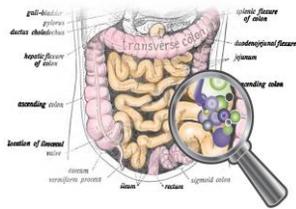
Influences on Mineral Metabolism & Ion Transport



Disturbances of Enzymatic Activity & Metalloenzymes

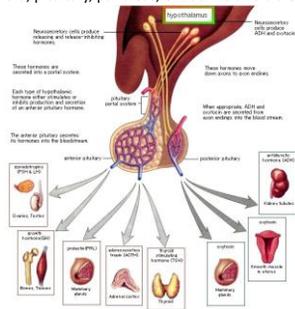


Impact on Gut Biome



Neurohormonal Disturbances

- Adrenal, thyroid, pituitary, pancreas, endocrine axis disregulation.



Clinical Findings and Implications



How do we protect ourselves?



What can WE do?

- Biohack your environment!
- Strategies for minimizing exposure.
- Reorganizing a disorganized energetic system.
- Protection through nutrients. Ex: antioxidants, D3, Omega 3 Fatty Acids, Melatonin, Flavonoids, Coconut Oil, Aloe Vera, Glutathione, etc.
