Individual Consumer EHS History

I am in individual consumer. In 2008 I worked in administration and had to leave work due to extreme fatigue and inflammation while being on a computer all day. I have experienced severe EHS for the past 18 years and been placed on disability due to the symptoms I've experienced, including severe inflammation, chronic fatigue, isolation, depression, anxiety, PTSD, Fibromyalgia, Vestibular Migraine, Post Postural Perceptual Dizziness, Hashimotos, Insomnia, and blurred vision amongst others. I cannot be around cell towers, mobile phones, fluorescent lighting, or public places due to the extent of my symptoms. A small exposure is what triggered the Vestibluar Migraine earlier this year, (2026). I have been unable to obtain a formal diagnosis of this as I can't complete the scans necessary to rule out other conditions but my symptoms correspond exactly to those in groups I have joined for support online. It was less than a minute exposure to a mobile phone that triggered this Vestibular Migraine. For years I have suffered with body inflammation, diagnosed as severe Fibromyalgia in 2011. Exposure to mobile phones especially would trigger severe episodes of lumps throughout my upper body and respiratory system, causing air hunger and complete dysfunction, needing a carer often to come in and take care of me. To restore function, and at my request, my partner would massage the lumps out while I scream into a pillow and fight him due to the severity of the pain. This sometimes happens 4 times a week but after that I'm operative again. It's very traumatic, not only on me but on my partner too. I have had 3 experiences before I recognized that these effects were happening in response to proximity to a mobile phone, where my partner answered a phone and spoke for length while were we driving. The enclosed space, triggered agitation first, then such severe fatigue as my blood thickened, and then Hypoxia to the point where I was completely dysfunctional. I couldn't talk, move, and even breathing felt like too much effort. My heart was erratic due to the thickness of my blood and I felt like I was dying. Two of these times, my partner buried me in the sand at the beach and 3 hours later, I was functional again. Negative ions from the ground cause the blood to start flowing again, restoring oxygenation of the body.

I spend most of my time in isolation. I can use a corded computer for short periods. All electricity and EMF now triggers not only Fibromyalgia and chronic fatigue syndrome, but severe dizziness and an incapacity to function effectively since experiencing a Vestibular Migraine early 2026. This migraine increased sensitivity so much that I had to change all make-up, moisturizers and bathroom items due to severe chemical sensitivity causing the dizziness to increase. My tolerance is so bad now, even being within the proximity of a cell tower (500 meters), or transformer, makes me start spinning.

I discovered a few years ago that my homes living spaces measured 18,000 over the safe levels of RF and I purchased EMF blocking curtains and screens. This helped immeasurably and I have been better able to manage the Fibromyalgia symptoms. I sleep on a grounding sheet every night and walk barefoot 3-5 days a week in the park. I take enzymes to keep my blood thinned out, electrolytes to keep the fatigue setting in, and a vibrating platform daily for circulation. All of these are helping. I do Vestibular retraining exercises daily and eye exercises to help reset my Vestibular system.

To upgrade current safety guidelines beyond simple **thermal heating measurements**, researchers investigating electromagnetic field (EMF) biological impacts focus heavily on non-thermal, cellular, and systemic biomarkers. Current regulatory standards (like those from ICNIRP) primarily measure Specific Absorption Rate (SAR) to prevent tissue heating. However, a growing body of research suggests that EMFs can induce biological changes well below the thermal threshold.

1. Cellular Oxidative Stress & Mitochondrial Damage

One of the most widely documented non-thermal effects of EMF exposure is the overproduction of cellular stressors. Researchers should test for:

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- **Reactive Oxygen Species (ROS):** Elevated ROS levels can damage cellular components and lead to chronic inflammation.
- **Mitochondrial Membrane Potential:** Assessing changes in how mitochondria produce ATP can reveal if EMFs disrupt cellular energy metabolism.
- **Antioxidant Enzyme Levels:** Monitoring drops in protective enzymes like superoxide dismutase (SOD), catalase, and glutathione.

2. Voltage-Gated Calcium Channel (VGCC) Activation

A prominent hypothesis in non-thermal EMF research is that weak EMFs can artificially stimulate VGCCs in cell membranes, leading to an intracellular influx of calcium. Studies should measure:

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- **Intracellular Calcium (Ca^{2+}Ca2+) Signaling:** Tracking real-time calcium fluctuations within cells post-exposure.
- **Downstream Nitric Oxide (NO) Pathways:** Excessive calcium can trigger elevated nitric oxide and peroxynitrite, which are highly reactive destructive molecules.

3. Genotoxicity and DNA Architecture

While non-ionizing radiation lacks the energy to directly break chemical bonds, secondary effects (like ROS) can cause genetic instability. Upgraded testing protocols should include:

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- **Single and Double-Strand DNA Breaks:** Utilizing comet assays or $\gamma\gamma$-H2AX biomarker tracking to detect fragmentation.
- **Epigenetic Alterations:** Testing for changes in DNA methylation and histone modification, which alter gene expression without changing the genetic code itself.

- **Heat Shock Proteins (HSPs):** Measuring expressions of proteins like HSP70, which cells produce in response to stress even in the absence of actual temperature increases.

4. Blood-Brain Barrier (BBB) Permeability

The central nervous system is a primary area of concern for radiofrequency (RF) exposure.

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- **Albumin Extravasation:** Testing whether EMF exposure causes proteins like albumin to leak through the BBB into brain tissue, which can cause localized neuroinflammation.

5. Neuroendocrine and Neurotransmitter Disruptions

Because the nervous system communicates via electrical and chemical signals, it may be uniquely sensitive to external fields.

- **Melatonin Suppression:** Testing overnight systemic melatonin levels, as some data suggests EMFs may disrupt the pineal gland's synthesis of this sleep hormone.
- **Neurotransmitter Levels:** Tracking fluctuations in dopamine, serotonin, and acetylcholine in brain tissue or metabolic proxies.