

The Health Effects of EMF

The leading EMF expert Martin L Pall, PhD, Professor Emeritus, Biochemistry and Basic Medical Sciences, Washington State University, USA, in *5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them* states that physics and biology are each pointing to the same mechanism of action.

The main target has a direct effect by activation of the voltage-gated calcium channels (VGCCs) and the downstream effects via increased intracellular calcium $[Ca^{2+}]_i$.

Our Neurons have the highest density of VGCCs

Our Neurons have a huge impact on our physical and mental health

Our Neurons are our Information Messengers throughout the brain and body

Pall states EMFs can cause cancer in 15 different ways, including increases in cancer initiation, promotion and progression, furthering that EMFs:

- “1. Attack our nervous systems, including our brains, leading to widespread neurological/neuropsychiatric effects and possibly many other effects. This nervous system attack is of great concern.
2. Attack our endocrine (that is, hormonal) systems. In this context, the main things that make us functionally different from single celled creatures are our nervous system and our endocrine systems – even a simple planaria worm needs both of these. Thus, the consequences of the disruption of these two regulatory systems is immense, such that it is a travesty to ignore these findings.
3. Produce oxidative stress and free radical damage, which have central roles in essentially all chronic diseases.
4. Attack the DNA of our cells, producing single strand and double strand breaks in cellular DNA and oxidized bases in our cellular DNA. These in turn produce cancer and also mutations in germ line cells which produce mutations in future generations.
5. Produce elevated levels of apoptosis (programmed cell death), events especially important in causing both neurodegenerative diseases and infertility.
6. Lower male and female fertility, lower sex hormones, lower libido and increased levels of spontaneous abortion and, as already stated, attack the DNA in sperm cells.
7. Produce excessive intracellular calcium $[Ca^{2+}]_i$ and excessive calcium signalling.
8. Attack the cells of our bodies to cause cancer. Such attacks are thought to act via 15 different mechanisms during cancer causation.”