

# 5G: “The End of All Things”. The Health Impacts of Electromagnetic Radiation

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*We have become thoroughly accustomed and habituated to endless advertising by drug makers to buy into the promises of pharmaceutical drugs or to consent to the nutritional value of junk food. Yet the drug and food industries are completely indifferent to their products' dangerous adverse effects. They give no thought to what it does to our health. All that matters is the business' bottom line. Fortunately, we have the freedom to make informed choices about most areas that impact our lives, whether it be living a healthy lifestyle or eating nutritious foods. But that is about to change completely due to the brilliant marketing campaigns to make life easier with the arrival of 5G's Internet of Things into our homes, bedrooms, offices and streets and avenues. What we are not being told is that as 5G technology increases, we will eventually be living in a 24 hour cycle that carries threats that are potentially far more dangerous than the occasional hamburger, pizza or beer.*

Nobody seems to be asking whether the introduction of 5G will truly improve the quality of our lives. Is there any redeeming truth to telecom's promises? There are none. But unlike a drug or unhealthy habits that can cause death, the FCC under the Clinton presidency passed legislation through Congress that hands over carte blanche permission to the telecommunications industry to directly violate our democratic freedoms of choice. Privacy will disappear altogether since this new technology increases surveillance capabilities exponentially.

And the average citizen has no choice. You cannot prevent Verizon or any of the other telecom giants from installing 5G transmission antennae in your neighborhoods, grade schools and playgrounds, apartment complexes, hospitals, and parks. And this enormous technological feat will also require a minimum of 50,000 new satellites orbiting the heavens above our heads to beam transmission signals to every habitable place on the planet. This new network will be five times greater than the number of operative satellites in space already.

The precautionary principle is intended to avoid inflicting unnecessary harm and injury in order to reduce avoidable health risks, and more importantly death. But this principle is being completely ignored with the full frontal assault to implement 5G at maximum speed. During a Congressional hearing, Senator Richard Blumenthal asked a very poignant question. Do you have any science confirming that 5G is safe? Is money being spent on studies to determine electromagnetic frequency radiation's safety. At the hearing, every representative of the telecom industry said there were none that they were aware of.

Imagine for a minute that the FDA were to approve and register a drug or vaccine that had never been tested for safety on humans? That would never be permissible; however the telecom industry is doing just that. And their primary market is the millennial and iGen generations who are also most susceptible to EMF's adverse effects. These are the generations who grew up with social media and chat rooms and who virtually live through the internet. It is their panacea that is fully integrated into their purpose and meaning in life.

This dark and deadly side of EMF emitting technology, especially 5G, is being hidden by our multimedia system that is being paid to manufacture both consent and doubt: consent that 5G will somehow miraculously improve our lives, and doubt against the 10,000-plus studies that show 5G will be one of the greatest health and environmental risks humanity has ever faced.

This month, *IEEE Access* published a special study out of the Birla Institute of Technology and Science in India as part of its *Special Section on Antenna and Propagation for 5G*. The article, "Electromagnetic Radiation Due to Cellular, Wi-Fi and Bluetooth Technologies: How Safe are We?," is an excellent summary of the state of the science regarding 5G's future threats based upon the confirming evidence at present. To date there are already 15 billion wireless local area network routers connected with the Internet of Things and 9 billion mobile connections. Almost 70% of the world's current population is using mobile phones.

Thousands of studies have been collected that indicate EMF's health risks. [The BioInitiative Report](#) has compiled 1800 studies alone showing serious impact on both humans' and animals' gene transcriptions, genotoxicity, DNA damage, chromatin condensation, loss of DNA repair capacity, reduction of free-radical scavengers, neurotoxicity, decreased sperm morphology, and impaired development of brain and cranial bone. Worse, Igor Belyaev's [research at the Slovak Academy of Sciences](#) has found evidence that some frequencies emitted by this technology damages all cells, including fibroblasts, lymphocytes and stem cells. The Indian scientists [breakdown EMF's health risks](#) into seven main headings.

## Cancer

Back in 2011, the World Health Organization's International Agency for Research on Cancer [classified](#) radiofrequency electromagnetic fields as possibly carcinogenic to humans. Nine years later, this threat has been confirmed by thousands of medical professionals. No longer are the risks simply possibilities. It is a reality. The US' National Toxicology Program's [final report](#) on mouse and rat studies in late 2018 confirmed cancerous heart tumors due to the earlier 2G and 3G cell phone technologies. One of the world's leading experts in wireless technology's cancer risks, oncologist Leonard Hardell at the University Hospital in Orebro, Sweden, [concludes that](#) "the evidence that RF radiation exposure is a risk factor for cancer is particularly worrying, taking the present deployment of the fifth generation (5G) for wireless communication." Dr. Hardell, along with hundreds of other scientists and medical doctors have demanded a moratorium against 5G until further independent studies are performed to assure the industry's denials of its hazards can be confirmed.

In a [study published](#) in the August 2018 issue of *Journal of Medical Imaging and Health Informatics*, after an extensive review and analysis of the medical literature researchers concluded that "incidence of cancer cases was remarkably higher among people who resided in 400 meters from mobile antennas, in comparison to those who lived further away. Inhabitants living close to cellular antennas are also at increased risk for developing

neuropsychiatric complaints.” Under the 5G regimen every American in a suburb or city will be living 100 meters or less from a 5G antenna. In 2016, the Europa EM-EMF [guideline found](#) “strong evidence that long-term exposure to certain EMFs is a risk factor for diseases such as certain cancers, Alzheimer’s disease, and male infertility...Common EHS (electromagnetic hypersensitivity) symptoms include headaches, concentration difficulties, sleep problems, depression, lack of energy, fatigue, and flu-like symptoms.”

Populations living within 350 meters of a 850 MHz, 1500 watt cell phone tower in Netanya, Israel experienced a 400 percent cancer increase (i.e., carcinoma of the breast, ovary, lung, kidney, bone, and Hodgkin’s disease)

### Pregnancy and Infertility

The [science is conclusive](#) that EMF’s erratic pulses from mobile phones induces oxidative stress that damage testicular tissues and decreases sperm quality and motility. EMF exposure results in sperm mutations that have been [shown by scientists](#) at the University of Mainz in Germany to contribute to testicular cancer. Prof John Aitken at the University of Newcastle has shown that sperm exposed to mobile phone radiation revealed a 300 percent increase in mitochondrial damage.

We need to take the precautionary principle at heart when animals studies confirm the serious health risks. We are irresponsible when we draw a distinction between alarming animal studies that have yet to be adequately tested in humans and then make assumptions there can be no correlation. Therefore, when [research shows](#) that pregnant animals are exposed to even low levels of EMF will show uterine congestions, dead and reabsorbed fetuses, hemorrhage, unequal and asymmetrical distribution of fetus implantation, and genetic malformation, we must consider its risks against pregnant women as well. But the FCC and FDA have been horribly negligent in this regard to warn women.

### Auditory System Damage

When our phones are linked to the wireless network, our entire auditory system — skin, inner and middle ear, cochlear nerve and our brain’s frontal lobe — are absorbing EMF radiation. EMFs are damaging the highly sensitive hair-like cells in the cochlear and likely contributing to the neurological disorder known as tinnitus. Tinnitus is becoming increasingly more common. The high pitch sounds associated with this illness disturb normal sleep patterns and in more serious cases interfere with normal cognitive abilities and has even led to suicides, according to a [study conducted](#) by the Medical University of Vienna and published in the *British Medical Journal*. Additional studies have associated long-term mobile use with hearing loss.

### Adverse Childhood Development

In addition to EMF’s adverse effects on the developing fetus, the younger generations are the most exposed population to EMF radiation through excessive wireless device use. It is well-known that children’s brain tissue displays much more electrical conductivity when compared to an adult. A child’s brain also absorbs EMF radiation more readily. The geometry of a child’s head significantly increases mobile phone EMF absorption in the brain, eye, cortex, hippocampus, and hypothalamus. According to a study published in the journal *Physics in Medicine and Biology*, children have especially high bone marrow conductivity, greatly increasing EMF absorption.

Consequently, [a study](#) out of the Swiss Tropical and Public Health Institute looking at 7th through 9th graders found that cumulative phone use decreased memory.

### Blood-Related Disorders

Even very low intensity EMF frequencies — much lower than what 5G will expose us to — interrupt the blood brain barrier that hinders toxic chemicals from disrupting various tissues, including the brain. EMFs interfere with this protective barrier. [Dr. G Salford](#) at Lund University in Sweden, observed that a single two-hour cellular phone session will produce leakage in this barrier and after 50 day use can lead to neuronal damage.

### DNA Damage

Medical scientists are quick to warn about the mechanisms by which our cellular DNA interact with EMF radiation. In fact, the [DNA's double helix structure](#) “causes it to act like a fractal antenna” whereby it interacts with a wide range of different electromagnetic frequencies. For this reason DNA is highly susceptible to damage across the wide spectrum of wireless frequency ranges. The DNA-EMF interaction creates free radicals that contribute to stress proteins and ultimately gene mutations, including in stem cells.

### Mental and Cognitive Risks

The [scientific literature](#) increasingly reveals that EMF exposure is contributing to the growing rates in neurodegenerative diseases such as Alzheimer's and Parkinson's. EMF's effects on brain tissue and neurons is an established fact based on epidemiological studies of populations living close to cell towers. 5G will bring these towers into everyone's neighborhoods. An article in *Reviews of Environmental Health* introduces a new observed disorder — “Chronic multi-system illness” (CMSI). CMSI correlates to milder electromagnetic hypersensitivity to 3 MHz-300 GHz, with headaches, concentration difficulties, sleep problems, depression, lack of energy, fatigue, and flu-like symptoms. However, beside these milder effects, long-term exposure to these high output towers are also contributing to severe brain and cognitive disabilities, including paralysis, stroke and psychosis.

In our opinion, the 5G rollout is an irresponsible experiment with potential holocaust-like consequences in the long-term. Neither the US nor China have ever felt obliged to follow UNESCO's Precautionary Principle to avoid “morally unacceptable harm” when the science is plausible but still uncertain. In the case of 5G, the harm to human life is conclusive, and [in the view](#) of Dr. Lennart Hardell, it may be in violation of the Nuremberg Code.

In addition there is something largely missing from the 5G debate in the US, whereas some European nations are paying attention to it; that is, existing safety standards for wireless technology are obsolete. This conclusion was arrived at independently by Vienna Medical University in Austria and Carl Blackman at the University of North Carolina, published in the journal *Pathophysiology*. The problem herein lies in the failures of federal regulatory agencies to be truthful to the scientific evidence rather than show favoritism to the wireless industry's own junk science and commercial interests. Again, private interests profit and the public is harmed.

Unfortunately, the FCC standards for mobile phones have remained the same since 1996. Since 1997, secondary insurance providers have refused to cover health damages due to wireless radiation. During the past two and a half decades, the technology has changed

dramatically, and not for the better. This is not simply the words of independent 5G critics in the medical profession announcing health warnings. The FDA also acknowledges the problem. On its website, we find “the FDA does not review the safety of radiation-emitting consumer products such as cell phones and similar wireless devices before they can be so, as it does with new drugs or medical devices.... However, the FDA does have the authority to take action if cell phones are shown to emit radiofrequency energy at a level that is hazardous to the use.” Unfortunately, the FDA has never taken charge of this mandate and injunction it has been assigned with.

[Dr. Devra Davis](#) is the founder of the Environmental Health Trust and a Visiting Professor of Medicine at the Hebrew University Hadassah Medical School and a Visiting Professor of Medicine at Ondokuz Mayıs University, Turkey. For years Dr Davis has served as the director of the Center for Environmental Oncology, which she founded, at the University of Pittsburgh Cancer Institute — the first institute of its kind in the world to examine the environmental factors that contribute to the majority of cases of cancer.

During a recent lecture for the [2020 Expert Forum](#) on 5G and emerging EMF technologies, Dr. Davis outlined many of the gold standard studies that should have us worry about the future ahead as the telecom industry with the blessing of governments roll out 5G. It is not simply EMF exposure from phones and wireless routers that pose dire risks. It is also the accumulative EMF radiation people are exposed to daily — from laptops, cellular phones, towers and antennas, wi-fi routers, and microwave ovens,

In addition to the above risks, Dr. Davis has observed other worrisome EMF effects. Dementia for example has become an epidemic and even young adults as young 30 are starting to show signs of this neurodegenerative condition. Recently dementia has been called “diabetes of the brain.” Davis has noted that due to EMF exposure brain scans reveal an increase in glucose levels in brain tissue and increases lipid peroxidation that results in cell damage. Mobile phones also significantly reduce glutathione, an essential enzyme necessary for DNA repair.

As we reported in the past, the mainstream media, in particular the *New York Times*, which has a collaborative agreement with the leading 5G provider Verizon, have no intention to warn the public about any of the scientific findings mentioned above. There is a growing consensus in the scientific and medical community that 5G will usher an epidemic of disease never before witnessed in human history. It is too difficult to make forecasts. Nevertheless, if the past and current research on EMF’s adverse effects on health and the environment during the past 50 years are any indication, we are entering a new epoch of disease and neurological disorders that humanity is completely unprepared to handle.

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Featured image: Demonstrators at the anti-5G protest in Bern on Friday. (© Keystone / Peter Klaunzer)

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