

A Film About the Impending 5G Apocalypse

By [Dr. Joseph Mercola](#) | [mercola.com](#)

STORY AT-A-GLANCE

- Persistent exposures to microwave frequencies like those from cellphones can cause mitochondrial dysfunction and nuclear DNA damage from free radicals produced from peroxynitrite
- Excessive exposures to cellphones and Wi-Fi networks have been linked to chronic diseases such as cardiac arrhythmias, anxiety, depression, autism, Alzheimer's and infertility
- EMF exposure has increased by about 1 quintillion times over the past 100 years. Most people experience biological impacts but have no appreciation of the damage it's causing until it's too late. Even then, it's extremely difficult to link the exposure to the symptoms or the disease
- 5G relies primarily on the bandwidth of the millimeter wave, known to cause a painful burning sensation. It's also been linked to eye and heart problems, suppressed immune function, genetic damage and fertility problems
- EMFs have clear neuropsychiatric effects, triggering everything from foggy thinking and headaches to learning disabilities and dementia

Are you still under the misconception that unchecked exposure to electromagnetic field (EMF) and radiofrequency (RF) radiation is of no concern? Then I urge you to view the featured documentary, "5G Apocalypse – The Extinction Event" by Sacha Stone.

Please understand that while I am not in agreement with some of Stone's conspiracy theories on the militarization of these frequencies, the science is beyond solid to justify concern about 5G without throwing in conspiracy allegations. I do believe that, overall, the documentary was well done and nicely packages the nonconspiracy information.

EMF Exposure Has Dramatically Increased Over the Past 100 Years

Indeed, even earlier, and less intense, generations of [wireless technologies](#) have been shown to produce severe harm over time. As explained in my 2017 [interview with Martin Pall](#), Ph.D., professor emeritus of biochemistry and basic medical sciences at Washington State University, the primary danger of EMFs – and what drives the processes of chronic disease – is [mitochondrial damage](#) triggered by peroxynitrites, one of the most damaging types of reactive nitrogen species.

Devices that continuously emit EMF radiation at levels that damage your mitochondria include your cellphone, cellphone towers, Wi-Fi routers and modems, baby monitors and “smart” devices of all kinds, including smart meters and smart appliances.

If you go back in time to the end of World War I, around 1918 or so, and use that timeframe as a baseline of EMF exposure among the general public, you come to the astonishing conclusion that EMF exposure has increased about 1 quintillion times over the past 100 years.

It's irrational to assume that this radical increase – an increase of 1 billion times – could not have adverse effects on the environment and human health. The reality is that most people are experiencing biological impacts as a result of this exposure, but have no appreciation of the damage it's causing until it's too late. Even then, it's extremely difficult to

link EMF exposure to the symptoms or the disease.

Understanding the Mechanisms of Harm

According to Pall's research,^{1,2,3,4} low-frequency microwave radiation such as that from your cellphone and wireless router activates the voltage-gated calcium channels (VGCCs) located in the outer membrane of your cells. According to Pall, VGCCs are 7.2 million times more sensitive to microwave radiation than the charged particles inside and outside our cells, which means the safety standards for this exposure are off by a factor of 7.2 million.

Low-frequency microwave radiation opens your VGCCs, thereby allowing an abnormal influx of calcium ions into the cell, which in turn activates nitric oxide (NO) and superoxide which reacts nearly instantaneously to form peroxynitrite.⁵

Peroxynitrite then catalyzes massive oxidative stress by the creation of free radicals that are associated with an increased level of systemic inflammation and mitochondrial dysfunction, and are thought to be a root cause for many of today's chronic diseases.

For an in-depth understanding of peroxynitrites and the harm they inflict, see "Nitric Oxide and Peroxynitrite in Health and Disease"⁶ – a 140-page paper with 1,500 references written by Dr. Pal Pacher, Joseph Beckman, and Dr. Lucas Liaudet. It's an epic paper and one of the best reviews I've ever read and can be downloaded for free.

One of its most significant hazards of peroxynitrite is that it damages DNA. The European REFLEX study published in 2004 revealed the nonthermal effects of 2G and 3G radiation are actually very similar to the effects of X-rays in terms of the

genetic damage they cause.⁷

Your body has the capacity to repair that damage through a family of 17 different enzymes collectively called poly ADP ribose polymerases (PARP). However, while PARP works well, they require NAD⁺ for fuel and when they run out of NAD⁺ they stop repairing your DNA, which can lead to premature cell death as over 100 to 150 NAD⁺ molecules are needed to repair every DNA strand break.

[NAD⁺](#) is central to maintaining cellular and mitochondrial health, so the fact that PARP consumes NAD⁺ to counteract EMF damage is an important concern. Can you improve your NAD⁺ levels? Yes, but it's a complex topic that really requires a book to carefully explain. As a first step, though, you need to reduce NAD⁺ consumption, which necessitates limiting your EMF exposure.

Damage Occurs Over Extended Periods of Time

Were the negative effects of EMFs immediately recognizable, matters would be much simpler. Alas, it doesn't work that way. The damage accrues over time, similar to that from smoking. For years, you can get away without feeling any ill effects until, all of a sudden, you're beset with debilitating symptoms.

Researchers are in general agreement that there's a latency period of about 10 years or more before the damage shows up, which places children at greatest risk, since their exposures begin much earlier (nowadays in utero) and persist throughout life unless steps are taken to minimize their daily exposure.

While the controversy over EMF damage has centered around whether or not it can cause cancer, especially [brain tumors](#), this actually isn't your greatest concern. Since the damage is

strongly linked to activation of your VGCCs, it stands to reason that areas, where VGCCs are the densest, would be most vulnerable to damage.

As it happens, the highest density of VGCCs is found in your nervous system, your brain, the pacemaker in your heart and in male testes. As a result, EMFs are likely to contribute to neurological and neuropsychiatric problems, heart and reproductive problems, including but not limited to cardiac arrhythmias, [anxiety](#), [depression](#), [autism](#), [Alzheimer's](#) and [infertility](#).

Indeed, this is what researchers keep finding, and all of these health problems are far more prevalent and kill more people than brain cancer.

5G Linked to Significant Health Concerns

One of the main problems with 5G is that it relies primarily on the bandwidth of the millimeter wave (MMW), which is primarily between 30 gigahertz (GHz) and 300GHz,⁸ and are known to penetrate 1 to 2 millimeters of human skin tissue.^{9,10}

Its ability to penetrate tissue and cause a severe burning sensation is exactly why MMW was chosen for use in crowd control weapons (Active Denial Systems) by the U.S. Department of Defense.¹¹

Some research indicates that sweat ducts in human skin act as antennae when they come in contact with MMWs,¹² which helps explain the painful effect. MMW has also been linked to numerous health problems, including:^{13,14,15,16,17}

- Eye problems such as lens opacity in rats, which is

- linked to the production of cataracts,¹⁸ and eye damage in rabbits^{19,20}
- Impacted heart rate variability, an indicator of stress, in rats^{21,22,23} and heart rate changes (arrhythmias) in frogs^{24,25}
 - Pain²⁶
 - Suppressed immune function²⁷
 - Depressed growth and increased antibiotic resistance in bacteria²⁸

In 2015, more than 230 scientists engaged in the study of biological and health effects of non-ionizing EMFs in 41 nations signed an international appeal to the United Nations, calling for protection from non-ionizing EMF exposure due to evidence of health effects even at low levels.²⁹

Two years later, more than 180 doctors and scientists from 35 countries signed a petition³⁰ to enact a moratorium on the rollout of 5G due to the potential risks to wildlife and human health, citing research showing an increased risk for:

- Cancer
- Cellular stress and increase in harmful free radicals
- Genetic damage
- Reproductive problems^{31,32,33}
- Neurological disorders

You Run on Bioelectricity

The [voltage in your body](#) appears to play a significant role in health and disease. Your body's production of electricity allows your cells to communicate and perform basic biological functions necessary for your survival.

However, your body is designed to operate at specific levels

and frequencies, and being surrounded by manmade EMFs that are a quadrillion times higher than the natural EMF environment of the Earth it is no surprise that this could result in biological harm or damage. As noted in "5G Apocalypse," interfering with your DNA's ability to receive and transmit biological signals is just one possible effect of such exposure.

The film also features Dr. Dietrich Klinghardt (whom I've also interviewed on the importance of [EMF remediation](#)), whose research shows women who gave birth to autistic children had an 8.4 higher body voltage level than those who gave birth to neurologically healthy children. The sleeping location of autistic children also resulted in an 8.5 times higher body voltage.

Overall, the RF radiation level in the sleeping location of mothers whose children were autistic was 20.7 times higher than that of mothers whose children were unaffected. According to Klinghardt, you can actually predict autism simply by measuring the RF radiation exposure levels of the mothers.

EMFs Take a Toll on Neurological Function and Cognition

As early as 1924, Rudolf Steiner, Ph.D., an Austrian scholar who developed [biodynamic farming](#) and wrote more than 330 books on a wide variety of topics, spoke about the dangers of electricity and its impact on the human body, saying:³⁴

"You must consider the whole part played by electricity in Nature ... [H]uman beings cannot go on developing in the same way in an atmosphere permeated on all sides by electric currents and radiations; it has an influence on the whole development of man ...

this life of men in the midst of electricity, notably radiant

electricity, will presently affect them in such a way that they will no longer be able to understand the news which they receive so rapidly.

The effect is to damp down their intelligence. Such effects are already seen today. Even today you can notice how people understand the things that come to them with far greater difficulty than they did a few decades ago.”

Since 1924, EMF exposure has increased exponentially, and 5G promises to massively increase that exposure even further, as it adds to already existing technology and doesn't simply replace it.

Researchers are now confirming what Steiner warned us about in 1924. EMF – today emitted primarily by wireless technologies that didn't even exist back in Steiner's day – does indeed have neuropsychiatric effects,³⁵ triggering everything from foggy thinking and headaches to learning disabilities and dementia.

Microwave Radiation Has Clear Biological Effects

About 29 minutes into “5G Apocalypse” you can see what just two minutes of exposure to a smart meter does to human cells. Three different subjects were asked to stand about 1 foot from the smart meter for two minutes. Blood samples were taken before and after exposure.

After this extremely limited amount of exposure, you can clearly see cell wall degradation and trauma to the blood cells occurring in the samples. With its use of “small cell” bases³⁶ placed in close proximity to each other, each and every neighborhood will eventually be bathed in even more powerful 5G frequencies.

What's worse, the FCC revised its rules relating to the rollout of 5G technology in September 2018, limiting cities' rights to control the placement of 5G antennas. Los Angeles and other cities sued to overturn the FCC's new rules, but January 10, 2019, the U.S. Court of Appeals for the Tenth Circuit sided with the FCC.³⁷

As noted by Pall, quoted in the film: "Putting tens of millions of 5G antennae without a single biological test of safety has to be about the stupidest idea anyone has had in the history of the world."

Indeed, seeing how many are already struggling with [electromagnetic hypersensitivity](#), saturating cities and suburban areas with MMW radiation will undoubtedly make the problem more widespread, and make life unbearable for those already feeling the effects of wireless radiation.

As noted by Dr. Yael Stein – who has studied 5G MMW technology and its interaction with the human body – in a 2016 letter to the Federal Communications Commission: ³⁸

"Computer simulations have demonstrated that sweat glands concentrate sub-terahertz waves in human skin. Humans could sense these waves as heat. The use of sub-terahertz (millimeter wave) communications technology (cellphones, Wi-Fi, antennas) could cause humans to percept physical pain via nociceptors.

Potentially, if 5G Wi-Fi is spread in the public domain we may expect more of the health effects currently seen with RF/microwave frequencies including many more cases of hypersensitivity (EHS), as well as many new complaints of physical pain and a yet unknown variety of neurologic disturbances.

It will be possible to show a causal relationship between 5G technology and these specific health effects. The affected

individuals may be eligible for compensation.”

Educate Yourself About the Health Risks of 5G and Protect Your Family From Harm

To learn more about 5G and help educate others, you can download a two-page 5G fact sheet³⁹ from the Environmental Health Trust. On their website, you can also access a long list of published scientific studies showing cause for concern.⁴⁰

To reduce your EMF exposure, read through the suggestions below and implement as many of them as possible. Additional guidance and solutions for mitigating electric and magnetic fields can also be found at the end of “Healthy Wiring Practices,”⁴¹ a document created by building biologist [Oram Miller, whom I’ve interviewed](#) on this topic.

Nighttime remediation
Use filters to remove voltage transients from your electricity and use meters to confirm that they are in a safe range.
Use a battery-powered alarm clock, ideally one without any light. I use a talking clock for the visually impaired. ⁴²
Consider moving your baby’s bed into your room instead of using a wireless baby monitor. Alternatively, use a hard-wired monitor.

If you must use Wi-Fi, shut it off when not in use, especially at night when you are sleeping. Ideally, work toward hardwiring your house so you can eliminate Wi-Fi altogether. It's important to realize that if you have a Wi-Fi router, you have a cellphone tower inside your home. Ideally, you'd eliminate your Wi-Fi and simply use a wired connection. If you absolutely must have a router, you can place it inside a shielded bag when not in use. You can find shielded items online, or make your own using Swiss Shield fabric. If you have a notebook without any Ethernet ports, a USB Ethernet adapter will allow you to connect to the internet with a wired connection.

For more extensive shielding, you can consider painting your bedroom walls and ceiling with special shielding paint, which will block RF from outside sources, such as cell towers, smart meters and radio/TV towers. Windows can be covered with metal window screen or film. For your bed, consider a shielding bed canopy.

Daytime strategies to reduce unnecessary EMF exposure

To reduce EMF exposure during the daytime, consider using Stetzer filters to decrease the level of dirty electricity or electromagnetic interference being generated. You can also take these with you to work or when you travel. This may be the single best strategy to reduce the damage from EMF exposure since it appears that most of it is generated by the frequencies that the filters remove.

Connect your desktop computer to the internet via a wired Ethernet connection and be sure to put your desktop in airplane mode. Also avoid wireless keyboards, trackballs, mice, game systems, printers and portable house phones. Opt for the wired versions.

Avoid carrying your cellphone on your body unless in airplane mode and never sleep with it in your bedroom unless it is in airplane mode. Even in airplane mode it can emit signals, which is why I put my phone in a Faraday bag.⁴³

When using your cellphone, use the speakerphone and hold the phone at least 3 feet away from you. Seek to radically decrease your time on the cellphone. I typically use my cellphone less than 30 minutes a month, and mostly when traveling. Instead, use VoIP software phones that you can use while connected to the internet via a wired connection, or better yet, use a landline telephone.

General household remediation

If you still use a microwave oven, consider replacing it with a steam convection oven, which will heat your food as quickly and far more safely.

Avoid using “smart” appliances and thermostats that depend on wireless signaling. This would include all new “smart” TVs. They are called smart because they emit a Wi-Fi signal and, unlike your computer, you cannot shut the Wi-Fi signal off. Consider using a large computer monitor as your TV instead, as they don’t emit Wi-Fi.

Replace CFL bulbs with incandescent bulbs. Ideally remove all fluorescent lights from your house. Not only do they emit unhealthy light, but more importantly, they will actually transfer current to your body just being close to the bulbs.

Dimmer switches are a source of dirty electricity, so consider installing regular on/off switches rather than dimmer switches.

Refuse smart meters as long as you can, or add a shield to an existing smart meter, some of which have been shown to reduce radiation by 98 to 99 percent.⁴⁴

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