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Is 5G Dangerous? What The Science Says

41-51 minutes

The question isn't "*Is 5G dangerous?*" The real question is "*Just how dangerous is it, and what can we do about it?*"

In this guest post Lois Cadwallader shares how 5G will impact our bodies, our brains, and our planet. Not to mention the privacy issues. Learn how to protect yourself, mind, body, soul and your environment.

There's a lot of confusion about 5G because it's not a very well-defined term. There are actually many technologies under the "5G Umbrella."

5G can refer to:

- the blending of existing 3G and 4G technology with new 5G smaller antennas to provide greater connection and user capacity
- the new innovation of 5G which delivers ultra-high speeds, can use millimeter wave (MMW), uses smaller antennas, deploys beamforming and provides Massive Multiple Input, Multiple Output (MIMO) which results in a lot more connections
- IoT (Internet of Things) using the infrastructure of 5G to connect everything to everything and everyone
- 5G Fixed Wireless Service which will compete with current cable

and land line internet providers

Additionally, there is what's called a "5G router." This simply refers to the frequency of 5 GHz WiFi and isn't really part of this discussion.

What does industry say? Reading industry descriptions, 5G sounds like the deliverer of the human race. You can feel the "electric" excitement over this amazing new technology.

Verizon: *"5G is the fifth generation of wireless technology. But users will know it as one of the fastest, most robust technologies the world has ever seen."*

"... a spectacular impact on how we live, work and play."

"A discussion around 5G technology is really a discussion around delivering life-changing technologies through next-generation networks." [1]

Qualcomm: *"5G will elevate the mobile network to not only interconnect people, but also interconnect and control machines, objects, and devices. It will deliver new levels of performance and efficiency that will empower new user experiences and connect new industries."* [2]

T-Mobile and Sprint: *"Every now and then, something comes along that changes our lives. Something that opens up America and lets culture, communities and commerce flourish. 5G can do this. But not if it's just 5G for the few. Not if it's 5G in the current broken system. The New T-Mobile will disrupt this system, spark the 5G economy and bring #5GforAll."* [3]

AT&T: *"A network that will ultimately enable new experiences that will change how we live, work, and play."* [4]

CTIA: *“5G will be transformative – making our lives better, our communities safer and our nation more prosperous.”* [5]

Skyworks: Mission statement, *“Connecting Everyone and Everything, All the Time.”* [6]

So, are you excited? Sounds so great! What could possibly be wrong with this brilliant, new, life-enhancing technology?

Is 5G a turning point into a brighter future as the industry hype would have you believe? Or, is 5G the point of no turning back?

Is 5G dangerous? It doesn't sound dangerous at all. And it doesn't sound anything like a crisis.

I like the Business Dictionary definition of crisis: *Critical event or point of decision which, if not handled in an appropriate and timely manner (or if not handled at all), may turn into a disaster or catastrophe.* [7]

And the Merriam-Webster definition: *an unstable or crucial time or state of affairs in which a decisive change is impending especially: one with the distinct possibility of a highly undesirable outcome.* [8]

Electromagnetic radiation has been called the “*tobacco of the digital age,*” and “*the new asbestos.*”

However you want to look at it, [5G radiation](#) will take our already-high exposures from harmful electromagnetic radiation to new, never-before-experienced levels.

Why do I say that?

Make no mistake about it. We are already enveloped in a highly hazardous EMF “*soup.*” We are being exposed to dangerous radiation, not only from wireless technology, but also [EMFs from power lines](#) and EMFs from out-of-sight wires hidden behind every wall in your house.

As for wireless electro-pollution — 5G will advance it from very, very bad.... to worse and inescapable. In my opinion, it may be the point of no return.

There will be no facet of our lives that will remain untouched by 5G. Here are just a few of things 5G has in store for us:

- Irreplaceable physical health
- Precious mental, emotional well-being
- Sacred privacy lost

- Priceless environment in jeopardy

All impacted by this new “promising” technology.

Thankfully, there are some things we can do to protect ourselves and those we love—this article will end with some hopeful solutions. But admittedly, 5G exacerbates the situation and complicates the remediation.

5G Dangers – We Don’t Know, What We Don’t Know

It’s true that electromagnetic fields have always existed in nature. Planet Earth itself has electromagnetic fields which create radiation. We are bioelectric beings.

Our heart rates, pineal glands, and brain waves all have an electrical component.

In fact, we can’t move a muscle without an electrical impulse.

Dr. Gerard J. Hyland told the Global Union Against Radiation Deployment from Space ([GUARDS](#)), “***The human body is an electro-chemical instrument of exquisite sensitivity.***” “***If a signal can operate a mechanical device, it can disturb every cell in the human body.***”

The fact is, there have been

- No pre-market studies.
- No long-term studies.
- No opportunity for an individual to opt-out of this technology.
- It will be EV-ery-where.

What's The Difference Between EMFs In Nature And Man-Made EMFs?

Electromagnetic fields (EMFs) present in nature are a very different kind than what is generated by EMFs used in modern technology. To keep it simple, let's compare just five characteristics:

Humans have never before been exposed to this type of electromagnetic radiation for long periods of times. The continual pulsing and non-pulsing of man-made electromagnetic

frequencies and its subsequent electromagnetic radiation has been unleashed and it is almost everywhere, layer upon layer.

This is something new. It is foreign to what we find in the natural world. We don't really know how this is all going to turn out. [9,10]

How Much Radiation Is Dangerous? Or Too Much?

1,000,000,000,000,000,000

According to Olle Johansson, PhD, associate professor in neuroscience at the Karolinska Institute in Sweden, our bodies are subjected to one quintillion times (that's a 1 with 18 zeros

behind it) more electromagnetic radiation today than we were a decade ago. In 2017, he was featured in a documentary, [Generation Zapped](#), to explain the dangers we face.

We are talking about man-made, [non-ionizing radiation](#); i.e., the radiation emitted from cell phone towers, WiFi, smart meters, wireless devices, etc.

Regardless of the exact number, it is a very big number. And our exposure is almost constant and grows every year.

Many published studies confirm the carcinogenicity of electromagnetic radiation, but most studies focus on the biological exposure of only a single frequency.

Few published scientific studies as of yet have explored the [aggregate biological effects of the complex, multi-frequency radiation](#) that now pollutes modern buildings, schools, homes and the general environment everywhere across the globe.

A 2016 study of the man-made electromagnetic radiation within the Stockholm Central Railway Station in Sweden found 20 different pulsed frequency sets. Research was conducted by the Hardell Cancer Research Group. This study is a reality check on the astronomical number of wireless signals that simultaneously bombard our bodies everywhere we go. [11]

5G is sure to substantially increase that already dangerous number of wireless signals that bombard our bodies daily. And it can use super-20 GHz MMW (millimeter wave). This technology has been used for years in medicine, military, and satellite industries, but remains un-tested for the general public.

And the number of [cell antennas is expected to increase](#) to over 13

million.

What Are These EMFs Doing To Our BODIES?

There are close to 6,000 scientific, [peer-reviewed EMF research papers showing strong correlation between electromagnetic radiation and a host of diseases and disorders including cancer](#), cardiovascular abnormalities, neurological disorders, digestive problems, dermatitis, reproductive failure, certain types of diabetes, as well as behavioral and learning disabilities and many others.

The landmark study from the [National Toxicology Program](#) of the US Department of Health and Human Services concluded that there is “clear evidence” that radiation from cell phones causes cancer [12]

And in 2011 the World Health Organization (WHO) classified [radio frequency radiation as a possible 2B carcinogen](#) specifically citing the increased risk for glioma, a malignant type of brain cancer. How much more has our exposure increased since then?

Those are studies..

..Sadly, there are real people with faces and families.

A neighborhood in the UK was plagued with cancer living under the shadow of a huge cell tower. They reported [14 deaths from cancer](#) in their small circle of homes in just seven years.

And a small town in California is concerned over a [fourth child diagnosed with cancer](#) while attending school with a cell phone tower located right on campus.

The danger is not just cancer—there are a host of diseases

and disorders associated with over-exposure to electromagnetic radiation.

There is no doubt that electromagnetic [radiation has biological impact](#). EMFs affect life at the cellular level –

- Cause DNA breakage
- Compromise the Blood Brain Barrier
- Weaken the immune system
- Produce stress proteins
- Cause inflammation

- Disrupt cell communication
- Alter calcium function

The above are well-documented, scientific facts. [13]

The debate comes down to the question – *does it matter?* And, since most people are not dropping dead left and right, we can afford to do some more research, says industry. [14,15]

How Much More Dangerous Is 5G?

Right now, excessive and continuous exposure to EMFs are almost impossible to escape in urban environments. In my opinion, 5G could remove the word “almost,” at least in highly-populated areas.

The danger is that EMFs and 5G radiation could soon be impossible to escape in urban environments.

In addition to the extreme concerns already listed, there are new questions about how MMWs (millimeter waves) will affect the skin, as over 90% of microwave radiation is absorbed by the largest organ of the human body, the skin.

Animal research raises new concerns about the damaging effects of MMWs on eyes, immune system, cell growth, and even bacterial resistance. The full ramifications of these studies are presently unclear, especially for more vulnerable members of the public (e.g., babies, pregnant women, the elderly). [16,17]

Trick Question: Which Thing Is More Dangerous?

Thing #1?

Thing #2?

Thing #3?

Tricky Answer: Depends

DDT: Dosage, Distance, Time

1# Dosage

5G devices will result in greater power density due to the number and proximity of sources as well as the nature of

beamforming connections.

5G delivers Massive Multiple Input, Multiple Output (MIMO) meaning thousands of active antenna elements will work together to provide Massive MIMO.

Faster processing speeds require more bandwidth, yet our current frequency bandwidths are quickly becoming saturated.

The idea behind 5G is to use untapped bandwidth of the extremely high-frequency millimeter wave (MMW), in addition to some lower and mid-range frequencies (sub 6 GHz).

But even the lower and mid-range frequencies, if close enough, can be extremely dangerous.

Remember, it's not the power density (dosage) emitted from the source that is most dangerous. It's the power density (dosage) that actually hits your body that counts. That's why we use meters to measure things in our environment.

2# Distance

5G smaller antennas will be very, very close. And very, very numerous.

Why? High-frequency MMWs are super-fast but cannot travel long distances.

And, they don't travel well through buildings. Consequently, the necessary infrastructure would require many smaller, barely noticeable cell towers situated closer together – on lamp posts and utility poles in your neighborhood.

You may not even recognize them. And what most people don't know, is that industry can co-locate 4G cell sites right along with the

5G cell locations, bringing constant radiation right into residential neighborhoods.

Remember, distance is your “NBF,” (New Best Friend). That said, which “thing” is closest to your body?

3# Time

The exposure time will be magnified by IoT and 5G.

Why? 5G smaller antennas are said to transmit only when a wireless device requests a signal.

Only then does it activate. However, the more wireless sensors are embedded in our homes, businesses, appliances, devices, the more layered and continuous the exposure becomes.

Smart devices continually send out a “beacon” (every 6-30 seconds) even if they are not in use. And, even if you choose not to incorporate “smart devices” into your living environment, there’s a good chance your neighbors will have a “smart home.” Second-hand EMF exposure will be unavoidable. [18]

Sometimes consumers have “selective outrage.” The public tends to object to the big, ugly towers and yet ignore the obvious.

Your wireless devices that you constantly carry and allow into your home are probably delivering the greater radiation punch to you than the big, ugly towers and antennas, although, those are encroaching closer and closer and are of extreme concern.

Let’s face the fact that they are all very dangerous to our health and well-being.

5G Is Dangerous Because It Limits

Your Options

The cell phone industry is installing upwards of 13 million small cells on lamp posts, buildings, and power poles in America as part of the ramping up to 5G and IoT. They can piggyback 4G right along with the 5G. [19]

It used to be possible to choose a living environment away from a cell tower, electrical sub-station, or high-voltage wires.

But 5G infrastructure can be installed on your street. What are you going to do — move? Where? 5G smaller cells can be on the next street and on the next street. They will be on sign poles and lamp posts and on the corners of buildings.

And alarmingly, 4G can be located right along with 5G – right on your street.

4G actually sends out a continuous wide signal, 24/7 whereas 5G only activates when a wireless device initiates...which could be continually, depending on user habits.

Also, some smart devices try to connect on their own without any user involvement. What? That's right. Some new digital devices have an automatic re-activation. Those devices *want* to stay connected.

The EDN Network is an electronics community for engineers, by engineers. They state that the 5G buildout will be more involved than we've been led to believe. [20]

Sadly, there is no opt-out available. We were never given a choice on whether we wanted this new innovation on our street or not.

And the “second-hand radiation” can be unavoidable from

neighbors, co-workers, adjacent businesses, and passers-by.

Because of the use of higher frequencies (millimeter waves) and beamforming technologies, shielding that used to be effective must be reconsidered as possibly less effective.

In order to measure the new, higher frequencies, extremely expensive equipment, far beyond the general public's buying power is required. *"This is actually the industries escaping the control of the people also, because it's something we'll not be able to really measure,"* says Pawel Wypychowski, Masters degree in electronics, in telecommunication engineering.

Particularly disturbing, is that 5G and IoT will be so ubiquitous that we are losing any chance of a "control group" for scientific studies. That in itself is dangerous. That should give us pause.

What's This Radiation Doing To Our BRAINS?

Brain Tumors

Glioblastoma Multiforme Brain Tumors (GBMs), the most virulent type of tumors, are rising. These are found in the temporal lobe (the region of the brain closest to the ear and potentially to a cell phone).

The Netherlands reported that GBMs more than doubled over the period 1989-2010. [21]

A similar trend is occurring in the U.S. Researchers from the University of Southern California looked at the incidence of brain tumors over a 15-year period, 1992-2006. In 2012, they published a paper reporting that GBMs had gone up while the other types had gone down. The study showed “*decreased rates of primary brain tumors in all sites with the notable exception of increased incidence of GBM in the frontal lobes, temporal lobes and cerebellum.*” [22] And research in England demonstrates GBMs doubled from 1995–2015. [23]

The very young are particularly vulnerable to the ravages of this invisible electromagnetic radiation.

Think about their :

- tiny bodies,
- thin skulls,
- and developing brains.

It's not hard to understand that the radiation emitted from digital devices penetrates deeply into the brain and other organs of a child, with an absorption rate twice that of an adult.

Cognitive impairment, memory loss... 5G will increase our exposure and risk for greater damage.

“*A lifetime of consequences*” – Chilling words from Dr. Liraz Margalit in her article: “[What Screen Time Can Really Do to Kids’ Brains: Too much at the worst possible age can have lifetime consequences.](#)”

Pause. Let that sink in.

Those words were written before the onslaught of 5G and IoT. It is disturbing that 5G is being unleashed without a single thought to the already robust and alarming warnings about the effects of digital overuse on the developing brains of children and youth.

A study engaging nearly 700 Swiss teens showed significant memory loss linked to time spent on electronic devices [24].

Memories. Zap – poof – gone.

And, the link between digital dosing and ADD/ADHD is clear.

The more teens check social media and stream video, the more likely they are to develop symptoms of attention disorder [25].

The brain was not intended for constant interruptive stimulation such as a teen experiences when switching back and forth between screens – text, phone call, Instagram, text, Twitter, YouTube, now Google, more texting, back to Instagram, back to texting, gotta catch this call – all within a couple minutes.

Toggle-toggle,

Flit-flit,

Swipe-scroll.

Repeat. All day, every day, into the night.

It’s no wonder that many of our young people are losing the ability for linear, sustained thought.

What's This Radiation Doing To Our souls?

Of course digital devices can be addicting. Why wouldn't they be?

The persuasive design of apps is intentional and effective. And, like a slot machine, the variable ratio reward system that is mined into video games is designed to stimulate and produce a dopamine hit to the brain, not unlike that of heroin or cocaine [26].

The symptoms include:

- extreme anxiety upon separation from technology,
- depression,

- insomnia,
- and other psychological disruptions.

Digital addicts are often socially isolated and insufferably lonely. Digital detox programs are sometimes necessary to bring child addicts back to the point where they can function.

Check out my previous article: [How Modern Technology Is Destroying Our Children's Health And What To Do About It](#)

The thrill of 5G speeds will only enhance the dopamine-like “*hit*” and exacerbate the *leanness of* soul that our digitally-crazed society has brought on.

EMF Poisoning

Factory workers in the early 1900s began to experience persistent flu-like symptoms and respiratory distress. Doctors couldn't figure out what caused these “mystery symptoms,” so they were dismissed without medical diagnosis or treatment.

As it turned out, industry knew that [asbestos was causing lung disease](#), but conspired to cover it up and allow hundreds of thousands to suffer. [27]

Same with the tobacco companies.

Big Tobacco tricked hundreds of millions of people into thinking that smoking was not only not harmful, but possibly good for your health. And they got away with it for decades. [28,29]

The time-line of lies regarding “safe” things that were really dangerous provide detailed evidence of how industry and government agencies conspired to suppress the truth and promote money-making products. [30]

Don't think Big Wireless wouldn't, couldn't, or isn't already putting profits before people. Wonder how they do it? See [EMF Dangers – The BIG Cover-Up And What You Can Do About It](#)

Their game is to get people to believe that wireless technologies like 5G and smart devices are perfectly safe.

But they're not 100% safe. These technologies are dangerous. 5G is dangerous.

Our bodies are constantly besieged by layer upon layer of EMFs at levels never-before endured by earth-dwellers.

5G radiation will

1. increase the power density/dosage,
2. and decrease the distance from the source of the radiation

The ubiquitous nature of the infrastructure will be impossible to escape.

We will all be affected, but some will suffer more intense symptoms, called EHS, [Electric Sensitivity](#), Electromagnetic Hypersensitivity, or Microwave Sickness.

Common symptoms include:

- headaches,
- heart palpitations,
- pressure in the chest,
- extreme fatigue,
- tinnitus (ringing in the ears),
- skin symptoms ranging from rashes to burning sensations,
- joint pain,
- muscle aches,
- memory and concentration loss,
- and sleep disturbances. [31,32,33]

Is 5G Dangerous For You? Here are some things to consider:

- Do I live with a malaise of undiagnosed, vague symptoms?
- Why am I worse in certain rooms or locations?

- Is there a place where my symptoms are particularly worse?
- Do I feel better when I am away from my home?
- Is there a place where my symptoms recede or disappear altogether?
- Do my symptoms go away when I am visiting other geographical locations?

The question is not, “is 5G dangerous for you?” It’s more “is 5G particularly dangerous for you”? Because if you are ticking a lot of these boxes this could mean you are electrically sensitive and that 5G will make you even more vulnerable.

In her book *Zapped* (2010), Ann Louise Gittleman makes a compelling case for EMR causing “*subliminal stress*,” or “*stealth stress*.” This stress has been shown to interrupt communication between the body’s cells and can result in a host of unintended consequences for the EHS person.

Remember, man-made EMR is not found in nature and is, therefore, “*foreign*” to the human body. Some seem to handle it OK, or at least we think we do, because we don’t exhibit symptoms. But others are desperately ill. It is as if an [EHS person is “allergic” to non-ionized EMR](#). [34]

Interesting that “*Microwave Sickness*” was recognized by a French court as an “*Occupational Disease*.” [35]

What’s It Doing To Our Privacy?

There are lots of smart devices in place right now. What is different about 5G working together with IoT is that the devices will be able to

- collect and analyze data,
- communicate with other devices,
- and automatically perform intelligent actions. [36]

It's not just about having an array of wireless gadgets. It's about connecting them all in a way that serves you better. And don't we have that innate nature that wants to be served?

Here's how it looks:

Sensors collect data about you and your family to determine what's "*normal*," for you. To serve you better. To make your life seem easier.

Your smart house knows your habits, how fast or slowly you move, how many people are normally in your house, what you are doing, when you eat, how many times you get up in the night, how many people normally come and go during a 24-hour period, so that if something "out-of-the-ordinary" happens, it can alert you. Or alert someone.

Instead of programming your coffee maker to start at a certain time, your smart bed lets your smart coffee maker know when you rise in the morning. Aaahh, the smell of coffee greets you.

The smart pacifier your toddler is sucking on can alert you when he or she runs a fever at daycare.

Your fitness coach gets a detailed report of all your physical activity every day. So there's no fudging on your workouts.

Your smart car communicates with your smart house so that when you are near, it automatically turns on the heat (or air conditioning) and the lights. It can have your favorite music playing when you walk in the door. "*Honey, I'm ho-ome.*"

Let's review and reflect. The IoT knows your comings and your goings, when you come in, when you go out. How many people are in your home. How fast you all move and breathe. So, it could be extraordinarily useful for crime control and national security, busting drug houses and terrorist cells . . . and rooting out young girls (remember Anne Frank?) . . . and there would be no place to hide.

Pause .

Even if one were to choose not to employ "smart living" devices, the sensors are still with us. And most of your neighbors' homes would

presumably be “smart.” I can see the privacy issues getting out of hand, not to mention the inescapable radiation exposure stacking up like the Tower of Babel.

How much is too much?

This much!

While technological advancements can be convenient, and sometimes exhilarating, they also should give one a heightened level of concern about:

- **Super-dose, ubiquitous exposure to EMR, 24/7, everywhere you go. Exposure levels even worse than we are already getting.**
- What this could potentially do to our initiative and independence.
- Privacy lost, almost to the point of extinction. This is Big Brother on steroids.

What's This Radiation Doing To Our Planet?

When I was a kid, I read sci-fi books about earth being invaded by outer space beings. Now, the tables are turned to earthlings invading space with satellites.

They are used for

- communications,
- earth observation,
- technology development,
- navigation/positioning,
- space science/observation,
- and earth science.

The [United Nations Office for Outer Space Affairs \(UNOOSA\)](#) touts the benefits of space satellites to the environment, humanitarian projects, and peace and security.

On their website they boast, “*UNOOSA works every day with the global space community to deliver the benefits of space to everyone, everywhere.*”

However, scientists with the [Global Union Against Radiation Deployment from Space \(GUARDS\)](#), have been warning medical and governmental agencies for years about the impending

disaster of the proliferation of WiFi satellites orbiting earth.

Contrary to “popular deception”, wireless technology is neither sustainable nor environmentally friendly. Scientists warn of the possible resulting ecological chaos. [37]

Is 5G Dangerous For The Atmosphere?

MOS – More of the Same.

And then some. More rockets, more drones, more high-altitude hydrogen balloons. More signals, more transmitters, more antennas, new frequencies, more inaudible “noise.” More radiation. More, more, more.

The environmental impacts on our planet are incalculable.

In the 1990s the world averaged only 12 rocket launches per year. Maintaining over 4,000 satellites, with an expected lifespan of five years.

According to [Online Index of Objects Launched into Outer Space \(UNOOSA\)](#), a total of 8,539 objects have been launched into space. They report that as of Jan., 2019, there are 4,994 are still in orbit – although 7 of them are in orbit around celestial bodies other than the Earth; meaning there are 4 987 satellites whizzing around above our heads every single day.

But wait. There’s more.

According to GUARDS, 13 companies are now competing to cover the entire Earth with high-speed wireless Internet from low-orbit satellites beginning in 2019.

They include:

SpaceX (12,000 satellites)

OneWeb (4,560 satellites)

Samsung (4,600 satellites) [38]

That's just the top three. Every rocket launch represents a tremendous degree of pollution to the earth's atmosphere. All so that we can download a movie in 7 seconds instead of 7 minutes.

Scientists at the European Space Agency as well as NASA are concerned about the increased risks of collisions and debris.

[39,40]

Silent Spring in space? When **Rachel Carson** took on the chemical industry in her ground-shaking book, *Silent Spring* (1962), she observed that industry leaders possessed :

“no humility before the vast forces with which they tampered.” [41]

In her book, *An Electronic Silent Spring* (2014), author **Katie Singer** asks some disturbing and relevant questions:

“Does our species’ survival depend on humbling ourselves? Could we admit how much we do not understand? Could we each acknowledge our electronic footprints?” [42]

Sigh...nothing much has changed in 50 years.

In September 2017, more than **180 scientists and doctors** from 36 countries appealed to the EU for a 5G moratorium, warning of the potential serious health effects of 5G. They asked for a full investigation of the potential health effects of 5G, independent from industry, asserting that:

“5G will substantially increase exposure to radio frequency electromagnetic fields (RF-EMF) on top of the 2G, 3G, 4G, WiFi, etc. telecommunications already in place. RF-EMF has been proven to be harmful for humans and the environment.”

Furthermore, a statement from the International EMF Alliance urgently called for :

“a complete overhaul of EMF exposure guidelines based on up-to-date credible information from empirically based life sciences.” [43]

However, [Joel Moskowitz Ph.D.](#) noted that in its October 2017 response to the 5G Appeal,

*“the European Commission claims that **current limits on RF-EMF exposure** established by the International Commission on Non-Ionizing Radiation Protection **are adequate to protect the population**, and that these limits apply to the frequencies to be deployed for 5G.”*

Thus, the appeal fell on deaf ears and the 5G rollout in Europe began.

But since then, largely due to public outcry, cities and countries around the world are saying NO to 5G.

Brussels – A Belgian government minister has announced that Brussels is halting its 5G plans — at least for now — due to concerns about health effects. [The Brussels Times.](#)

California – The city council of Mill Valley, a small town located just a few miles north of San Francisco, voted unanimously to effectively block deployments of small-cell 5G wireless towers in the city’s residential areas. [The San Francisco Chronical.](#)

Finland – Citizens have produced a [petition to halt the installation of 5G.](#)

Switzerland – [Deployment of 5G stopped in 3 cantons](#) (Jura, Geneva and Vaud)

There are undoubtedly other cities, countries which are taking a

precautionary position on the implementation of 5G, since there are, once again:

- No pre-market studies.
- No long-term studies.
- No opportunity for an individual to opt-out of this technology.
- It will be *EV-ery-where*.

Can grassroots effort of health advocates bring about a delay in the 5G race long enough to make a difference in the manner and speed with which technology advances?

Let me entertain some optimism.

A Race For Safer Technology

Wouldn't it be awesome for inventors and innovators around the world to engage in a different "race"? A race for

- safer technology,
- effective personal shielding, or cloaking mechanisms for homes,
- a pathway to 5G "opt out"
- and a way to ensure minimal damage on the environment?

Such a delay would be an opportunity for innovation and a dream win for our world.

1. A win for our health.
2. A win for our privacy and freedom.
3. A win for the environment.
4. A win for financial success for innovators and inventors.

You see, I am neither anti-technology nor anti-profit. But just not at the expense of my health, privacy, and planet.

Ah . . . back to reality.

The “Race to 5G” is like Technology Olympics, complete with international frenzy and media and consumer bedazzle. Full speed ahead.

So ... remember the question we started with? Has the question shifted from, “Is 5G dangerous,” to “Just how dangerous is 5G?”

Time for some solutions.

5G Is Dangerous—What Can We Do About It?

For Your Soul:

1/ Pause. Determine to **keep your life simple and manageable.**

2/ Resist the sensors and [listen to your intuition.](#)

3/ Make it a point to **employ human touch**, not techno-touch.

4/ Spend time in **nature.**

For Your Body and Brain:

- 1/ **Reconnect** with natural EMF signals of the earth via [earthing](#).
- 2/ Take advantage of **natural sunlight** during the day and avoid blue light at night from electronic screens. Learn about the [benefits of low EMF living here](#).
- 3/ Resist the urge to be “**cutting edge.**” **It may hurt you.**
- 4/ Retain your plug-in cords and **hard wire your electronics** when possible. (To be clear, there is radiation from wires and cords, but remediation is more under our control than wireless radiation.)
- 5/ At least, **turn off electronics at night** and get them as far away as possible from your sleeping area.
- 6/ Measure and **be aware of the electromagnetic radiation** in your environment—the [Trifield TF2 EMF Meter](#) is a popular choice for this.

Download and print this pop-art style tri-fold brochure

[Ten Ways to Lower Your Exposure to Harmful Radiation Right Now](#)

Check out Manhattan Neighbors: [50+ EMF SAFETY TIPS](#)

5G may require taking advanced steps to reduce the EMF

exposure in your own environment.

With the proliferation of 5G and the resultant “densification” of smaller cell sites and antennas, professional consultation becomes increasingly important. Shielding may be necessary as a last resort. Some options include:

- Shielding paint
- Specially designed shielding foil
- Window shielding
- Shielding fabric
- [Faraday sleeping canopies](#)

The above things work well. But shielding can become complicated. **EMFs must be measured before and after to ensure that the intended effect is achieved.**

Since shielding is reflective, if it is not done properly, it can actually cause EMFs to “bounce around,” and result in higher levels.

Also, because of the use of higher frequencies and greater bandwidth be aware that shielding that worked with 3G and 4G may not be as effective with the full-blown MMW of 5G.

I have heard of experts having to double their shielding applications in order to achieve the intended results.

You can search for a Certified Electromagnetic Radiation Specialist in your area: [International Institute for Building-Biology and Ecology \(IBE\)](#)

These specially trained professionals will detect and remediate the electromagnetic radiation exposure in homes, businesses, and schools. They address radiation from both wireless as well as wired

sources. Also, they have the training and experience to handle advanced solutions. Most offer phone consultation as well as in-house EMF inspection and remediation.

If you believe you have electrical sensitivity, these sources will be valuable to you:

[ElectricSense.com](https://www.electricsense.com) (Lots of scientifically sound and practical help)

[We Are The Evidence – Wireless Technology Injured Advocacy Group](#)

[The EMF Refugee](#): Sign up for email updates on current EMF research and issues.

If you are electrically hypersensitive (EHS) you may want to:

- Move into a **more rural environment** where the 5G infrastructure would be delayed because it is not economically feasible to install
- Look into “**Low EMF zones**” or “**Safe Zones.**” There are not many, but there are some communities that specialize in EHS and chemical sensitivities
- Research [EMF protection through nutrition](#) and similar practices to boost your immunity
- Find an “**EMF Aware**” **health professional**
- Consider [EMF shielded clothing](#) if you are EHS. Try it out and see if you feel better. (Sometimes shielding, because it is reflective and can cause radiation to “bounce around,” can make it worse.)
- Consider **pursuing some advanced remediation** with an [EMF consultant](#)
- Create a [Low-EMF Sleep Sanctuary](#). This should be your priority

For The Environment:

Consider joining a local EMF safety and/or environmental advocacy group.

[Environmental Health Trust](#)

[Parents for Safe Technology](#)

[Manhattan Neighbors](#)

[EMF Safety Network](#)

[5G? IoT](#)

[GUARDS](#)

Stay Engaged In The Debate:

Besides this website here are a couple of other websites so you can stay engaged in the EMF/5G dangers debate:

[Powerwatch](#): Up-to-date information on the health debate and government policies as well as research.

[The Environmental Health Trust](#): A wealth of both scientific knowledge and practical resources

[The EMF Refugee](#): Sign up for email updates on current EMF research and issues.

To learn how to write, call or email the relevant [agencies to protest against the 5G deployment](#).

For Our Privacy:

Un-plug, turn off, go retro as much as possible.

For The More Technically-Minded:

The Institute of Building Biology (IBE) will soon offer an on-line 5G

course that includes a lot more technical detail.

We realize that we cannot escape the dangers of EMFs and 5G totally. But we can take steps to reduce our exposure to harmful electromagnetic radiation today.

Share this information with everyone you know and love.

May your radiation be low and your health be high.

Many thanks to Lois Cadwallader for this guest post.

Author bio: Lois Cadwallader, MA, has been a professional educator all her life. She lives in Las Vegas, Nevada and enjoys volunteering in after-school clubs, hiking and cycling. She is the co-author of *Exposed: The Electronic Sickening of America and How to Protect Yourself*.

Sources and Bibliography

1. Verizon: What is 5G? <https://www.verizon.com/about/our-company/5g/what-5g?>
2. Qualcomm: What is 5G? <https://www.qualcomm.com/invention/5g/what-is-5g>
3. T-Mobile/Sprint: 5G <https://newtmobile.com>
4. AT&T: 5G and you: <https://www.att.com/5g/consumer/>
5. CTIA: <https://www.ctia.org/homepage/5g-channel>
6. Skyworks: <https://www.indeed.com/cmp/Skyworks-Solutions/about>
7. Business Dictionary: <http://www.businessdictionary.com/definition/crisis.html>

8. Merriam-Webster: <https://www.merriam-webster.com/dictionary/crisis>
9. Levitt, B. Blake. Electromagnetic Fields: A Consumer's Guide to the Issues and How to Protect Ourselves, 2nd edition. New York: Harcourt Brace, 2007.
10. Firstenberg, Arthur. The Invisible Rainbow, A History of Electricity and Life. Santa Fe, NM: AGB Press, 2017.
11. Hardell, Lennart, Tarmo Koppel, Michael Carlberg, Mikko Ahonen, and Lena Hedendahl. "Radio frequency radiation at Stockholm Central Railway Station in Sweden and some medical aspects on public exposure to RF fields," International Journal of Oncology. Oct; 49(4) (2016)
12. Environmental Health Trust. "Clear Evidence Of Cancer Concludes U.S. National Toxicology Program Expert Panel On Cell Phone Radiation," March 2018 Retrieved from <https://ehtrust.org/clear-evidence-of-cancer-concludes-the-expert-panel-to-the-us-national-toxicology-program-on-cell-phone-radiation-study-findings/>
13. Hyland, G.J. "Physics and biology of mobile telephony," The Lancet, November 25, 2000, Volume 356, No. 9244, 1833–1836. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(00\)03243-8/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(00)03243-8/fulltext)
14. Sage, C. (Ed.) BioInitiative 2012 (Updated 2017) – A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF). Rensselaer, NY: University at Albany, 2012. Retrieved from <https://bioinitiative.org/>
15. Lai, H. PhD, et al. "Source of Funding and Results of Studies of Health Effects of Mobile Phone Use: Systematic Review of Experimental Studies" Environmental Health Perspectives. 2007 Jan.

16. Jody McCutcheon, “Frightening Frequencies: The Dangers of 5G and What You Can Do About Them,” Eluxe Magazine, May 2018, <https://eluxemagazine.com/magazine/dangers-of-5g>.
17. “5G Radiation Dangers – 11 Reasons to be concerned” Posted by Lloyd Burrell on May 12, 2017 <https://www.electricsense.com/12399/5g-radiation-dangers/>
18. Miller, Lawrence. 5G RF for Dummies, Quorvo Special Edition, Hoboken, NJ: John Wiley & Sons, Inc., 2017.
19. Senum, ReINETte. “The 5G Network: What you don’t know may kill you,” Nexus Magazine, April 2017. Retrieved 2017 <https://www.scribd.com/document/361776193/5G>
20. Santo, Brian. “5G Buildout will be more involved than we’ve been led to believe, ” EDN Network, December 27, 2018; <https://www.ednasia.com/news/article/5G-buildout-will-be-more-involved-than-we-ve-been-led-to-believe>
21. Brain Tumor Chart – Source: Adapted from Ho et al., European Journal of Cancer, 2014, p.231. R The original appears on MicrowaveNews.com. <https://microwavenews.com/news-center/ntp-and-brain-tumor-rates>
22. Zada, Gabriel, MD, et al. “Incidence Trends in the Anatomic Location of Primary Malignant Brain Tumors in the United States: 1992–2006,” World Neurosurgery, March–April, 2012. Retrieved 2018 from <https://doi.org/10.1016/j.wneu.2011.05.051>.
23. Alasdair Philips et al, Brain Tumours: Rise in Glioblastoma Multiforme Incidence in England 1995–2015 Suggests an Adverse Environmental or Lifestyle Factor <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6035820/>
24. Foerster, Milena, et al. “A Prospective Cohort Study of Adolescents’ Memory Performance and Individual Brain Dose of Microwave Radiation from Wireless Communication.” Swiss

- Tropical and Public Health Institute in Basel, Switzerland. July 2018. Retrieved from <https://doi.org/10.1289/EHP2427>
25. Ra, Chaelin K., MPH, Cho, Junhan, PhD. “Association of Digital Media Use With Subsequent Symptoms of Attention-Deficit/Hyperactivity Disorder Among Adolescents.” *JAMA* 2018;320(3):255-263. July 2018. Retrieved from https://apsard.org/wp-content/uploads/2018/07/ADHD-digital-media-jama_Ra_2018_oi_180072.pdf
26. Huddleston, Brad. *Digital Cocaine: A Journey Toward iBalance* [eBook], Christian Art Publishers, 2016.
27. Barbalace, Roberta C. “A Brief History of Asbestos Use and Associated Health Risks,” *EnvironmentalChemistry.com*. October, 2004. Retrieved February 24, 2018, from <https://EnvironmentalChemistry.com/yogi/environmental/asbestoshistory2004>
28. White, Larry C. *Merchants of Death: The American Tobacco Industry*, Ashland, OH: Beech Tree Books, 1988.
29. Cummings, K.M., C.P. Morley, and A. Hyland. “Failed promises of the cigarette industry and its effect on consumer misperceptions about the health risks of smoking,” *Tobacco Control* 2002;11(Suppl 1):i110–i117. https://tobaccocontrol.bmj.com/content/tobaccocontrol/11/suppl_1/i110.full.pdf
30. Cadwallader, Bill, “EXPOSED: The Electronic Sickening of America and How to Protect Yourself—Includes the Dangers of 5G and Smart Devices,” *Stop Dirty Electricity*, Las Vegas, NV 2018 www.StopDirtyElectricity.com
31. Adey, W.R. “Biological Effects of Electromagnetic Fields,” *Journal of Cellular Biochemistry*, 51, No. 4 (April 1993).
32. Blackman, C. “Evidence for Disruption by the Modulating Signal,” *BioInitiative 2007: A Rationale for a Biologically-based*

Public Exposure Standard for Electromagnetic Fields (ELF and RF), C. Sage and D. O. Carpenter (editors). Retrieved 2017 from <http://www.bioinitiative.org/>

33. Belyaev, I. “Evidence for Disruption by Modulation: Role of Physical and Biological Variables in Bioeffects of Non-Thermal Microwaves for Reproducibility, Cancer Risk and Safety Standards,” BioInitiative 2012: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF), C. Sage and D. O. Carpenter (editors). Retrieved 2017 from <http://www.bioinitiative.org/>

34. Gittleman, Ann Louise. Zapped: Why Your Cell Phone Shouldn't Be Your Alarm Clock and 1,268 Ways to Outsmart the Hazards of Electronic Pollution, New York, NY: McGraw-Hill Education; 2010.

35. Martine Vriens, “French Court Recognized Electromagnetic-Sensitivity as an Occupational Disease,” April 2, 2019 <https://wearetheevidence.org/french-court-recognized-electromagnetic-sensitivity-as-an-occupational-disease/>

36. Miller, Lawrence. 5G RF for Dummies, Quorvo Special Edition, Hoboken, NJ: John Wiley & Sons, Inc., 2017.

37. Global Union Against Radiation Deployment from Space. “Planned Global Wi-Fi from Space Will Destroy Ozone Layer, Worsen Climate Change, and Threaten Life on Earth” [News Release], March 26, 2015. Retrieved 2018 from <https://stopsmartmeters.org/global-union-against-radiation-deployment-from-space/>

38. Global Union Against Radiation Deployment from Space <https://www.stopglobalwifi.org/>

39. Grush , Loren, “As Satellite Constellations Grow Larger, NASA is Worried about Orbital Debris,” Sept. 28, 2018 <https://www.theverge.com/2018/9/28/17906158/nasa-spacex->

[oneweb-satellite-large-constellations-orbital-debris](#)

40. Amos, Jonathan, "Mega-constellation satellites will need 'rapid disposal'" April 18, 2017 Retrieved from BBC Space and

Environment: <https://www.bbc.com/news/science-environment-39632181>

41. Carson, Rachel. Silent Spring. Boston, MA: Houghton Mifflin Co., 1962.

42. Singer, Katie. An Electronic Silent Spring, Great Barrington, MA: Portal Books, 2014.

43. Scientists warn of potential serious health effects of 5G September 13, 2017 Retrieved from Environmental Health Trust:

<https://ehtrust.org/wp-content/uploads/Scientist-5G-appeal-2017.pdf>