

The Most Common EMF Myths

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We've all been there. A conversation with friends or family delves into the electromagnetic topic and someone says "I've heard there is really no good science" or "EMF is everywhere, so there is nothing you can do about it." These statements typically come from not understanding a complex topic. However, they are also part of a deep denial mechanism that exists throughout our society where wireless technology equals convenience, money and addiction.

What are you to say in these conversations? In this article, I cover the most common myths about electromagnetic fields and give you the best information that science provides us. Hopefully this will help you when these myths are erroneously stated as fact and give you a resource to share with friends and family who are genuinely interested in learning about this topic.

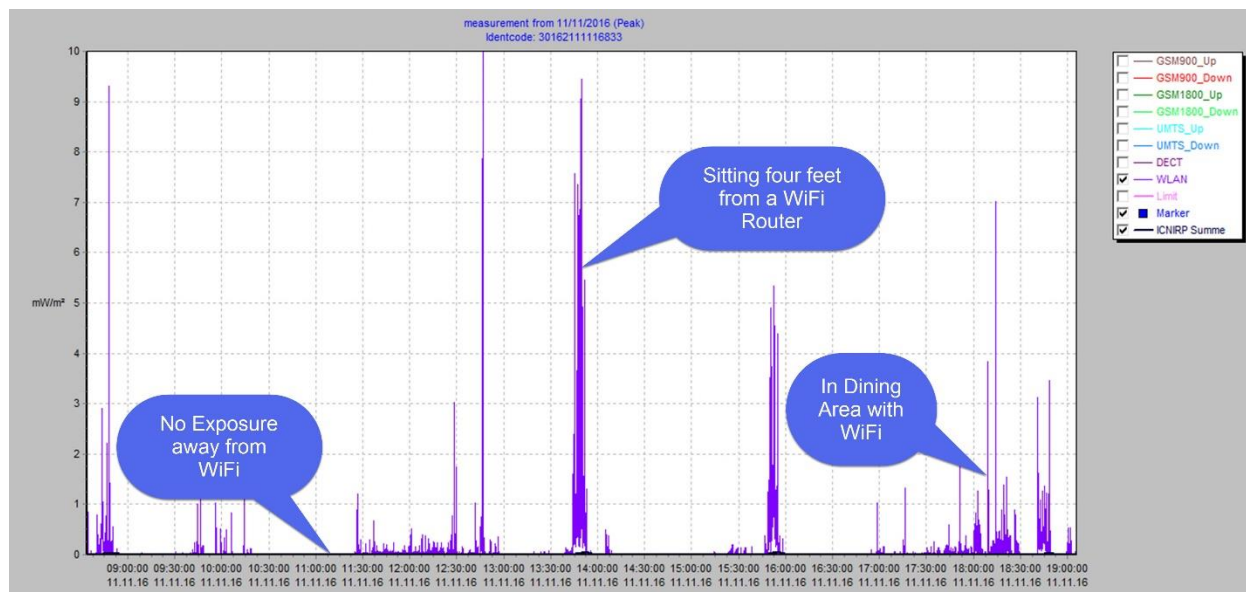
"A truth's initial commotion is directly proportional to how deeply the lie was believed. It wasn't the world being round that agitated people, but that the world wasn't flat. When a well-packaged web of lies has been sold gradually to the masses over generations, the truth will seem utterly preposterous and its speaker a raving lunatic."

– Donald James Wheal (1931-2008)

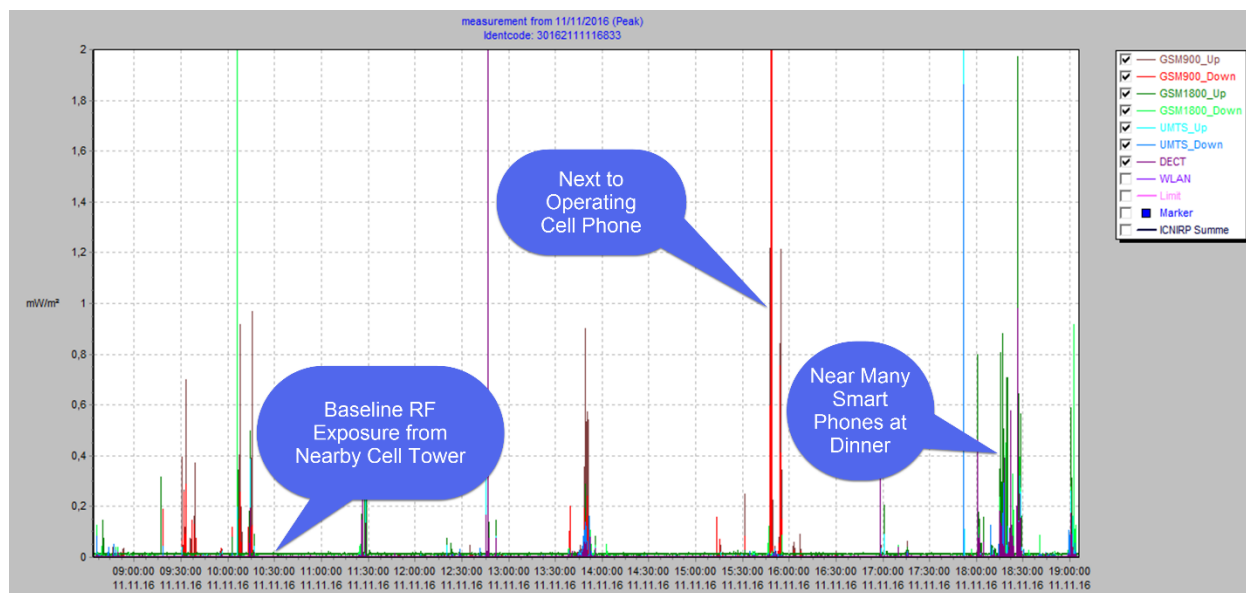
Myth #1: "EMF is everywhere, so you can't do anything about it."

On one level, this is true. All of life is electromagnetic. Your body is actually electric. However, the issue at hand is man-made EMF or non-native EMF. Man-made EMF exposures are now many billions of times higher than they were in the 1950's, and are increasing exponentially. But contrary to popular belief, there is something you can do about it. The great thing about EMF is that power density decreases exponentially with distance. By the time you are 100 feet from a Wi-Fi router or smart meter, the power density of the microwave radiation is millions of times less than if you are a few feet away. Creating distance from wireless antennas (or better yet turning them off) and using well-placed shielding can dramatically reduce your EMF exposures. Even homes in relatively populated areas can have low levels of EMF.

To illustrate this truth, I recently wore a German-made dosimeter for a day. A dosimeter is a device that is worn on the body and measures most man-made microwave frequencies that you are exposed to over a period of time. When these measurements were made, I was at a property that had a bank of wireless smart meters, dozens of Wi-Fi routers, cordless phones, guests and employees using smart phones and a major cell tower just a quarter mile away. Even though this property was seemingly filled with wireless technology, you can see from the following graphs that my only high exposures were when I was right next to a Wi-Fi router or near someone who was using their smart phone. Otherwise, my exposures were quite low. This shows that distance is your best friend when it comes to EMFs.



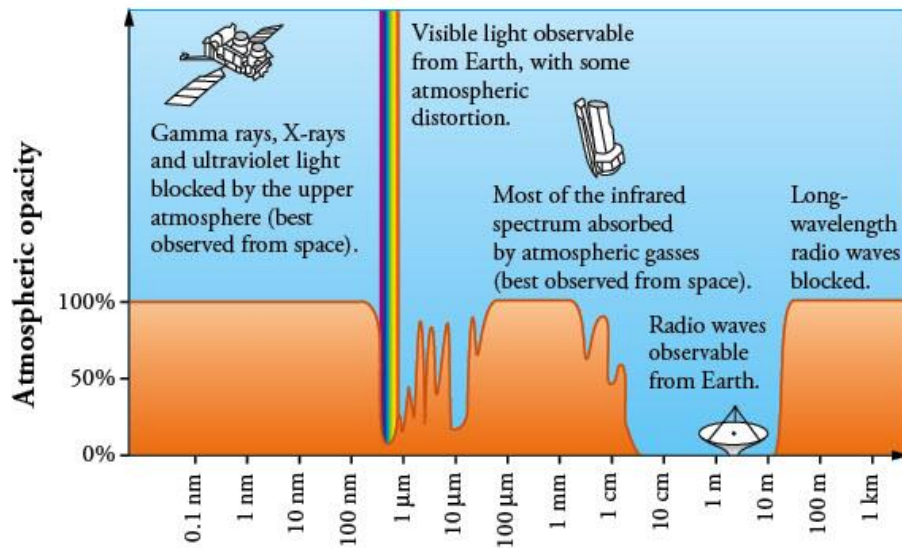
This first graph shows only my Wi-Fi exposure from 8:00 am to 7:00 pm. The scale at left is in miliWatts per meter squared (the top reading is an extremely high 10,000 $\mu\text{W}/\text{m}^2$). You can see that my exposures were incredibly high when near a router (which was hidden on the other side of a wall and dramatically increased my sensitization to Wi-Fi for weeks after) and very low when I was over 200 feet away.



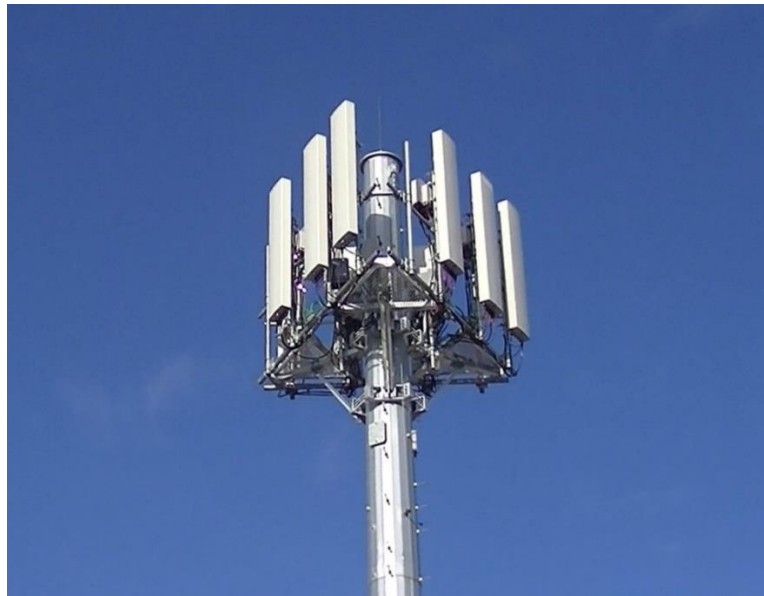
This second image shows my exposure to other RF technologies during that day. The scale at left is smaller, maxing out at 2,000 $\mu\text{W}/\text{m}^2$. Even though a major 3G cell tower was a quarter mile away, the average exposure on the property was quite low (below 2 $\mu\text{W}/\text{m}^2$). My primary exposures were near a person operating a cell phone and at dinner where guest's smart phones were constantly pinging the network. If I had my own smart phone, the graph would be filled solid with red and green lines from the nearly constant communication with the tower or Wi-Fi routers.

Myth #2: “We are constantly exposed to cosmic radiation, so my cell phone can’t be dangerous.”

Actually, if you look at the following image showing the opacity of the atmosphere, you will see that we are *not* constantly bombarded by cosmic radiation from space. In fact, our protective atmosphere blocks nearly all EMF from space and our sun.



Life on Earth has evolved within the protective conditions that the atmosphere provides. Our body and its cells are extremely sensitive to changes in EMF exposure. If the natural conditions that we evolved in over millions of years were to quickly and dramatically change, we would be in deep trouble. Unfortunately, this is *exactly* what we are doing by placing cell towers, WiFi routers, smart phones and wireless smart meters on our bodies, in our homes and within our communities.

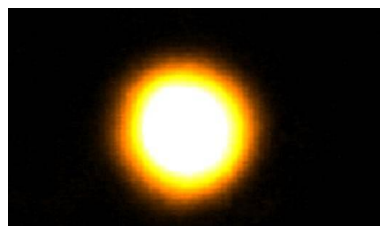


Nearby cell towers are infinitely more dangerous than cosmic radiation.

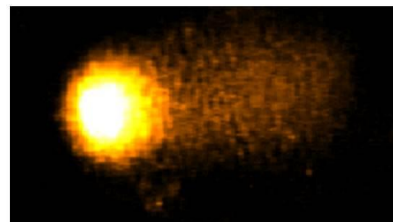
Myth #3: “There is no good science showing that EMF is dangerous.”

This is the usual response from someone who has not actually looked at the science. Anyone who spends just a couple hours honestly investigating this topic will find that the science is split on how harmful EMF is to our health. However, this picture has been muddled by the quantity of industry-funded science that has not found biological effects, similar to the way science sponsored by the tobacco industry decades ago was used to suggest smoking was safe. When industry-funded studies are taken out of the mix, more of the research warns we have a big problem that has immense implications for society.

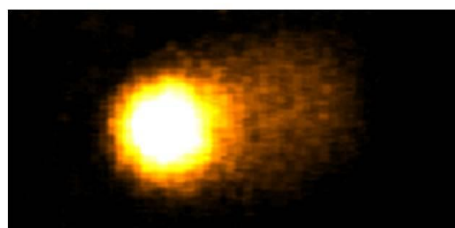
I have summarized and outlined the best science that shows EMF is harmful on my research page. For the best science on the brain cancer risk of cell phones, see Lennart Hardell’s work showing increases in brain cancer after ten years of cell phone use. Then read about the \$25 million NTP study that shows brain cancer and DNA damage in rats exposed to cell phone radiation. This study is the gold standard of EMF science and proved the opposite of what the scientists were expecting. Dr. Henry Lai has also found that two-thirds of the 73 studies looking at DNA damage the past twenty years have shown that low-powered microwave radiation does indeed cause DNA damage.



sham exposition



gamma-radiation; 0,5 Gy



RF-EMF: 1800 MHz; SAR 1.3 W/kg; 24h

The above comet tails are fragments of broken DNA from both gamma radiation and cell phone microwave radiation (yes, they can cause the same damage). The DNA damage seen above in the European Union REFLEX study have been confirmed by dozens of similar experiments.

Image Credit: Clinical Chemistry, Free University of Berlin

Further, it’s not just cancer and DNA damage that we should be concerned about. Twenty-one of 27 studies in a 2016 meta-study showed sperm damage from wireless technology. Additionally, there are thousands of studies done the past 50 years by our own military, major corporations and the former Soviet Union that show harm to immune, endocrine, cardiac and nervous systems of humans.

Myth #4: “There is no known mechanism for EMF to harm biology.”

This is the common refrain from people who admit there is ample science showing harm. They are basically saying if we don’t know *how* EMF is harming us, then we should ignore all the science showing harm. This is ludicrous. We knew that tobacco was killing people well before we understood the mechanism for it causing cancer. We didn’t wait until we fully understood the mechanism to warn society and save millions of lives.

The truth with EMF is that we actually do have a mechanism. This has been discovered by several researchers, including Dr. Martin Pall, the past few years. They have shown that when a cell membrane is exposed to EMF, its polarization can change. This change on the surface of the cell wall allows excess calcium to enter the cell through voltage-gated calcium channels (VGCC’s). When this excess calcium gets into the cell, it triggers a chemical process that creates peroxynitrite. Peroxynitrite can then cause oxidative stress and free radicals within the cell. It is these free radicals that damage the DNA, which can lead to brain cancer and the other health effects seen in so many studies.

EMF Activation of VGCCs Increases Free Radical Production

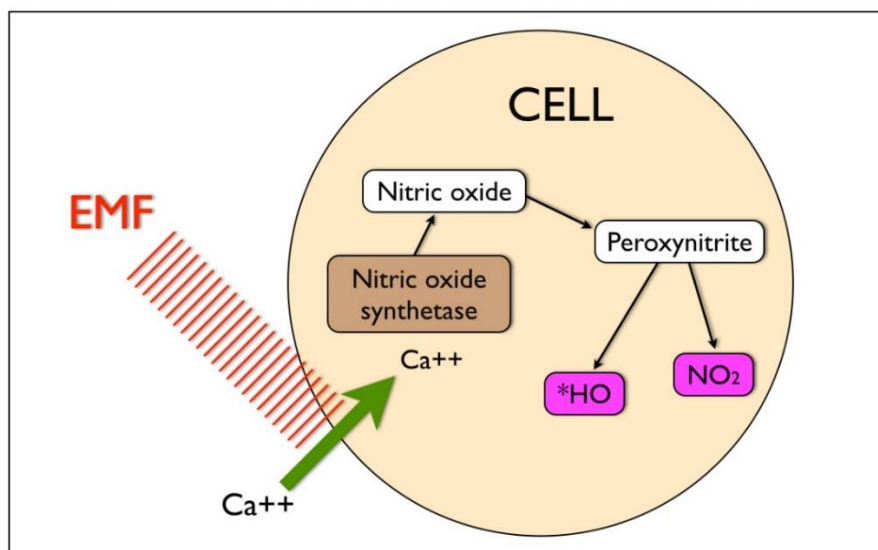


Image Credit: Dr. Paul Dart and Dr. Martin Pall

Myth #5: “If wireless technology doesn’t heat you, it can’t possibly hurt you.”

This has been the fundamental but mistaken basis for the safety regulations of the United States government since the 1950’s. This may have made sense back when economic and Cold War concerns were of far greater importance than the future health of the population. However, with the exponential increase in EMF pollution the past decade, especially when it comes to childhood exposures, continuing to base policy on this myth is incredibly dangerous. With the science and mechanism explained above, believing “if it doesn’t heat you, it can’t hurt you” is tantamount to believing the Earth is flat (except far more perilous).



Society once thought the world was flat. Today, humanity believes wireless technology is safe.

Myth #6: “Physicists, electrical engineers and medical doctors know best about EMFs.”

The strongest reactions I receive to my website and TEDx talk are often from physicists, electrical engineers and medical doctors (To be fair, I also know people in these professions that fully understand the health implications of EMFs). It is always interesting to see such highly educated and trained professionals have such visceral, emotional reactions to this new and evolving reality.

There are several reasons why some members of this group react in such a way. The first is that in all of their education and training, there is typically little if any time spent on the biological effects of electromagnetic fields. This is partly because their textbooks and professors are often 20-40 years behind the times. The new information has simply not made its way into the curriculum. The new information is also very inconvenient for major industries that fund our major universities. Furthermore, if the topic is brought up all, it is only to dismiss such thinking as nonsense that only conspiracy theorists would ever seriously discuss. The effect is that any real discussion and education is short-circuited from the very beginning. This is a sign of dogma, not science.

“A new scientific truth is not usually presented in a way to convince its opponents. Rather, they die off, and a rising generation is familiarized with the truth from the start.”

– Max Planck, Originator of Quantum Theory and Nobel Prize winner in Physics

The second reason for the reaction is that highly educated people who are experts in one narrow field often subconsciously believe they can be experts in other areas. This especially rings true when the topic is even remotely related to their field. They think that they would know everything there is to know about the topic, even if their education never touched upon the health effects of EMFs.

The third reason why some members of this group can be so reactive is that they often have the most to lose. Electrical engineers and physicists are in careers tasked with creating and implementing the very technology that creates excess EMF. Medical doctors are also at the forefront of using high-EMF technology in hospitals. Newborn babies are now bathed in high-RF environments and the modern “smart” hospital that uses RFID to locate every surgeon’s scalpel has become filled with incredibly high amounts of EMF. For any of these highly educated and respected professionals to admit they are mistaken about this issue is very rare. In the current climate, it would also likely end their career.

What is needed in this situation is true skepticism from these professions. A skeptic looks at something and says “I wonder.” Instead, what we often see is cynicism. The cynic says “I know” and then stops thinking. This topic is too complex, too evolving and too important for any one individual or profession to say “I know” the truth. We all need true skeptics to come forth that bring together the best minds in biology, holistic medicine, allopathic medicine, engineering and physics so that lasting solutions can be found for our society.

Myth #7: “Electrical sensitivity is a mental illness.”

The wireless industry, along with the media and governments they often control, have tried to paint electrical sensitivity as a purely psychological condition. This is primarily done by limiting funds to study this important subject, as well as directing funding only to studies performed by psychiatrists, rather than biologists. The incentives to do this are strong because the “mental illness” card is likely their only argument and trillions of dollars are at stake. Science is not in their favor (just as with tobacco and asbestos), so they must create an alternative story that blames the victim. Painting sufferers as having psychological conditions is a frequent strategy used by corporate vested interests. The medical industry, too, has frequently used the “psychological” label for poorly understood conditions, such as happened decades ago with Parkinson’s disease, multiple sclerosis and even ulcers.

The truth is that there is science showing that electrical sensitivity is real – not only in humans, but in most of life. Electrical sensitivity has been observed in humans since at least the early 1930’s and was studied in depth by the former Soviet Union. For a summary of the science on electrical sensitivity, read the article on my website titled **“Is Electrical Sensitivity Real?”**

While there may indeed be people who are experiencing a Nocebo response, the majority of affected people are often engineers, medical doctors, teachers, airline pilots, *the former Prime Minister of Norway* and other highly qualified people with no history of mental illness. They are people with no fear

of technology who have quite simply been injured by over-exposures to a known toxin or they have chronic neurological or autoimmune conditions that are exacerbated by EMF exposure. For society to paint these people as having a psychiatric condition is the height of arrogance and an act of folly.



Countless people get a headache or feel heat when talking on a cell phone. Are these symptoms part of a mass delusion or is wireless technology more dangerous than we are led to believe?

Myth #8: “I can just buy a device or product that will protect me from EMF.”

When someone fully accepts the truth that EMF is harmful to themselves and their family, the first impulse is often to buy something that will protect them. This is a normal response in a culture that seemingly sells something for every problem. It’s also part of the consumption myth so prevalent within our culture.

The primary problem with this approach is that it simply doesn’t work. There are hundreds of quantum/scalar/sacred geometry pendants/devices/chips on the market and not one of them has independently-funded, double-blind studies proving that their product works better than a placebo response (please notify me if you find one that meets this critical test). Instead, they almost always have a slick marketing campaign with lots of positive anecdotal reviews and glowing origin stories of how their ground-breaking technology was invented by a Russian scientist.

Not only are these products a waste of money (I recently had over 30 emails asking about the effectiveness of a \$1,000 product!), they can be dangerous. A placebo response can mask the effects of real biological damage. You will then be worse off over time. It is also dangerous to use these products

because they give a false sense of security and distract you from taking the only real action that will protect you and your family – reduction and elimination of EMF sources.

Finally, at a societal level, are we really going to solve the EMF problem by purchasing pendants? Imagine how absurd it would look now had we tried to solve second hand smoking by wearing special crystals and putting sacred geometry stickers on packs of cigarettes! Or, if we had tried to tackle the air pollution problems in our cities 30 years ago by attaching shungite infused organite with scalar technology to our car exhaust pipes?

Problems this big require real solutions. Start by taking actual steps toward reducing and eliminating EMF in your own home. Then wake up your community. These actions will eventually ripple out and affect our entire society and the world. This is how we will eventually solve one of the biggest pollution problems facing humanity.



We reduced smog through tougher regulation on industry, not selling personal protection products. The same approach must be taken with EMF pollution if we are to have a healthy society into the future.

Overall, the most important points to communicate are these. There is now more than enough evidence that EMFs affect our health. At the same time, ample solutions to this problem exist, many of which involve simple changes to our behavior or our hardware. With increased recognition of problematic EMF myths, we can wake up to EMF realities and begin to make the simple changes that improve the health of everyone.