No, 5G Isn't Mutating, Killing or Cancering You

By Alex Berezow, PhD — June 27, 2019

5G, the next generation of wireless technology, promises not just incredibly fast data transmission but also remote surgery, improved self-driving cars, and better virtual reality. It's already available in some U.S. cities, but it's not yet everywhere.

Thank goodness, according to modern Luddites, who say that wireless technology like 5G causes atrial fibrillation, tinnitus, dead plants, and much, much worse. There's already a 5G activist community dedicated to spreading misinformation about the “dangers” of 5G.

And what do you know? The Russian propaganda outlet RT is fanning the flames.*

*A global catastrophe*: Radiation activist warns that 5G networks are ‘massive health experiment’

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One Flew Over the Cuckoo’s Nest
The website "International Appeal to Stop 5G on Earth and in Space [5]," which says it has gathered more than 100,000 signatures, makes some extraordinary claims. And, as scientifically savvy readers, you know that means there better be some extraordinary evidence to support those claims. Here is what the website says:

*The accumulated clinical evidence of sick and injured human beings, experimental evidence of damage to DNA, cells and organ systems in a wide variety of plants and animals, and epidemiological evidence that the major diseases of modern civilization—cancer, heart disease and diabetes—are in large part caused by electromagnetic pollution..."

[This next sentence is said in the voice of a game show announcer.] **But that's not all!** According to them, electromagnetic radiation also causes: Alteration of heart rhythm, altered gene expression, altered metabolism, altered stem cell development, cancers, cardiovascular disease, cognitive impairment, DNA damage, impacts on general well-being, increased free radicals, learning and memory deficits, impaired sperm function and quality, miscarriage, neurological damage, obesity, diabetes, and oxidative stress, as well as autism, attention deficit hyperactivity disorder (ADHD), and asthma in children.

That's pretty scary. A nuclear bomb can't even do all that.

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Obviously, it would take an entire textbook to refute each of these ridiculous claims one-by-one. So, let’s take a “big picture” view of how epidemiologists determine disease causation.

To determine whether or not A causes B, sufficient evidence must meet what is known as Hill’s Criteria of Causality. (I wrote an entire article about this, and it may be worth your time to pause to read it before proceeding.) The gist is this: There are nine criteria that must be considered before declaring confidently that A causes B. It won’t always be possible to satisfy all of them, but there also shouldn’t be any blatant violations.

For instance, one of the criteria is “consistency.” Before we declare A causes B, the data should consistently show that to be the case. Does the data consistently show that electromagnetic radiation causes illness? No. In fact, evidence shows that people who say they feel bad in the presence of electromagnetic fields are suffering from the nocebo effect. (Think: The evil twin of the placebo effect.) Simply telling a person that an electromagnetic field has been turned on (even when it hasn’t been) may be enough to make him feel sick.

Another incredibly important criterion is biological plausibility. There is no plausible biological mechanism by which vaccines cause autism, which is one of the major reasons why the link can be rejected. Similarly, there is no plausible mechanism connecting electromagnetic radiation from wireless technology to bad health. For instance, it is physically impossible for cell phone radiation to cause cancer because the photons responsible for transmitting data do not have enough energy to break chemical bonds. Likewise, 5G technology uses radiation that cannot break chemical bonds, precluding it from causing cancer.

Yet another criterion is specificity. If it is argued that A causes B, it should not also be argued that A causes C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, and R, as well. That beggars belief. 5G opponents are throwing a bunch of mud at the wall in the hope that something sticks. But that’s not
Despite the existence of "wi-fi truthers [9]," don't fall for the myth that 5G or any other wireless technology causes cancer (or diabetes or autism or obesity or...). It's a total fraud.

*Update on July 1, 2019 @ 4:58 pm PT: The New York Times [10] also wrote a story about Russians peddling disinformation about 5G.