

There is NO SAFE WAY to Implement 5G in our Communities

Adapted from a letter written by Dr. Ronald Powell to Maryland State legislators, February 25, 2019

Before we consider installing microcell transmitters in our neighbourhoods, we must understand why human health is so vulnerable to harm from 5G and radiofrequency radiation.

Humans are bioelectrical beings. This is why electrocardiograms work when they monitor a beating heart. And why electroencephalograms work when they monitor the activities in the brain. Humans evolved in levels of radiofrequency radiation far below those produced by human technology today. We simply are not designed to tolerate today's high levels of radiofrequency radiation.

Radiofrequency radiation from wireless sources, including 5G's small cells towers, disrupts our bodies' bioelectrical functioning. This disruption occurs at radiation exposure levels far below those set by Health Canada's Safety Code 6. In response, the body must constantly fight back to regain balance. This battle can lead to a wide range of symptoms including sleep disruption, headaches, irritability, ringing in the ears, fatigue, loss of concentration and memory, nerve pain, dizziness, eye problems, nausea, heart palpitations, depression, and cancer.

No one is immune to harm, but vulnerability varies widely with the individual. Those at greatest risk are pregnant women, young children, teenagers, men of reproductive age, seniors, the disabled, and people with chronic health conditions. The international biomedical research community is currently studying what role exposure to radiofrequency radiation may play in causing, or aggravating a host of major medical conditions including autism, attention deficit hyperactivity disorder (ADHD), autoimmune diseases, and Alzheimer's disease, among so many others.

The effects of radiofrequency radiation appear to be cumulative; so the longer we are exposed, the greater the chance we will be affected. Some individuals will develop a devastating condition called Electromagnetic Hypersensitivity Syndrome (EHS), with a host of symptoms, including extreme pain from exposure to even very low levels of radiofrequency radiation. Just to survive, such individuals must often leave their homes and jobs, where exposure levels were too high, and move to those rare locations that are away from radiation sources. And if 5G progresses as planned, with cell towers on every street and hundreds of thousands of satellites beaming radiofrequency radiation from the skies, there will be no safe places left.

What is the evidence of the harm caused by radiofrequency radiation?

There are thousands of archival biomedical research papers published in peer-reviewed journals showing that radiofrequency radiation is harmful to the body in one way or another. These have been collected and reviewed in a number of summary documents. Here are just two examples:

(1) BioInitiative Report of 2012, draws on about 1800 publications

[\(https://bioinitiative.org/\)](https://bioinitiative.org/)

(2) EUROPAEM EMF Guideline 2016 for the Prevention, Diagnosis and Treatment of EMF-Related Health Problems and Illnesses, draws on 308 references

[\(https://www.ncbi.nlm.nih.gov/pubmed/27454111\)](https://www.ncbi.nlm.nih.gov/pubmed/27454111). ("EMF" stands for electromagnetic fields, a term inclusive of radiofrequency radiation.)

In 2011, the **International Agency for Research on Cancer** of the World Health Organization classified radiofrequency radiation as a Group 2B Human Carcinogen ("possibly carcinogenic"), naming explicitly "wireless phone" radiation (cellular radiation), based on the increased risk for glioma. Glioma is a malignant type of brain cancer that is usually fatal. [\(https://www.iarc.fr/wp-content/uploads/2018/07/pr208_E.pdf\)](https://www.iarc.fr/wp-content/uploads/2018/07/pr208_E.pdf)

In 2018, a massive study by the **National Toxicology Program at the U.S. National Institutes of Health** linked cellular radiofrequency radiation (RFR) to cancer of the nerves of the heart (schwannomas), to cancer of the brain (glioma), and to multiple other health effects in test animals.

[\(https://ntp.niehs.nih.gov/results/areas/cellphones/index.html\)](https://ntp.niehs.nih.gov/results/areas/cellphones/index.html)

Since 2015, **over 247 scientists from 42 countries have signed an appeal** to the United Nations, asking for greater health protection on EMF exposure.

[\(https://www.emfscientist.org/\)](https://www.emfscientist.org/)

For more information on the health effects of radiofrequency radiation, please see the website of the Environmental Health Trust, especially the Science tab.

[\(https://www.emfscientist.org/\)](https://www.emfscientist.org/)

What are the advantages and disadvantages of 5G?

5G is expected to employ higher radiofrequencies than those currently in use in cellular systems. Those higher frequencies will permit more rapid rates of data transfer compared to current WIRELESS technology. And, as a wireless technology, 5G will support mobility.

But wired technology, especially fiber-optic technology, is superior to 5G in so many other ways. Fiber-optic technology produces NO radiofrequency radiation, so it poses NO health hazard. Fiber-optic technology is safer, faster, more reliable, more cyber secure, more energy efficient, and more private than any wireless technology, including 5G. (See <https://whatis5g.info/> for a detailed description of the limitations of 5G.)

So users of wireless technology, including 5G, will have to decide if mobility ALONE is more important for their particular application than any other factor, including their own health and the health of their families and colleagues.

When listening to the hype about 5G, consider the following:

- Is the hype coming from potential providers of 5G, who hope to profit from it, or from potential users, who will have to pay for 5G?
- Is the RUSH to implement 5G more about staking out claims to small cell sites in right-of-ways than about providing services that customers really need?
- Is the RUSH to implement 5G driven by the growing awareness of the public and its representatives that radiofrequency radiation is harmful to health, and thus the providers feel they must act quickly before resistance builds further?
- What scientific studies, from impartial sources, can the providers of 5G identify that prove that 5G has NO adverse health effects on humans? The burden of proof is on the providers.
- When questioned by U.S. Senator Richard Blumenthal in a hearing before the Senate Commerce, Science, and Transportation Committee (February, 7, 2019), the representatives of industry could name no existing studies and none in progress.
(Story: <https://www.blumenthal.senate.gov/newsroom/press/release/at-senate-commerce-hearing-blumenthal-raises-concerns-on-5g-wireless-technologys-potential-health-risks>; Video: <https://www.youtube.com/watch?v=hsil3VQE5K4>)

What should our telecommunications goals be?

- Promote the expansion of fiber-optic technology as widely as possible, instead of degrading our environment with more harmful radiofrequency radiation, this time from 5G.
- Require that the safety of 5G be proven by impartial studies before 5G can be installed.
- Join forces with other local and provincial governments to fight back against federal laws and regulations that force any potentially harmful technology without adequate PRIOR proof of safety. The Canadian government should not mandate any technology with the potential to harm, and even take, life.

It will be difficult to stop 5G, but it will be easier to stop it NOW than to get it removed later after huge numbers of residents have become ill.