

**REPLY RECEIVED ON Sept. 26 at 5pm (note: with some highlighting added for emphasis):**

From: [marie-pier.burelle@hc-sc.gc.ca](mailto:marie-pier.burelle@hc-sc.gc.ca)

Hello Dan,

Please find Health Canada's response to your questions below.

Thank you,

**Marie-Pier Burelle (she/her/elle)**

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**Q1. When you say “Thousands of scientific studies have evaluated the safety of radiofrequency EMF,”**  
**a) can you reference which scientific studies were used in your assessment?**  
**b) to clarify, were these studies solely concerned with *low* frequency bands emitted from the sources (i.e., ELF, ULF, LF), or did they also include *high* frequency bands (i.e., UHF: 300 MHz to 3 GHz, EHF: over 3 GHz)?**

Health Canada's Safety Code 6 covers all frequencies in the range from 3 kHz to 300 GHz. In developing the recommended exposure limits, Health Canada considered scientific studies that looked at all frequency ranges covered by Safety Code 6.

Health Canada scientists continuously review and consider all peer-reviewed scientific studies that investigate potential biological and adverse health effects in order for the human exposure limits recommended in Safety Code 6 to remain protective of health. Health Canada has also been taking part in the International Electromagnetic Field (EMF) Project, coordinated by the World Health Organization (WHO). The goals of this project are to assess scientific evidence of possible health effects from exposure to EMFs and to characterize any associated health risks to humans. The WHO is coordinating an updated monograph on the potential health effects from

radiofrequency (RF) EMF exposure and also conducting systematic reviews on potential health effects. Health Canada is participating in these activities, allowing the Department to leverage these large-scale and well-resourced international efforts. Updates on the development of the WHO monograph and systematic reviews will be made available on the WHO EMF Project website: <https://www.who.int/initiatives/the-international-emf-project>.

Many of the research articles Health Canada reviews are available online through open access, while others require a paid subscription. The following websites can be searched for recent research articles on radiofrequency EMF and health:

- International Commission on Non-Ionizing Radiation Protection publications: <https://www.icnirp.org/en/publications/index.html>
- EMF Portal: <https://www.emf-portal.org/en>

2) As 5G networks in Canada employ *high* frequency bands as elevated as 3500 MHz, or 3.5 GHz – such as those employed by both [Bell Canada](#) and [Rogers Communications](#), many would take for granted that there are increased risks in electromagnetic radiation (EMF) emitted from such 5G towers. In this regard, have any studies been commissioned, evaluated, or published by Health Canada about the possible health impacts on citizen populations that reside near such 5G towers? If so, can you point me to them? If not, do you think it would be worthwhile for either Health Canada or another agency to do so?

The regulation of wireless communication equipment (e.g., cell phones and towers, smart meters, Wi-Fi routers, including 5G technologies) is the responsibility of Innovation, Science and Economic Development Canada (ISED), under the *Radiocommunication Act*. To ensure that public exposures fall within acceptable guidelines, ISED has developed regulatory standards that require compliance with the human exposure limits outlined in Safety Code 6, which covers all frequencies from 3kHz to 300GHz including the frequency ranges that will be used by 5G devices and antenna installations. The health of Canadians is protected from RF EMF when the human exposure limits recommended by Safety Code 6 are respected.

As noted above, Health Canada scientists continuously review and consider all peer-reviewed scientific studies that investigate potential biological and adverse health effects in order for the human exposure limits recommended in Safety Code 6 to remain protective of health. Health Canada scientists also contribute to international efforts to assess the scientific evidence on potential health risks from RF EMF, such as the World Health Organization's EMF project.

Furthermore, for over 20 years, Health Canada has conducted its own research on the biological effects of RF EMF. This research, along with all other Canadian and international peer-reviewed scientific studies, forms the basis for establishing safety standards for RF EMF that protect the health of Canadians. If new scientific evidence were to demonstrate that exposure below levels found in Safety Code 6 was a concern, Health Canada would take appropriate action to help protect the health and safety of Canadians.

3) The most recently released (June 12, 2023) [International Appeal – Scientists call for Protection from Non-ionizing Electromagnetic Field Exposure](#) signed by 259 EMF scientists from 44 nations and 15 Supporting Scientists from 11 nations (including 11 from Canada) cite peer-reviewed, published research

outlining concerns of increasing exposure to EMF (from Wi-Fi, broadcast antennas, smart meters, cell phones, and the like) and their associated human health risks. Moreover, the Government of Canada's published '[Health effects of Wi-Fi](#)' also conveys that there are "no health risks from exposure to radiofrequency EMF from Wi-Fi devices in your home, in schools or other areas accessible to the public." Accordingly, I was wondering, in light of this International Appeal, whether Health Canada is considering re-visiting this position (i.e., that there are no health risks associated with the use of these devices)?

When developing the exposure limits in Safety Code 6, Health Canada scientists consider all peer-reviewed scientific studies and employ a weight-of-evidence approach when evaluating possible health risks. The weight-of-evidence approach takes into account both the quantity of studies on a particular endpoint (whether adverse or no effect), and more importantly, the quality of those studies. More rigorous studies (e.g., with all controls included, appropriate statistics and a complete exposure evaluation) receive more weight than less rigorous studies (e.g., an inadequate exposure evaluation, a lack of appropriate control samples or an inadequate statistical analysis). The Canadian limits are among the most stringent science-based limits in the world and are designed to provide protection for all age groups, including infants and children, on a continuous basis (24 hours a day/seven days a week).

There are two scientifically-established adverse health effects from exposure to RF EMF at levels above the limits of Safety Code 6: nerve stimulation (a tingling sensation) and tissue heating (like the warming of your skin). Health Canada has incorporated large safety margins into the human exposure limits that are far below the threshold for potential adverse health effects.

The exposure limits in Safety Code 6 and the conclusions of Health Canada are consistent with the science-based standards used in other parts of the world, including the United States, the European Union, Japan, Australia and New Zealand. Internationally, while a few jurisdictions have applied more restrictive limits for radiofrequency EMF exposure from cell towers, scientific evidence does not support the need for limits that are more restrictive than Safety Code 6.