

Safety of Cell Phones and Cell Phone Towers

(Source: Website Health Canada <http://cpsr-rspc.hc-sc.gc.ca/PR-RP/home-accueil-eng.jsp>)

1. With cell phones being used every day in Canada, questions have been raised about their safety. Some members of the public have also expressed concern about the possible health effects of living near cell phone towers.

Cell phones and cell phone towers

2. The radiofrequency fields given off by cell phones and cell phone towers are a type of non-ionizing radiation. It is similar to the type of energy used in AM/FM radio and TV broadcast signals. Unlike ionizing radiation (as emitted by X-ray machines), RF energy from cell phones and other wireless devices cannot break chemical bonds in your body.

3. Cell phones and cell phone towers in Canada must meet regulatory requirements that limit human exposure to RF energy. Cell phones emit low-levels of radiofrequency (RF) energy, some of which is absorbed into your body. The amount of RF energy you absorb depends on many factors, such as how close you hold the cell phone to your body and the strength of the signal.

4. Cell phones are designed to operate at the minimum power necessary to connect and maintain a quality call. Cell phones send and receive radio signals from a network of fixed, low-power, cell phone towers (or base stations). These towers are usually located on rooftops, towers and utility poles. The transmitting power of a cell phone varies, depending on the type of network and its distance from the cell phone tower. The power generally increases the further you move away from the nearest cell phone tower.

Health risks from cell phones and cell phone towers

5. The number of cell phone users in Canada rose from 100,000 in 1987 to more than 24 million by the end of 2010. To meet the demand for new wireless services, cell phone towers have been put up across the country.

6. There are a small number of epidemiology studies that have shown brain cancer rates may be elevated in long-term/heavy cell phone users. Other epidemiology studies on cell phone users, laboratory studies and animal cancer studies have not supported this association.

7. In 2011, the International Agency for Research on Cancer (IARC) classified RF energy as "possibly carcinogenic to humans". The IARC classification of RF energy reflects the fact that some limited evidence exists that RF energy might be a risk factor for cancer. However, the vast majority of scientific research to date does not support a link between RF energy exposure and human cancers. At present, the evidence of a possible link between RF energy exposure and cancer risk is far from conclusive and more research is needed to clarify this "possible" link. Health Canada is in agreement with both the World Health Organization and IARC that additional research in this area is warranted.

8. Although the RF energy from cell phones poses no confirmed health risks, cell phone use is not entirely risk-free. Studies have shown that:

Using cell phones or other wireless devices can be distracting. Your risk of serious injury may increase if you use these devices while driving, walking, cycling, or doing any other activity that requires concentration for personal safety.

Cell phones may interfere with medical devices such as cardiac pacemakers, defibrillators, and hearing aids.

Cell phones may also interfere with other sensitive electronic equipment, such as aircraft communication and navigation systems.

9. With respect to cell phone towers, as long as exposures respect the limits set in Health Canada's guidelines, there is no scientific reason to consider cell phone towers dangerous to the public.

Reduce your risk

10. Health Canada reminds cell phone users that they can take practical measures to reduce their RF exposure by limiting the length of cell phone calls, using "hands-free" devices, and replacing cell phone calls with text messages.

11. Health Canada also encourages parents to take these measures to reduce their children's RF exposure from cell phones since children are typically more sensitive to a variety of environmental agents.

12. Precautions to limit exposure to RF energy from cell phone towers are unnecessary because exposure levels are typically well below those specified in health-based exposure standards.