

Fact Sheet

July 2008

Children and Safe Cell Phone Use

Toronto Public Health wants to make parents aware of how their children can take simple precautions to minimize exposure to radiofrequency (RF) waves if they use a cell phone.

What are radiofrequencies?

Radiofrequencies (RFs) are energy waves that are part of the electromagnetic spectrum. RFs occur between FM radio waves and microwaves. People are exposed to many sources of RFs. Cell phone towers, cordless phones, pagers, remote control devices, wireless Internet services (also known as WiFi) and cell phones all emit low levels of RFs.

How am I exposed to RFs from using a cell phone?

When you make a call with a cell phone, a radio signal travels to the closest base station antenna. The signal is eventually sent from the antenna to the phone you are calling. This radio signal is sent by way of RFs. The antenna inside the cell phone gives off RFs and some of these are transferred to and absorbed into the head when you are using the phone. The closer the antenna is to your head or body, the greater the exposure to RF energy. Exposure to RFs is greater if you use the cell phone for long calls or if the closest antenna is far away.

Do cell phones affect health?

Health Canada's guidelines for exposure to RFs (known as Safety Code 6) protect the public from short-term, high exposure effects of RFs. Studies of adults who have been using cell phones generally conclude that there are no effects on their health; however, ongoing research is exploring what impacts there might be from using a cell phone for many years. Health Canada currently states however, that "there is no firm evidence to date that RF emissions from cell phones cause ill health".

Are children more likely to experience health effects from cell phone RFs than adults?

Research on the health effects from cell phone RFs on children is very limited since the use of cell phones by young people is a relatively new trend. Scientists are not yet sure what the health effects in children are from using a cell phone. While research continues in this area, some scientists feel that children may be more susceptible to harmful effects of RFs from cell phones for several reasons:

- Pre-teen children have a smaller head and brain size, thinner skull bones, skin and ears.
- Their nerve cells also conduct energy like RFs more readily than an adult's or teenager's nerve cells.
- Children's brains and nerves are also still developing so they are likely to be more sensitive to exposures of RFs.

Today's children have started to use cell phones at a younger age, therefore their lifetime exposure to cell phone RFs will likely be greater. As a result, the chances that a child could develop harmful health effects from using a cell phone for a long time may be greater.

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Fact Sheet

Should children use cell phones?

While cell phones are important for communication and for safety reasons, parents should be aware of what they can do to reduce any risks from their child's use of a cell phone.

The World Health Organization (WHO) suggests that if parents have concerns they can encourage their children to limit the length of phone calls, or use "hands-free" devices like headsets or ear phones, to keep the cell phone away from the head and body. The amount of RF energy absorbed decreases quickly with increasing distance between the antenna and the user. People can also use the speakerphone mode if appropriate, or use text messaging instead.

Parents who buy cell phones for their children should look for ones with the lowest emissions of RF waves. According to the United States Food and Drug Administration (US FDA), the level of RF waves emitted can be obtained by using the FCC ID number usually printed on the case of the phone. For more information about each individual ID number and corresponding cell phone, visit www.fcc.gov/oet/fccid.

Are there certain times when children should avoid using cell phones?

When cell phone reception is low (this happens when the base station antenna is far away) and when a cell phone is being used during high speed travel (i.e. driving in a car) power being emitted from the cell phone must be increased in order to maintain reception. Cell phone use by children should be limited during these times in order to reduce exposure to RFs.

Where can I get more information?

Contact Toronto Public Health: 416-338-7600

Links to sites external to the Toronto Public Health Web site are provided as a convenience and their inclusion does not imply that Toronto Public Health endorses or accepts any responsibility for the content or use of these sites.

- Safety and Safe Use of Cellular Phones. Health Canada. (<http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/prod/cell-eng.php>)
- Cell phones, brain tumours and kids: Health Canada clears the airwaves. Sick Kids. (<http://www.aboutkidshealth.ca/News/Cell-phones-brain-tumours-and-kids-Health-Canada-clears-the-airwaves.aspx?articleID=11041&categoryID=news-type>)
- Electromagnetic fields and public health: mobile telephones and their base stations, June 2000. World Health Organization. (<http://www.who.int/mediacentre/factsheets/fs193/en>)
- United Kingdom Department of Health. Mobile phones and Health. (http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4123979)