

Safe Use of Technologies in Schools: Questions & Answers

Is Wi-Fi in schools the same as at home?

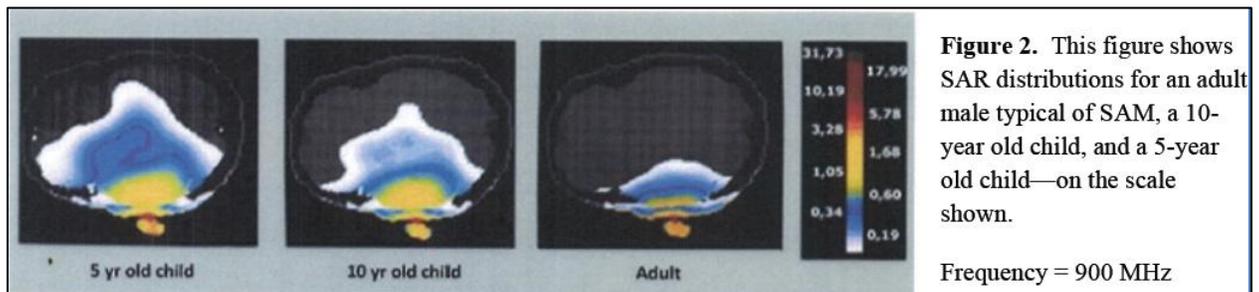
- Wi-Fi is microwave radiation and may have serious biological effects even at low level exposure. However, Wi-Fi in schools is industrial strength:
www.youtube.com/watch?v=6v75sKAUFdc School systems are designed to operate hundreds of computers simultaneously and the microwave radiation becomes extremely high. It is scientifically accepted that children are more vulnerable to the biological effects of microwave exposure than adults.
- Wi-Fi systems in Simcoe County, Ontario, were measured as exceeding Safety Code 6 - Canada's guidelines: http://www.safeschool.ca/Unsafe_Levels_at_School.html

Wi-Fi is everywhere, Tim Horton's, MacDonald's, shopping malls. Kids are exposed anyways so why should Wi-Fi in schools make a difference?

- There is a choice in visiting these locations. Parents do not have a choice about sending their children to school. The exposure at school is all day for several hours.

If Wi-Fi and cell phones are so harmful, why do I feel no effect?

- Children are not "little adults". Radiation from Wi-Fi and cell phones penetrates deeper into a child's head. (*Wart, J., Hadjem, A., Wong, M.F., and Bloch, I. 2008. Analysis of RF exposures in the head tissues of children and adults. Phys. Med. Biol.*).
- Certain tissues of a child's head, e.g., the bone marrow and the eye, absorb significantly more energy than those in an adult head. (*Christ, A., Gosselin, M.C., Christopoulou, M., Kuhn, S., and Kuster N. 2010. Age-dependent tissue-specific exposure of cell phone users. Phys. Med. Biol.*)
- There is scientific evidence that starting to use a cell phone before the age of 20 results in a 5 fold increase in glioma and acoustic neuroma. (*Dr. Lennart Hardell, MD, PhD and Professor at University Hospital in Orebro, Sweden*).



Gandhi, O.P. et al., Exposure Limits: The Underestimation of Absorbed Cell Phone Radiation, Especially in Children, Electromagnetic Biology and Medicine, Early Online, 1-18 (2011).

Don't schools need Wi-Fi?

- Wired connections are actually more secure and fibre optic offers a faster connection. If schools choose to use Wi-Fi, exposure should be minimized e.g. by turning off routers when not in use.

Did the World Health Organization classify Wi-Fi as a possible cancer risk? I've heard that the classification was only for cell phone radiation.

- Yes, Wi-Fi is part of the World Health Organization's possible carcinogen list. In May, 2011 the World Health Organization classified radiofrequency radiation as "Class 2B possibly carcinogenic". This was confirmed by the International Agency for Research on Cancer's (IARC) Chair, Dr. Jonathon Samet, and Dr. Robert Baan. The "Possibly Carcinogenic" classification is not limited to cell phone radiation but "holds for all types of radiation within the radiofrequency part of the electromagnetic spectrum, including the radiation emitted by base-station antennas, radio/TV towers, radar, Wi-Fi, smart meters, etc." <http://www.c4st.org/CanadianTrusteesThatCare>
- The Class 2b List identifies emerging hazards that are not yet fully understood. For example the Class 2b List of possible carcinogens also includes Lead, DDT and car exhaust. These are potentially harmful substances and agents that we now limit in the presence of children.
- In 2013, Dr. Arthur B. Miller, University of Toronto, stated that Wi-Fi and other wireless radiation would be classified a probable human carcinogen (Category 2A) if evaluated today. Dr. Miller sat on IARC's committee when the 2b classification was decided: <http://www.citizensforsafetechnology.org/Dr-Anthony-Miller-to-Toronto-Council-re-RF-Exposure,66,3622>

Pickles and coffee are also on the list of Class 2b possible carcinogens so what's the problem?

- The "pickles" in the 2b classification list are "pickled vegetables" and refer to a traditional Asian pickling process that includes potential carcinogenic chemicals. These particular pickles have been associated with stomach and dose dependent esophageal cancers (Hong Kong, Japan, China). <http://www.inchem.org/documents/iarc/vol56/02-pick.html>
- There are over 250 agents and substances on the Class 2b List. A potential carcinogen is placed on the 2b list so that we reduce our exposure. We don't force-feed coffee to children for many hours per day, every day.

Does electrosensitivity really exist?

- Yes, electrosensitivity exists. <http://www.c4st.org/news/category/ehs/>

- Based on the American Academy of Environmental Medicine’s prediction, as many as 3% of students may show an immediate reaction to Wi-Fi technology and many more may become sensitive. Other statistics show that 3% of the population has severe electrosensitivity symptoms, and another 35% of the population has moderate symptoms (Havas, 2007).
- School boards accommodate peanut allergies. While these are extremely serious, less than 2% of the population has a peanut allergy, compared to the numbers noted above for electrosensitivity.
- In October, 2011, Health Canada issued a cell phone use warning for children under 18 years of age. “Health Canada “encourages parents to reduce children's RF (radiofrequency radiation) exposure from cell phones since children are typically more sensitive to a variety of environmental agents.” (Wi-Fi and cell phones emit the same type of radiation).

If Wi-Fi and other wireless devices could be harmful wouldn’t manufacturers warn us?

They do:

- Apple iPad2: *“You can further limit your exposure by limiting the amount of time using iPad in wireless mode, since time is a factor in how much exposure a person receives, and by placing more distance between your body and iPad since exposure level drops off dramatically with distance.”*
- iPhone5: *“carry i-Phone at least 10 mm away from your body to ensure exposure levels remain at, or below, the as-tested levels.”*; Go to Settings – General – About – Legal – RF Exposure.
- Blackberry warns to keep their phones an inch away from any part of your body whenever they are turned on “including the abdomen of pregnant women and the lower abdomen of teenagers.”

Are there any experts stating that Canada’s Safety Limits are insufficient?

- Many experts have stated that current safety limits need updating. For example:
 - ✓ Over 40 Canadian MD’s sent a submission to Health Canada requesting information on health problems and sensitivity that may be related to microwave radiation exposure.
 - ✓ Over 50 international scientists specialized in wireless radiation stated that Canada’s Safety Code 6 is fundamentally flawed.
 - ✓ 140 peer-reviewed, published studies were omitted by Health Canada in its Scientific Review of Draft Safety Code 6 (2014).

see <http://c4st.org/HCSubmissions>