

Impacts of Wireless Technology on Health:

A Symposium for Ontario's Medical Community

Impacts on Learning Institutions, Students and Teachers

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Health Canada Guidelines Affect Workplace Accommodations

- On Health Canada's Website: World Health Organization, Electromagnetic Fields & Public Health Fact Sheet (2005), addresses electromagnetic hypersensitivity.
- Health Canada recognizes that EHS symptoms are real.
- Health Canada also claims “numerous scientific studies to date have failed to demonstrate that these health effects are actually associated with EMF exposures. There is no scientific evidence that the symptoms attributed to EHS are actually caused by exposure to EMF's”.
- Health Canada attributes EHS symptoms to; “poor indoor air quality, stress in the workplace or living environment, or pre-existing medical conditions”. 2011/09/30

Impacts of Health Canada's Guidelines

- Health Canada provides excellent recommendations for parents, to reduce RF exposure for children, as they are more sensitive to “environmental agents”.
- Health Canada's guidelines continue to have a negative impact on EHS teachers and students.
- Health Canada guidelines fail to promote equity, accountability, responsibility or compassion in the workplace.
- Health Canada's claims that wireless signals are safe results in:
 - Public disbelief that EHS is associated with WiFi devices.
 - Reluctance to provide accommodation.
 - Stressful working conditions.
 - Exhausting political hoops.
 - Insults & negative slurs.

24/7 Wireless Radiation In Schools

- School boards are swayed by the industry's luring appeals of wireless technology, school boards invested in and installed Wi-Fi in most classrooms.
- Wi-Fi devices have a negative, biological impact on vulnerable students and sensitive teachers. ¹
- Sweden recognizes EHS as a functional impairment and provides long term disability. ²
- Staff are forced to work in toxic environments because WSIB & Health Insurance rely on Safety Code 6 guidelines which do not consider vulnerable or environmentally disabled people.

¹<https://www.ncbi.nlm.nih.gov/pubmed/29573716>

²<https://www.researchgate.net/publication/231105168> Aspects of studies on the functional impairment of electrohypersensitivity

Accommodation & Request



EMF shielding veil

To consider the environmental sensitivities of others, please put your cell phone in “*Airplane Mode*”, with *Wi-Fi and Bluetooth* signals *off*.
Do not use “vibrate” or “silent modes”, as they still emit signals.



Thank you fo r your support.

Child Friendly Hardwired Classroom



Local Hospitals vs. School Boards

Local Hospital Providing Accommodations

- A Doctor's diagnosis is accepted.
- EHS patient checks in at Patient Rep. office for I.D. bracelet.
- Escorted to a quiet elevator.
- Signs are posted.
- Patients asked to put cell phones in airplane mode, (information flyer provided).
- Doctor meets in low EMF room and immediately announces his cell phone is left at reception or in "airplane mode".
- Training for staff to support EHS patients (attitudes and actions are welcoming).

School Boards - Following Health Canada Guidelines

- Look to Safety Code 6 for guidance.
- Do not yet accept EHS as a medical diagnosis resulting from Wi-Fi exposure.
- Medical letters regarding EHS are not accepted.
- Teachers not allowed to post an "EHS sensitivity" sign.
- EHS disabled teachers are not allowed to manage exposure with;
 - an on/off switch to control the Wi-Fi access point.
 - EMF shielding around the access point.
- No training for staff to support EHS teachers or students.

Ontario Teachers First Steps

Key Resolutions passed at Elementary Teacher's Federation of Ontario (ETFO) Annual General Meetings with 700 members present, representing 80,000 members, to promote accommodations for EHS disabled, and consider long term health for all teachers and students.

- That ETFO, through OTF, lobby the Ministry and District School Boards to accommodate teachers diagnosed with electromagnetic sensitivity.
- That ETFO, through OTF, encourage district school boards to apply the concepts of prudent avoidance by using the ALARA (As Low As Reasonably Achievable) guidelines regarding Wi-Fi power levels.
- That ETFO, through OTF, lobby district schools to give teachers permission to turn off wireless signals or use electromagnetic frequency shielding when wireless signals are not required for instructional purposes.
- That clear, comprehensive, written internet, email user policies and procedures be provided by district school boards which include Health Canada's recommendations for safer use of wireless devices and manufacturer's warnings to be distributed to employees, students and parent(s)/guardian(s).
- Resolution presented:
- That ETFO, through OTF, lobby the Ministry of Education, the ministry of labour and the ministry of Health to:
- Follow Right to Know Legislation regarding location of Wi-Fi access points under the Ontario Health and Safety Act;
- Obtain annual informed consent for both students and staff regarding existence of Wi-Fi access points and measured microwave radiation levels;
- Accommodate students and staff that have biological symptoms of electro-sensitivity;
- Develop a hazard control program through the Joint Health & Safety Committee (JHSC)

Manufacturer's High Density Wi-Fi Design Guidelines

We have moved from one router per classroom (in the hall) to High Density

- Securedge - never use access points that were made for residential environments.
- Cisco - under seat mounting can overcome user attenuation of the signals and provide a great way to hide APs (access points).
- Aerohive Networks - accomplish high density Wi-Fi by installing APs on the *opposite side of a wall, beneath the floor, at low height (< 6 feet), or underneath seating.*
- Netgear - the demands on throughput are often exacerbated by users carrying two or three devices using multiple applications that consume network resources simultaneously.
- Extreme networks - Wi-Fi system satellites use mesh technology to talk to the router and to each other.
 - Each Access Point serves as a hop point for other nodes in the system.
 - Helps nodes farthest from the router deliver a **strong Wi-Fi signal** (eliminate one-to-one communications with the router).

School Boards in Canada

- Rely on Safety Code 6 (claim they do not have the resources to evaluate the science)
- Have a tremendous opportunity to:
 - Ignore industry-funded science, outdated SC6 and follow ethical guidelines; providing respectful accommodations, caution and care for sensitive students and teachers.
 - Provide education on the safe use of technology (similar to programs on recycling, mental health and heritage).
 - Change industry behaviour (what manufacturer will not respond to a major loss of revenue).
 - Make minor changes that can have a large impact.
 - Consider that what is healthy for sensitive populations is healthy for all.
 - Create long range plans – slowly & cost effectively implement safer products and safer use education.
 - Recognize that this is a complex issue. It could take decades to resolve (like smoking & cancer). In the interim *School Boards have the responsibility to protect students under their care.*

Legislation and Recommendations to Reduce RF Exposure

- In the United States:
 - The Collaboration for High-Performance Schools (CHPS)¹
 - The New Jersey Educational Association²
 - The Maryland Children's Environmental Health and Protection Advisory Council³
- France⁴, French Polynesia⁵, Greece⁶, Italy⁷ and Taiwan⁸
- The Ontario English Catholic Teachers Association (OECTA) ⁹
- The Canadian Teachers' Federation ^{10,11}
- More than 40 Canadian medical doctors and a further 50 international scientists
- Over 224 scientists from 41 nations, appealed to the UN and all member States¹²

¹<https://chps.net/us-chps-criteria> (accessed January 18, 2019).

²<https://www.njea.org/minimize-health-risks-from-electronic-devices/> (accessed January 18, 2019).

³<https://phpa.health.maryland.gov/OEHFP/EH/Pages/Wi-FiCEHPAC.aspx> (accessed January 18, 2019).

⁴<http://www.complianceandrisk.com/france-publishes-law-on-electromagnetic-waves/>

⁵<https://www.service-public.pf/dgen/wp-content/uploads/sites/3/2017/06/Texte-adopté-LP-n°-201641-LP-APF-du-08-12-2016> (accessed January 17, 2019).

⁶<https://www.gsma.com/publicpolicy/base-station-planning-permission-in-europe>

⁷http://www2.landtag-bz.org/de/datenbanken/akte/angaben_akt.asp?pagetype=fogl&app=idap&at_id=346630&blank=Y

⁸<http://www.dailymail.co.uk/news/article-2929530/Does-toddler-play-iPad-Taiwan-makes-ILLEGAL-parents-let-children-two-use-electronic-gadgets-18s-limit-use-reasonable-lengths.html>

⁹ <http://www.oecta.on.ca/wps/portal/>! <http://www.safeschool.ca/uploads/Wi-Fi-positionpaper2.pdf>

¹⁰ http://www.canadianteachermagazine.com/issues/2015/CTM_JanFeb15/index.html

¹¹ <http://www.ctf-fce.ca/en/Pages/Issues/Wi-Fi-Briefing-Document.aspx>

¹²<https://emfscientist.org/>

First Steps to Reducing Exposure in Schools

- Re-orient the mindset of developers, designers and installers to meet consumer demand with minimal radiation exposure.
- Ask industry to provide devices with hardwired features.
- Use hardwired connections whenever possible. They are:
 - Safer, 100 times faster, more economical in the long run, more reliable and less vulnerable to security and privacy problems.¹
- If hardwired connections are unavailable, turn off Wi-Fi Access Points and devices when not in use.
- Install on-off switches for routers in every classroom.
- Provide Wi-Fi hubs on portable carts which enable teachers & students to access wireless signals as needed.
- Download content for teaching onto tablet or device prior to lesson.
- Prohibit cell phones and other wearables in the classroom.
- All new schools and/or major renovations should rough-in hard wiring throughout.
- Provide a safe environment at home to allow for rejuvenation and repair.

¹ Schoechle, Timothy, Re-Inventing Wires: The Future of Landlines and Networks, National Institute for Science, Law & Public Policy Washington, DC