

Dr. Paul Demers
Chair of the Royal Society of Canada's Expert Panel Reviewing Safety Code 6
Royal Society of Canada, Walter House
282 Somerset W/o
Ottawa ON K2P 0J6

c/o Russel MacDonald at admin-assistant@rsc-src.ca

October 25, 2013

Dear Dr. Demers,

RE: Review of Safety Code 6 - consideration of non-thermal cardiac effects and electro-sensitivity

It is my understanding that the Royal Society of Canada has convened an Expert Panel to review Safety Code 6. The purpose of my letter is to ask the Panel to carefully consider non-thermal effects including effects on the heart and electro-sensitivity.

I am a board certified cardiologist and have been a Fellow of the American College of Cardiology since 1977. At the Manchester Memorial Hospital in Connecticut, I served in several roles, including Chief of Cardiology, Director of Cardiac Rehabilitation, and Director of Medical Education.

Points for your consideration:

1. The heart is a delicate and complex electromagnetic organ that can be adversely affected by exogenous signals from wireless technology and microwave radiation. We know that the heart is sensitive to and can be adversely affected by the same frequency used for WiFi (2.4 GHz) at levels a fraction of federal guidelines (less than 1%) and at levels that have been recorded in two Ontario schools with WiFi technology.
2. Children are particularly vulnerable to this radiation and the incidents of cardiovascular events including sudden cardiac arrest (SCA), seems to be increasing, especially among young athletes (up to the age of 19). In some cases this is due to undetected heart defects, blunt trauma to the heart in contact sports, and heat stress during strenuous exercise, but in other instances these irregularities may be exacerbated by or due to microwave signals interfering with the autonomic nervous system that regulates the heart. In one small Ontario community, the number of students experiencing SCA is disturbingly high. Whether WiFi in their school and

nearby cell phone antennas exacerbate SCA needs to be investigated before students are further subjected to these fields.

3. There are a growing number of people who have become electro-sensitive and develop adverse symptoms when exposed to even low levels of electro-magnetic radiation. Symptoms – usually unrecognized – may include headaches, dizziness, nausea, feeling faint, pulsing sensations or pressure in the head, chest pain or pressure, difficulty concentrating, weakness, fatigue, and a racing or irregular heart accompanied by feelings of anxiety. These symptoms may seem diverse but they indicate autonomic dystonia or dysfunction of the autonomic nervous system.
4. In the future, it is quite possible that we may see the need to provide WiFi-free areas in public spaces like schools, offices, airports and in public transportation.

We do not know the long-term effects of low-level microwave radiation. The safety of this technology on human health has not been properly tested and I would advise that you follow the precautionary principle that states the following:

"In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

(Rio Conference 1992).

The principle implies that we have a social responsibility to protect the public from exposure to harm, when scientific investigations have found a plausible risk. That “plausible risk” exists for microwave radiation at very low levels.

Consulting with physicians who have clinical experience with patients who report symptoms caused by electromagnetic fields would provide helpful information on this emerging public health issue. I understand one such Canadian clinic exists at Women's College Hospital in Toronto. In addition, the article by Dr. Genuis¹, University of Alberta, may shed some further light on the topic of electromagnetic hypersensitivity.

Sincerely,

Stephen T. Sinatra, M.D., F.A.C.C., F.A.C.N., C.N.S.

¹ Genuis, Stephen J., and Christopher T. Lipp. 2012. “Electromagnetic Hypersensitivity: Fact or Fiction?” *Science of The Total Environment* 414 (January 1): 103–112.