

## **CONSENSUS STATEMENT ON ELECTROMAGNETIC RADIATION**

We, the undersigned, are members of the CHE-EMF Working Group within the Collaborative on Health and the Environment (CHE), together with like-minded colleagues from science, medicine and environmental health.

**We believe there are legitimate health concerns regarding exposure to radiofrequency electromagnetic radiation (EMR), which has rapidly become one of the most pervasive environmental exposures in modern life.** These concerns are based on the weight of evidence spanning decades of scientific research on radiofrequency (RF) radiation from countries around the world. The radiofrequency radiation sources addressed in this Consensus Statement are those from newer wireless technologies such as cell phones and cordless phones, cell towers/antennas, WI-FI networks, WI-MAX, as well as Broadband Radiofrequency Internet over electrical power lines (BPL).

We recognize that there are significant uncertainties about the long-term health effects of exposure to radiofrequency radiation. However, prudent policy requires acting on the best available scientific evidence. Then, based on the Precautionary Principle, which is an overarching guide for decision making when dealing with credible threats of harm and scientific uncertainty, policies to protect public health can be adopted.

As a way of implementing the Precautionary Principle, there should be an ongoing investment in research, as well as funding for a transparent, participatory policy analysis of alternatives, when there is reason to believe that there may be a significant risk from current or proposed technologies. The principle states that “when an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if some cause-and-effect relationships are not fully established scientifically.” These precautionary measures may include but are not necessarily limited to making investments in research and policy analysis. We are deeply concerned that there is insufficient non-industry funding support for critical research, given the potential public health consequences of involuntary and chronic exposure to radiofrequency radiation.

**The following four examples show how the Precautionary Principle has been implemented.**

1. Scientists in the United Kingdom recommend that no child under the age of 8 years old use a cell phone. Research evidence shows that children are more vulnerable than adults to harm from other environmental exposures (such as chemicals), and the same may be true of radiofrequency radiation exposures.
2. The International Association of Fire Fighters passed a resolution in 2004, calling for a moratorium on new cell phone antennas on fire stations and a study of the health effects of these installations.
3. The Chairman of the Russian National Committee for Non-Ionizing Radiation Protection (RNCNIRP), Yuri Grigoriev, advised that cellular communication is strongly contraindicated for children and teenagers.

4. The Canadian Public Health Officer, David Butler-Jones, advised Canadians to limit their and their children's use of cell phones until science resolves uncertainties about long-term health effects.

More research is needed on the health/biological effects, the level of current and future exposure, and the feasibility, cost and exposure implications of these technologies, as well as alternatives and modifications to current technology.

**While research continues, we believe there is sufficient evidence to recommend precautionary measures that people can take to protect their health, and the health of their families, co-workers and communities. We recommend the following measures:**

- Use a corded phone/land line if possible, which does not involve RF exposure. Emergency use of cell phones is not discouraged but land lines should be used for normal day-to-day communication needs.
- If you use a cell phone, use an earpiece/headset or the "speaker phone" setting, which greatly reduces the RF exposure because the phone is not held next to your head and brain. Using text messaging is also a good way to reduce RF exposure.
- Be aware that the cell phone radiates to some degree even when in "standby" mode. You can avoid this radiation by either keeping the phone off (using it as an answering machine), or away from your body.
- Using a cordless phone outdoors to alert you to an incoming call is handy, but returning inside to use a corded phone/land line to conduct the conversation is advisable.
- Before adopting WI-FI wireless networks in workplaces, schools and cities, the extent of exposure and possible health effects should be publicly discussed. Although convenient, WI-FI wireless networks create pervasive, continuous, involuntary exposure to radiofrequency radiation. Preferable alternatives to wireless technology for voice and data transmission, including cable and fiber-optic technologies (that produce no radiofrequency radiation), should be considered, given the uncertainties about health, cost, liability, and inequity of impact.
- There needs to be substantial community involvement in decisions about the placement and operation of cell towers (also called antennas or masts). Where possible, siting of these facilities should avoid residential areas and schools, day-care centers, hospitals and other buildings that house populations more vulnerable to the effects of radiation exposure. Periodic information on levels of exposure should be provided to the public. Cell towers produce radiofrequency radiation exposure in communities that is constant and involuntary. While acknowledging that this technology enables voice and data transmission via a cell phone that is important to many people in every community, those who live, work or go to school in the vicinity of wireless facilities will be disproportionately exposed. Not enough research has been done to determine the safety or risk of chronic exposure to low-intensity RF radiation from cell towers and some studies suggest there may be harm.

- Broadband Radiofrequency Internet transmitted over electrical power lines (BPL) needs to be thoroughly researched and the findings publicly disclosed and discussed before full deployment of this new technology. Discussion should include comparison of exposures and potential health effects of BPL technology versus cable and fiber optics. BPL technology uses electrical wiring as the vehicle for carrying RF radiation into and throughout all electrified buildings in a community, including every home. Therefore, BPL has the potential to expose entire communities to a new, continuous, involuntary source of RF radiation. The RF signal will be carried on everyone's home wiring, even in the homes of those who do not wish to subscribe to this new Internet service. People will have no chance to "opt out" or turn off the signal.

In summary, we recommend caution in the further deployment of wireless technologies, and deployment of safer, wired alternatives until further study allows better definition of the risks of wireless.

**Signed by:**

- Jeffrey L. Anderson, MD, Member, American Academy of Environmental Medicine, Corte Madera, CA
- James B. Beal, EMF Interface Consulting, Wimberley, TX
- Martin Blank, PhD, Columbia University, New York, NY
- Roger Coghill, Coghill Research Labs, UK
- Andy Davidson, HESE-UK, Worthing, UK
- Cynthia Drasler, MBA, President, Organic Excellence Chemical Free Products; Host, Chemical Free Living Radio Show, Phoenix, AZ
- Nancy Evans, Health Science Consultant, San Francisco, CA
- David Fancy, Canadian SWEEP Initiative (Safe Wireless Electric and Electromagnetic Policy), St. Catherines, Ontario, Canada
- Marne Glaser, Chicago, IL
- Reba Goodman, PhD, Columbia University, New York, NY
- Leonore Gordon, Coordinator, New York State Coalition to Regulate Antenna Siting, Brooklyn, NY
- Elizabeth A. ("Libby") Kelley, Executive Director, Council on Wireless Technology Impacts, Novato, CA
- Michael Kundi, PhD, Institute of Environmental Health, University of Vienna, Vienna, Austria
- Henry Lai, PhD, University of Washington, Seattle, WA
- Michael Lerner, PhD, Commonweal, Bolinas, CA
- Samuel Milham, MD, MPH, Indio, CA
- Lloyd Morgan, Berkeley, CA
- Lisa Nagy, MD, Member, American Academy of Environmental Medicine, and Environmental Health Research Foundation, Vineyard Haven, MA
- Elihu Richter, MD, MPH, Hebrew University, Hadassah School of Public Health and Community Medicine, Jerusalem, Israel
- Joan M. Ripple, Treasurer, Council on Wireless Technology Impacts and health and disability researcher, Novato, CA
- Jeanne Rizzo, RN, Executive Director, Breast Cancer Fund, San Francisco, CA
- Jacqueline Rose, Society for the Protection of Nature in Israel, Jerusalem, Israel
- Ted Schettler, MD, MPH, Science and Environmental Health Network, Ann Arbor, MI
- Cindy Sage, Sage Associates, Santa Barbara, CA
- Lavinia Gene Weissman, Managing Director, WorkEcology, Jamaica Plain, MA

oPatricia Wood, Executive Director, Grassroots Environmental Education, Port Washington, NY

*See next page for international resolutions urging precaution with wireless technologies.*

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### **International Resolutions Advocating a Precautionary Approach to the Use and Expansion of Wireless Technologies**

Scientists and public policy researchers across the globe have acknowledged the evidence of potential health effects from radiofrequency radiation and advocated a precautionary approach to the use and expansion of wireless technologies. For example:

- October 1998, scientists adopt the Vienna Resolution, which states that “biological effects from low intensity [RFR] exposures are scientifically established.” [www.emrnetwork.org/research/vienna.htm](http://www.emrnetwork.org/research/vienna.htm)
- June 2000, scientists adopt the Salzburg Resolution, stating “the assessment of biological effects of exposures from base stations in the low-dose range is difficult but indispensable for protection of public health...there is at present evidence of no threshold for adverse health effects.” In other words, there is no threshold for safe exposure. [http://www.salzburg.gv.at/salzburg\\_resolution\\_e.pdf](http://www.salzburg.gv.at/salzburg_resolution_e.pdf)
- May 2000, the UK Independent Expert Group on Mobile Phones chaired by Sir William Stewart, reports that “a precautionary approach be adopted until more robust scientific information becomes available.” [www.iegmp.org.uk](http://www.iegmp.org.uk)
- September 2002, scientists at the International Conference “State of the Research on Electromagnetic Fields Scientific and Legal Issues” held in Catania, Italy, adopt the Catania Resolution, calling for “preventive strategies based on the precautionary principle.” <http://www.emrpolicy.org/faq/catania.pdf>
- November 2004, the European Union’s EMF REFLEX Research Project is released, showing that mobile phone radiation (radiofrequency radiation) damages DNA in human cells. <http://omega.twoday.net/stories/436261>  
<http://www.itis.ethz.ch/downloads/REFLEXFinal%20Report171104.pdf>
- In January 2005, the UK National Radiation Protection Board issues a warning that no child under age 8 should use a cell phone, citing the growing scientific evidence that exposure to RFR poses a health risk. The report also cautions about the health risks of exposure to cell phone antennas (referred to as “base stations): “...*there remain particular concerns in the UK about the impact of base stations on health, including well-being. Despite current evidence which shows that exposures of individuals are likely to be only a small fraction of those from phones, they may impact adversely on well-being.*” [http://www.hpa.org.uk/radiation/publications/documents\\_of\\_nrp/abstracts/absd15-5.htm](http://www.hpa.org.uk/radiation/publications/documents_of_nrp/abstracts/absd15-5.htm)
- In February 2005, the Irish Doctors Environmental Association (IDEA) issues a statement urging that “the strictest possible safety regulations be established for the installation of masts and transmitters, and for the acceptable levels of potential exposure of individuals to electromagnetic radiation.” <http://www.ideaireland.org/emr2005dailreport.htm>
- In September 2006, the International Commission for Electromagnetic Safety (ICEMS) releases the Benevento Resolution which emphasizes that the accumulated evidence points to “adverse health effects from occupational and public exposures to electric, magnetic and electromagnetic fields

(EMF) at current exposure levels.” Signed by 31 leading scientists from around the world, this resolution calls for governments to “adopt guidelines for public and occupational EMF exposure that reflect the Precautionary Principle.” <http://www.icems.eu>

*A pdf version of this statement is available for download from: [www.healthandenvironment.org](http://www.healthandenvironment.org)*