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BioInitiative Report: "A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF)"

Orebro University Hospital; Umea, Sweden; Columbia University, New York: University of Albany, New York; Karolinska Institute, Sweden.

International Scientists Find Harmful Effects from Wireless Technologies and Urge New Safety Rules for Cell Phones

(This link opens a WORD document containing the press release below. The link to the *Pathophysiology* Web site is at the end of this document.)

Public health concerns and scientific evidence for risks from cell phones and other wireless devices is published today in the journal *Pathophysiology*. International researchers have urged quick precautionary action (see Section 17 of the BioInitiative Report) to address a possible epidemic of brain tumors and many other health risks. Over four billion people around the world now use cell phones. They are rapidly eliminating the use of traditional landline phones throughout the world. Health researchers from six countries give findings in fifteen (15) chapters covering health risks to humans and wildlife from electromagnetic fields and radiofrequency radiation.

The global rollout of wireless technologies and devices like cell phones, cordless phones, cell towers (masts) and many other sources greatly increases our EMF exposure in daily life. The enormous popularity of new communication devices that allow email, texting, and access to the Internet from any city street has placed the issue squarely before government agencies like the FDA and the FCC, and also parents and school administrators. Parents must decide whether possible health risks to their children outweigh the convenience of keeping track of them. School officials and teachers care because of disruption and distraction in the classroom from cell phone use. National safety officials in the US face public criticism about highway collisions and road deaths from cell phone use while driving. Federal railway officials are still coping with the problem of illicit texting by US railroad personnel that lead to the catastrophic collision of two trains in Chatsworth, California in 2008 killing 24 and injuring 135 more.

Research professor and Editor Martin Blank PhD (Associate Professor, Columbia University College of Physicians and Surgeons) says, "This special issue of Pathophysiology is about the human body's sensitivity to EMF signals in the environment, e.g., EMF effects on DNA, effects on the brain from cell phone radiation, and how EMFs in the environment may lead to Alzheimer's disease, dementia and breast cancer. The scientific evidence tells us that our safety standards are inadequate, and that we must protect ourselves from exposure to EMF due to power lines, cell phones and the like."

Reba Goodman, PhD (Columbia University) reports that, "Cells in the body react to EMFs as potentially harmful, just like to other environmental toxins including heavy metals and toxic chemicals. The DNA in living cells recognizes electromagnetic fields at very low levels of exposure, and produces a biochemical stress response."

David O. Carpenter, MD and Director of the University of Albany, Institute of Health and the Environment concludes, "The existing FCC and international limits do not do enough to protect people, especially children, from daily exposures to electromagnetic fields and radiofrequency radiation. The existing safety limits did not anticipate these new kinds of technologies affecting the health of people living with and using wireless devices on a daily basis. These effects are now widely reported to occur at exposure levels significantly below most current national and international limits."

Brain tumor specialist Dr. Lennart Hardell, MD, PhD works as both an oncologist and a researcher at Orebro University Hospital in Sweden. He is an expert on cell phones and brain tumors. "The evidence for risks from prolonged cell phone and cordless phone use is quite strong. For people who have used these devices for 10 years or longer, and when they are used mainly on one side of the head, the risk of malignant brain tumor is doubled for adults and is even higher for persons with first use before the age of 20 years."

Swedish researcher Olle Johansson, PhD (Karolinska Institute) says, "Most worrisome to me are the constant and unavoidable EMF exposures (from cell and DECT phones, power lines, new wireless technologies like WIMAX and WI-FI, etc.) everywhere in our daily life that may affect the overall health of this and coming generations. I worry especially about the impacts on the immune system, our only real line of defense against disease."

Wildlife biologist Alfonso Balmori, PhD of Valladolid, Spain reports that, "Electromagnetic radiation is a form of environmental pollution which may hurt wildlife. Phone masts located in their living areas are irradiating continuously some species that could suffer long-term effects, like reduction of their natural defenses, deterioration of their health, problems in reproduction and reduction of their useful territory through habitat deterioration. Therefore microwave and radiofrequency pollution constitutes a potential cause for the decline of animal populations and deterioration of health of plants living near phone masts."

Prolonged exposure to radiofrequency and microwave radiation from cell phones, cordless phones, cell towers, WI-FI and other wireless technologies has been linked to interference with short-term memory and concentration, sleep disruption, headache and dizziness, fatigue, immune disruption, skin rashes and changes in cardiac function. However, "These effects can happen with even very small levels of exposure if they occur on a daily basis. Cell phone use is likely to be more harmful in children whose brain and nervous system development can last into late adolescence," says Cindy Sage of Sage Associates, "The public health implications of billions of people who are exposed makes this a matter of critical concern to policy-makers around the world."

The BioInitiative Report first warned that existing scientific knowledge has grown strong enough to alert the public and urge governments to develop new safety limits for electromagnetic fields (EMF). The Report was prepared by an international group of scientists,

researchers and public health policy professionals who cautioned in 2007 that existing public safety limits regulating how much EMF is allowable from power lines and wireless devices like cell phones are inadequate to protect public health.

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