

Let's Talk About Electromagnetic Fields

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DURHAM Practically everyone has a cell phone these days, and alarms have been raised by prominent scientists about studies showing that long-term cell phone use doubles the risk of brain tumors. Dr. Ronald Herberman, director of the University of Pittsburgh Cancer Institute, warned in 2008 that children should limit their use of cell phones to avoid potential health risks.

Those who have seen the movie "Thank You for Smoking" may remember the Big Tobacco lobbyist who has lunch each week with firearms and alcohol lobbyists, as self-described members of the "Merchants of Death." At the movie's end he quits the tobacco business and is seen negotiating with Scandinavian cell phone executives to provide similar services for their company by spinning the science regarding potential health hazards to their advantage.

It is ironic that one of the first reports of negative health effects attributable to cell phones in the 1980s came from an Ericsson telecommunications engineer named Per Segerbäck. His story is told in a February 2010 Popular Science article headlined "The Man Who Was Allergic to Radio Waves." Segerbäck's initial symptoms of dizziness, nausea, headaches, burning sensations and red blotches on his skin were part of what is now known as electromagnetic hypersensitivity (EHS).

In the engineering group he led for 20 years designing prototype telecommunication systems, all but two of the 20 members developed similar symptoms, although his were the worst. With a telecom antenna located right outside his window, his symptoms progressed to the point where Ericsson paid to have electromagnetic field (EMF) shielding installed in his Volvo, office and home, and provided him with a special EMF- shielded suit.

Ericsson produced a report on "Hypersensitivity in the Workplace" in 1993, and Segerbäck was eventually dismissed when he could no longer function effectively in the EMF environment. He now experiences rapid loss of consciousness if exposed to a cell phone nearby and lives in a

remote cabin relatively isolated from EMF.

Sweden now recognizes EHS as a functional impairment affecting an estimated 230,000 people. However, the majority of double-blind placebo-controlled studies funded by governments and the telecom industry have not shown that EHS sufferers can reliably tell when they are exposed to a real EMF rather than a sham field.

Given the funding bias in the studies, people with EHS may still be the "canaries in the coal mine" with their acute symptoms serving to warn us of the long-term dangers of EMF exposure, which are supported by more robust scientific evidence. Many countries now have stricter guidelines than the United States to protect their citizens from these potential hazards. In the U.S., some cities are following suit, including San Francisco, which did a 2007 analysis of the potential environmental effects of a proposed Earthlink Wi-Fi Network.

This alarm is occurring at a time when wireless networks, including high-powered Wi-Max, are rapidly proliferating. So it behooves us to have local discussions about the benefits and risks.

Last month Gov. Beverly Perdue announced "\$115 Million in Federal Recovery Funds to Expand Broadband Access in North Carolina." This includes, among many other projects, construction of 24 new wireless towers to complement six existing towers for a public safety broadband network in the Charlotte area.

There is also funding for the Yadkin Valley Telephone Membership Corp. to offer a diverse Fiber-To-The-Home network to six western Piedmont counties. Given a choice between wireless and fiber optic, the latter appears to be the safer choice, with significantly less mass exposure of the general public. This option is also a greener choice, requiring much less expenditure of energy once the cables have been installed.

Now is the time to have public conversations in city councils and in the legislature, before the EMF genie is let completely out of the bottle in an uncontrolled way that is modulated only by financial interests. Unless we act now we will not have learned anything from our state's tobacco legacy. What kind of EMF-polluted world will our children inherit if we do not use appropriate precautionary principles?

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