



Microwaves and Cell Phones - An Update

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February 5, 2000 Christ Church, New Zealand - Since my January 30th radio and Earthfiles reports about the microwave research of Neil Cherry, Ph.D., Biophysicist at Lincoln University in Christ Church, New Zealand, I have received many questions from viewers and listeners. Dr. Cherry considers the proliferation of cell phones, microwave towers and microwave pollution to be a serious contributor to cancer, brain tumors and increasing neurological problems among the human population. Several thousand more microwave towers are expected to be built in the United States in the next few years. The following are a series of audience questions and Dr. Cherry's responses this week.

Interview:

Neil Cherry, Ph.D., Biophysicist, Lincoln University in Christ Church, New Zealand:

"1. Even if the cell phone itself is shielded, isn't the antennae the source of most of the offending radiation? Is there a way to shield it, too?"

The antenna of the mobile phone travels down the length of the hand piece. To shield the user from this, the body of the phone and the antenna need to be shielded. There is at least one such shield on the market (Microshield) which encases the handset in a metal grid which is embedded in the leather pouch. It has a sliding extension which goes up the aerial on the head side, thus protecting the user's head from more than 95% of the radiation."

Another is: BrainGuard - this product will position the cellular antenna away from the head to lower the amount of RF that is absorbed by the brain. Contact: Martsales@msn.com or P. O. Box 7704, Algonquin, IL. 60102-7704.

2. Does it help to use a remote mike and earpiece?

Dr. Cherry: "The hand-free kit does help a great deal by keeping most of the radiation from the user's head. But don't keep the phone in a breast pocket or on your belt near your liver, kidneys, womb or testes because the microwave radiation can break chromosomes wherever they are."

3. Did the studies find if there is a threshold at which the radiation becomes harmful? Or is being on your phone just a few minutes a month as bad over time?

Dr. Cherry: "We do not know of a threshold. However, risk is proportional to accumulated usage. Any reduction in number of calls, length of calls, hands free use and so on reduces risk."

4. Can a person minimize the damage by making the call as brief as possible?

Dr. Cherry: "Yes, a person can minimize damage by using only brief calls."

5. What is the best material to use for shielding from microwave and other forms of electromagnetic radiation?

Dr. Cherry: "Distance is good. A fine metal mesh can provide significant shielding from UHF and microwave radiation. That is why microwave ovens have a metal grill over the glass door. If the holes are much smaller than the wavelength of the radiation, it is a good shield. The shield works mainly by reflection."

6. Are there any nutritional supplements that can help repair the damage to the human body?

Dr. Cherry: "Good fresh fruit and vegetables are full of anti-oxidants which are essential for repairing the body. Melatonin is a potent free radical scavenger. A good night's sleep produces good melatonin. Unfortunately as we age, we have lower and lower natural melatonin which causes accelerated cell death and cell damage. This is why cancer rates rise very significantly after 65 years. It is also the cause of neurological degeneration and disease." Melatonin supplements might be helpful.

7. I would like to know if the new digital phones are also microwave band phones, or are they different? What disadvantages might there be in using them?

Dr. Cherry: "The new digital phones are microwave. The signal is pulsed to produce the digital signal. Pulses are shown to be worse than continuous waves in causing cell damage and cancer."

8. What is the brand name of a cell phone manufacturer trying to provide more shielding?

Dr. Cherry: "The brand name of a low emission phone is Nokia, a very large mobile phone manufacturer in Finland."

9. Could you address the issue of computers and cordless phones? My children spend hours writing reports and doing homework on the computer, not to mention games and surfing the web, and I am concerned about what potential health hazards this may pose. I also have a cordless phone and was wondering if you are exposed to microwaves using a cordless phone?

Dr. Cherry: "Computers: There is a wide range of low frequency and radio frequency radiation from computer screens. Modern screens have much lower emission levels than older computers. The computer I am using to send this e-mail to you is producing 35 microwatts/sq. cm. at the screen which reduces to 0.05 at my head and at womb level. This is radio frequency radiation which penetrates tissue more effectively than low frequency fields. With home computers and children starting very early, it is a real worry because a U. S. study, Beall et al (1996) Epidemiology 7 (2): pages 125-130, shows that computer programmers develop and die more from brain tumors, with the rate increasing with the years of work:

a) Up to 5 years exposure, OR = 0.6 95% CI: 0.2-1.9

b) 5 to 9 years exposure, OR = 1.9 95% CI: 0.7-5.2

c) 10 years or more, OR = 2.8 95% CI: 1.1-7.0

Since our brains detect and use very low frequency signals from the Schumann Resonances, which have a mean intensity of about 0.0000001 microwatts/sq. cm. (0.1 picowatts/sq. cm.), it is not surprising that at exposures which are millions of times higher, there is increased brain cell damage and an increased

risk of brain tumor in a dose-response manner. This kind of result is indicative of cause and effect.

Portable phones (not cell phones) use a high frequency radio signal which isn't too far from the mobile phone frequency, but are much less powerful than mobile cell phones. So they do expose our heads to measurable RF radiation. Hence, portable non-cell phones are low risk, but not risk free. Some people report a 'fuzzy head' after a long call on a portable phone.

Cell phone users describe dose-response symptoms of dizziness, loss of memory and concentration and headaches. Some people also report nausea. This probably is caused by differential heating of fluid in the middle ear affecting the balance mechanism."

A sampling of audience e-mails:

"I am a cell phone user. Your report has confirmed to me what I have already been coming to the conclusion about recently. I didn't want to believe that the prolonged use of my cell phone (more than a few minutes here and there) was causing my headaches and confusion. However, I'm absolutely sure it's true. My brother tells me that his eye starts twitching uncontrollably when he uses his.

On longer conversations, I find myself needing to shift frequently from ear to ear to get relief. They are so damned convenient!!! That's the big problem in a world that seems to be going faster and faster every day now. Thanks for your report. The word needs to get out."

"I have suffered so much from EMF since living in a home I bought in 1995 which I've actually had to move from. I now live in the woods away from microwave towers, but I am super sensitive to EMF. I know of others also suffering in the dark. One lady in particular is very ill from living in an apartment that has approximately 25 antennas on the roof. She is trapped with very little resources to move and no help from government."

"Are you aware that there is a trend in the design of new cordless phones that operate in the 2.3 gig frequency and these could perhaps be even more damaging?"

More Information:

The *Chicago Tribune* reported on January 14, 2000 that a 6-month ban on the construction of microwave cell towers has been imposed by the Lakewood, Illinois Village Board. The vote was unanimous. Lakewood currently has no ordinance in its zoning code for telecommunications towers and federal law states that municipalities cannot prohibit the towers entirely.

Village Manager Mike Friesen said: "We want to have some control over them. It's more of a means of protection."

A major source of information about legal issue of Wireless Technology Impacts on people and the environment is:

California Council on Wireless Technology Impacts
Contact: Libby Kelley, libbykelley@ccwti.org
Web Site: <http://www.ccwti.org/>
PH: 415-892-1863 and FAX: 415-892-3108

"There is strong evidence that extreme low frequency (ELF) and radio frequency microwaves (RF/MW) are associated with accelerated aging (enhanced cell death and cancer) and moods, depression, suicide, anger, rage and violence, primarily through alteration of cellular calcium ions and the melatonin/serotonin

balance." - Dr. Neil Cherry, Lincoln University, New Zealand from his June 1998 report, Actual or potential effects of ELF and RF/MW radiation on accelerating aging of human, animal or plant cells.

See the book *Electromagnetic Fields, A Consumer's Guide to the Issues and How to Protect Ourselves* by B. Blake Levitt © 1995 for an excellent overview of the problems, medical research and unknown consequences of global electromagnetic pollution that is placing all earth life in a soup of microwave and radio frequencies.

Websites:

<http://www.ccwti.org/>

<http://www.electric-words.com/adey/adeyoverview1.html>

<http://www.electric-words.com/adey/adeyindex.html>

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