

Cell Phones: Guilty Until Proven Innocent

THE PRECAUTIONARY PRINCIPLE AT WORK

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This past summer, an ad-hoc group of 23 international experts on brain cancer including physicians, researchers and health officials released a warning that cell phone use may increase the risk of brain tumors - both benign and malignant. The head of the University of Pittsburgh Cancer Institute, Dr. Ronald Herberman, one of the signers of the warning, put out an advisory to his own staff regarding the dangers of cell phone use. Children especially should not use cell phones, as they are more vulnerable. This group has taken the bold step of utilizing what is known as the precautionary principle and coming out strongly against the unrestricted use of cell phones before absolute proof is in. This move is very significant because until now, new technologies have been foisted upon the public with the burden of proof on the consumer to show the technology is harmful. Unfortunately, this burden is almost impossible to prove. The precautionary principle calls for new technology to be considered guilty until proven innocent. In this way, we can prevent much grief and suffering.

Cigarette use was widespread and growing for more than half a century before officials recognized it was harmful to one's health. To this day, our government subsidizes the tobacco industry. Imagine another 10 or 20 years of cell phone usage before it's acknowledged as seriously affecting our health. By then, we might be in the midst of a horrendous wave of brain cancers. Cell phone use has grown exponentially in the past decade. Humans have gone from not having cell phones to more than 3 billion users in just under a generation. Imagine if most of the world started smoking in just 20 years and did this unchecked for another 20 years.

The *Neijing* never made reference to electromagnetic radiation, human-made toxins, unprecedented amounts of sugars (both natural and unnatural), jet lag, electric lighting, TV and computer use, 24/7 culture, amphetamines or plastic surgery. You get the picture - modern life. In the case of cell phones, there is now enough evidence supporting the possibility of devastating health effects that the burden must be placed on the cell phone industry to prove safety instead of society playing "Russian roulette with your brain," as Devra Lee Davis, head of the department of environmental oncology at the University of Pittsburgh, puts it.

Radiation, EMF and Cancer

Cell phones are only one aspect of the much larger problem of non-ionizing radiation from radio and microwave frequencies and electromagnetic forces in general. The sun is a natural source of our electromagnetic field (EMF). Humans evolved with a fairly steady level of background radiation, both from the sun and from radioactive metals in the earth. Suddenly, in the past 150 years, there has been an introduction of multiple new sources of EMF and radioactivity that is now growing at an exponential rate. One estimate puts EMF radiation at 100 million times higher now than in generations past. We are living in homes with electricity running through it, Wi-Fi, cell phone signals, radio, TV and microwave signals.

The inverse-square law tells us the closer we are to the source, the more powerful it is. The

strength is squared for each unit of distance we move toward it. The 2000 report of the Ecolog Institute in Germany stated there were 220 peer-reviewed articles suggesting cancer risks with the high frequency of wireless technology. Amy Worthington's 2007 article, "The Radiation Poisoning of America," states the microwave from wireless and the gamma waves from nuclear reactions produce micronuclei in human cells which indicate neoplastic activity.

Dr. George Carlo, who led the research project mandated by Congress and funded by the cell phone industry (a deal made by the industry to prevent regulation), released the findings after six years of study. When the results showed the dangers of cell phone use, the industry tried to discredit him along with the study, instead of taking the lead in creating prudent steps to reduce the levels of radiation. The European Union and Russia have regulations regarding the strength of tower emissions and cell phones, while the United States has none. Dr. Carlo considers communication radiation to be "potentially the biggest health insult this nation has ever seen."

It is now time to take real steps to halt or slow down this juggernaut. Wireless technologies have brought much more radiation into the atmosphere with undetermined health consequences. We must ask ourselves: What is the impact of more and more EMF radiation going through us? The cell phones are next to our heads, yet the wireless is surrounding us. Cell phone towers are becoming omnipresent in our environment. Our homes are wired and wireless. We are becoming saturated with invisible forces that must have some effect.

If we, as health care providers, don't take the lead on this, who will? The mainstream institutions have buried their heads. The American Cancer Society and the EPA take the side of the industries and wait until "the evidence is in." The evidence for them will be tens of thousands of dead bodies. This reminds me of the old joke: A guy jumps off the Empire State Building and someone heard him say on the way down, "So far, so good!" Has anyone seen the double-blind studies that prove drinking battery acid will harm you? Sometimes we have to take a collective leap of common sense and make the uncomfortable decision to let go of something that has become a part of our lives. If you are over age 40, ask yourself how you survived before cell phones.

I am going to insert into this article a list of 10 recommendations this group of courageous health officials put out. My wish is that you, gentle reader, copy this list and hand it out to all of your patients.

Practical Advice to Limit Exposure to Electromagnetic Radiation Emitted from Cell Phones

1. Do not allow children to use a cell phone, except for emergencies. The developing organs of a fetus or child are the most likely to be sensitive to any possible effects of exposure to electromagnetic fields.
2. While communicating using your cell phone, try to keep it away from the body as much as possible. The amplitude of the electromagnetic field is one-fourth the strength at a distance of two inches and 50 times lower at three feet. Whenever possible, use the speaker-phone mode or a wireless headset, which has less than 1/100th of the electromagnetic emission of a normal cell phone. Use of a hands-free ear piece attachment also might reduce exposures
3. Avoid using your cell phone in places such as buses, where you can passively expose others to your phone's electromagnetic fields.
4. Avoid carrying your cell phone on your body at all times. Do not keep it near your body at night, such as under the pillow or on a bedside table, particularly if pregnant. You can also put it on "flight" or "off-line" mode, which stops electromagnetic emissions.

5. If you must carry your cell phone on you, make sure the keypad is positioned toward your body and the back is positioned toward the outside so the transmitted electromagnetic field moves away from you rather than through you.
6. Only use your cell phone to establish contact or for conversations lasting a few minutes, as the biological effects are directly related to the duration of exposure. For longer conversations, use a landline with a corded phone, not a cordless phone, which uses electromagnetic emitting technology similar to that of cell phones.
7. Switch sides regularly while communicating on your cell phone to spread out your exposure. Before putting your cell phone to your ear, wait until your correspondent has picked up. This limits the power of the electromagnetic field emitted near your ear and the duration of your exposure.
8. Avoid using your cell phone when the signal is weak or when moving at a high speed, such as in a car or train. This automatically increases power to a maximum as the phone repeatedly attempts to connect to a new relay antenna.
9. When possible, communicate via text messaging rather than by making a call, limiting the duration of exposure and the proximity to the body.
10. Choose a device with the lowest SAR possible (SAR = specific absorption rate, which is a measure of the strength of the magnetic field absorbed by the body). SAR ratings of contemporary phones by different manufacturers are available by searching for "SAR ratings cell phones" on the Internet.

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