

Cell phones and health: the confusion

By CHRISTOPHER KETCHAM

We love our digital gadgets — “magic” devices that define cool and promise to remake our lives for the better. But there is growing evidence of a dark side to the techno-magic. Your cell phone, and any other wireless device that depends on electromagnetic (EM) microwave radiation to function, may be hazardous to your health.

Most of the bad news comes from major labs and research institutions in Europe. What they're reporting is that using cell phones and Wi-Fi transmitters — which operate using similar frequencies — can have biological effects on the brain and body.

The scientific debate remains heated and far from resolved, as the Health section in the Los Angeles Times reported last week. But the research to date suggests a number of chilling possibilities as to what EM radiation may be doing to us.

For example, in 2008, neuroscientists at Swinburne University of Technology in Australia strapped Nokia phones to subjects' heads, then turned the phones on and off. On — the brain's alpha waves spiked. Off — the brain settled. The researchers speculated that the effect was the result of the brain “concentrating to overcome the electrical interference in brain circuits caused by the pulsed microwave radiation.”

Swedish neuro-oncologist Leif Salford, chairman of the department of neurosurgery at Lund University, has found that cell phone radiation kills brain cells in rats, especially those cells associated with memory and learning.

The damage occurred after an exposure of just two hours. In duplicating earlier research, Salford also found that cell phone microwaves produce holes in the barrier between the circulatory system and the brain in rats. One potential outcome, according to Salford, is dementia.

Meanwhile, Austrian researchers reported in 2004 that cell phone radiation can induce double-strand breaks in DNA, one of the undisputed causes of cancer.

So why isn't this a bigger issue in the United States? Partly because there are countervailing studies and other scientists telling us not to be worried, that the risks are low or that we just don't know enough to say that the risks are real.

Consider the biggest study being done on the question of whether cell phones cause cancers of the brain, mouth and ear — the 13-country Interphone study conducted under the auspices of the International Agency for Research on Cancer in France. The study's epidemiologists have looked at cancer patients and worked backward to establish cell phone habits.

The study, alas, has been fraught with controversy. The multinational researchers — U.S. scientists conspicuously not among them — have fallen into warring camps, and the full study has not been released.

However, pieces of the study have been made public. One Interphone study, for example, found that after a

decade of cell phone use, the chance of getting a brain tumor goes up as much as 40 percent for adults. Another Interphone study reported a nearly 300 percent increased risk of acoustic neuroma, a tumor of the acoustic nerve. But still other Interphone researchers say their data show no increase in brain tumors — or any tumor — caused by cell phone use.

The cell phone industry lobby, CTIA — the Wireless Association, recently said in a statement that “peer-reviewed scientific evidence has overwhelmingly indicated that wireless devices do not pose a public health risk.” Meanwhile, watchdog groups keep it vague. “The available science,” says the Food and Drug Administration, “does not allow us to conclude that mobile phones are absolutely safe, or that they are unsafe.”

So whom to believe, and what to do?

First, consider research done by Henry Lai, a biologist at the University of Washington: Only 25 percent of studies funded by the wireless industry show some type of biological effect from microwave radiation. Independently funded studies, however, are far more damning: 75 percent of those studies—free of industry influence — show a bioeffect. Some 30 percent of funding for the Interphone research was provided by industry, which critics say has resulted in a favorable skewing of some Interphone data.

Obviously, we need to demand more independent re-

search into microwave radiation. In the meantime, we should also treat cell phones and other wireless gadgets with less adoration and more suspicion, and as individuals, we may want to follow the lead of many nations and regulate the way we use them for ourselves.

For example, Belgium, France, Finland, Germany, Russia and Israel have publicly discouraged use of cell phones by children. (Independent research in Sweden last year concluded there was an astonishing 420 percent increased chance of getting brain cancer for cell phone users who were teenagers or younger when they first started using their phones.) France has gone so far as to issue a generalized national cell phone health warning, banned cell phones in elementary schools and considered outlawing marketing the phones to children.

The personal equivalent? For starters, don't get rid of your land line. Buy a hands-free device; keep your cell phone away from your head, face and neck. Don't carry it in your pocket for hours on end (there's some evidence cell phones aren't good for your sperm count).

Salford, the neuro-oncologist, has called the unregulated use of cell phones by 4.5 billion people worldwide “the largest human biological experiment ever.” It's only common sense to do what you can to take yourself out of the guinea pig pool.

Christopher Ketcham is the author of “Warning: Your Cell Phone May Be Hazardous to Your Health” in February's GQ. He wrote this for the Los Angeles Times.