

Federal Court Instructs FCC to Review Electromagnetic Radiation Standards

By Barbara Koepfel

FOR 25 YEARS—THROUGH FIVE DEMOCRATIC AND Republican administrations—the Federal Communications Commission has refused to revise the regulations it set in 1996 that address what level of radiation from cell phones should be considered safe. Labeled radio-frequency radiation (RFR), these emissions are discharged from all wireless devices, Wi-Fi networks, and the thousands of towers stretched across the United States that transmit and receive the signals.

The FCC's power is promethean. It is the sole U.S. agency that determines the acceptable RFR exposure from wireless devices for people of all ages, wildlife, and the environment. And it insists its original 1996 limits are fine.

However, scientists who've reviewed hundreds of studies published over the last two decades claim the FCC ignores critical findings that show a "statistically significant" link between heavy cell phone use (10 or more years) and brain and thyroid tumors, especially on the side of the head where people hold their phones. Professional groups such as the American Academy of Pediatrics and the California Medical Association have asked the FCC to update its numbers.

The scientists and physicians worry that the FCC simply

repeats the industry's line that all is well—which is particularly troubling since millions more people around the world are exposed each year. In the

United States, for example, only 44 million people had cell phones in 1996; today, the number has soared to about 300 million, and that doesn't include the tablets, watches, and other wireless products that increase RFR exposure exponentially.

Thus, in 2019, the Environmental Health Trust (EHT), Consumers for Safe Cell Phones, Children's Health Defense, and 11 other petitioners sued the FCC. They argued that although the U.S. Government Accountability Office told the FCC in 2013 to review its 1996 limits in light of new research, six years later, the FCC was still repeating its all-is-safe mantra. In a 2019 press release, the FCC said that "after a thorough review of the record, we find it appropriate to maintain the existing radiofrequency limits, which are among the most stringent in the world for cell phones."

At the least, this assurance is doubtful. The lawsuit against the FCC argues precisely the opposite: that the Commission

has *not* reviewed "the record." Also, researchers point out that countries such as Italy, Switzerland, France, Israel, China, India, and Russia have more stringent limits than the United States regarding the use of Wi-Fi in schools and day care centers, and on acceptable levels of radiation emissions from cell towers. In addition, some have banned all cell phone ads pitched to children.

The lawsuit notes that the FCC even ignored the landmark 10-year,

\$30 million National Toxicology Program study carried out under the National Institutes of Health—which produced unequivocal results in 2019. Having exposed rats and mice to cell phone radiation for two years, the NTP researchers reported "clear evidence of cancer in the male rats' heart cells, some evidence of increased brain gliomas (brain cancer), and adrenal gland tumors, DNA damage in the brains of male and female rats and mice, and lower birth weights of female rats' offspring."

Two years after the suit was filed, the U.S. Court of Appeals of the D.C. Circuit ruled in August 2021 that the FCC had to reexamine the research to determine if its regulations should be updated. Further, the court called the commission's behavior "arbitrary and capricious," since it had ignored evidence of the harm to children's brains (which are not fully developed) and to



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male and female reproductive systems. It also ruled that because the FCC never produced regulations about radiofrequency radiation's effects on wildlife, it had "completely failed" to address the evidence of potential environmental harm.

However, the court did not set a date for the FCC to comply—which meant the commission could retain its old regulations indefinitely. Also, the court did not address the issue of whether RFR exposures cause cancer; instead it said the FCC had passed the "minimum legal requirement" to assure it had evaluated the research on cancer and radiation exposure. Thus, scientists are concerned that the FCC will again find ways to defer serious examination of the voluminous literature on the subject.

How could this be, given the NTP findings and other research? To bolster its no-cancer claims, the FCC points to a letter the U.S. Food and Drug Administration wrote the commission, which claimed the NTP results weren't relevant to humans since the study was done on rats and mice (although 10 years earlier, the FDA itself had approved the animal study). Dr. Joel Moskowitz, director of the Center for Family and Community Health at the University of Cal-

ifornia, Berkeley and a leading authority on radiofrequency radiation, says, "The FDA wrote a biased review of the research regarding cancer risk from cell phone radiation."

Also, the FCC cited reports from organizations that have undeclared conflicts of interest ([ties to the wireless industry](#)), which contest the cancer links. Dr. Ronald Melnick, the lead designer of the NTP study, has published [two articles](#) stating that the results from these groups' reports were "unfounded."

In fact, the FCC failed on several fronts. Besides ignoring the NTP study, the commission dismissed the American Academy of Pediatrics' request for regulations that reflect the special effects RFR have on children and pregnant women. It never explained why it ignored research that showed children's brains absorb higher levels of the radiation. Instead, it has insisted for 20-plus years that RFR is only harmful if it overheats the human body by at least one degree centigrade. This is a red herring, since wireless devices don't emit the kind of radiation that produces higher temperatures. Also, the FCC didn't consider the effects of long-term exposures.

Many researchers insist these links have been proven. As noted in an earlier article in this journal ("Wireless Hazards," [Washington Spectator](#),

December 2020), studies over the past 20 years have found strong evidence of brain tumors and leaks in the blood-brain barrier, acoustic neuromas (tumors on the nerves leading from the inner ear to the brain), thyroid tumors, and cognitive impairment. They also showed a link to male infertility: when men carried phones in their pants' pockets, their sperm were weakened and reduced. Also, physicians and scientists found that some individuals are particularly sensitive to RFR radiation, which can cause tinnitus, vertigo, headaches, fatigue, and loss of memory. Early this month, some experts studying the U.S. diplomats' and CIA agents' "Havana Syndrome" symptoms suggested they could be related to radiofrequency radiation.

The latest evidence

Theodora Scarato, the executive director of the Environmental Health Trust, says that since the FCC had not yet responded to the court's August ruling by last November, the EHT [asked the commission](#) to consider additional studies that were completed after 2019, when the suit was filed.

For example, in late 2019, the European Parliamentary Research Service said that electromagnetic fields (EMFs) emitted by 2G, 3G, and 4G cell phones (which operate at 450 to 6,000 megahertz) are "probably carcinogenic for humans," particularly in causing gliomas, acoustic neuromas, and meningiomas (slow-growing, mostly nonmalignant brain tumors).

In 2020, Yoon-Jung Choi and Joel Moskowitz (the lead authors) and three other scientists reviewed 46 "case-controlled studies" and published their findings in "Cellular Phone Use and Risk of Tumors: Systematic Review and Meta-Analysis," in the November *International Journal of Environmental Research and Public Health*. Moskowitz says, "This study updated our earlier analysis published in 2009." Evidence from the new study, he says, links cell phone use to increased tumor risk. The researchers' numbers are compelling: 1,000 or more hours of cell phone use, or about 17 minutes a day over 10 years, was associated with a statistically significant 60 percent increase in brain tumor risk.

Also in 2020, Devra Davis (an epidemiologist and co-founder of the Environmental Health Trust), Aaron Pilarcik (a biophysicist at the Worcester Polytechnic Institute), and Anthony Miller (an epidemiologist specializing in cancer etiology and

[Dr. Joel Moskowitz:] "The FDA wrote a biased review of the research regarding cancer risk from cell phone radiation."

an adviser to the World Health Organization) reviewed data on colon and rectal cancer from the U.S. Centers for Disease Control, the U.S. SEER Program at the National Cancer Institute, and the Iranian National Cancer Registry. They found that the colon cancer risk for adults born in the 1990s had doubled and the rectal cancer risk had increased fourfold by the time they were 24 years old—when compared to those born 60 years ago. They hypothesized that cell phone radiation could play a role in the increased risk and recommended the FCC set limits to reduce the exposure. [Their study](#), “Increased Generational Risk of Colon and Rectal Cancer in Recent Birth Cohorts Under Age 40—the Hypothetical Role of Radiofrequency Radiation from Cell Phones,” was published in the *Annals of Gastroenterology and Digestive Disorders*.

In 2020, Henry Lai (a retired University of Washington scientist) reviewed the research on genetic effects and found that exposure to RFR can break DNA strands and affect the central nervous system. The review, “Genetic Effects of Non-Ionizing Electromagnetic Fields” was published in the December 2020 issue of *Electromagnetic Biology and Medicine*.

In 2021, Henry Lai, with Albert Manville (a biologist formerly at the U.S. Fish and Wildlife Service) and Blake Levitt (an environmental journalist), studied the effects of cell phone towers in various countries, comparing data from the 1980s to the present. They found that the toxic effects of EMFs on cells and genes had altered “the wildlife’s orientation and migration patterns, their ability to find food, mate, reproduce, build nests and dens, and maintain and defend their territory.” Yet the FCC has still set no standards for long-term, low-level EMF exposure on wildlife. The scientists’ three-part research was published in *Reviews on Environmental Health*, “Effects of Non-Ionizing Electromagnetic Fields (EMF) on Flora and Fauna.”

Also in 2021, the journal *Andrologia* published a [study](#) by Iranian scientists who found DNA fragmentation in sperm and recommended that men keep cell phones “away from the pelvis as much as possible.”

Further, from 2015 to the present, the French government has tested the radiation from cell phones when people hold them next to their bodies. Their findings are dramatic: They reported exposures to RFR up to 11 times higher than those approved in FCC guidelines. Thus, the government passed a ministerial order in 2019 urging the public to limit children’s cell phone use and “keep the phones away from the belly of pregnant women and the lower abdomen of adolescents.”

Moreover, the National Institutes of Health and the American Cancer Society funded a study in 2019 and 2020 at Yale University that found increased [thyroid cancer](#) among heavy cell phone users.

The accompanying table enumerates many of the ways that doctors and vigilant public jurisdictions have identified to help people reduce the health risks that could be associated with exposure to RFR and cell phone radiation emissions.

The EHT’s Scarato reminds readers concerned about RFR emissions exposure to “contact their senators and representatives to raise the issues with the committees.” In the Senate, the

[Committee on Commerce, Science, and Transportation](#), along with its [Subcommittee on Communications, Media, and Broadband](#) oversees the FCC. In the House, the FCC reports to the [Energy and Commerce Committee](#) and its [Communications and Technology Subcommittee](#). Public pressure on the members of these committees will help to prod the FCC to review the research and respond to the ruling of the Court of Appeals. ■

Barbara Koeppel is a Washington, D.C.-based investigative reporter who covers social, economic, political, and foreign policy issues.

PROTECT YOURSELF FROM WIRELESS RADIATION

The California Department of Public Health recommends these precautions:

- Use headsets—not ear buds—but remove them when not talking, since even headsets release small amounts of radiation when not in use.
- Text instead of talk.
- Carry phones away from your body in backpacks, tote bags, handbags, and briefcases.
- Keep phones away from your head when streaming.
- Download movies instead of streaming them.
- Don’t use cell phones when reception is poor and they show just one or two bars—in subways, cars, basements, or rural areas. Under such circumstances cell phones often need vastly more energy to communicate with cell towers and other phones, and radiation levels intensify.
- Men should not carry phones in pants’ pockets. Cleveland Clinic Center for Male Fertility researchers found this weakened and reduced sperm, which can cause infertility.

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