

Scientific Paper on Children, Wireless Technology, and Health Effects by Renowned Experts in Environmental Health

New Scientific Paper on Wireless and Children's Health: Renowned Experts Call for Physicians to Address Family Wireless Exposures as Part of Well-Child Visits

By [Environmental Health Trust](#)

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A [state-of-the-art assessment](#) on the scientific evidence of wireless radiation impacts on children's health published in the journal *Current Problems in Pediatric and Adolescent Health Care* concludes that the medical community has a critical role to play to prevent harm from wireless radiation. "[Wireless Technologies, Non-ionizing Electromagnetic Fields and Children: Identifying and Reducing Health Risks](#)" is written by distinguished experts in medicine, epidemiology, toxicology, physics, biochemical engineering and public health who collectively have published more than 1,000 papers.

The [paper](#) references numerous studies that associate wireless exposure to effects including oxidative stress, DNA damage, cardiomyopathy, carcinogenicity, sperm damage, memory damage and neurological effects. The American Academy of Pediatrics has long [advocated](#) for U.S. government regulations to be updated to address children's vulnerability. Pregnancy, infancy and childhood are periods of critical susceptibility, especially for the brain, which is rapidly developing.

"Current government safety limits are outdated and do not reflect the latest science nor the way children use wireless technology today," stated [Linda Birnbaum Ph.D.](#), former Director of the National Toxicology Program and National Institute for Environmental Health Sciences, regarding this critical examination of experimental and epidemiological evidence.

"We highly recommend educating parents on why and how to reduce wireless radiation exposures, *especially during pregnancy*," stated [Hugh Taylor MD](#), Professor and Chair of the Department of Obstetrics and Gynecology at Yale University, whose [research](#) has found increased hyperactivity and damage to memory in mice prenatally exposed to cell phone radiation.

"The science indicates that wireless radiation acts like a classic endocrine disruptor," stated [Devra Davis Ph.D, M.P.H.](#), President of [Environmental Health Trust](#), pointing to "substantial evidence" linking wireless exposures to impaired memory, behavior, fertility and brain development, as well as cancer and neurological illness.

Noting that human exposure limits for wireless radiation have not been updated for more than two decades, the distinguished authors recommend policies that reduce wireless exposures. The [paper](#) details how clinicians can integrate a preventive approach into their clinical practice by educating patients and families on simple measures to minimize exposure. It also offers specific measures to reduce exposure in schools and steps for professional medical and public health organizations to take to educate and motivate their members to advocate for more protective regulations.

Wireless technologies, non-ionizing electromagnetic fields and children: Identifying and reducing health risks



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Theodora Scarato, MSW^b**

Children today are conceived and live in a sea of wireless radiation that did not exist when their parents were born. The launch of the digital age continues to transform the capacity to respond to emergencies and extend global communications. At the same time that this increasingly ubiquitous technology continues to alter the nature of commerce, medicine, transport and modern life overall, its varied and changing forms have not been evaluated for their biological or environmental impacts. Standards for evaluating radiation from numerous wireless devices were first set in 1996 to avoid heating tissue and remain unchanged since then in the U.S. and many other nations. A wide range of evidence indicates that there are numerous non-thermal effects from wireless radiation on reproduction, development, and chronic illness. Many widely used devices such as phones and tablets function as two-way microwave radios, sending and receiving various frequencies of information-carrying microwave radiation on multiple simultaneously operating antennas. Expert groups advising governments on this matter do not agree on the best approaches to be taken. The American Academy of Pediatrics recommends limited screen time for children under the age of

experience delays in speech acquisition and bonding, while older children report feelings of disappointment due to 'technoference' — parental distraction due to technology. Children who begin using devices early in life can become socially, psychologically and physically addicted to the technology and experience withdrawal upon cessation. We review relevant experimental, epidemiological and clinical evidence on biological and other impacts of currently used wireless technology, including advice to include key questions at pediatric wellness checkups from infancy to young adulthood. We conclude that consistent with advice in pediatric radiology, an approach that recommends that microwave radiation exposures be As Low As Reasonably Achievable (ALARA) seems sensible and prudent, and that an independently-funded training, research and monitoring program should be carried out on the long term physical and psychological impacts of rapidly changing technological milieu, including ways to mitigate impacts through modifications in hardware and software. Current knowledge of electrohypersensitivity indicates the importance of reducing wireless exposures especially in schools and health care settings.

The American Academy of Pediatrics recommends parents minimize their children's cell phone use with [ten tips for families](#) which includes distancing the cell phone from the brain and body, and when watching videos on a device parents can pre-download movies and then turn the wireless antennas off before handing the device to the child, "in order to avoid unnecessary radiation exposure."

Other U.S. public health entities' recommendations to reduce children's exposures include the [California Department of Public Health cell phone advisory](#) and the Maryland State Children's Environmental Health and Protection Advisory Council [guidelines to reduce wireless radiation at home and school](#).

Theodora Scarato, Executive Director of [Environmental Health Trust](#), highlighted the [international policies](#) to reduce children's exposure, such as France and Belgium's bans on the sale of cell phones designed for young children and the numerous countries that have restrictions on Wi-Fi exposure in classrooms. She stated that, "US government limits allow radiation emissions 10 to 100 times higher than numerous countries such as Switzerland,

Italy, China, Russia and India. Many countries have more stringent laws to protect children and restrict cell towers near homes and schools."

Scarato pointed out that Environmental Health Trust has a website dedicated to educating parents and caretakers on how to reduce children's wireless radiation exposure at healthyttechhome.org as well as [a campaign to elevate the issue](#) at the federal level.

"Decades of research on the biological effects of microwave radiofrequency radiation (RFR) provide clear evidence of a variety of risks to the health and well-being of adults and, particularly, children from everyday, low-level exposure to wireless devices such as smartphones, tablets, laptops, and other WiFi-enabled wireless electronics. My research demonstrates how the FCC and the ICNIRP placed the needs of the ICT industry above the protection of children. Parents, clinicians and policymakers have been lulled into a false sense of security about the safety of childhood RFR exposure." stated Tom Butler PhD, Professor of Information Systems at University College Cork and former satellite and microwave telecommunications engineer.

"A false presumption that wireless radiation is only harmful when tissue is over-heated has blocked progress in health protection in many (but not all) countries for decades. One mechanism that initiates harms, including cancers, is well known by chemical engineers and commercialized as 'microwave catalysis,'" stated Meg Sears Ph.D., Chair of [Prevent Cancer Now](#), and Research Associate at the Ottawa Hospital Research Institute (Canada). Sears works in environmental health, following studies in biochemical engineering and applied chemistry.

"Non ionizing radiation can have impacts at the cellular level that include impacts on cell homeostasis, on mitochondrial processes critical to cellular energy and metabolism. The assumption that only ionizing radiation can cause harm is outdated and incorrect," stated Paul Ben Ishai Ph.D of the Department of Physics, Ariel University, Ariel, Israel, head of the laboratory of Terahertz Dielectric Spectroscopy.

The entire paper is open access and the PDF can be [downloaded at this link](#).

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