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## **ALERT! CELL PHONES AND KIDS SHOULD NOT MIX!**

Parents and their children need to understand more about the possible risks of using cell and cordless phones in the home and at school. A growing body of scientific evidence suggests that chronic, low-level exposure to radiofrequency (RF) from cell phones, cordless phones and even cell tower antennas may be harmful.

Massively increased RF exposure has no precedent in human history. These exposures simply did not exist 100 years ago. Our use of microwave frequencies for wireless communication means that we have no track record for the consequences, but there is substantial and worrisome evidence of health risks, particularly for children. The number of brain tumor cases in the US and Europe has increased up to 40% in the past twenty years, and is increasing in ALL age groups. Males between 20 and 40 years old are the most affected, particularly white-collar workers and professionals. Researchers point to environmental causes that cannot be ruled out – including cellular phones, computers and other exposure to electromagnetic radiation.

Kids today can be exposed by:

- Cell phone use (by the child, and to second-hand radiation from others)
- The family's cordless phones in the home
- Wireless LAN (or Land-area Network) systems at schools or home
- Cell towers in the neighborhood, or near schools
- Wireless computers at home and at school
- Two-way radios (think family ski-trips)
- WIFI systems (at McDonalds and Starbucks for wireless computers)

Why don't we hear more about this issue? What about existing standards that are supposed to protect the public?

The FCC regulates RF based on concern for thermal injury (burning or heating of tissue). For example, for the 800-900 MHz range (cell phones) the standard is about 580 microwatts/cm<sup>2</sup> (for 862 MHz). There are dozens of studies showing that the human body (and other mammals) can detect and react to the "signal" at levels more than a thousand times lower. The range of concern for health effects is 0.01 to 1 or 5 microwatts/cm<sup>2</sup>..... far below the limits based on thermal standards. There are no non-thermal standards that address exposures that do affect us by signalling or the "information content" of the RF exposure.

So, these exposures are increasing in our schools and neighborhoods with levels now exceeding those thresholds where people report being affected. Radiofrequency radiation may produce changes in brain function that have implications for cognitive function and attention, memory loss, altered white blood cell activity, fatigue, confusion, spatial disorientation, slowed motor skills, and delayed school advancement in children... as well as a constellation of other reported effects.

Who is looking at this issue? What are they saying?

The World Health Organization Report on Children and Health (2002) indicates that prudent avoidance for children would restrict any new exposures to radiofrequency radiation. The WHO expects to have the result of its five-year study on radiofrequency radiation completed by 2005 or 2006. Until that time, there are serious questions about potential health effects, particularly to children.

The US National Institutes of Health - National Toxicology Program is now studying RF as a potential carcinogen because of concerns based on the existing but incomplete scientific evidence (the NTP program performs studies on chemicals and other things in the environment to see whether they are cancer-causing).

The British Medical Association Board of Science and Education recommends limits on children's cell phone use, and the accompanying leaflet from the Department of Health recommends children under 16 not use mobile phones at all. Other countries that have either adopted or recommended bans or limitations on cell phone use for children include Russia, Italy and Germany. In addition, Russia advises against their use by women who are pregnant.

The Los Angeles Unified School District has adopted a policy that prohibits cell sites on LAUSD property, and requires that new schools avoid siting near an existing cell site.

We need to understand more about the potential risks of exposures, and what sources need to be assessed BEFORE we allow the proliferation of RF sources at school.

Experts recommend that children not use cell or cordless phones, except in emergencies. Kids should use a corded phone instead. Further, children should not be exposed to the second-hand radiation from anyone else's cell phone. A four to five-foot radius is required for most cell phones. Schools should avoid installing wireless LAN computer systems and other wireless computer hookups until the WHO and US National Toxicology Program complete their risk evaluations.

There is too much scientific information to ignore. The question (as always) is "what is the weight of the evidence and what do we do about it in the interim?". Where our kids are concerned, a little care today may save us heartache and regret tomorrow.

For a complete list of studies, see [www.sageassociates.net](http://www.sageassociates.net) and Radiofrequency and Microwave Exposure in the San Francisco Medicine, March 2001 by Cindy Sage, Sage Associates, published by the San Francisco Medical Society.