

The above is a selection of studies which found an effect. There were many studies which did not find an effect. However a highly important concept in epidemiology is, “The absence of evidence is not evidence of absence”

## Conclusions

The CTIA assertion that there is a 50-fold safety factor is not true. The current “safety” factor is 2.5-fold above a potentially irreversible effect. It would be difficult to understand any public health policy which would set such a “safety” factor so close to an *irreversible injury*, albeit in rats.

CTIA’s assertion that there is a sole FCC approved cellphone certification process is not true. The computer simulation has far greater capability and the FCC should mandate its use in order to protect children, pregnant women and to deal with the reality that children, and women and to a lesser extent men have metal on their bodies, ears, necks, body piercings and dental braces which will all interact with cellphone radiation.

The existing cellphone certification process is fundamentally flawed. There is no confirmation that the single cellphone model provided for certification is representative of production units. The post-market surveillance system is ineffective. If the iPhone 5 dataset provided to the FCC is a typical example, the very credibility of the existing cellphone certification process is in question. An independent auditor should review every step of the cellphone certification process.

CTIA’s asserts there are no non-thermal adverse biological effects from microwave radiation. This is not true. There is a long list of non-thermal effects, as reported in various exposure standards. Perhaps the most important is the repeated findings of radio frequency radiation disruption of calcium homeostasis “which can have important consequences for health.”<sup>189</sup>

CTIA asserts that “Current Emission Standards and Testing Procedures are Safe and Appropriate for Children [p. 26].” This is not true. There are studies showing children are at greater risk than adults from exposure to wireless devices, and studies showing children absorb more cellphone microwave radiation than adults.

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<sup>189</sup> [http://en.wikipedia.org/wiki/Calcium\\_metabolism](http://en.wikipedia.org/wiki/Calcium_metabolism) (accessed 18 Nov. 2019).

CTIA asserts there are no studies showing risks. This too is not true. There are significant risks from cellphone use for tumors of the brain, the hearing nerve, the cheek's salivary gland, and female breast. There are also multiple studies both in humans and animals showing deleterious effects to sperm including DNA fragmentation.

Our government has a responsibility to protect its citizens and a responsibility to provide data that can help researchers and citizens better understand the health effects from wireless device use:

Per an FCC call for comment [paragraph 215, Notice of Inquiry ET Docket 13-84] to other governmental agencies and institutes for additional information that could help support health research in the U.S., we believe that cellphone use data should be made available anonymously to researchers, and to any customer who requests their personal cellphone call data. Lack of accurate and complete usage data in the U.S. was reported during the House Oversight Committee hearing (Sept. 25, 2008) as one reason why little epidemiological research has been conducted in the U.S. on the potential health effects of exposure to radiofrequency energy from wireless phones. The availability of such anonymized data would also permit the U.S. to participate fully in global epidemiological studies, such as INTERPHONE. The FCC should, when revising its regulations, require that the telecommunications industry maintain such data and make it available in an anonymized form to researchers and to customers upon request.

The FCC's primary obligation is not to optimize profitability for the telecommunications industry. The Commission should enhance communications and protect the most vulnerable members of our society: "infants, the aged, the ill and disabled," [articulated in the IEEE 1991 exposure standard]. As the American Academy of Pediatrics has advised recently advised the Commission, young children should be added to this listed. Fetuses and men who wish to father healthy children should also be included in this "most vulnerable" list.

Throughout the CTIA Comments multiple organizations and individuals are cited to bolster the CTIA's assertion. Many of these organization and individuals have inherent conflicts-of-interests which we have documented above.

Finally, in light of his long history as a lobbyist for industry and as the first President of the Cellular Telecommunication Industry Association, the new Chairman of the FCC, Thomas Wheeler, should recuse himself from any matter

concerning revisions of the exposure limits. Thomas Wheeler's past positions create fundamental conflicts-of-interests.