



# Children & Wireless Radiation

## EXPERT RECOMMENDATIONS

Cell phones, cell towers, and Wi-Fi devices emit wireless radiofrequency (RF) radiation. Growing science links RF exposure to cancer and oxidative stress as well as impacts to memory, hormones, the brain and reproductive organs.

Numerous scientific, medical, and public health organizations have issued recommendations to reduce children's exposure to wireless radiation.

The **American Academy of Pediatrics** has repeatedly written the US government calling on them to update their regulations, which have remained unchanged since 1996:

**“Current FCC standards do not account for the unique vulnerability and use patterns specific to pregnant women and children.”**

## CHILDREN ARE UNIQUELY VULNERABLE

- A child's thinner skull, higher brain water content, and smaller head allows wireless RF radiation to penetrate deeper into brain regions critical for learning and memory.
- Their rapidly developing brains are more sensitive.
- They will experience a lifetime of exposure.

## HIGHER CELL PHONE RF RADIATION ABSORPTION RATES INTO A CHILD'S HEAD AND EYES

34-YEAR OLD

6-YEAR OLD

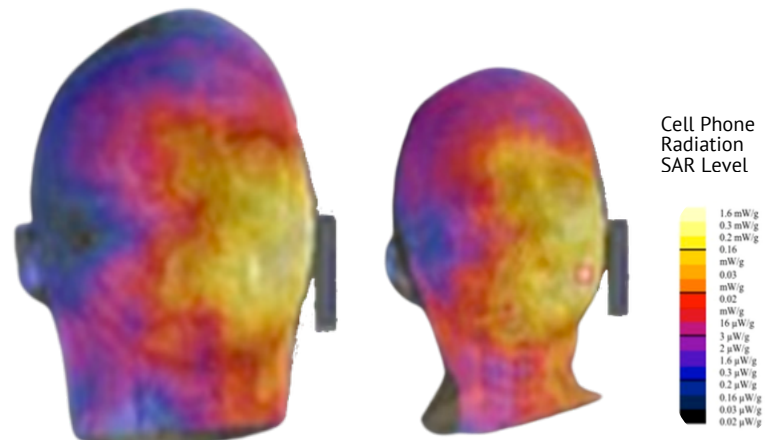


**Image: Scientific research by Fernandez et al. (2018) published in *Environmental Research***

This engineering study found wireless absorption psSAR is ~2-fold greater in the cerebellum and ~30-fold greater in the hippocampus of the brain of children as compared to adults. The youngest child model's eyes absorb between 2 to almost 5-fold higher doses.

***The average exposure from use of the same mobile phone is higher by a factor of 2 in a child's brain and higher by a factor of 10 in the bone marrow of the skull.***

**-WORLD HEALTH ORGANIZATION  
INTERNATIONAL AGENCY  
FOR RESEARCH ON  
CANCER**



# Cell Phone & Cell Tower Regulations

## U.S. & WORLDWIDE

### Outdated U.S. Regulations

FCC RF limits, unchanged since 1996, are designed only to protect against overheating from short-term exposure. US federal agencies are not engaged in ongoing scientific review and there is no premarket safety testing or post-market surveillance for health impacts.

Over a dozen countries have public health recommendations and/or laws to reduce children's exposure to wireless radiation. For example:

**Belgium:** Ban on sale of cell phones designed for young children.

**France:** Ministerial order ensures phones are radiation labeled and recommend keeping them "away from the belly of pregnant women" and "from the lower abdomen of adolescents."

**Cyprus:** Launched a multimedia education campaign to educate parents and has a directive to remove Wi-Fi from elementary schools.

**Israel:** Wi-Fi exposure is mitigated in kindergarten and elementary school classrooms.

**Chile:** Cell antennas are not allowed in "sensitive areas" such as kindergartens, hospitals, and nursing homes.

### HOW TO REDUCE EXPOSURE

**Minimize time.** Limit children's use of cell phones and Wi-Fi devices.

**Don't use wireless devices while holding babies.** Young children are exposed from adults using devices.

**Distance decreases exposure.** Don't carry phones in pockets or bras. Keep laptops and tablets off the lap.

**Power down phones, devices, and Wi-Fi router when not in use.** Turn off your phone's antennas (Wi-Fi, Bluetooth, etc) when not needed.

**Use hardwired ethernet for internet.** Corded tech does not emit RF radiation.

**Adopt a strict cell tower/wireless facility ordinance.**

**Advocate for stronger safety standards.**

### U.S. WIRELESS RF RADIATION LIMITS: AMONG THE MOST LENIENT

Many countries have environmental limits for homes and schools, far more stringent than the US, intended to better protect children.

■ 1800 MHz W/m<sup>2</sup> equivalent plane wave power density

