



Nicosia Declaration on Electromagnetic Fields/Radiofrequencies,

November, 2017

COMMON POSITION PAPER by

The Cyprus Medical Association, the Vienna/Austrian Medical Chambers and the Cyprus National Committee on Environment and Children's Health

1. The Problem

Potential health Impacts of non ionizing radiation from EMF/RF (electromagnetic fields/Radiofrequencies) of 30KHz-300GHz include carcinogenicity (class 2b IARC 2011), developmental neurotoxicity, effects on DNA, on fertility, Hypersensitivity and other serious effects are well documented in peer reviewed studies. RFR can increase oxidative stress in cells and lead to increase of pro-inflammatory cytokines and lower capacity to repair DNA single and double strand breaks. Cognitive impairments in learning and memory have also been shown. These effects can occur at levels well below existing limits of **ICNIRP**, EC Rec 1999/519. **We reaffirm that fetuses and children have a** delicate systems that direct the development of human life. Exposure to EMF/RF at an early developmental stage is of particular concern due amongst other, to greater absorption and potential effects on the developing brain, nervous system as well as their reproductive system, may induce cancer, cognitive effects etc. Scientific evidence is growing and emerging like an iceberg. Concerns are raised by Scientific bodies and Organizations. We acknowledge that some of the effects have not yet been fully established and that the scientific process to fully quantify and establish the risks is still in process. We call for further research focusing to children. However, we believe that substantial scientific evidence of risks for fetuses and children does exist, indicating damages that could be serious and in some cases irreversible. This evidence is strong enough to support precautionary actions and to establish activities and rules for a careful handling.

2. Why this emerging thread needs to be proactively and urgently addressed

1. Existing limits (**ICNIRP** / EC Rec. 1999/519, address only short term exposure and besides thermal effects do not address biological effects or long term effects or potential Carcinogenicity.
2. **Children even infants' and fetal exposure is exponentially growing is multiple, intermittent, during vulnerable developmental stages from embryo to adolescent, affecting the whole population.** Schools are rapidly integrating cell phones and wireless technology into classrooms. The (RFR/EMF) radiation environment in classrooms is significant because of the high numbers of radiation emitting devices (laptops, tablets, cell phones, ceiling mounted access points, virtual reality) in use for long periods of time.
3. **New devices are emerging without premarket testing & post market monitoring** especially for effects on children in the long term. Simply they recall compliance with obsolete limits.
4. **People are not adequately informed** about the risks and may have erroneous perceptions of safety.
5. **Good Practices for Safe Technology Usage and Reduced Exposure** do exist.

3. Recommendations

1. **At the Policy level guidelines and regulatory standards need to be revised and strengthened** to reflect current scientific knowledge, usage patterns, exposures and the special children's vulnerability.



Appropriate standards will put regulatory pressure on manufacturers to develop and to market safer technologies. In the mean time existing **science based and biological relevant criteria must be applied to evaluate children's exposure from devices or infrastructures**. A REACH like authorization system applied for chemicals should be applied for devices/ infrastructure.

2. **Decision makers especially in Education and the Health Sector need to be aware of risks** and safe alternatives of the Technology, must consider adequately Health concerns, children's vulnerability and support safe environment in schools, day-care and paediatric units. They must promote age related rational application of digital technology and not allow at schools, particular at preschool, kindergarten and elementary schools wireless networks and opt for wired connections. All Children and in particular the those with existing neurological or behavioural problems as well those with chronic diseases must be provided with wired (not wireless) learning, living and sleeping environments. We ask them to follow the ALARA (As Low As Reasonably Achievable) principle and the Council of Europe Resolution 1815 to take all reasonable measures to reduce exposure to RFR
3. **Exposure at home and schools (where children depending on their age spend at least 60-90% of their time) can and must be reduced** by minimising the use of mobile phones and other wireless devices. By applying safer technologies, like wired (Ethernet) connection to Internet or optical fibers instead of Wi-Fi, there will be no loss of comfort. Schools should avoid Wi-Fi .
4. **Medical professionals, especially paediatricians and obstetricians should be adequately educated** about the biological effects (diagnosis/symptoms/treatment) of electromagnetic radiation and advice their patients on how to minimize their exposures. For medical doctors there are already existing guidelines (EUROPAEM EMF Guidelines 2016) for the prevention, diagnosis and treatment of EMF-related health problems and illnesses.
5. **The public have the right to be fully informed about potential health risks from all wireless and EMF transmitting devices/infrastructures** and educated on risk reduction strategies. Parents need to be educated and empowered to demand and make personal choices, to minimize their fetus and child exposures especially in homes and schools.

Practical rules are proposed, based on the existing rules published annually by the Medical Chamber of Vienna/Austria, the rules published by the Cyprus Committee on Environment and Children's Health and the recent Reykjavik appeal 2017.

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The 16 Practical Rules

1. Children and teenagers under the age of 16 should carry mobile phones for emergencies only! (make it separate put emphasis)
2. Mobile phones, tablets, laptops are not toys or a means for entertainment for children. They can be used by children only as simple devices, i.e. on flight mode and with Wi-Fi, bluetooth and mobile data turned off. Games, songs etc., should be downloaded and saved in advance by parents. However, their use must still be limited and proportionate to the age of the child. Minimum use for children at preschool age, and no use at all for infants and children below 2 years of age.
3. In general, keep calls short and as few as possible. Use a landline or write an SMS.
4. "Distance is your friend". Keep the phone away from your body and head during dialing and maintain at least the minimum distance recommended in the user guide. Take advantage of the built-in speakerphone or use a headset!
5. Do not keep the phone directly on your body when using a headset or the built-in speakerphone. Pregnant women should be especially cautious. In men, mobile phones pose a risk to their fertility when carried in the pant pocket. Persons with electronic implants (pacemaker, insulin pump, etc.) must pay particular attention to distance. If no other option is available, use the outer coat pocket, a backpack or a purse/handbag to carry the phone!
6. Do not use mobiles or smartphones in vehicles (car, bus, train). Without an external antenna, the radiation inside the vehicle is higher. In addition, the user is distracted and becomes a nuisance to others on public transport!
7. No texting while driving - ever! The distraction causes you to become a danger to yourself and a danger to other road users!
8. Make phone calls at home and at work via a hardwired network.
9. Work offline more often or put your phone in airplane mode. For functions such as listening to music, camera, alarm clock, calculator or offline games, you do not always need an Internet connection!
10. Fewer apps means less radiation. Minimize the number of apps and disable the most unnecessary background services on your smartphone. Disabling "mobile services"/"data network mode"/Wi-Fi turns the smartphone into a conventional mobile phone. You can still be reached, but you avoid a lot of unnecessary radiation from background data traffic! Teenagers in particular need to be cautious.
11. Avoid making calls in places with poor reception (basement, elevator and the like). In such instances, a mobile phone increases its transmission power. When there is poor reception, use a headset or the speakerphone instead!
12. Buy mobile phones with a very low SAR value and an external antenna connector, if possible!



13. Internet access via a hardwired connection such as LAN (e.g. via ADSL, VDSL, fiber optics) does not emit radiation: it is fast and secure. Constantly radiating DECT cordless phones, Wi-Fi access points, data sticks and LTE modems should be avoided! This should be especially avoided in home and schools. Wi-Fi routers cause passive exposure to non-users. A distance of at least 4m up to 10m should be kept from places where children are playing, staying or sleeping. Wi-Fi should always be kept: switched off when not in use especially at night or when pregnant woman and children are near by.
14. Chatting and phone calls over wired internet is recommended
15. Protect pregnant women and children from "passive exposure", by keeping a distance of at least 1 meter while on the mobile phone. When using wireless internet (Wi-Fi or mobile data), the distance kept should be as far as possible. Devices such as mobile phones, laptops or tablets with wireless connection must be kept away from a pregnant woman's belly or from a woman holding a child in her arms. Under no circumstance should a pregnant woman or a child sit near a router or in between a router and their computer. In general, when parents hold their children in their arms or are close to them, they should not use or hold their mobile phones or work with wireless devices and they should not place the mobile phone on or close to the child's stroller. The risk is higher if the mobile device connected to the internet via Wi-Fi or mobile data.
16. Beware of **wireless digital baby monitors because of potential risks of irreversible damage to the infant's brain development**. Analogue-type or wired devices are the safest. Digital devices should at least be without video capacity and be "voice activated" (non-continuous transmission). In any case, any device should not be placed in the child's cot, but at a distance of at least 2 meters!