

IARC's RF / Cancer Classification

Dear Mrs Atzmon,

The IARC Monographs classification of Radiofrequency Electromagnetic Fields (RF-EMF) covers the entire radiofrequency segment of the electromagnetic spectrum (30 kHz-300 GHz).

Within this spectrum, the electromagnetic fields around (or the radiation emitted by) mobile telephones represent the most intense and most wide-spread exposure situation, for which a small increase in risk for glioma and acoustic neuroma has been found in the group of 'heavy users'.

Because there were also some indications of increased cancer risks from studies on occupational exposures to different frequency-ranges (in the military, in the plastic-ware industry), the IARC Working Group did not want to restrict the overall evaluation to "RF-EMF from mobile phones" or to "RF-EMF from mobile phones that were used in the late 1990s" or to "RF-EMF from mobile phones that were used in the INTERPHONE study", since many other devices emit the same type of RF radiation, e.g., base-station antennas, radio/tv antennas, WiFi stations, smart meters, etc. Therefore, all these fall under the same broad evaluation of "Radiofrequency Electromagnetic Fields".

This is what the Working Group discussed and decided last year. Of course, because the exposure levels for many of these other devices and exposure situations are so much lower than the exposure to someone who has a functioning cell phone against her/his ear, the risk will be considerably less (although the hazard still exists).

I hope this is sufficiently clear to be useful.

Thank you for your interest in our work.

Sincerely yours,

Robert A Baan PhD

Responsible Officer, Monograph 102 on RF-EMF

The IARC Monographs

IARC, Lyon, FRANCE

Reply by Cindy Sage:

March 30, 2012

Dear Dr. Baan,

This statement is a valuable clarification of what the new IARC 2B classification for RFR covers, but immediately raises the question -on what basis do you assume that less exposure (lower levels of RFR) are automatically considered 'less harmful'? When you look at SAR exposure levels of RFR that cause pathological leakage of the blood-brain barrier, for example, it is not true. Lower exposures are shown to be more bioactive, thus potentially more harmful. This appears to be true with respect to DNA damage and failure to repair, for induction of HSP and other measures of disruption of homeostasis and damage to biological tissues.

A linear, dose-response relationship for RFR bioeffects and adverse health effects has long been questioned. In the case of both low-dose ionizing radiation and low-intensity non-ionizing radiation, many studies now show that biological effects do not hold to a linear, dose-response relationship for harm. Recent studies point to serious effects from chronic, low-dose exposures to endocrine disruptors, and for other chemical toxins. Recent studies show that chronic exposure to low-dose ionizing radiation and to low-intensity radiofrequency radiation are not 'less harmful' and a strict, linear dose-response relationship cannot be assumed to hold true.

Thus, there is little support to draw a conclusion that because "exposure levels for these other devices and exposure situations are so much lower than the exposure to someone who has a functioning cell phone against her/his ear, the risk will be considerably less (although the hazard still exists)."

As the recent paper by Vandenberg et al (2012) conclude: "The concept of nonmonotonicity is an essential one for the field of environmental health science because when NMDRCs occur, the effects of low doses cannot be predicted by the effects observed at high doses. In addition, the finding that chemicals have adverse effects on animals and humans in the range of environmental exposures clearly indicates that low doses cannot be ignored."

No positive assertion of RFR safety can be made for chronic exposures at any level. Further, speculation that lower-dose NIER may be less harmful, or can be extrapolated from higher intensity exposures is not justified. The public health consequences of guessing wrong, or, for the moment minimizing these low-intensity risks to health will be enormous and represent a preventable cause of unnecessary disease. The rollout of wireless technologies in societies across the world, often creating involuntary and unavoidable RFR exposures at environmental levels of consequence to health, require a more cautionary approach.

Thank you for your continuing contributions in this area, and for engaging the public and decision-makers in this important discussion.

Cindy Sage

Sage Associates

Co-Editor, BioInitiative Report

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