



Recent scientific publications relevant to mobile telephony

May 2015

Details

Belgium: Exposure assessment of microwave ovens and impact on total exposure in WLANs, [Plets et al., Radiation Protection Dosimetry](#), Published online: May 8, 2015.

'...In an office scenario, switching on a microwave oven increases the median field strength from 91 to 145 mV m⁻¹ (+91 %) in a traditional Wireless Local Area Network (WLAN) deployment and from 44 to 92 mV m⁻¹ (+109 %) in an exposure-optimised WLAN deployment...'

China: Association between mobile phone use and self-reported well-being in children: a questionnaire-based cross-sectional study in Chongqing, China, [Zheng et al., BMJ Open](#), 5(5):Published 11 May 2015.

'...There was a consistent significant association between MP use and fatigue in children. Further in-depth research is needed to explore the potential health effects of MP use in children...'

France: Do cell phones affect establishing electronic working length?, [Hurstel et al., Journal of Endodontics](#), Available online 19 March 2015.

'...Within the limitations of the present study, it can be concluded that patients can keep their cell phones on during root canal therapy without any adverse effect on electronic working length determination...'

Germany: Are patients with cardiac implants protected against electromagnetic interference in daily life and occupational environment?, [Napp et al., European Heart Journal](#), Published online: 23 April 2015.

'...Aims to provide a contemporary overview of cardiovascular implantable electronic devices, their function and susceptibility of non-medical EMFs and provide recommendations for physicians caring for cardiac device patients presenting with EMI...'

Iran: Use of mobile phone during pregnancy and the risk of spontaneous abortion, [Mahmoudabadi et al., Journal of Environmental Health Science and Engineering](#), 13(1):34, Published: 21 April 2015.

'...Our result suggests that use of mobile phones can be related to the early spontaneous abortions...'

Israel: Occupational exposures to radiofrequency fields: results of an Israeli national survey, [Hareuveny et al., Journal of Radiological Protection](#), 35(2):429, Published 15 May 2015.

'...Walkie-Talkie, Plastic Welding, and Induction Heating workers had the highest annual cumulative personal exposure... A brief exceedance of the TLV does not automatically translate to hazard as RF exposure limits (issued by various bodies,

including ACGIH) include a 10-fold safety factor relative to thermal thresholds and are based on a 6min averaging period...'

Japan: No changes in cerebral microcirculatory parameters in rat during local cortex exposure to microwaves, [Masuda et al., *In Vivo*](#), 29(2):207-215, March 1, 2015.

'...No extravasation of intravenously injected fluorescent dye was observed during RF exposure. There was no significant difference either in pial venule blood flow velocity or diameter between exposed and sham-exposed rats. Histological evaluation for the brain immediately after RF exposure did not reveal any serum albumin leakage sites or degenerate neurons...'

Japan: Numerical techniques for sar assessment of small animals in reverberation chamber, [Chakarothai et al., *IEEE Electromagnetic Compatibility Magazine*](#), 4(1):57-66, 1st Quarter 2015.

'...We briefly review procedures of each numerical method and clarify its advantages, disadvantages, and range of applications. Then we demonstrated their validity by either experiments or cross-verification...'

Japan: Recall accuracy of mobile phone calls among Japanese young people, [Kiyohara et al., *Journal of Exposure Science and Environmental Epidemiology*](#), Advance online publication 18 March 2015.

'...19% of the participants (34/177) misclassified their laterality (i.e., the dominant side of ear used while making calls)...recall was prone to small systematic and large random errors for both the number and duration of calls. Such a large random recall error for the amount of calls and misclassification of laterality suggest that the results of epidemiological studies of mobile phone use based on self-assessment should be interpreted cautiously...'

Japan: The effects of radio-frequency electromagnetic fields on T cell function during development, [Ohtani et al., *Journal of Radiation Research*](#), April 2, 2015.

'...Indicate no adverse effects of long-term RF-EMF exposure on immune-like T cell populations, T cell activation, or Th1/Th2 balance in developing rats, although significant transcriptional effects were observed...'

Malaysia: Specific Absorption Rate (SAR) evaluation of textile antennas, [Soh et al., *IEEE Antennas and Propagation Magazine*](#), 57(2):229-240, April 2015.

'...Antennas without a rear ground plane are producing almost three times the SAR of textile antennas that feature a full ground plane. The results of this paper point out that the repeatability of the measurements is about 10% and that the agreement between simulations and measurements is on the order of about 17%...'

The Netherlands: Improving lay understanding of exposure to electromagnetic fields; the effect of information on perception of and responses to risk, [Claassen et al., *Journal of Risk Research*](#), 1-17, Published online: 30 Apr 2015.

'...Providing people with specific information explaining the distance-exposure relationship, clarifying EMF policy, or specifying personal exposure management options actions resulted in a better understanding of exposure. We demonstrated that information provision as such had no effects on concerns about EMF nor on perceived risk of personal sources, i.e. mobile phones, but lowered perception of risk of public sources, i.e. mobile phone base stations and high-voltage power lines...'

Sweden: Pooled analysis of Swedish case-control studies during 1997-2003 and 2007-2009 on meningioma risk associated with the use of mobile and cordless phones, [Carlberg, *Oncology Reports*, 33\(6\):3093-3098, 2015.](#)

'...No association for ipsilateral use or anatomical tumor location. The present study showed a somewhat increased risk among heavy users of mobile and cordless phones. Since meningioma is generally a slow-growing tumor, longer latency period is necessary for definitive conclusions...'

Turkey: Effects of 2.4 GHz radiofrequency radiation emitted from Wi-Fi equipment on microRNA expression in brain tissue, [Dasdag et al., *International Journal of Radiation Biology*, 0\(ja\):1-26,](#) Posted online on March 16, 2015.

'..Long term exposure of 2.4 GHz RF may lead to adverse effects such as neurodegenerative diseases originated from the alteration of some miRNAs expression and more studies should be devoted to the effects of RF radiation on miRNAs expression levels...'

Turkey: Exposure to a 900 MHz electromagnetic field for one hour a day over 30 days does change the histopathology and biochemistry of the rat testis, [Odaci et al., *International Journal of Radiation Biology*,](#) Posted online on March 19, 2015.

'...The results show that exposure to 900-MHz EMF causes alterations in adult rat testicular morphology and biochemistry...'

USA: A Genotoxic Analysis on hematopoietic system after mobile phone type radiation exposure in rats, [Kumar et al., *International Journal of Radiation Biology*,](#) Posted online on May 8, 2015.

'...Our data did not indicate any significant change in these end points for any combination of CW/PM exposure at 900/1800 MHz at SAR levels of nominally 2/10 W/kg or 2.5/12.4 W/kg...'

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