



Recent scientific publications relevant to mobile telephony

March 2007

Details

Australia: Stress response in mouse brain after long-term (2 year) exposure to mobile telephone radiofrequency fields using the immediate early gene, c-fos, [Finnie et al, Pathology](#) 39(2):271-273, April 2007.

'...In conclusion, prolonged exposure to mobile telephone-type RF fields did not produce a measurable stress response in the brain using c-fos immunohistochemistry, most immunoreactivity being attributed to restraint in the exposure facility...'

China: Evaluating the combinative effects on human lymphocyte DNA damage induced by Ultraviolet ray C plus 1.8 GHz microwaves using comet assay in vitro, [Baohong et al, Toxicology](#), Available online: 3 February 2007.

'...it was found that 1.8 GHz (SAR, 3 W/kg) MW exposure for 1.5 and 4 h did not enhance significantly human lymphocyte DNA damage, but could reduce and increase DNA damage of human lymphocytes induced by UVC at 1.5-h and 4-h incubation, respectively.'

Cyprus: Health response of two communities to military antennae in Cyprus, [Preece et al, Occupational and Environmental Medicine](#), Published Online: 25 January 2007.

'...It was clear that even this close (1-3km) to powerful transmissions, the dominant sources of RF fields were cell-phone and national broadcast systems. There was no excess of cancer, birth defects or obstetric problems. There was heightened risk perception and a considerable excess of migraine, headache and dizziness, which appears to share a gradient with RF exposure. The authors report this association but suggest this is unlikely to be an effect of RF and more likely to be antenna visibility or aircraft noise.'

Finland: Micronucleus frequency in erythrocytes of mice after long-term exposure to radiofrequency radiation, [Juutilainen et al, International Journal of Radiation Biology](#), 83(4):213-220, 2007.

'...The results did not show any effects of RF fields on micronucleus frequency in polychromatic or normochromatic erythrocytes. The results were consistent in two mouse strains (and in a transgenic variant of the second strain), after 52 or 78 weeks of exposure, at three SAR levels relevant to human exposure from mobile phones, and for three different mobile signals.'

Germany: Altered cortical excitability in subjectively electrosensitive patients: Results of a pilot study, [Landgrebe et al, Journal of Psychosomatic Research](#), 62(3):283-288, March 2007.

'...This pilot study gives additional evidence that altered central nervous system function may account for symptom manifestation in subjectively electrosensitive patients as has been postulated for several chronic multisymptom illnesses sharing a similar clustering of symptoms.'

Iran: Prevalence of subjective poor health symptoms associated with exposure to electromagnetic fields among university students, [Mortazavi et al, Bioelectromagnetics](#), Published Online: 1 March 2007.

'...No association was found between mobile phone use and the above-mentioned symptoms....Mass-media's lack of interest in the possible hazards of exposure to EMF in developing countries can explain the difference observed between the results of this study and those of other researchers in some developed countries who have shown an association between EMF exposure and the prevalence of self-reported subjective symptoms...'

Italy: Formation of Reactive Oxygen Species in L929 Cells after Exposure to 900 MHz RF Radiation with and without Co-exposure to 3-Chloro-4-(dichloromethyl)-5-hydroxy-2(5H)-furanone, [Zeni et al, Radiation Research](#), 167(3):306-311, March 2007.

'...The studied provided no indication that 900 MHz RF-field exposure, either alone or in combination with MX, induced formation of reactive oxygen species under any of the experimental conditions investigated. In contrast, exposure to MX resulted in a statistically significant increase in the formation of reactive oxygen species for all the treatment durations investigated, confirming that MX is an inductor of oxidative stress in L929 cells.'

Japan: Effects of 2.45 GHz Electromagnetic Fields with a Wide Range of SARs on Bacterial and HPRT Gene Mutations, [Koyama et al, Journal of Radiation Research](#), 48(1):69-75, 2007.

'...A statistically significant difference was observed between the cells exposed to HFEMF at the SAR of 200 W/kg. Cells treated with the combination of HFEMF at SARs from 50 to 200 W/kg and bleomycin exhibited increased HPRT mutations. As the exposure to HFEMF induced an increase in temperature, these increases of mutation frequency may be a result of activation of bleomycin by heat. We consider that the increase of mutation frequency may be due to a thermal effect.'

Norway: Mobile phone headache: a double blind, sham-controlled provocation study, [Ofteidal et al, Cephalalgia](#), Published Online: 14 March 2007.

'...The study gave no evidence that RF fields from mobile phones may cause head pain or discomfort or influence physiological variables. The most likely reason for the symptoms is a placebo effect.'

Qatar: Long-Term and Frequent Cellular Phone Use and Risk of Acoustic Neuroma, [Salahaldin and Bener, International Tinnitus Journal](#), 12(1-2):145-148, 2006.

'...In conclusion, the incidence of acoustic neuroma in Qatar is slightly higher than that in other countries. Despite the presence of facilities in Qatar, no proper screening and management protocol is available. This study highlights the need for the development and implementation of a national registry plan whereby effective care services can be delivered and high-risk groups can be targeted.'

Switzerland: Worst Case Temperature Rise in a One-Dimensional Tissue Model Exposed to Radiofrequency Radiation, [Samaras et al, IEEE Transactions on Biomedical Engineering](#), 54(3):492-496, March 2007.

'...The results show that the old IEEE standard on safety was more conservative in terms of temperature rise than the Non-Ionizing Radiation Protection guidelines. They also indicate that the removal of heat exchange from the skin surface can induce a significant temperature rise in it, which is, however, mostly due to imposing the adiabatic conditions themselves, rather than the electromagnetic energy absorption.'

USA: Threshold Power of Canonical Antennas for Inducing SAR at Compliance Limits in the 300-3000 MHz Frequency Range, [Ali et al, IEEE Transactions on Electromagnetic Compatibility](#), 49(1):143-152, February 2007.

'...The threshold powers are then determined, below which the peak 1-g and 10-g averaged SAR would not exceed the limits specified in international exposure standards. From the data, simple expressions are derived to estimate the threshold power over a wide range of antenna sizes, frequencies, and distances from the body. It is demonstrated that the results presented in this paper are conservative in comparison with the measured SAR data of real products as well as other published data.'

USA: Use of Cellular Telephones in the Hospital Environment, [Tri et al, Mayo Clinic Proceedings](#), 82(3):282-285, March 2007.

'...Interference of any type occurred in 0 of the 75 patient care rooms during the 300 tests performed. These 300 tests involved a total of 192 medical devices...Although cellular telephone use in general has been prohibited in hospitals because of concerns that these telephones would interfere with medical devices, this study revealed that when cellular telephones are used in a normal way no noticeable interference or interactions occurred with the medical devices.'

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