



Recent scientific publications relevant to mobile telephony

January / February 2007

Details

Brazil: Effects of Subchronic Exposure to Radio Frequency From a Conventional Cellular Telephone on Testicular Function in Adult Rats, [Ribeiroa et al. Journal of Urology](#), 177(1):395-399, January 2007.

'...The current study shows that the low intensity pulsed radio frequency emitted by a conventional cellular telephone does not impair testicular function in adult rats.'

Brazil: Electromagnetic Absorption in the Head of Adults and Children Due to Mobile Phone Operation Close to the Head, [de Salles et al. Electromagnetic Biology and Medicine](#) (formerly Electro- and Magnetobiology), 25(4):349-360, 2006.

'...It is shown that under similar conditions, the 1g-SAR calculated for children is higher than that for the adults. When using the 10-year old child model, SAR values higher than 60% than those for adults are obtained.'

'...The conclusions of the review do not support the assumption that the energy exposure increases due to smaller heads, but identifies open issues regarding the dielectric tissue parameters and the thickness of the pinna.'

Canada: Electromagnetic Hypersensitivity: Biological Effects of Dirty Electricity with Emphasis on Diabetes and Multiple Sclerosis, [Havas. Electromagnetic Biology and Medicine](#) (formerly Electro- and Magnetobiology), 25(4):259-268, 2006.

'...Several disorders, including asthma, ADD/ADHD, diabetes, multiple sclerosis, chronic fatigue, fibromyalgia, are increasing at an alarming rate, as is electromagnetic pollution in the form of dirty electricity, ground current, and radio frequency radiation from wireless devices. The connection between electromagnetic pollution and these disorders needs to be investigated and the percentage of people sensitive to this form of energy needs to be determined.'

Canada: Evaluating the Biological Effects of Intermittent 1.9 GHz Pulse-Modulated Radiofrequency Fields in a Series of Human-Derived Cell Lines, [Chauhan et al. Radiation Research](#), 167(1):87-93, January 2007.

'...No detectable changes in cell viability, cell cycle kinetics, incidence of apoptosis, or cytokine expression were observed in any of RF-field-exposed groups in any of the cell lines tested, relative to the sham controls...Overall, we found no evidence that non-thermal RF-field exposure could elicit any detectable biological effect in three human-derived cell lines.'

Finland: The effect of authentic metallic implants on the SAR distribution of the head exposed to 900, 1800 and 2450 MHz dipole near field, [Virtanen et al, Physics in Medicine and Biology](#), 52(5): 1221-1236, 7 March 2007.

'...The implants studied were skull plates, fixtures, bone plates and ear rings. The results indicate that some of the implants, under very rare exposure conditions, may cause a notable enhancement in peak mass averaged SAR.'

Finland: Occupational Exposure To Radiofrequency Fields In Antenna Towers, [Alanko et al, Radiation Protection Dosimetry](#), Published Online: 13 December 2006.

'...The levels of radiofrequency fields were measured close to the ladders of the towers. All measured values were below ICNIRP occupational reference levels.'

Finland: Effects of pulsed and continuous wave 902 MHz mobile phone exposure on brain oscillatory activity during cognitive processing, [Krause et al, Bioelectromagnetics](#), Published Online 3 Jan 2007.

'...In line with our previous studies, we observed that the exposure to EMF had modest effects on brain oscillatory responses in the alpha frequency range (8-12 Hz) and had no effects on the behavioural measures. The effects on the EEG were, however, varying, unsystematic and inconsistent with previous reports. We conclude that the effects of EMF on brain oscillatory responses may be subtle, variable and difficult to replicate for unknown reasons.'

Finland: Effects of pulsed and continuous wave 902 MHz mobile phone exposure on brain oscillatory activity during cognitive processing, [Krause et al, Bioelectromagnetics](#), Published Online: 3 January 2007.

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Finland: Pulsed and continuous wave mobile phone exposure over left versus right hemisphere: Effects on human cognitive function, [Haarala et al, Bioelectromagnetics](#), Published Online: 3 January 2007.

'...No effects were found between the different EMF conditions, separate hemisphere exposures, or between the control and experimental group. In conclusion, the current results indicate that normal mobile phones have no discernible effect on human cognitive function as measured by behavioral tests.'

Germany: Effects of Electromagnetic Fields Emitted by Cellular Phone on Auditory and Vestibular Labyrinth, [Sievert et al, Laryngorhinootologie](#), Online: 12 December 2006.

'...The investigations made show that the electromagnetic fields generated in using the mobile phone do not have an effect on the inner ear and auditive system to the colliculus inferior in the brainstem and on the vestibular receptors in the inner ear and the vestibular system.'

Germany: Effects of short- and long-term pulsed radiofrequency electromagnetic fields on night sleep and cognitive functions in healthy subjects, [Fritzer et al, Bioelectromagnetics](#), Published Online: 10 January 2007.

'...We did not find significant effects, either on conventional sleep parameters or on power spectra and correlation dimension, nor were there any significant

effects on cognitive functions. With our results, we are unable to reveal either short-term or cumulative long-term effects of radiofrequency electromagnetic fields on night sleep and cognitive functions in healthy young male subjects.'

Slovakia: Neurobiological effects of microwave exposure: a review focused on morphological findings in experimental animals, [Orendáčová et al. Archives Italiennes de Biologie](#), 145(1): 1-12, January 2007.

'...The morphological findings in experimental animals, in many cases controversial, put some evidence on nervous tissue structural damage after the EMR exposure. In spite of numerous literary data a wide range of contemporary neuro-morphological methods waits to be utilized in the EMR experimental paradigm. Using these methods could play an important role in answering the question about possible adverse effects of microwaves on nervous system.'

Sweden: Electrohypersensitivity: State-of-the-Art of a Functional Impairment, [Johansson et al. Electromagnetic Biology and Medicine](#) (formerly Electro- and Magnetobiology), 25(4): 245-258, 2006.

'...it is evident from our preliminary data that various alterations are present in the electrohypersensitive person' skin. In view of recent epidemiological studies, pointing to a correlation between long-term exposure from power-frequent magnetic fields or microwaves and cancer, our data ought to be taken seriously and further analyzed.'

Sweden: Adverse health indicators correlating with sparsely populated areas in Sweden, [Hallberg, European Journal of Cancer Prevention](#), 16(1): 71-76, February 2007.

'...The indicator statistics suggest that the decline in health in Sweden is not a primary consequence of low population density by itself, but that other factors related to population density are causative. The two factors having the strongest correlation with decreased health quality were the estimated average power output from mobile phones (positive correlation) and the reported coverage from the global system for mobile communication base stations (negative correlation) in each county.'

Sweden: Use of cellular and cordless telephones and risk of testicular cancer, [Hardell et al. International Journal of Andrology](#), Online: 20 December 2006.

'...There was no dose-response effect and OR did not increase with latency time. No association was found with place of keeping the mobile phone during standby, such as trousers pocket...'

'...We found a prevalence of 5% (95% CI 4-6%) for electromagnetic hypersensitivity (EHS) in our study sample....The large proportion of the population who is concerned or attributes own symptoms to EMF may cause societal conflicts given the ubiquity of EMF in our everyday life.'

Switzerland: Cellular telephone use and time trends in brain tumour mortality in Switzerland from 1969 to 2002, [Roosli et al. European Journal of Cancer Prevention](#), 16(1): 77-82, February 2007.

'...For the whole study period, a significant increase in brain tumour mortality was observed for men and women in the older age groups (60-74 and 75+ years) but not in the younger ones in whom mobile phone use was more prevalent...We conclude that after the introduction of mobile phone technology in Switzerland, brain tumour mortality rates remained stable in all age groups. Our results suggest that mobile phone use is not a strong risk factor in the short term for mortality from brain tumours. Ecological analyses like this,

however, are limited in their ability to reveal potentially small increases in risk for diseases with a long latency period.'

Turkey: Influence of Electromagnetic Fields and Protective Effect of CAPE on Bone Mineral Density in Rats: [Yildiz et al., Archives of Medical Research](#), Published online October 2006.

'...In our study, we found that BMD of both spine and femur were lower in both the 900-MHz and 1800-MHz irradiated groups compared to control group, but the differences did not reach a significant level... In conclusion, both high frequency EMF and CAPE have minimal effects on bone.'

USA: Radio Frequency Exposure In Mobile Phone Users: Implications For Exposure Assessment In Epidemiological Studies, [Morrissey, Radiation Protection Dosimetry](#), Published Online: 9 January 2007.

'...variability exists (a) during a single call, (b) between separate calls, (c) between averaged values from individuals within a local study group and (d) between average values from groups in different geographical locations. The present data also suggest an age-related influence on talk time, as well as significant inaccuracy (45-60%) in recalling 'time of use'...Collectively, these data suggest efforts to identify dose response and statistical correlations between mobile phone use and subtle health endpoints may be significantly challenged.'

USA: Trends in Brain Cancer Incidence and Survival in the United States: Surveillance, Epidemiology, and End Results Program, 1973 to 2001, [Deorah et al, Neurosurgical Focus](#), 20(4):E3, 2006.

'...Increased risk of brain cancer is associated with being male, Caucasian, elderly, and residing in a metropolitan county. The incidence rate of brain cancer in the US is gradually declining, but the rising trend of GBM combined with its poor survival rate is disconcerting and needs further exploration.'

'...our results do not support the hypothesis relating cellular phone use and brain cancer at the population level. If anything, the incidence of brain cancer declined during the period of cellular phone use. Of particular interest is the observation that the incidence rates are declining in the urban counties, which are expected to contain heavy users of cellular phones. However, being a population-based observation study, our study suffers from ecological fallacy, and consequently it contributes only modestly to causality. In addition, concerns, including potentially long induction periods, persist for long-term, heavy users of cellular phones.'

USA: Exposure to cell phone radiation up-regulates apoptosis genes in primary cultures of neurons and astrocytes, [Zhao et al, Neuroscience Letters](#), 412(1):34-38, 22 January 2007.

'...The results show that even relatively short-term exposure to cell phone radiofrequency emissions can up-regulate elements of apoptotic pathways in cells derived from the brain, and that neurons appear to be more sensitive to this effect than astrocytes.'

USA: Radiofrequency Exposure from Wireless LANS Utilizing Wi-Fi Technology, [Foster, Health Physics](#), 92(3):280-289, March 2007.

'...In all cases, the measured Wi-Fi signal levels were very far below international exposure limits (IEEE C95.1-2005 and ICNIRP) and in nearly all cases far below other RF signals in the same environments. An Appendix discusses technical aspects of the IEEE 802.11 standard on which WLANs operate that are relevant to determining the levels of RF energy exposure from WLANs. Important limiting factors are the low operating power of client cards

and access points, and the low duty cycle of transmission that normally characterizes their operation.'

The MMF is an international association of wireless communications manufacturers established to support scientific research in relation to mobile telephony and health www.mmfai.info

The GSM Association (GSMA) is the global trade association that exists to promote, protect and enhance the interests of GSM mobile operators throughout the world. www.gsmworld.com

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