Recent scientific publications relevant to mobile telephony

June 2011

Details


'...highlights the necessity for individual's responsible behavior in terms of prudent avoidance. The comparison indicates where risk awareness might merit priority. This is not restricted to the UV range but includes also other exposures such as to nocturnal light or within infrared cabins.'

Denmark: Analysis of three-dimensional SAR distributions emitted by mobile phones in an epidemiological perspective, Deltour et al., Bioelectromagnetics, Published online 21 June 2011.

'...the three-dimensional distribution of SAR in phantom models did not appear to be related to particular external phone characteristics or measurement characteristics, which could be used for refining the assessment of exposure to radiofrequency energy within the brain in epidemiological studies such as the Interphone.'


'...Our findings suggest that UMTS exposure with SAR in the range of 2 W/kg is not harmful to critical markers for memory storage and memory consolidation, however, an influence of UMTS at high energy absorption rates (10 W/kg) cannot be excluded.'


'...A scientifically sound and easy-to-understand risk communication is especially exacerbated by the fact that current risk assessments cannot exclude that RF EMF might have adverse health effects due remaining knowledge gaps, but especially due to the impossibility to prove a non-effect.'

Germany: Assessment of exposure to mobile telecommunication electromagnetic fields, Bornkessel, WMW Wiener Medizinische Wochenschrift, 161(9):233-239, Published May 2011.

'...Both base stations and mobile phones apply power control mechanisms, capable to significantly reducing the transmit power and the associated exposure depending on the communication traffic...'

‘...summarises some of the major conclusions of the speakers, and offers comments by one of the present authors on proposed research priorities and the implications of the material presented at the workshop for setting improved thermally based limits for human exposure to RF energy.’

**Global:** Estimation of RF energy absorbed in the brain from mobile phones in the Interphone Study, *Cardis et al., Occupational and Environmental Medicine*, Published Online 9 June 2011.

‘...While amount and duration of use are important determinants of RF dose in the brain, their impact can be substantially modified by communication system, frequency band and location in the brain...’

**Global:** Risk of brain tumours in relation to estimated RF dose from mobile phones: results from five Interphone countries, *Cardis et al., Occupational and Environmental Medicine*, Published Online 9 June 2011.

‘...There were suggestions of an increased risk of glioma in long-term mobile phone users with high RF exposure and of similar, but apparently much smaller, increases in meningioma risk. The uncertainty of these results requires that they be replicated before a causal interpretation can be made.’

**Global:** Carcinogenicity of radiofrequency electromagnetic fields, *Baan et al., The Lancet Oncology*, Online Publication 22 June 2011.

‘In May, 2011, 30 scientists from 14 countries met at the International Agency for Research on Cancer (IARC) in Lyon, France, to assess the carcinogenicity of radiofrequency electromagnetic fields (RF-EMF). These assessments will be published as Volume 102 of the IARC Monographs...'

**India:** Effect Of Mobile Phone Radiation On Brain Activity GSM vs CDMA, *Tyagi et al., International Journal of Science, Technology & Management*, 2(2):1-5, Published April 2011.

‘...Electroencephalogram is used to monitor and capture the brain signals during the experimental analysis for 10 minutes interval. The result shows that mobile phone serving GSM has the larger effect on brain compared to mobile phone serving CDMA.’

**Italy:** Mobile phones and head tumours. The discrepancies in cause-effect relationships in the epidemiological studies - how do they arise?, *Levis et al., Environmental Health*, 10(1):59, Published 17 June 2011.

‘...our analysis of the literature studies and of the results from meta-analyses of the significant data alone shows an almost doubling of the risk of head tumours induced by long-term mobile phone use or latency.’


‘...The HCN concludes that it seems unlikely that a change of dosimetric quantity will help us forward in the discussion on the scientific controversies regarding the existence or non-existence of non-thermal effects in humans following long duration, low intensity exposure to electromagnetic fields...’

**Netherlands:** Non-specific physical symptoms in relation to actual and perceived proximity to mobile phone base stations and powerlines, *Baliatsas et al., BMC Public Health*, 11(1):421, Published 1 June 2011.
...Perceived proximity to BS, psychological components and socio-demographic characteristics are associated with the report of symptomatology. Actual distance to the EMF source did not show up as determinant of NSPS.’

**Switzerland:** Assessment of intermittent UMTS electromagnetic field effects on blood circulation in the human auditory region using a near-infrared system, [Spichtig et al., Bioelectromagnetics, Published online 21 June 2011.](#)

...Our results suggest that intermittent exposure to UMTS-EMF has small short- and medium-term effects on cerebral blood circulation and HR [heart rate].’

**Sweden:** Analysis of the effect of mobile phone base station antenna loading on localized SAR and its consequences for measurements, [Hansson et al., Bioelectromagnetics, Published online 3 June 2011.](#)

...The obtained results show that SAR accuracy is affected by the presence of lossy material within distances of one wavelength from the tested antennas as a consequence of coupling and redistribution of transmitted power among the antenna elements...’

**Switzerland:** Wireless communication fields and non-specific symptoms of ill health: a literature review, [Röösli et al., WMW Wiener Medizinische Wochenschrift, 161(9):240-250, Published May 2011.](#)

...recent research did not indicate health-related quality of life to be affected by RF-EMF exposure in our everyday environment. Furthermore, none of the studies showed that individuals with self-reported electromagnetic hypersensitivity (EHS) were more susceptible to RF-EMF than the rest of the population...

**UK:** Cognitive and physiological responses in humans exposed to a TETRA base station signal in relation to perceived electromagnetic hypersensitivity, [Wallace et al., Bioelectromagnetics, Published online 6 June 2011.](#)

...These findings are similar to previous double-blind studies with other mobile phone signals (900–2100MHz), which could not establish any clear evidence that mobile phone signals affect health or cognitive function.’

**USA:** Thresholds for thermal damage to normal tissues: An update, [Yarmolenko et al., International Journal of Hyperthermia, 27(4):320-343, Published June 2011.](#)

...the time of assessment of damage after exposure is critically important for assessing whether damage is transient or permanent. Additionally, virtually no data are available for repeated thermal exposures which may occur in certain recreational or occupational activities...’

**USA:** Toward establishment of temperature thresholds for immunological impact of heat exposure in humans, [Beachy et al., International Journal of Hyperthermia, 27(4):344-352, Published June 2011.](#)

...there is considerable need for more quantitative time temperature assessments using relevant animal models, more complete kinetic analyses to determine how long immunological effects persist, and for analysis of whether frequency of exposure has impact on immune function...’

**USA:** Thermal thresholds for teratogenicity, reproduction, and development, [Ziskin et al., International Journal of Hyperthermia, 27(4):374-387, Published June 2011.](#)
‘...a very conservative estimate of 1.5W/kg WBA (1/10th the threshold to protect against measurable temperature increases) would seem sufficient to protect against any significant reduction in blood flow to the embryo or foetus in the pregnant mother...’


‘...These channels have important implications for hyperthermia research and may help to identify previously unexplored mechanisms in different tissues that are responsive to thermal stress.’


‘...Although hyperthermia may exert more deleterious effects on complex than simple cognitive tasks, systematic studies are needed to examine the effects of different levels and durations of hyperthermia (irrespective of dehydration) on cognition...’

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](http://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. [http://www.gsmworld.com/health](http://www.gsmworld.com/health)

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