

Press Release

Zurich, June 6, 2006

Short-term UMTS radiation does not impair well being

A Swiss study consortium reports no detrimental effects of UMTS base station-like exposure on well being and cognitive function. The researchers thus cannot confirm the results of a Dutch study that showed an impairment of well being due to radio frequency radiation in 2003. The Swiss study on the effects of UMTS exposure is published today in the scientific journal «Environmental Health Perspectives».

The Swiss study investigated the effects of electromagnetic fields similar to those emitted by a UMTS base station on well being and cognitive function (attention and working memory). 33 electrosensitive and 84 non-sensitive persons aged between 20-60 years were investigated. To test for a dose-response relationship, electric field strengths of 1 V/m and 10 V/m were applied, as well as a control condition without an electromagnetic field. Subjects were exposed for 45 minutes at a time, but neither they nor the investigators knew when the two field strengths or the control condition were applied. The researchers found no effect of this short-term UMTS radiation on well being and observed no consistent effect on cognitive function, neither at the 1 V/m nor at the 10 V/m condition. In addition, the subjects were not able to perceive the actual exposure conditions. These results are published today in the journal «Environmental Health Perspectives» (<http://www.ehponline.org>).

«We could not confirm the results of the Dutch study reported in 2003» states project leader Peter Achermann of the University of Zurich. The Dutch study found an impairment of well being and an improvement in cognitive function with respect to a few of the investigated tasks in response to the applied UMTS base station-like exposure. Various scientists however criticised the Dutch findings for weaknesses in the study design, methodology and the analysis.

The new Swiss study has been coordinated by the Research Foundation on Mobile Communication and was carried out by Dr. Peter Achermann (Institute for Pharmacology and Toxicology, University of Zurich), Prof. Niels Kuster (IT'IS Foundation and ETH Zurich) and Dr. Martin Röösli (Department of Social and Preventive Medicine, University of Bern). The emphasis was put on the verification of the Dutch results with improved methodology. Hence, the Swiss researchers investigated substantially more persons (117 vs. 48) to increase the power of the results and improved the exposure set-up in addition to using a higher field strength. Further, they used validated questionnaires to examine well being, the accuracy of measurements of which has been proven previously.



The researchers accentuate however that the results only allow drawing conclusions about the effects of a short-term UMTS base station-like exposure on well being and cognitive function. «We can't draw any conclusions regarding other short-term effects or the effects of a long-term, chronic exposure from UMTS base stations on potential health hazards», Peter Achermann points out. For a more conclusive evaluation of the questions at hand other follow up studies must be awaited and more research is needed. For example, the new Swiss National Research Programme „NRP 57 – Non-ionising Radiation and Health“ will be dedicated to a more comprehensive investigation of the issue of electromagnetic radiation and health.

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UMTS:

Universal Mobile Telecommunications System. Standard of the 3rd generation of mobile phone networks that supports multimedia services such as internet or videoteleconferencing in addition to the conventional speech, fax and data services of the 2nd generation (GSM). UMTS systems operate in the 2 GHz-frequency band (1900 – 2200 MHz).



Swiss threshold values: To protect the general public from electromagnetic fields, the federal council of Switzerland has adopted in its regulation on safety from non-ionising radiation (NISV) the international threshold values as so-called immission values. The immission value for UMTS corresponds to 61 V/m. In areas of high sensitivity (e.g., residential apartments, schools, hospitals, offices, children playgrounds, etc.), the values are regulated more stringently (UMTS: 6 V/m).

Funding:

The study has been funded by governmental (60%) and industrial (40%) sponsors and amounts to 723'000 CHF.

Public institutions:

Federal Office of Public Health (FOPH)
Federal Office of Communications (OFCOM)
Federal Communications Commission (ComCom)
Federal Office for the Environment (FOEN)
Ministry for Economic Affairs, NL (EZ)
Ministry for Health, NL (VWS)
Ministry for Spatial Planning, NL (VROM)
Ministry for Social Affairs, NL (SZW)

Industry:

Swisscom Mobile AG
Orange Communications SA
TDC Switzerland AG

Coordination:

A contractual agreement was concluded between the researchers and the Swiss Research Foundation on Mobile Communication, which has coordinated the funds for the study (<http://www.mobile-research.ethz.ch/>).

