

EM Radiation Research Trust

Researching Electromagnetic Radiation and Health Effects



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Latest research

Here we present the latest research, both peer reviewed and other (normally from authors with peer-reviewed work in similar fields) that are interesting or important for the association between electromagnetic fields and health.

Dr Alvaro Augusto Almeida de Salles discusses ways of reducing cell phone risks

Publication Date: *24th June 2010* | [View press release](#)

Publishing scientist and engineer, Dr Alvaro Salles gives a good and insightful interview on cell phones, their associated health risks, and how to reduce them.

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Cancer Research UK - "No link between childhood cancer and mobile phone base stations or masts"

Publication Date: *22nd June 2010* | [View press release](#)

"Mobile phone base stations do not increase the risk of childhood cancer, even if a child's mother lived close to a mast when pregnant. That's the message from the largest study looking at the health effects of mobile phone base stations in the UK."

At least, that's what the charity would have us believe. In reality, the study in question should never have been funded, as it wasn't designed in a way that any health effects could have been found. It ignored exposure from anything other than base stations - putting phones, DECT units, WiFi, and a number of other factors that produce a typical summed exposure greater than base stations into the "unexposed" group. For a detailed critique, read the [response by Powerwatch](#).

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Interesting non published experiment on DECT and heart arrhythmia

Publication Date: *1st June 2010* | [View video of the research](#)

Dr Magda Havas explains a small study set up with 25 self-assessed ES participants and their reaction to a DECT base unit in a double blinded provocation study. This should be cheap and easy to do in a well controlled environment and deserves replication and publication.

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[Pediatric health effects of electromagnetic radiation](#)

Publication Date: *28th May 2010* | [View full study](#)

According to the latest study published in the Spanish Journal of Pediatrics, Children are particularly vulnerable to permanent exhibitions of radiation of electromagnetic fields of extremely low frequency (REM-ELF), established as safe levels for adults (at risk of developing leukemia childhood acute with respect to exposures below 0.1 μ T), with statistically significant results. Although we did not find a causative mechanism, the application of the precautionary principle is fundamental to protecting the health of children.

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[Electromagnetic Phenomena and Health – A Continuing Controversy?](#)

Publication Date: *27th May 2010* | [View index, contents, and papers](#)

In the "Earth and Environmental Science" section of the Institute of Physics Conference Series, the IOP have published a number of papers from both sides of the debate looking at EMFs, health, and the precautionary principle.

The list of papers available are as follows:

- Science and precautionary measures in EMF policy, by Mike Repacholi
- Methodological approach to EMF protection standards, by Paolo Vecchia
- Electromagnetic fields and the public: EMF standards and estimation of risk, by Yury Grigoriev
- Human health effects of EMFs: The cost of doing nothing, by David O Carpenter
- Aspects of studies on the functional impairment electrohypersensitivity, by Olle Johansson
- Medical applications of electromagnetic fields, by Henry C Lai and Narendra P Singh
- Building health: The need for electromagnetic hygiene?, by Isaac A Jamieson, Paul Holdstock, Helen M ApSimon and J Nigel B Bell
- Ways forward in public scientific controversies, by Mike O'Carroll
- Intelligent communication: The future of EMF discourse and risk governance?, by Isaac A Jamieson

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[Powerwatch commentary on the INTERPHONE results](#)

Publication Date: *18th May 2010* | [View full commentary](#)

We have now fully read the published data on the first of the pooled INTERPHONE results. Recent coverage in the Daily Mail, the Times, the Telegraph and the Scotsman have announced that the paper demonstrates clear brain tumour risks from long term usage. Some other media, including the BBC, have reported almost opposite conclusions.

From our analysis, it is hard to conclude anything from the data other than the fact it is beginning to point towards a genuine long term association between mobile phone use and brain tumours. Despite the obvious flaws in the study skewing the data towards showing a protective effect, the long term pooled usage still showed a statistically significant 40% increase in risk of gliomas, one of the quickest killing forms of malignant cancer, but also a near significant increase in risk for meningiomas. It is without question that more research must urgently be done collecting more data on long term use (ideally with categories over 12, 15 and even over 20 years of usage, and higher cumulative hours data), as if the latency period for these tumours from other sources applies also to mobile phone exposure, we could be seeing the tip of the iceberg. If we really are only seeing the first 3 or 4% of eventual tumours, the real risk could easily be 30 times higher than the data has shown so far, and we will have no way of knowing until more comprehensive research is completed.

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[EMF Collaborative commentary on the INTERPHONE results](#)

Publication Date: *17th May 2010* | [View full commentary](#)

The International EMF Collaborative, an initiative involving concerned scientists and organisations world-wide, have posted a 7 page commentary on the recently released INTERPHONE results.

First promised for publication in 2005, partial results from the 13-country Telecom funded Interphone study of brain tumors from 2000-2004 are finally available. The study finds no general increase in risk of brain tumors, but does find that people who have used phones heavily for a decade have a doubled to quadrupled risk of two types of brain tumors - glioma and meningioma. The average user in the Interphone study used a phone for two hours a month, which is close to the amount of use by many people in a single day. Six years after completion of data collection, results for tumors of the acoustic nerve (acoustic neuroma), and salivary gland tumors remain unpublished.

Lloyd Morgan has also [produced a video presentation](#) discussing these issues in greater detail.

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[Dr Alvaro de Salles on cell phone risks](#)

Publication Date: *19th February 2010* | [Watch full video](#)

Dr Alvaro Almeida de Salles' 38 minute video interview (September 2009) on Youtube is a must-see for clearly explaining the risks of cell phone and WiFi technology. Dr. de Salles explains how the cell phone industry has suppressed the dangers while secretly taking out patents on directional antennas that could significantly reduce cell phone radiation exposure for the user.

[\[Read More\]](#)

[OFCOM consultation on raising mast power fourfold](#)

Publication Date: 25th March 2010 | [View consultation](#)

Andrew Goldsworthy has written an excellent document explaining why the proposals outlined in the consultation are unwise, covering the various potential biological aspects of electromagnetic radiation. We have also submitted a response.

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[Do Mobile Phones Cure Alzheimer's Disease?](#)

Publication Date: 17th January 2010 | [Download commentary](#)

Comments by Andrew Goldsworthy on a widely publicised paper by Arendash and co-workers that suggests that mobile phone radiation may cure Alzheimer's disease.

I have looked at the original Arendash *et al* paper and things are not quite as reported in the press, for the following reasons (full explanations and descriptions in the downloadable article:

- The radiation was not modulated
- Unmodulated radiation is less biologically active
- Radiation hormesis
- Amplitude modulated waves can weaken cell membranes and cause illnesses
- Amplitude modulation can also affect cryptochrome to increase the risk of cancer

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[Health and EMF Exposure: Protocol for Diagnostics and Therapy](#)

Publication Date: 11th January 2010 | [Download presentation](#)

In this presentation made in London in January 2010, Dr Oleg Grigoriev demonstrates how, in Russia, he is part of a successful clinic both evaluating and treating those with sensitivity to electromagnetic fields on a carefully diagnosed individual basis.

Using objective markers as opposed to being entirely reliant on subjective symptomology, the clinic has 30 years experience and some success in identifying electromagnetic sensitivity and effectively treating it, without resorting to assessing it psychologically. A must read for those who are losing hope with convincing others that ES is a real issue.

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[Writeup of the 2009 ICNIRP Risk Assessment and terminology conference](#)

Publication Date: 21st December 2009 | [Download full conference](#)

[21st December 2009 | Download full conference writeup \(20 pages\)](#)

The risk assessment conference hosted by ICNIRP in Salzburg on the 23rd and 24th of November 2009 was based around the nature of risk assessment, risk communication and the terminology used by various organisations to describe the state of scientific evidence.

If anything, the conference made a very clear argument that electromagnetic field science is not adopting / applying modern tools and techniques for objectively assessing the totality of the evidence. It was clear, time and time again, that other areas of science manage to incorporate various quantities and degrees of uncertain science into risk assessments and cost benefit work, something sorely lacking for some time with EMFs. There were a number of risk assessment experts stating that "lack of certainty" over a given cause and effect does not provide justification for inaction.

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[EU Commission report on Ries report on EMFs](#)

Publication Date: *24th November 2009* | [View European Parliament summary pages](#)

Download the very disappointing but predictable response from document number: SP(2009)3508.

We believe that ICNIRP and SCENIHR are seriously failing to protect public health, especially the most vulnerable such as children and ES victims. This whole issue needs a serious and urgent review by a separate body independent of these organisations - ICNIRP is out of date and needs readdressing now!

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[Afsset recommends reducing RF exposure](#)

Publication Date: *10th November 2009* | [View full announcement](#)

The enclosed report by the French Agency for Environmental and Occupational Health Safety (Afsset) shows that radiofrequency radiation affects cellular functions, as reported by around ten experimental studies considered by Afsset as being indisputable: Please find the info (in English) on the latest French assessment.

- Developing research to clear up remaining doubts and remain on the look-out for new emerging signals.

Afsset recommends targeting, as a priority, epidemiological studies, as well as studies on reproduction and childhood development, while also responding to studies that display biological effects. It recommends paying particular attention to methodological aspects, and, in particular, fine-tuning the characterisation of the exposure of populations, starting with the exposure of children. It highlights the delay taken in the knowledge of health effects concerning frequency bands below 400MHz and those above 2GHz, which correspond to occupational exposures. Other hypotheses are quashed by this expert appraisal (permeability of the haematoencephalic barrier, risk of acoustic neurinomas, effect on melatonin, etc.).

- Reducing exposures of the public.

There is potential to reduce the exposure to radiofrequencies. The priority goes to mobile phones which are the main source of exposure for the public. Clear labelling of the Specific Absorption Rate (SAR) would favour the least radiation-emitting mobile phones. Furthermore, Afsset recommends researching some points on the ground where levels of radiofrequency waves are clearly higher than average. It recommends mapping them and suggesting a procedure to reduce the levels. This process is part of an environmental rationale, where, as soon as an exposure can be reduced, it must be contemplated.

The expert appraisal carried out by Afsset is novel, not only by the complete nature of the publications analysed but also by the method and innovative approach developed in order to carry it out. The expert appraisal listed 3,500 references. The work compared diverse schools of scientific thought, from interested parties and whistle-blowers, through hearings in particular. The human sciences have been taken into account in the expert appraisal process. Finally, for the first time, an observer from the associative structures will have monitored all of the debates.

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[The Porto Alegre Resolution](#)

Publication Date: 8th November 2009 | [View full resolution](#)

This resolution follows several international resolutions agreed to by concerned scientists and medical doctors over the past decade, including resolutions developed by the International Commission for Electromagnetic Safety, based on evidence and consideration on documents such as the BioInitiative Report and a special issue of the journal Pathophysiology on electrical and magnetic fields, published in August 2009.

"We, the undersigned scientists, were honored to participate in a workshop organized by the Universidade Federal do Rio Grande do Sul and the Public Ministry of Rio Grande do Sul and sponsored by the Brazilian Health Ministry, the International Commission for Electromagnetic Safety, the Porto Alegre Environmental Council (COMAM/PA), the Rio Grande do Sul Center for Health Vigilance (CEVS/RS) and others, entitled, "International Workshop on Non-Ionizing Radiation, Health and Environment" which took place on May 18 and 19, 2009, in Porto Alegre, Brazil."

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[Levachof's documents](#)

Publication Date: 1st November 2009 | [View full listing on Scribd.com](#)

A Scribd user by the name of levachof has collated an outstanding collection of a little over 100 classical documents in the electromagnetics and health field which can be viewed online.

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[The US Naval Medical Research Institute and their 2000 studies showing biological effects from radiofrequency radiation](#)

Publication Date: 13th October 2009 | [View full report](#)

Entitled "Bibliography Of Reported Biological Phenomena ('Effects') And Clinical Manifestations Attributed To Microwave And Radio-Frequency Radiation", this is a very large (11 MB .pdf) document listing a huge repository of studies and papers demonstrating strong evidence of the biological impact of radiofrequency electromagnetic radiation.

The abstract reads as follows: More than 2000 references on the biological responses to radiofrequency and microwave radiation, published up to June 1971, are included in the bibliography. Particular attention has been paid to the effects on man of non-ionizing radiation at these frequencies. The citations are arranged alphabetically by author, and contain as much information as possible so as to assure effective retrieval of the original documents. An outline of the effects which have been attributed to radio frequency and microwave radiation is also part of the report.

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[Mobile Phone Use and Risk of Tumors: A Meta-Analysis](#)

Publication Date: 13th October 2009 | [View study abstract](#)

A research team lead by Seung-Kwon Myung in Korea has assessed the epidemiological literature into mobile phone use and the associated risk with brain tumours. Their conclusions were as we would have expected, but it is an important paper in the peer reviewed literature that shows evidence that it is the higher quality and better controlled studies that are demonstrating the increased risk. The Interphone studies were considered methodologically poor, and the various papers published over the last decade by Professor Lennart Hardell and his team considered the best conducted studies. It is of course these that have been demonstrating the consistent increase in risk from long term mobile phone usage - this study is a finding that can only be considered very concerning.

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[Andrew Goldsworthy, RRT Scientific Advisor, on the latest WiFi research by the HPA](#)

Publication Date: 26th September 2009 | [View full article](#)

The following is a compelling commentary on the latest HPA study on typical exposure to WiFi signals in schools:

"There is no consistent evidence to date that exposure to RF signals from Wi-Fi and WLANs adversely affect the health of the general population" (taken from the HPA study press release).

It is muddled because it confuses two completely separate issues.

1. Is there any evidence that Wi-Fi is harmful to health?

The answer to this is DEFINITELY YES.

2. Is the whole population affected?

The answer to this is SEEMINGLY NOT.

It is misleading because it is written in such a way as to imply that Wi-Fi is safe for EVERYONE and there is no reason why it should not be used universally in schools. What about the health of the students and staff who are affected? Do they not care?

The use of the word "consistent" in the quote is also worrying since it suggests that physicists and engineers, possibly from the mobile phone and Wi-Fi industries, rather than biologists and health experts, are in control.

No trained biologist or medical practitioner would ever expect the same level of consistency from experiments with complex living organisms as is possible with simple physical systems.

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[Mobile radiation stunts crop growth](#)

Publication Date: *13th September 2009* | [View full article](#)

Mobile phones may have become ubiquitous in rural areas and popular among farmers. But electromagnetic radiation emanating from them may be stunting the growth of agricultural crops and plants, preliminary research has revealed.

Studies carried out at Panjab University, Chandigarh, suggest that electromagnetic field (EMF) radiation from cell phones could choke seeds, affect germination and early growth. This is said to be the first such study on the impact of EMF radiation on seeds.

Though different groups of scientists have been studying the effect of mobile radiation on human beings, there has been no conclusive outcome yet. But Panjab University scientists have found definite clues on the ill-effects of electromagnetic radiation on crops and plants.

The results were surprising - they indicated that the radiation emitted from the cell phones inhibited germination and early growth of the pulse. The germination of the seeds exposed to two and four hours of cell phone radiation reduced by 18 and 30 per cent respectively, compared to seeds that were not exposed to any radiation.

Their research results are to be announced in an international scientific journal soon.

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[Some Facts about Cell Phone Radiation](#)

Publication Date: *10th July 2009* | [View full article](#)

Another article by Andrew Goldsworthy, outlining a number of important areas of information regarding radiofrequency radiation and the possible areas of effect that it may have, structured into the following sections:

- Unmodulated radio waves are relatively safe
- Modulated radio waves are not safe
- Cell phone signals are modulated
- How the radiation affects us

- How cells demodulate the signal
- How people become electrosensitive
- We are all at risk
- Effects on the brain
- Effects on the heart
- Effects on the skin
- Can we act responsibly?
- The cell phone operators have responsibilities too

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Nature Abhors a Vacuum

Publication Date: *8th July 2009* | [View full article](#)

Grahame Blackwell has written an excellent article on the nature of evolution and adaption to environmental stimuli and its potential relevance to electromagnetic radiation. Covering issues of adaption and both receptors and transmitters of areas of the EM spectrum in existing organisms, he uncovers some interesting insights into possible mechanisms for cellular interactions and a possible reason that the natural background radiation in the RF bands of the spectrum has historically been so negligible.

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ICEMS May 2009 NIR Workshop in Brazil

Publication Date: *26th June 2009* | [View workshop summary](#)

Elizabeth Kelly has kindly provided this information on the ICEMS workshop in Brazil held on the 18th and 19th of May 2009, organised by Dr Alvaro de Salles and Dr Geila Vieria. At the end of the workshop, a number of the scientists sciened a [formal open letter](#) that was presented to the Brazilian government

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Highlights of BEMS 2009, Davos

Publication Date: *22nd June 2009* | [View full document](#)

Lloyd Morgan, who attended the full conference, has compiled a very interesting highlight documents covering some of the key presentations regarding EMFs and health, and some equally interesting questions and answers from the speakers and delegates who attended.

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"Between a rock and a hard place", Dariusz Leszczynski's blog

Publication Date: *15th May 2009* | [View Dariusz's blog](#)

Dariusz Leszczynski, a researcher from the Finnish Radiation and Nuclear

Safety Authority (STUK), has started a new blog covering Mobile Phone Safety. Covering an interesting background of his recent experiences in China, Dariusz talks at good length about the inconsistency and lack of transparency with which ICNIRP and WHO requirements for evidence. He also covers the flaws with the "weight of evidence" system and how it can easily be abused, where improved designs of up-to-date studies with modern equipment are valued equally with large quantities of older, potentially less relevant studies, with the result that they can be "lost in the noise". A good and information read so far - hopefully there will be further interesting entries to come!

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INTERPHONE project finally approaches first publishing date for results

Publication Date: *11th May 2009* | [View comprehensive Microwave News article](#)

As reported in great detail by [Microwave News](#), the decade long INTERPHONE project is finally approaching the date for publishing the first summaries of results.

Since taking over as the director of IARC, [Christopher Wild](#) has succeeded in putting together a draft with two other colleagues that should represent the project's final summary of the evidence observed on the association between mobile phone usage and risk of malignant brain tumours (Gliomas and Meningiomas). Sadly, especially considering the evidence published by Hardell and colleagues, the Acoustic Neuroma findings are still to be completed and will not be published along with the malignant tumour work.

Considering the amount of money, time and energy invested in the Interphone project to date, the continue lack of results and discussions on the implications of the results can only be termed as a disaster. This has not been helped by the public disagreements and divergence of views within the Interphone camp leading to such a stalemate, and the lack of consideration of a number of significant confounding factors (such as cordless phone usage) further exacerbates the issues. By the time the results are fully published, their relevance and usefulness will be highly questionable due to the age of the data.

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The London Resolution

Publication Date: *11th May 2009* | [View full resolution](#)

At a scientific conference on 27th November 2007 entitled-"Are Present ICNIRP EMF Exposure Recommendations Adequate?", hosted by Roger Coghill and Robert Verkerk, at the Royal Society, London, scientists endorsed the BioInitiative Report, extended the 2006 Benevento Resolution and resolved that: "We, the undersigned, do call on the UK Health Protection Agency (HPA), UK Government and all the health protection agencies and governments world-wide, to take note of the findings and recommendations in the Bioinitiative Report (2007) and its predecessors the Benevento Resolution (2006), the Catania Resolution (2002) and the Salzburg Resolution (2000) to immediately reduce the guidelines for exposure to radiofrequency radiation (RF) and extremely low-frequency electromagnetic fields (ELF-EMF) for the following

reasons:

- The overwhelming evidence of adverse non-thermal health effects at exposures many times below the current guidelines.
- The near 100% penetration of the market in Europe, the USA and many other markets by mobile phones and increasing penetration elsewhere.
- The vast proliferation of wireless networks and devices beyond those envisaged at the time the current guidelines were set.

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[Open Letter to Parents, Teachers, School Boards regarding Wi-Fi Networks in Schools by Magda Havas](#)

Publication Date: 5th May 2009 | [View open letter in full](#)

Citing BioInitiative, researcher Dr Magda Havas from Trent University (in Ontario, Canada), has written an open letter outlining why current Canadian standards are too lax, and urging a more precautionary approach by schools to protect children from the potential effects of WiFi and other wireless technologies. The main sections covered were as follows:

- Guidelines - consistency, variability, and appropriateness
- Electrohypersensitivity
- Children's sensitivity
- Removal of WiFi and possible alternatives
- Advisory statements in other countries
- The precautionary principle

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[Disturbance of the immune system by electromagnetic fields](#)

Publication Date: 4th May 2009 | [View full article](#)

Published in the journal [Pathophysiology](#), we have permission to host professor Olle Johansson's excellent article on electromagnetic fields and how they may be affecting the human immune system. The abstract is as follows:

"A number of papers dealing with the effects of modern, man-made electromagnetic fields (EMFs) on the immune system are summarized in the present review. EMFs disturb immune function through stimulation of various allergic and inflammatory responses, as well as effects on tissue repair processes. Such disturbances increase the risks for various diseases, including cancer. These and the EMF effects on other biological processes (e.g. DNA damage, neurological effects, etc.) are now widely reported to occur at exposure levels significantly below most current national and international safety limits. Obviously, biologically based exposure standards are needed to prevent disruption of normal body processes and potential adverse health effects of chronic exposure.

"Based on this review, as well as the reviews in the recent [Bioinitiative Report](#) [C.F. Blackman, M. Blank, M. Kundi, C. Sage, D.O. Carpenter, Z.

Davanipour, D. Gee, L. Hardell, O. Johansson, H. Lai, K.H. Mild, A. Sage, E.L. Sobel, Z. Xu, G. Chen, The Bioinitiative Report-A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF), 2007)], it must be concluded that the existing public safety limits are inadequate to protect public health, and that new public safety limits, as well as limits on further deployment of untested technologies, are warranted."

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The Birds, the Bees and Electromagnetic Pollution

Publication Date: 4th May 2009 | [View full article](#)

This is another article written by Andrew Goldsworthy, covering the understood mechanisms by which animals use the Earth's magnetic field for navigation, and how man made electromagnetic radiation may cause a number of potentially severe problems. *"Animals use their cryptochrome pigments for both magnetic and solar navigation. They also control the activity of the immune system. Weak electromagnetic fields can affect all of these functions with disastrous consequences."*

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How susceptible are genes to mobile phone radiation? - Competence Initiative

Publication Date: 7th April 2009 | [View full article](#)

The German based [Competence Initiative](#) have collated a 64 page document looking at the wealth of peer-reviewed, published material demonstrating effects of mobile phone radiation and health. The primary authors of the articles within the report are Franz Adlkofer, Igor Belyaev, Karl Richter and Vladislav Shiroff, and between them have covered the relevant literature in great detail, with over 300 references fully indexed.

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Forbid the use of mobile phones in Sweden! - An article by Örjan Hallberg

Publication Date: 6th April 2009 | [View full article](#)

Örjan Hallberg has put together a well researched and documented article outlining a number of increases in cancers and other issues (such as sleep disturbances) which have risen markedly since the takeup of modern GSM and 3G phone technologies, and promotes a strong argument that the possibility that mobile phones are at least partially responsible is very likely.

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RNCNIRP Memo - The existing standards do not correspond to new RF EMF radiating conditions

Publication Date: 20th March 2009 | [View full memorandum](#)

Professor Yuri Grigoriev, chairman of RNCNIRP (Russian National

Committee on Non-Ionizing Radiation Protection) has circulated a memorandum expressing a strong belief that current EMF standards are inadequate, and wholly fail to address the increased susceptibility of children:

"EMF of mobile telephones - children belong to a group of increased risk. A scientific database for an estimation of danger is lacking. The existing standards do not correspond to new RF EMF radiating conditions."

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Pathophysiology "Bumper EMF Special"

Publication Date: 17th March 2009 | [View journal description](#)

The journal [Pathophysiology](#) has run a special issue dedicated to different areas of the literature on EMFs and health. The issue contains a large number of EMF heavyweights such as Martin Blank, Carl Blackman, Michael Kundi, Henry Lai, Olle Johansson and Lennart Hardell. Some of the papers submitted did not make it into that issue but have since been published in the journal anyway - a contents of the EMF related articles is as follows:

- Estimating the risk of brain tumors from cellphone use: Published case-control studies
L Lloyd Morgan, 7th April 2009 | [View Abstract](#)
- Increased blood-brain barrier permeability in mammalian brain 7 days after exposure to the radiation from a GSM-900 mobile phone
Henrietta Nittby, Arne Brun, Jacob Eberhardt, Lars Malmgren, Bertil R.R. Persson, Leif G. Salford, 2nd April 2009 | [View Abstract](#)
- Public health implications of wireless technologies
Cindy Sage, David O. Carpenter, 14th March 2009 | [View Abstract](#)
- Genotoxic effects of radiofrequency electromagnetic fields
Hugo W. Ruediger, 13th March 2009 | [View Abstract](#)
- Long-term exposure to magnetic fields and the risks of Alzheimer's disease and breast cancer: Further biological research
Zoreh Davanipour, Eugene Sobel, 10th March 2009 | [View Abstract](#)
- Reproductive and developmental effects of EMF in vertebrate animal models
Aris F. Pourslis, 9th March 2009 | [View Abstract](#)
- Electromagnetic fields stress living cells
Martin Blank, Reba Goodman, 5th March 2009 | [View Abstract](#)
- Epidemiological evidence for an association between use of wireless phones and tumor diseases
Lennart Hardell, Michael Carlberg, Kjell Hansson Mild, 5th March 2009 | [View Abstract](#)
- FM-radio and TV tower signals can cause spontaneous hand movements near moving RF reflector
Paavo Huttunen, Osmo Hänninen, Risto Myllylä, 5th March 2009 | [View Abstract](#)
- Cell phone radiation: Evidence from ELF and RF studies supporting more inclusive risk identification and assessment
Carl Blackman, 4th March 2009 | [View Abstract](#)

- Mobile phone base stations-Effects on wellbeing and health
Michael Kundi, Hans-Peter Hutter, 4th March 2009 | [View Abstract](#)
- Electromagnetic pollution from phone masts. Effects on wildlife
Alfonso Balmori, 4th March 2009 | [View Abstract](#)
- Electromagnetic fields and DNA damage
J.L. Phillips, N.P. Singh, H. Lai, 4th March 2009 | [View Abstract](#)

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New Citations available from Professor Olle Johansson

Publication Date: 26th February 2009 | [Updated list](#)

The attached document is a list of all publications and letters that Olle has been a named author of over the last couple of years.

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Workshop on EMF and Health: Science and Policy to address public concerns success!

Publication Date: 13th February 2009 | [Workshop on EMF and Health website](#)

The European Commission held an outstanding conference attempting to bring opposing views together to discuss how best to evaluate scientific evidence and present the assessments to the general public via national policies.

The conference covered a wide range of views, from [CENELEC](#), [SCENIHR](#), [ICNIRP](#), [BioInitiative](#), and stakeholder views such as those of the [RRT](#), [Health and Environment Alliance](#), [Mobile Manufacturers Forum](#) and the [European Environment Agency](#).

For archiving purposes, the Radiation Research Trust have a [separate archive](#) of the RRT slides, including a [text only version](#) (Still a .pdf, but text instead of the Powerpoint format used for the presentation).

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SCENIR update their "Health Effects of Exposure to EMF" document

Publication Date: 6th February 2009 | [SCENIHR "Health Effects of Exposure to EMF" document](#)

The European Commission's independent Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) has updated its opinion on possible health effects of electromagnetic fields (EMF).

A general blanket overview that there is no risk, caveated as normal with subjective assessments such as "consistent", "convincing" and "insufficient", but with a fairly comprehensive list of studies covered within the literature, and an overview of suspected flaws in many of the papers.

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Overview of Phones, Base Stations and WiFi by Andrew Goldsworthy

Publication Date: 15th January 2009 | [EMFs Executive Report](#)

Dr Andrew Goldsworthy has written an [executive summary](#) of the biological effects of electromagnetic fields and how these may lead to a number of adverse health end points.

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Researchers in Pakistan find mobile phone usage can release mercury from amalgam dental fillings

Publication Date: 13th January 2009 | [Mortovazi et al paper](#)

Using a sample of 14 health female University students, a team lead by S Mortovazi of the Shiraz University of Medical Sciences have found a statistically significant increase in mercury released from restored amalgam fillings in those that regularly used a mobile phone compared to those that did not ($P < 0.05$). This could create a toxicity issue for people that have both mercury based dental fillings and regularly use a mobile phone.

[\[View Full Paper\]](#)

Biological and Cancer Safety Limits for Electromagnetic radiation

Publication Date: 1st January 2009 | [EMF Standards document](#)

ES-UK Chair of Trustees, Michael Bevington, has [compiled an excellent document](#) highlighting the frequency band, typical sources, and metrics of concern) of a variety of non-ionising electromagnetic radiation frequencies. Effects found and levels legislated against are available from heating and shock effects down to biological and cancer safety limits, including various findings of adverse human effects even lower than these.

Overview of Phones, Base Stations and WiFi by Andrew Goldsworthy

Dr Andrew Goldsworthy has written [another excellent article](#) explaining the parallels behind the wireless technologies currently in use, the possibilities of mechanisms by which they could be causing harm to health, and the precautionary attitude necessary to prevent damage being done whilst so much is still not understood.

1st Hellenic congress on the effects of electromagnetic radiation with international participation

Please read the latest [review article](#) on mobile phone radiation from Professor Lukas Margaritis, Chairman, Dept. of Cell Biology & Biophysics, Athens University.

May 24-25, 2008 - Thessaloniki, Greece

All lectures of the EMF congress have been recorded and are available on

the [congress website](#)

[Russian Committee advice for children and mobile phones](#)

The [following website](#) contains some powerful powerpoint presentations / documents written in English from the Russian National Committee on Non-Ionizing Radiation Protection.

Evidence on adverse biological effects on human cells from exposure to non-thermal radiation from mobile phones/masts frequencies.

For a selection of presentations/documents taken from the website, see below:

- * [[Children and Mobile Phones: The health of the following generation is in danger](#)]
- * [[Russian Committee powerpoint presentation/guidelines](#)]
- * [[Opinion of the Russian National Committee on Non-Ionizing Radiation Protection about the question of biological effects of electromagnetic fields of mobile phones](#)]
- * [[Non-thermal biological effects of microwaves, current knowledge, further perspective and urgent needs](#)]

Some crucial snippets from the presentations:

- It cannot be excluded that some part of population, such as children, pregnant women and groups of hypersensitive persons can be especially sensitive to Microwave exposures.
- Non-use of cell phones by children under the age of 16.
- Non-use of cell phones by pregnant women.
- Non-use of cell phones by persons suffering from neurological conditions or diseases, including neurasthenia or dysthymic disorders, mental disorders, neuroses, intellectual and memory impairment, sleep disorders, epilepsy, and epileptic predisposition.
- Children may represent most sensitive group to non-thermal effects of mobile telephony. Before this issue will be investigated, precautions should be taken in erection of base stations in vicinity of schools.
- Creation of zones that are free of mobile communication for hypersensitive to EMF should be considered.
- Long-lasting adverse effect on important cells of our immune system can have strong relationship with health risk from mobile telephony. *In vitro* studies indicate that the duration of exposure can be more important for non-thermal effects than intensity and therefore, effects of Microwaves from base stations on primary human cells should be studied.

["The Cell Phone and the Cell - the Role of Calcium", by Dr Andrew Goldsworthy](#)

Article abstract below - [[View Full article](#)]

Alternating electromagnetic fields such as those from mobile telecommunications have many seemingly unrelated effects on health, including the promotion of cancer, reductions in fertility and various brain disorders. This article explains how almost all of them may stem from a common cause; i.e. the removal of divalent ions such as calcium from cell

membranes. The mechanisms are as follows.

The radiation from handsets can affect the whole body because it conducts electricity and behaves like an antenna. It absorbs the radiation and generates eddy currents that can flow beyond the site of application. When they impinge on cell membranes, they weaken them by removing structurally important calcium and other divalent ions. This makes the membranes more likely to leak, which can give many biological effects.

A theoretical mechanism is described in laypersons language that explains how weak electromagnetic fields remove calcium ions from cell membranes. It explains the seemingly weird observations that this removal is non-thermal and occurs only within specific "amplitude windows". It also explains why low frequencies are more effective than high ones, why pulses are more potent than sine waves and why amplitude modulated and pulsed radio waves also work.

The mechanism involves the replacement of divalent ions bound to the membrane by monovalent ions (mostly potassium), which weakens it and makes it more inclined to leak. Radiation at 16Hz is particularly effective. It is the ion cyclotron resonance frequency for potassium (in the Earth's magnetic field) and increases its chemical activity, to make it more likely to replace the bound calcium.

The leakage of digestive enzymes from lysosomes can account for the damage to cellular DNA, which occurs after prolonged exposure to mobile phone radiation. This damage can explain the increased risk of cancer and reductions in fertility found in heavy mobile phone users.

The recent increases in allergies and allergy-related conditions may also be due to membrane leakage. Our bodies are normally protected from the ingress of foreign materials by "tight junction" barriers where the gaps between the cells are sealed. They occur in the brain, skin, nose, lungs and gut. Mobile phone radiation or the chemical removal of calcium makes them more permeable to large molecules and can let in allergens, toxins and carcinogens. Increased permeability of the gut barrier has also been linked to autoimmune conditions such as multiple sclerosis, IBS and type-1 diabetes.

Electromagnetic hypersensitivity (EHS) also seems to be due to membrane leakage. The symptoms following irradiation are like those of low calcium or magnesium in the blood, which supports the notion that they are due to divalent ion loss from cell membranes.

EHS sufferers have high skin conductances and strong tendencies to allergies, suggesting that they already have high membrane permeabilities so that fewer divalent ions need be removed electromagnetically to produce the symptoms. Many of the neurological symptoms of EHS are likely to be due to the radiation increasing still further the permeability of nerve cells to make them generate spurious impulses.

Attention deficit hyperactivity disorder (ADHD) can be similarly linked to electromagnetic exposure. The programmed flow of calcium ions through membranes is a prerequisite for the release of the neurotransmitters that transfer signals between neurones in the brain. Unscheduled calcium leakage into these cells will increase their background calcium concentration, making them hypersensitive and more likely to transmit spurious signals. We would expect this to cloud normal mental activity, trigger random thoughts and give the loss of concentration characteristic of ADHD. Drivers using mobile phones and children in classrooms fitted with Wifi may be especially at risk.

Autism has a similar explanation. A child's understanding of social

interactions is laid down as a pattern of regularly-used connections between neurones in its brain during its first year. Under-used connections are then pruned so that the patterns become hard-wired. If these are electromagnetically disrupted prior to pruning, a distorted pattern for social interaction may become hard-wired, and give irreversible autistic disorders.

The body can defend itself against the effects of electromagnetic exposure by pumping surplus calcium out of cells, activating ornithine decarboxylase to protect nucleic acids and making heat-shock proteins to protect enzymes. However, these are expensive in resources and interfere with normal metabolism. Their long-term deployment is likely to result in fatigue and an impaired immune system leading to a lowered resistance to disease and cancer. Sources of prolonged or continuous radiation include mobile phone masts, Wifi routers, DECT phone base stations and DECT baby alarms.

Not everyone is equally affected by the radiation. This may be due to differences in blood calcium or magnesium, differences in the efficacy of their defence mechanisms, and previous exposure to electromagnetic fields, which has a sensitising effect.

The effects of pulsed irradiation may also be transmitted chemically in the blood. It affects the ion balance on colloidal particles such as those in blood, giving them the ability to remove calcium ions from surfaces. This effect is routinely used in electronic water conditioners to remove lime scale. However, the treated water has biological effects similar to direct irradiation, presumably due to its removing calcium from cell membranes. This provides another mechanism by which the effects of mobile phone irradiation can be transmitted all over the body and also calls into question the safety of water from water towers fitted with mobile phone antennas.

["Problems in assessment of risks from exposure to microwaves of mobile communication"](#)

Professor Yury Grigoriev, Chairman of Russian National Committee on Non-Ionizing Radiation Protection, Moscow, Russia. It was published 2007 in the Journal of Radiation Biology and Ecology, Vol.47, No.6, 727-732 and has been translated into English.



- * [\[View full paper\]](#)
- * [\[Additional references #1\]](#)
- * [\[Additional references #2\]](#)

[International Study Lists](#)

World Health Organisation (WHO) - EM Database on epidemiological studies on mobile phone mast base stations, showing that [80% of published research](#) showed health effects.

Powerwatch UK have also compiled a [comprehensive list](#) of EMF studies from around the world.

[Mechanism of a short-term ERK activation by electromagnetic fields at mobile phone frequency](#)

By **Barry Trower** | [View Full Report](#)

Proteins are essential for building blocks (amino acids) genes (DNA - RNA) - body structure - enzymes (chemical protein messengers) - muscles - haemoglobin (for oxygen) - cell membranes (gateways to cells) etc.

Some essential messages passed around the body are proteins. The EKR/MAPK protein helps make signalling pathways and cell processes. This is normally a controlled release of the EKR/MAPK protein.

For the first time, it has been shown that, below thermal level microwave radiation can cause a cascade (out of sequence) of this protein: i.e. It will flow when it is not required to: or extra proteins will flow. This can cause complications to signalling pathways and cellular mechanisms.

As an example: (conclusion by Barrie Trower)

1. A tumour suppression gene may be disrupted
2. Oncogenes may be stimulated which can lead to cancer
3. Signal structures may change - hence, the body may not be able to function properly (any mechanism e.g. immune system)
4. cells may not function properly (brain, liver, digestive tract, skin, you name it.
5. Any organ may not function properly (inc blood)

Conclusion: You could almost explain every illness and complication known by disruption of signalling mechanisms and cell cycle timing. A very important discovery, well done to the scientists.

Recent Reports

RRT | Base Stations and Health Concerns | [View Full Report](#)

BioInitiative Group | BioInitiative Report | [View in Full](#)

Presented to Rt Honorable Gordon Brown at 10 Downing Street, London on 12th December 2007 where after a review of over 2000 research publications, scientists raise serious concerns about the safety of existing public limits that regulate how much EMF is allowable from power lines, mobile phones, and many other sources of EMF exposure in daily life.

Sadetski et al 2007 | Israeli Research December 2007 | [View Abstract](#)

The latest research from Israel on "Cellular Phone Use and Risk of Benign and Malignant Parotid Gland Tumors - A Nationwide Case-Control Study" in the December edition of The American Journal of Epidemiology does not allay these concerns. When no less an authority as Dr Mike Repacholi confirms to the Trust and educationalists that research funding is inadequate, it is time for some action.

You can study the [Mobile Telecommunications and Health Research Programme Report 2007](#) for a rather more relaxed approach to the problem.

[Subjective symptoms, sleeping problems, and cognitive performance in subjects living near mobile phone base stations.](#)

H-P Hutter, H Moshhammer, P Wallner and M Kundi

Mobile phone use and risk of glioma in adults: case-control study (PDF 94Kb)

New Research from Professor Olle Johansson (PDF 17Kb)

The Trust met with Professor Johansson at Westminster on 28th November 2007 when he advised of the need to direct the focus of the HPA WIFI research programme away from spectrum analysis to studying the effects (50 WIFI in schools) on pupil users and staff.

[News from Dr Gerd Oberfeld \(PDF 22Kb\)](#)

[Breast Cancer in Women \(PDF 27Kb\)](#)

[Austrian doctors' Yellow Poster Campaign \(PDF 16Kb\)](#)

[Dutch NGOs urge Europe to install cell phone antennas far away \(PDF 77Kb\)](#)

[Latest Wishaw Papers \(PDF 77Kb\)](#)

[Andy Davidson - EMR Epilepsy Paper](#)

[15/08/05 "Vienna Doctor's Chamber warns of excessive mobile phone use by children"](#)

[3/6/05 "Pylons may be a Leukaemia Risk" - Oxford University](#)

British Medical Journal study did not look at levels of exposure to magnetic fields but research suggested that children who had lived within 200 metres of high voltage lines at birth had a 70% higher risk of Leukaemia than those 600 metres or more away.

But the University also stressed;

- The results could be by chance or
- Could be caused by the environment

[16/5 & 20/5/05 Jülich Research Institute - T-Mobile Study](#)

[\[View Full Story\]](#)

The T-Mobile sponsored study concluded that the radiation from mobile phones affects the electrical nervous system, brain functions and damages DNA but may not in fact be harmful to one's health. It did suggest a need for further research.

Experts confirm effects of mobile telephone radiation

Young and healthy adults have no problem - other groups could be at risk

The radiation of wireless communication indeed has effects on the central nervous system, influences the functioning of the brain and causes damage to DNA. That is confirmed by 25 experts who studied the relevant scientific literature of 2000 to 2004. The investigation was done by the working group 'Mensch Umwelt Technik' (MUT) of the Jülich research institute in Jülich, Germany. The results were presented to the public on May 9th, 2005. The experts guess that the effects on the central nervous system can not cause health problems, though this opinion has no scientific base. The influence on the brain results in shortened or prolonged reaction times and less or more mistakes, depending on the parameters of the radiation. The experts think the damage to DNA is not a problem, since it would not lead to cell damage.

T-Mobile

The investigation was ordered and paid by T-Mobile, a provider of mobile communications. The experts only studied scientific reports and did not pay attention to the many experiences of people suffering from health effects of modern radiofrequent radiation. The complaints of these people

however fit in perfectly with the effects on the central nervous system, increased neuronal activity and influence on the functioning of the brain. The damage to DNA moreover fits in well with the results of epidemiologic investigations, finding an increased risk of cancer in the neighbourhood of antenna towers. The experts however state that the results of epidemiologic investigations are not consistent and more research is needed. In the meantime they advise to keep mobile calls short and not to use a mobile phone in a moving car without outside antenna nor at a far distance from the antenna tower.

Risk groups

Young and healthy people are not at risk, say the experts. However, the radiation of mobile communication systems (probably combined with other factors) could be harmful to other groups, like children, elderly or sick people, babies and pregnant women. Probably the pulse-modulated radiation is most effectful on the central nervous system and brain. The working mechanism is non-thermal and not yet understood. Pulse-modulation is used by e.g. GSM, UMTS, DECT, WLAN, WIFI, TETRA and many other wireless systems. The experts say headaches and problems with concentration and remembrance could be related to the radiation of mobile phone systems, but according to the literature the other complaints probably are not. Having studied the scientific literature, they doubt if electrohypersensitivity (EHS) exists, but they emphasize that the absence of evidence is not evidence of absence.

No consensus

The experts studied the permeability of the 'blood brain barrier', the risk of cancer, the damage to DNA, the effects on the brain and central nervous system and the disturbance of well-being. About the permeability of the 'blood brain barrier' there is no consensus. The experts think the 'blood brain barrier' could fail under stress or thermal conditions, but without relevance to health. There is no consensus about the damage to DNA neither. However, the experts think this can not be relevant biologically and to health, since the literature does not mention cell damage as a consequence. Laboratory tests with animals do not show an increase of cancer. Nevertheless the experts say there could be an increased risk of cancer in humans in the long term. They advise to be on the safe side and keep mobile phone calls short.

[20/5/05 Research by Professor Lennart Hardell of University Hospital in Orebro, Sweden](#)

[\[View Full Story\]](#)

After looking at 1,400 cases of adults with brain tumours concluded that those from rural areas with over 3 years usage were 3 times more likely to be diagnosed with a brain tumour than those in the city. This risk went up to 4 times after 5 years.

The Trust met with Professor Hardell on 28th November 2007 at Westminster to discuss how their Swedish research model programme 'might' influence research in the UK.

[May 2005 Research in Austria - by Gerd Oberfeld & others, Salzburg](#)

The radiation from a cell phone base station 80 metres away causes significant changes of the electrical current in the brains of a sample of 12 electro sensitive people aged between 20 and 78. All felt unwell. The

body suffering such long term stress with a consequent reduction in the quality of life, capacity to work and state of health.

According to Gerd Oberfeld and the team this is the first time actual proof of the significant changes of electrical currents in the subjects' brains where the cell phone base station is at a distance of 80 metres.

The Trust met with Dr Oberfeld at Westminster on 28th November 2007 to discuss research into Cancer Clusters around masts.

[29/04/05 More research to confirm masts and sleep disturbances](#)

Medical News Today

"We have found that people who are very electrosensitive in the evening, do not sleep well in the night". Prof. dr. Norbert Leitgeb of the Technical University of Graz in Austria told it to a journalist of the Grazer Woche. "This could indicate, that mobile phone masts and other sources of radiofrequent radiation indeed have a negative influence on the well being of many persons."

His saying refers just to the result of a pilotstudy, meant to verify the design of a larger investigation to come. Nevertheless the result is spectacular, Leitgeb confirms. Of nine test persons the more electrosensitive appeared to sleep much better when protected from radiofrequent radiation. Leitgeb does not find this is proof yet. The upcoming research has to confirm the relationship between sleeping quality, electrosensitivity (50 Hz) and the load of radiofrequent radiation by GSM masts, DECT wireless telephones, WLAN wireless networks and other sources. The research will not take place in a laboratory, though at home with twenty people throughout Austria. Results are expected in the beginning of 2006.

Causal relationship

In an article in the magazine Bioelectromagnetics Leitgeb describes the existence of electrosensitivity. It is proven that some persons have a heightened sensitivity for electric, magnetic and electromagnetic fields. "Though there has not been established a causal relationship yet, the symptoms of some persons are thus severe, that they leave their homes and jobs and try to find release in an environment with less 'electromagnetic pollution'. These persons have a serious problem and need to get help. To find proof of a causal relationship is not just a scientific interest, but the problem also has a socio-economic aspect", says Leitgeb.

UMTS mobile phone masts

In The Netherlands there is a growing stir about the placement of UMTS mobile phone masts. Also the GSM mobile phone masts, DECT wireless telephones and WLAN wireless networks are suspect of causing 'radiofrequent radiation sickness'. A symptom is the heightened electrosensitivity to low frequency electric and magnetic fields (50 Hz), but the sickness also would have other symptoms like sleeping disturbances, palpitations of the heart, [high blood pressure](#), tinglings, concentration and remembrance distortions, dizziness, burning skin, tinnitus, eye problems, lack of energy and many more. In The Netherlands a study by TNO confirmed the correlation of cognitive functional deviations and the radiation of GSM and UMTS. Moreover, the radiation of UMTS appeared to cause tinglings and dizziness.

Sources:

1. Grazer Woche, 'Studie: Handymast stört Schlaf' by Dieter Demmelair
2. Elektrosmognews of 18 Jan. 2005
3. IZGMF Meldungen 'Epros Schlafstudie zwischen Sensation und Dementi', 21 Jan. 2005
4. Answers by N. Leitgeb to questions by Frans van Velden, e-mail, 21 Jan. 2005
5. Electrosensibility and Electromagnetic Hypersensitivity, Bioelectromagnetics 24:387-394 (2003) Author: Frans van Velden

[12/4/05 "Neurology" - Danish Study Published 12th April 2005](#)

[\[View Study\]](#)

According to Danish researchers who questioned 427 people with tumours and 822 without them about the extent of their use of mobile phones, there was NO increased risk to heavy users.

Christoffer Johansen of the Danish Cancer Society said: "We won't be able to make any firm conclusions until we can confirm these results with studies with more long term and heavy cell phone users."

Continuing the precautionary approach and especially caution in children's usage has been the British reaction - as well as advocating like Denmark we need more research.

[5/4/05 New UK Government Research to be carried out](#)

[\[View Full Story\]](#)

The research must surely address the issues of multi-masts emissions, their cumulative effects including directions and disclosure. [See 7 Pillars of Wisdom](#) (PDF 133Kb).

[Latest Stewart Report](#)

[\[View Online\]](#) (PDF 500Kb)

The Government says to originally adopt 'the precautionary principle'.

So people are concerned - what is the government's official line?

At the request of the Minister for Public Health an independent committee, under the chairmanship of Sir William Stewart, was set up to report on Mobile Phones and Health. The report, published in May 2000, was the most comprehensive in the world and concluded that:

1. The balance of evidence to date suggests that exposures to emissions of radiation from mobile phones, at levels below NRPB and ICNIRP guidelines do not cause adverse health effects to the general population.
2. There is now scientific evidence however which suggests that there may be biological effects occurring at exposures below these guidelines.
3. The balance of evidence indicates that there is no general risk to the health of people living near to base stations on the basis that

exposures are expected to be small fractions of guidelines. However, there can be adverse effects on well-being in some cases.

4. A precautionary approach to the use of mobile phone technologies should be adopted until much more detailed and scientifically robust information on any health effects becomes available.

The UK has in excess of 20,000 (now over 40,000) base stations, which are used to provide coverage for the 40 million (now 60 million) mobile phones currently in use. With continual improvements and extensions to mobile phone services, this number looks set to increase in the future.

Nearly Half of Frequent Users of Mobile Phone Fear Health Risks

Almost half of people who use mobile phones daily are concerned about health risks from electromagnetic radiation.

Almost one in two (43%) people who use mobile phones daily are particularly concerned about potential health risks from electromagnetic radiation. Over one in three (37%) less frequent users of mobile phones are similarly concerned.

Greatest concern is shown by younger users, with a slight bias towards men and people living in the south of England.

46% of people use their phone daily, and it is this group which shows the greatest concern about health risks. Mobile phone users are more likely to be male, ABC1s, full time workers, PC users and to have higher incomes - a very similar profile to those who are concerned about the potential health risks of mobile phones.

62% of all mobile phone users expressed interest in obtaining a product which might reduce potential health risks, rising to 71% of those using their phones daily. Eight in ten of those who are particularly concerned about health risks are interested in purchasing such a device

Now Stewart II is restating the precautionary principle more forcefully.

Eileen O'Connor - 2006 Report on base station emissions and health concerns

Eileen O'Connor's [presentation](#) to the EMF Discussion Group at the UK Health Protection Agency - 16th October, 2006

Professor Olle Johansson Experimental Dermatology Unit Of Karolinska Institute

A link to a complete list of [Professor Johansson's Authorities](#) is here for guidance

The Scotsman: [Doctors Want Mobile Phone Ban for Children](#) (09/02/05)

[The Irish Doctors' Environmental Association \(IDEA\)](#) (09/02/05)

Powerwatch: [Low-height high-power mobile phone base station scandal](#) (07/02/05)

Journal - [Increased Incidence of Cancer near a Cell-Phone Transmitter Station](#)

Electro-Hypersensitivity (Ehs) - Physical Impairment In Sweden

Somewhere between 230,000 - 290,000 people in Sweden report a

variety of symptoms when in contact with EMF sources - [Swedish Association for the electro-sensitive](#)

The letter from **Johan Bonander** to **Alan Meyer** 10/11/04 attached in response to Bircham Dyson Bell's email explains. Could we follow this in the UK?.

[\[Read both emails\]](#)

Norwegian study released

[Ground breaking research](#) into how mobile phones effect the body's cells. The report also introduces a technology that appears to help combat those harmful effects of EM radiation.

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