

## Health protection in action



A member of the AB-Strahl group chained herself to an O2 mast at St Märgen near Freiburg on 11th December, according to Next-up news. The mast was put out of action to create a White Zone where EHS people can live during the winter. A riot police squad was sent and cut through the chains. "We'll continue to fight for the creation of White Areas because people who are electrosensitive (EHS) just do not have any other way to live," Ulrich Weiner said.



pictures courtesy of Next-up.

## Masts banned for health reasons

The Economic Times on 7th December reported that the Rajasthan government has banned the installation of some mobile masts in the state. There are seven telecom operators with more than 15,000 masts in the state.

The new policy would bar installation of any such mast in a medical or educational institution and permission would be given only for

open spaces like parks and agricultural land. A UDH official said: "There have been a few studies which say that electro-magnetic radiation emitting from these towers are a threat to human health.

There has to be some check on these towers especially in residential and institutional areas."

## France leads the way – fibre optic cables

To remove the health dangers of WiFi, Wimax, digital TV and digital Radio, the départements of the Drôme and the Ardèche in France are aiming by July 2010 to replace wireless with fibre-optic cables, at a cost of 123 M€ (184 M\$). This will cover 100% of the population of 0.95 million, connecting 372,000 homes via the ordinary phone line through 213 switchboards.

It will provide ultra high speed broadband connection (100 Mbps) without any loss of signal due to distance, for a "triple play" service of Internet, telephone and TV. WiFi and WiMax will stop altogether because of their health dangers.

## Stuttgart demonstration on electro-magnetic dangers

There was a large demonstration in Stuttgart on Saturday 14th November against government failure to act over the dangers of electro-magnetic fields and radiation.

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# ES NEWS

## ES-UK - telephone helpline and volunteers

Many thanks to all our volunteers who make themselves available on the telephone helpline. This is a major part of our role as a charity. The volunteers are usually the first contact for someone who thinks they have become electro-sensitive. Each telephone call can be very demanding, especially if it is the first time a caller has spoken to someone who understands their medical problem or if the caller realizes the possible life-long implications of sensitization. And as the number of people with electro-sensitivity grows there is a steadily increasing demand on the service.

Special thanks in particular are due to Roger Moller. He has a background in both business management and electro-sensitivity and has been the professional consultant for the helpline over the last year. He has been invaluable in establishing regular volunteer meetings, training and support material, "bringing the helpline into the 21st century" as this process has been described. His own business commitments are now his priority so Sarah Dacre, as the trustee responsible, is overseeing things, so further thanks to Sarah too for taking this on, along with all the other things she does for ES people.



## Help! - volunteers and spreading information

If you are able to volunteer assistance for ES-UK, please make yourself known. It would be good to build up a list of contacts who have specialized in a particular aspect of the problems all ES sufferers face, such as employment and housing issues, as well as medical and shielding.

Moreover, as has been said before, the more people can write to interested parties, from MPs, MEPs, government ministers and agencies, to local councilors and newspapers, the sooner the message will be heard and understood. Many people are still not aware of the dangers of EM fields and radiation and are angry that they have not been warned fully by government and the HPA, but are sincerely grateful to those who tell them. This is a key aim of our charity, along with helping those already suffering.



## Thank you

Many thanks to readers who have sent articles, comments and news references. Do keep on doing so. Some of the most popular articles are practical tips and experiences.

## Digital TV and ES symptoms

Some ES sufferers are reporting increased symptoms from what seems to be digital TV signals and equipment, with typical migraines, nausea, vomiting, brain fog, irritation and depression even from a TV mast 4 miles away. Do let us know if you've suffered too.

## Removal of phone mast on health grounds

The demolition of Entel PCS' mobile phone mast in the O'Higgins district of Santa Cruz was confirmed by the Appeal Court in Rancagua, Chile, in a unanimous decision, according to El Mercurio on 4th December. This was on the grounds that the structure "violates the constitutional rights" of people affected by its radiation, "with regard to articles 19, no. 1 (right to life and to physical and psychological integrity), no. 9 (right to health protection) and no. 8 (right to live in a healthy environment free from all pollution) of Chile's constitution."

This followed the Institute of Public Health's report acknowledging that human health is damaged by the harmful effects of the radiation produced by cellular phone masts.

## **Don't stand in the doorway!**

Does anyone else think this is a problem? Several times recently I have noticed ES symptoms when standing in the doorway to a room with thick walls and then, on looking round, I have spotted someone using a phone or radio walkie-talkie in the room behind.

Could it be that the EM radiation tends to take the path of least resistance and gets channeled through the doors? The same seems to happen on dual carriageways when the nearest mast is beyond a bridge directly ahead with earth ramps either side, leaving a relatively small gap for the signal.

## **Check your bed!**

Charles Claessens warns that metal objects in beds can be magnetic (static magnetic DC, not AC). These fields can be in the mattress supports, or in the mattress itself, such as the springs, especially boxsprings. ES people should replace metal-framed beds with wooden ones and have mattress which do not contain metal springs. A way of testing if the bed is magnetic is slowly going over the bed in a straight line with a compass. North should stay on North and not deviate.

## **Keep clock radios at the foot of the bed!**

Adelaide Now on 28th October reported that Dr Charlie Teo, a Sydney brain cancer surgeon, urged people to put mobile phones on loudspeaker, wait until microwaves have finished beeping before opening them, and said that "The American government, for example, recommend that all electrical appliances should be put at the foot of the bed and not the head of the bed".

## **Laptop for sale**

Shielded laptop and shielded box for sale. Contact Ryan 01206 824417.

## **Car for sale**

Car available suitable for an ES person. Peugeot 205 GR, F reg (1987), runs well, bodywork good, MOT August 2010, 110,000 miles. No modern electronics or central locking, speakers removed, also no perfumes or air fresheners used. Contact Ian and Sue Kemp at 01920 466570 or [ianckemp@btinternet.com](mailto:ianckemp@btinternet.com).

## **ES-UK online giving**

The ES-UK website now has a system for online giving. This should help our international supporters and anyone else who wishes to contribute in this way. It operates through Charity Choice and the button takes you to a secure link.

A useful badge or poster produced by Next-up

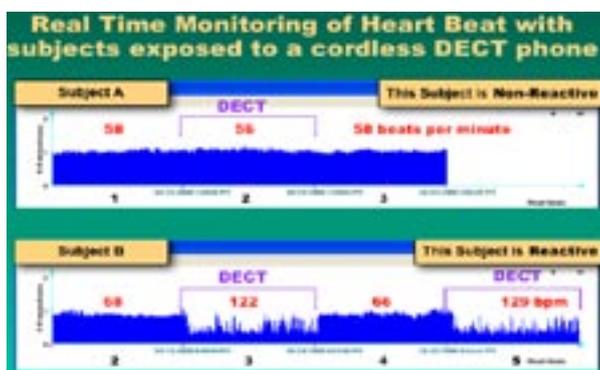


## **January 2010 – ES awareness month in Newfoundland**

Don Coombs, the Mayor of Harbour Grace, Newfoundland, has declared January 2010 as Electromagnetic Hypersensitivity Awareness Month.

## **How cool are you?**

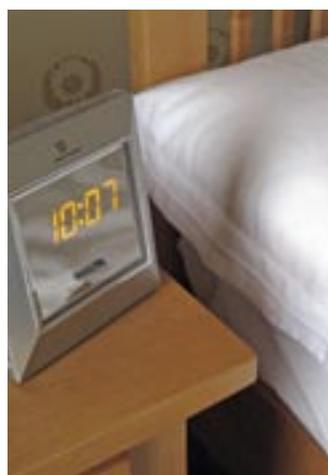
Charles Simpson ([inglecraig@btinternet.com](mailto:inglecraig@btinternet.com)) suggests the following. "I have by chance become aware that the "sensitive" people I know (not enough for an indicative survey) have a lower than normal core body temperature. It is possibly one or two degrees lower than the accepted normal, but these ES people do not suffer the expected hypothermic results. Their bodies appear to re-adjust around this altered temperature "set point"."



## **DECT phones can change EHS heart rate**

Dr Havas has shown from a double-blind study of 25 volunteers that some EHS react to DECT phone exposure with an increased heart rate.

This was announced at the EMR Policy Institute conference on 8th November in Golden, CO. See <http://electromagnetichealth.org/images/Heart-Irregularities-Linked-to-Wireless-Radiation.png>



## **Airplane mode**

A reader suggests encouraging friends to use their mobile, if they have to as a camera or ipod, on 'airplane' mode, so reducing transmissions.

# EHS safety thresholds - What's your limit?

Change is coming at last, at least in some parts of the world if not yet the UK.

France and other countries are joining eastern European countries in beginning to accept the increasingly established scientific evidence of biological dangers. Even telecom companies are now volunteering to move towards biological limits as the evidence becomes increasingly incontrovertible and is becoming accepted legally and by insurance companies.

To help those setting the new biological limits, however, it is important for ES sufferers to indicate what level and type of exposure trigger symptoms. If you have access to magnetic and electric field meters, please record and submit your experiences. The following notes may raise some issues – please send your thoughts!



## **Factors influencing EHS threshold levels.**

1. The sufferer's state of body at the time, including diurnal changes, as with other allergies.
2. The relative location of the sufferer to the source of exposure (e.g. movement, walking or at speed, into radiation can trigger symptoms as much as when the radiation is switched on when the source and sufferer are stationary.)



3. Atmospheric conditions – damp conditions are worse than dry?
4. The mixture from several sources of exposure (e.g. where MW or RF is superimposed on ELF.)
5. Many EHS sufferers find the only way to avoid symptoms is to live shielded or away from exposure. This makes the body more sensitive to entering a polluted zone than if it had acclimatised to that zone. But for a sensitive person to try acclimatisation often brings on more severe symptoms in the long run.

## **Setting EHS safety limits**

6. A symptom threshold may allow for an ES sufferer sometimes to enter higher levels for short periods and experience no symptoms.
7. Limits for ES symptoms may be different from limits for protection against other biological outcomes, such as neurological diseases and cancers.
8. Risk assessment for EHS sufferers may be substantially different from risk assessment for people who do not suffer EHS. For the latter the risk is hypothetical across the percentage of population who are not EHS, but for EHS sufferers a much higher level of risk is already established.
9. Safety limits for public health, including vulnerable subgroups, are often set at, say, a factor of ten below the lowest known threshold.

## **Some questions for ES sufferers.**

- a) Is the only solution to avoid all artificial radiation or as much as possible, once you have EHS, or can the body ever partially or fully re-adjust?

- b) How should limits deal with the cumulative nature of EHS?
- c) Should limits include an exposure time as well as an amount of radiation?
- d) If limits include exposure times, would longer periods be acceptable in ELF fields, but not in RF or MW zones?
- e) Should there be a difference between the following areas?
  - (i) sleeping areas,
  - (ii) living areas, working areas and social areas (eg schools, hospitals, sports centres, libraries, restaurants),
  - (iii) access areas (e.g. roads, public areas outside buildings but not leisure facilities like parks and beaches.)
- f) Should there be a lower limit, say 4 nT, for 400 kV overhead cables, and higher limits, say 10 nT or 15 nT, for 240 Volt household wiring?
- g) What should be the limit for gradients (rises) in changing magnetic fields - 10 nT?
- h) What about the effects on body voltage?
- i) What about limits for radio/voltage transients on power lines and RF from fluorescent lights and how should they be measured?
- j) What about microwave devices with ELF pulses?
- k) Does the type of pulse make a difference?
- l) Do you feel only the pulses you've been sensitized to?
- m) Are there other factors to be included?



# Provocation Tests Failures

## **Yet another flawed ES/EHS study**

James Rubin, Rosa Nieto-Hernandez and Simon Wessely, of the Institute of Psychiatry at King's College, London, have written a review article for Bioelectromagnetics called "Idiopathic environmental intolerance attributed to electromagnetic fields (formerly 'electromagnetic hypersensitivity'): An updated systematic review of provocation studies."

It reviewed 46 conscious psychological provocation studies with 1175 volunteers claiming EHS. Its abstract includes: "Idiopathic Environmental Intolerance attributed to electromagnetic fields (IEI-EMF; formerly 'electromagnetic hypersensitivity') is a medically unexplained illness in which subjective symptoms are reported following exposure to electrical devices ... No robust evidence could be found to support this theory. However, the studies included in the review did support the role of the nocebo effect in triggering acute symptoms in IEI-EMF sufferers. ... A narrow focus by clinicians or policy makers on bioelectromagnetic mechanisms is therefore, unlikely to help IEI-EMF patients in the long-term."

People who suffer ES symptoms from electrical devices will understandably be puzzled or even angered by this Review. Its conclusions do not match their experiences and they may think "Garbage in, garbage out", or that this research is designed to ensure the government keeps its tax revenue from mobiles, even though scientists are now arguing that the cancers and other illnesses which they cause could cost health services as much or more. The following comments by Michael Bevington aim to show why many such studies are flawed and have failed to produce anything except an anxiety about phantom or 'nocebo' effects.

## **1. Psychological hypotheses are counter-intuitive**

ES and EHS sufferers link their ES symptoms with EMF exposure and not with hypothetical anxiety. Many psychologists seem unable to devise tests which can include this as a reality, while still allowing a psychologically postulated phantom or 'nocebo' effect. This is a flaw in the tests, not in the source of the ES symptoms or the evidence of the ES or EHS sufferer. It is not just ES and EHS sufferers who find a psychological aetiology flawed. A recent study showed that 30% of German doctors accepted an EMF cause of illness in their patients and many eminent scientists studying bio-effects of EMFs accept EHS as a growing reality, affecting in some form up to 30% of the population.

## **2. Lack of definition of EHS and ES**

This Review fails to define an EHS or ES person clearly, or distinguish between them, or state how frequently or in what way an EHS or ES person can be identified in their reaction to an EMF source. If an EHS person does not react to EMF consciously on every occasion, the assumptions behind most studies appear invalid.

## **3. Lack of screening of EHS or ES volunteers**

Any study aiming to test the existence of EHS or ES in comparison with controls ought to screen volunteers claiming EHS or ES and the controls, otherwise it is unclear who or what is being tested, except people's anxiety.

If the Review, like the WHO, accepts that EHS exists as a condition with a set of symptoms, but fails to identify a single person with real EHS symptoms or else identifies all the EHS volunteers and many controls as having similar symptoms, then it appears to say nothing of significance. If the condition is 'idiopathic' in the original Greek meaning of the word, it will require individual and not statistical analysis.

## **4. Statistical analysis and correct identification**

If an ES or EHS person, either an ES/EHS volunteer or a control who happens to be ES/EHS unknowingly, identifies correctly whether an EMF source is on or off in a single blinded test, it would be consistent with that person being considered ES/EHS. If, however, there were two tests, with one correct and one wrong answer, almost all the conscious psychological studies appear to suggest that the correct answer would be either incorrect or insignificant, because of the statistical model used, rather than providing an explanation for such disparate results.

Some volunteers knew when the signal was on nearly every time during the Essex 2007 study, but these actual positive results were insignificant statistically because there was no means of identifying which volunteers were or were not ES/EHS in the final analysis. The Essex study found about 60% accuracy averaged over all supposed EHS and the expected 50% for controls, but for the analysis chosen this was insignificant and about 80% accuracy would be needed. Without inappropriate shams, the Essex supposed EHS group was about 70% accurate. Nevertheless, although some individuals scored above the necessary 80%, the chosen statistical analysis confounded them with others, masking their accurate answers or counting them as statistical anomalies.

Such methodological problems in this type of conscious psychological study invalidate the results. If the Review had defined and identified the real EHS/ES out of the 1147 unscreened volunteers, it might have been able to produce a significant conclusion. At present this has yet to be done. Of the studies I have read, only Rea in 1991 both screened the supposed EHS volunteers properly for EHS and used the particular types of EMF exposure to which they reacted and as a result achieved the inevitable 100% accuracy.

## 5. Frequency of ES symptoms

Not all ES or EHS sufferers claim to experience conscious ES symptoms at every EMF exposure. This is also true of other environmental allergies. Some provocation studies, however, appear to assume EHS sufferers always do experience symptoms. A baseline assessment is essential before psychological testing begins, along with confounding factors such as the diurnal state and previous or cumulative exposures, in addition to the appropriate type of exposure. If an EHS sufferer experiences symptoms for 10% of EMF exposures, the statistical analysis needs to allow for this. This is likely to mean screening and profiling each individual sufferer over a long period of time in their own environment, rather than using inappropriate Bonferroni corrections.



## 6. Cumulative effects

Sham after positive exposures are invalid for cumulative effects and ES/EHS has cumulative effects according to many studies.

## 7. Practical difficulties for conscious psychological tests

(a) As for any environmental allergy, the base and provocation EHS levels will differ for each participant, as will the precise characteristic of the EMF exposure, and the diurnal state. The EHS sufferers most seriously effected apparently had to drop out of the Essex study because of the levels used, affecting the results by apparently up to 30%.

(b) It is difficult to ensure absence of all other radiation down to very low levels.

(c) Some sufferers may react only to a synergy of ELF, RF and MW and this can be difficult to replicate.

(d) Symptoms can depend on cumulative and chronic exposure and can be delayed, especially some muscular, digestive and cognitive problems caused by EMF exposure.

## 8. Related evidence

### (a) Biological evidence

Psychological provocation studies could draw more on biological and physical provocation studies of EMF exposure on the human body, animals and plants. For instance the 2009 Huttunen study showed ES in spontaneous muscle movements in humans from blinded exposure to radio frequency radiation.

### (b) Epidemiological evidence

Psychological provocation studies could focus on specific population groups where epidemiological evidence has already shown the biological effect of low level EMF radiation. For instance occupational epidemiological studies show many dose-dependent cancers and neurological diseases like Alzheimer's linked with EMF.

### (c) Mechanistic studies

Hundreds of studies have shown adverse effects from EMF at sub-thermal levels. The claim that there is insufficient bioelectromagnetic mechanistic evidence to allow the possibility of some conscious psychological effects is flawed.

## 9. Genetic markers for EHS sufferers

Illnesses apparently caused by EMFs, such as childhood leukaemia near overhead power lines, have been shown to be associated with specific genetic markers. Genetic research and epigenetic issues should be included as part of future provocation studies. It seems odd that this was not done in the KCL and Essex studies.

## 10. Pathological markers

Conscious psychological provocation tests are not the only way of studying ES and EHS. Pathological markers are being developed by research laboratories in France, Germany, Russia and the USA.

## 11. Phantom or 'nocebo' effects

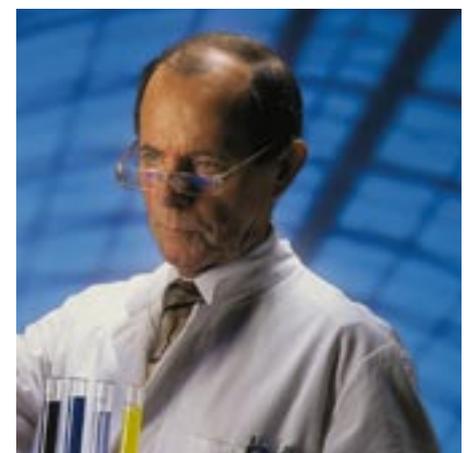
The Review hypothesizes that ES could be a psychological phantom or 'nocebo' effect. This appears to muddle the three distinct conditions, ES, EHS and EMF Neurosis, established by leading researchers elsewhere. Nevertheless, if this Review is right in hypothesizing a conflation of one or more of the three conditions, it would be useful to establish experimentally whether

similar environmental allergies, such as from foods, peanuts, pesticides, chemicals, cats or dust, are also the product of such phantom effects, and whether humans can experience phantom effects from varying sensitivities to other EM radiation, such as visible light and UV frequencies. It is also important to establish how far phantom or 'nocebo' effects can include the nosebleeds, nausea, skin blisters and muscle paralysis, for instance, which ES sufferers experience and whether these symptoms can be induced by the sight or thought of power lines, computers, mobile phones or any other electrical device, in addition to sham laboratory conditions. This is clearly an important issue since the psychiatrist Professor Elaine Fox, a co-author of the Essex study, stated of EHS sufferers that "it appears that worry about mobile phones is more dangerous than the EMFs themselves" in a pamphlet of 2008 by Sense about Science, the pressure group apparently sponsored by mobile phone companies according to the charity's accounts.

## 12. Genetic markers for phantom or 'nocebo' symptom sufferers

If the Essex study is correct in concluding that self-assessed EHS sufferers experience phantom or 'nocebo' symptoms more than controls, then there should be genetic markers to identify this sub-group. When these markers and those for ordinary EHS have been identified, it should then be possible to distinguish this subgroup of EHS from those who experience real symptoms directly.

## 13. Quantum biology, quantum psychology and photons



Neither the conscious psychological provocation studies nor the Review explore the application of quantum

biology, quantum psychology or photons, despite a growing literature. If quantum factors are involved it could mean mathematical models will need revision.

#### **14. Psychiatric factors**

Although EHS was first described in medical journals in 1932 and there were many occupational studies on its nature and prevalence in the 1960s in Poland and the USSR, a psychological aetiology for EHS in the general population became common only in the 1990s. This was when mobile phone companies and their insurers were worried about health claims and wanted to allay anxiety about increasing reports of adverse health effects.

A similar attempt at a psychological explanation occurred with ME/CFS, but it was against the WHO classification of G93.3. In fact Professor Wessely of King's College Institute of Psychiatry has websites dedicated to him and his views on the Camelford water poisoning, autism and the Gulf War Syndrome as well as ME. Some websites state that he was an advisor to the Science and Media Centre, sponsored by the Wi-Fi Alliance and the Mobile Operators Association, in 2009 and the NRPB/HPA Radiation, Risk and Society Advisory Group in 2001, and was allegedly associated with the UNUM insurance company.

A psychiatric aetiology appeals to governments and insurers because it is said that they may then refuse claims from people suffering supposedly psychiatric as opposed to organic illnesses.

It also is said to appeal to drug companies and boosts the role of psychiatrists, often through CBT. In 1993 Professor Kleinman from the US apparently predicted that in 10 years' time "the central issues in the CFS field would be social rather than medical or scientific, partly driven by the economics and funding of the disability systems in various countries" (S.1528, in FD23/4553/1 [some other parts were closed in 2008 until 2071], UK National Archives). In fact the opposite seems to have happened, and now ME is being studied as an organic illness linked in some groups

with retroviruses like XMRV, just as MS, rheumatoid arthritis, polio, AIDS, stomach ulcers and diabetes apparently all started as psychiatric illnesses but are now more often regarded as organic.

#### **15. Sensitisation factors**

Professor Wessely has elsewhere described possible ES symptoms from WiFi as "fatigue and malaise" ("When and Why do Doctors Collude with Patients?" published as part of the UNUM Insurance Company's chief medical officer's report of 2007 - "No sooner did Panorama identify Wi-Fi as one more cause of fatigue and malaise, a raft of Wi-Fi 'protection devices' sprang into being"). How WiFi produces "fatigue and malaise" is significant, since these symptoms are not always transient; WiFi can also sensitise someone to EMFs generally.

This aspect of sensitisation history is missing from some provocation studies. It would benefit provocation research into ES, especially if based on genetic and pathological investigations as well as subjective tests.

#### **16. Two logical problems with the word 'idiopathic'**

The suggested use of the word 'idiopathic' for EHS appears logically flawed, for two reasons. Firstly, the word 'idiopathic' comes from the roots of two Greek words, 'idios' meaning 'one's own' hence 'special' or 'particular', as in 'idiomatic' or 'idiosyncratic', and 'pathos' meaning 'suffering'. All illness is logically 'idiopathic' or 'one's own suffering' by definition, unless it is forced on the body externally. EMF pollution is, by definition, an external force.

Secondly, some medical dictionaries give the word 'idiopathic' a precise but inaccurate meaning, as 'without a known cause'. This then begs the answer as to what causes EHS. If EMFs are the cause of EHS, then both uses of 'idiopathic' are wrong by definition; if the cause of ES symptoms is psychological, then the second 'medical' use is wrong by definition and the first is pointless. Some 18 or more names have been given to EHS in the scientific literature but 'IEI-EMF' is one of the least precise or meaningful.



#### **17. Already out-dated**

This Review will be out of date before its publication in 2010. The Review examined articles published up to November 2008, and itself appeared online in August 2009. Five studies published in late 2008 and 2009, however, seem to invalidate the Review's psychological hypothesis for EMF sensitivity. Huttunen's evidence for spontaneous hand movements in blinded tests from radio and TV signals, if accurate, would be convincing proof of conscious human sensitivity to EMFs. Myong's and other reviews of studies linking brain tumours with mobile phone usage have revealed a convincing pattern of higher risk for young heavy users, again suggesting proof of adverse health effects at apparently sub-thermal levels, as did Huss's study of 4.7 million people, which found a dose-response incidence of Alzheimer's near power lines.

Yang's study of childhood leukaemia incidences near power lines found a strong association with genetic markers. Finally, Kowall's survey of German doctors found that between 29% and 58% associated EMF with health complaints. Indeed, given the hundreds of other studies on sub-thermal radiation showing adverse health effects and human sensitivities to EMFs at cellular levels, to hypothesise from flawed psychological tests that there can be no other cause for such sensitivity except a psychological phantom effect appears out-dated and lacks medical credibility. Any supposed secondary phantom effect can be investigated properly only once the primary genetic and causal mechanisms for ES and EHS are established.

# RADIO FREQUENCY POLLUTION

People often link ES symptoms with either microwaves or power lines.

The frequencies in-between, usually called radio frequencies (RF), can also cause ill health and ES symptoms. They are becoming the focus of growing research.

## 1. Power Line Telecommunication (PLT) radio frequency problems.

### Power Line Telecommunication.

Over the last year there has been concern in the specialist press about Ofcom's failure to regulate the growing radio interference from PLT. PLT (Power Line Telecommunication / Technology / Transmission), also called BPL (Broadband over Power Line), PLA (Power Line Access) and PLC (Power Line Communications), uses electronic devices which plug into mains wiring sockets to send broadband digital signals over the electrical power wiring in a house. There are now said to be 0.75M such devices in use in the UK. They are also known as Homeplug adapters.



### Radio interference.

These devices produce radio interference or "noise" in the High Frequency (HF) range or Short Wave band, just above the LF/MF or Long Wave/Medium Wave bands. Especially troublesome are the HPA adapters, as opposed to UPA ones, such as the BT Vision (Comtrend). These can cause interference at 2-30 MHz with other radio uses, such as the BBC short wave world service and, at 13.56 MHz, with RFID readers and home alarms, although some PLTs avoid the 27.12MHz for a wireless mouse. The BT Vision Comtrend devices are said to exceed CISPR regulations by 30dB, 1,000 times the maximum level to protect the radio spectrum from interference. It has been stated that "some of the research indicated that an Access PLT system covering the whole of Greater London would significantly raise the noise floor in the HF bands as far away as Plymouth, while others claimed it would be detected as far away as Moscow. They also showed that near to a PLT product, HF reception could be rendered impossible for a radius of several hundred metres" (The EMC Journal, July 2009). This could interfere with the 20,000 amateur HF radio enthusiasts and 200,000 HF listeners in the UK, apart from MoD, security, aircraft controllers and BBC use. "An informal analysis of reported complainants shows that victims are typically up to 150 metres from BT Vision users."

### Radio licensing.

The January 2009 EMC Journal argued that it would be appropriate to "regard the PLT system as an intentional radio transmitter and license it appropriately;" an unlicensed radio transmitter could be illegal. BT has argued that PLT does not come under the 2006 Wireless Telegraphy Act, but PLT appears to be essentially a radio device using extended wiring antennas; it will apparently work even unplugged

and a household radio receiver will pick up the HF transmissions and also VHF elements from several metres. Even BT Vision Support admitted on 15th January 2008 that "RF interference from the adapters is almost certainly" what was affecting a customer's wireless keyboard. All electrical devices are subject to regulation. "It must be assumed that the mains supply already carries noise from other apparatus which may approach the limits of EN 55022, even if everything connected is in full compliance with the Directive. For PLT to operate, its signals must be greater than this minimum noise level, and so it must breach these limits, almost by definition. As we have seen, this is indeed so, by several tens of dB. Yet all other mains-connected equipment, such as ITE, medical and household appliances, lighting and so forth – is subject to the standard mains conducted emissions limits."

### Cumulative interference.

In addition there is the problem of cumulative interference: "There is a long-distance-interference problem due to ionospheric reflection carrying PLT interference around the globe. This causes a general increase in the HF noise floor, to which the logical counter-response will be the environmentally undesirable use of higher radio transmitter powers. This will become a serious issue if PLT is widely deployed since it renders impossible the avoidance of interference by the separation of culprit and victim. This "Cumulative Interference" is an inevitable result of the laws of physics, and was demonstrated in practice for analogue cordless phones many years ago."

### Continuous signals.

As with cordless phones and WiFi, unless the user deliberately switches the units off, in which case the products are compliant, they will be putting out the full signal level 24 hours a day. Some units, however, are said to be capable of sending intermittent check signals in standby mode.

### Ofcom's failure.

The EMC Journal of November 2009, in an article called "The Ofcom Saga", highlighted the failure of Ofcom to control the power of such devices. It argued that "the PLT industry appears to believe that because it spends so much on lobbying, it should be able to get just exactly what it wants" and concluded that "Ofcom is manifestly unfit for purpose". It also quoted an insider as saying that Ofcom "has its own effective spin machine that – like the whole organisation – is not accountable to anyone, which is not surprising when you realise that both its Chief Executives have been No.10 spin-doctors themselves". The article therefore argued for an independent EMC regulator, "able to focus on managing the radio spectrum without being dominated by big business interests."

## 2. Compact Fluorescent Light (CFL) radio frequency problems.

### CFLs and radio frequency.

CFLs and other low energy lights can emit RF radiation. An ordinary household radio receiver can, for instance, pick up RF interference at 150 kHz at a distance of over 1 metre from a particular CFL. Some GE electronically ballasted CFLs carry a warning against use “near maritime safety equipment or other critical navigation or communication equipment operating between 0.45-30MHz”.



### SCENIHR needs to assess CFLs' radio frequency.

At present the terms of reference for the public consultation by the EU's Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR): “Artificial Light – Consultation on Working Mandate” are limited to specific analyses of the ultraviolet radiation subtypes UVA, UVB and UVC. But many ES sufferers feel adverse effects near CFLs even when visible light from a CFL is shielded, suggesting the cause may not be UV but RF radiation from the CFL.

### 3. Some other devices with radio frequency problems.

Some common devices emitting RF pollution detected by a household radio receiver, in addition to external signals from radio and TV transmitters:

- dLAN Homeplugs and associated wiring (see section 1),
- compact fluorescent lights (see section 2),
- fluorescent strip lights at the end,
- microwave oven,
- TV monitor (CRT also has a magnetic field ),
- garage remote-controlled door apparatus,
- charger for a Phillips battery shaver,
- hairdryer.

In contrast with the shaver charger, a Nokia mobile phone charger produced very high magnetic fields but little RF pollution detected by a household radio receiver.

### 4. Radio frequency health problems.

#### Radio frequencies from external transmitters and cancers.

Illness from radio exposure has been known since the 1930s and increased cancer levels since Milham's study of amateur radio operators (often using HF radio) in 1988 and since Hocking's study of 1996 of TV masts. Some microwave pulses have RF elements, such as GSM, UMTS (3G) and Bluetooth, while WiMAX is mainly RF.

#### Radio frequencies and transients on internal wiring and cancers.

Dirty electricity, where transients in the kHz and MHz range ride on household electric wiring, is becoming very common, from PLT, CFLs, plasma screens, microwave ovens and light dimmers. Comtrend warns against using PLT Homeplug adapters with microwave ovens

and hairdryers, both known to produce RF interference. The health dangers associated with high levels of RFR transients on power cables is increasingly well known following the study by Milham and Morgan of 2008.

#### Radio frequencies and skin and muscle problems.

In the 1980s CRT VDUs (TV monitors), which produce RF pollution, were often associated with skin dermatitis and other skin problems. Compact Fluorescent Lights can also cause skin problems. In 2002 links were first made between radio transmitters and melanoma. Huttanen's study of 2009 showed through spontaneous muscular movement that the human body is particularly sensitive to radio frequencies, as in radio and TV transmitters, probably because of wavelength and resonances.

#### Combined EMFs.

There seem to be few or no studies on the effects of combining home RF exposure with high magnetic fields and external microwave pollution from nearby masts, neighbours' WiFi and cordless phones. If the biological mechanism is the same throughout, then the total electrosmog burden is rising rapidly in most UK homes and is likely to have health impacts, especially for those already sensitised to EM fields and radiation.

#### Relative dangers.

Homeplug dLAN devices are good in so far as they remove the need for dangerous WiFi. They are probably better than WiFi as regards long-term health, since WiFi may radiate further and at higher levels.

#### Need for health regulation.

Devices producing incidental RF should be assessed for their health impacts and regulated carefully. This is an emerging health issue which governments should be investigating. The national limit for transients in one country is 40 GS units.

#### Solutions.

The interference and health problems from RF suggest that the best solution is a comprehensive network of fibre optic cables, as now being implemented in parts of France (see page 1 of this Newsletter). This would need to include data transmission both to and within the home.

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## UK NEWS

### UK government has not studied EHS health effects of WiFi

On 2nd December in written answers in the House of Commons: Mr. Greg Knight, MP for East Yorkshire: To ask the Secretary of State for Health what recent studies his Department has carried out on the effect of wi-fi on the health of (a) people who are electro-sensitive and (b) others. [303441]. In reply, Gillian Merron, minister of state for public health, repeated usual HPA claims that there is no "consistent evidence" that radio waves adversely affect the health of "the general population" and stated that "the Department of Health has not commissioned or undertaken any studies specifically on the effect of wi-fi on the health of people who are reportedly electrosensitive."

### "A Chinese man in a paddy field is better protected than your child at school."

Roger Coghill, a bio-electrics expert and member of the government SAGE committee, is worried about increasing electrosmog in the UK, according to the Leicester Mercury on 6th April 2009. "The amount of radiation in our atmosphere has increased massively in the last 20 years," he said. "It affects our DNA, it affects our cells. About 7% of the UK population has electrosensitivity. Inevitably, I think this figure will increase." He added: "What I don't like are schools with wi-fi – which emits much higher levels of radiation than a cell phone. Here we have young children with growing cells, growing brains." Guidelines in many other countries are much more stringent than in the UK. "A Chinese man in a paddy field is better protected from this radiation than your child at school," he said. In the UK "more people will become electrosensitive and, ultimately, some will die of cancer."

### Child removed from WiFi school

The Ormskirk Advertiser on 19th November reported that Phil and Rosa Hughes removed their daughter Serena from Woodlands Primary School in Formby on the grounds that her health would be risked if she was exposed to emissions from the 50 new wireless laptops. IT expert Ron Baxter claimed that Wi-Fi in schools can cause problems for children: "Many medical experts now claim that radiation from wireless Wi-Fi routers can cause health problems, particularly for children." Philip Parkin, general secretary of the union Voice said: "Just because a few laptops have been tested and found to have no immediate effects, doesn't mean there might not be long-term effects on developing children." There were also reports on 21st October in the Liverpool Daily Post and on BBC Radio Merseyside.

### Dangers of WiFi

Interconnections, an online magazine for workers with children, had an article in November on how WiFi can harm children's health. It concluded: "It would be wonderful if leading children's organisations like Mencap, Scope, NCB, 11 Million, etc took a brave lead in formulating wi-fi policies to protect the children they campaign for and their own staff."

### Digital TV and WiFi – causing problems?

Some reports suggest that the switch-on of digital TV and enhancement of city WiFi are causing problems. The following illustrate probable health effects: "down mentally and physically" "has developed an extremely fast heart rate" "was admitted to hospital with severe headaches ... also has Lupus" "doctors said



## Swindon increases electrosmog - WiFi's safety is unproved

The Times on 18th November reported that Swindon council would provide free WiFi and that Mustafa Arif, director of aQovia, the technology providers, claimed that "scientific studies have shown that the weak signal from wi-fi routers poses no health risks". But the Daily Mail on 19th November had an article headed "Is electro smog causing your headache?" by Alasdair Phillips, who wrote that "it is absurdly complacent to pretend that these electromagnetic fields are not going to have any impact on our health. Far from doing no harm, some studies suggest that as much as five per cent of the population may already be suffering from headaches, concentration difficulties, chronic fatigue, irritability and behavioural problems because of this electro smog." He added: "The truth is that there have not yet been any major, comprehensive studies into the impact of Wi-Fi radiation on our health, so such reassurances are unjustified. No one can state with any confidence that Wi-Fi is safe."

## Avoid WiFi Lancashire?

According to the Lancashire Evening Post on 14th December, county-wide free WiFi has been suggested in an early day motion tabled by Chorley MP Lindsay Hoyle and signed by South Ribble MP David Borrow and Ribble Valley MP Nigel Evans.

## Lancashire's WiFi choice – success or sickness

In response to the proposal for WiFi "a neuroscientist" posted the following comment on 17th December.

"Lancastrians face a choice now, and it is a big one. It is passing most people by, but it will determine whether Lancashire is a successful county by the middle of this century or whether it is a sick one. The Council have a choice to install a fibre optic network to provide fast broadband, digital TV and radio to everyone, or to go wireless. The first will be harder to install and may cost more but will set the infrastructure for fast internet for decades to come. It is also safe. The latter is cheaper, but is likely to lead to seriously compromised health for the population, wildlife and future generations."

## *“Mobiles: the hidden danger to children”*

The Sunday Mirror's article with the above title on 5th December claimed that "Britain is sleep-walking into a mobile phone health scandal as the Government ignores a link to cancer, a leading expert has warned. Mobile phone emissions have been shown to increase the risk of three types of cancer in some studies – yet ministers are doing nothing to change weak official guidelines on how much they should be used." It then quoted radiation specialist Professor Denis Henshaw of Bristol University: "The Government is being very poorly advised on the whole issue. They should be taking it seriously. They have backtracked from their own scientific advice. It is like the warnings over smoking all over



again. We are not doing enough compared with other countries. The Government should force the mobile phone industry to publish the power levels of phones and draw attention to the latest studies." Prof Henshaw said "If you have got millions of people putting a microwave transmitter to their ear, then why should it come as a surprise that it leads to an increase in brain tumour risk?" Prof Henshaw pointed to new research from Korea which shows that when you only take into consideration the best scientific research, a link had been found

between mobiles and cancer. The paper – which analyses results from the 23 most reliable studies – said there was evidence mobile use increased the risk of tumours. While Britain has done nothing, other countries have launched clampdowns on mobile phones over health fears. France has drafted tough new laws to ban advertising them to under-12s. In Israel they are banned on public transport while in Germany low-emission models are clearly labelled. Yet in the UK scientists who worked on Britain's original recommendations from 2000 admit they have been ignored. A Department of Health spokesman defended the Government's policy. He said: "Our guidance is that children should only use mobile phones for essential purposes and keep all calls short."

## More on mobile dangers

Following the Daily Telegraph's front-page coverage on the health risks of mobile phones on 24th October 2009, the Daily Express on 1st November had an article entitled "Mobiles to 'spark tumour rise'", based on a review of 23 scientific studies involving 37,000 people which produced up to a 37% increased risk of brain tumours after 10 years' use, or some 1,500 cases per year in the UK. It stated that "Powerwatch, which has examined electro-magnetic fields and health dangers for 20 years, said there was enough evidence to warn people to limit mobile phone use and ban them from children."

The Daily Mail on 3rd November had a full page article entitled "Could using a mobile cost your child their life?" It quoted ten different leading international scientists all advising that mobiles could be particularly harmful to children. It also pointed out how far the UK lags behind continental countries in banning mobiles in primary schools and banning school WiFi.

The Sunday Mirror on 1st November published an article called 'Using my mobile cost me my jaw: it gave me cancer, says dad'. Andrew Heath said his phone used to make his mouth tingle before the rare tumour was discovered, and he now has migraines all the time.

## Is your phone bad for you?

This was the title of an article in The Times on 14th November. It stated that European maximum SAR guideline is 2 W/kg in 10g of body tissue and listed 5 phones with readings from 1.58 to 1.25 W/kg, 7 phones with 1.1 to 0.522, and 5 with the lowest levels of 0.32 to 0.119. The Samsung SGH-X830 of 2007 was the lowest. [In comparison, nerve cells can die at 0.01 W/kg and laptop WiFi typically operates at 0.1 W/kg. - Ed.]

The article also stated that Professor Henshaw of Bristol University recommended to the Stewart Enquiry in 2000 that SAR levels should be displayed on the back of mobile phone boxes and as a menu option. Apparently the Mobile Manufacturers Forum claims it is 'impractical' to do so.

It also quoted The Times' Dr Mark Porter: "My rule of risk is that where there is conflicting evidence about whether something is bad for you, it is unlikely to ever be that harmful, so stop worrying. But that was before a member of my family, who lives on his mobile, had a brain tumour diagnosed. My phone bills are now much smaller than they were."

## Brain tumour increase

The Independent on 3rd July 2009 reported that in 2007, 89 children died of brain tumours, compared to 61 who died of leukaemia, while in 2001 there were 67 child deaths from brain cancer and 100 deaths from leukaemia. Kevin O'Neill, a consultant neurosurgeon at Imperial College London, said: "Brain tumours are on the increase, reportedly in the region of 2 per cent per year, but in my unit alone we have seen the number of brain tumour cases nearly double in the last year."

## UK Health Dept's failure to limit mobile dangers

The Daily Telegraph on 24th October had a front-page article on mobile health dangers with more inside. Under the headlines: "Department of Health under pressure to increase precautions over children's mobile phone use" it argued for more public health warnings over mobile phones as more fears emerge over their possible risks.

The Department of Health has not updated its advice to consumers for more than four years, unlike some other countries. But Professor Lawrence Challis, the Vice-Chairman of the Stewart Committee in 2000 which argued that children should be "discouraged" from making long calls or using mobile phones except when essential, believes the Interphone results could be down to "recall bias". While further research continues, however, Prof Challis believes it is sensible for greater precautions to be taken – particularly regarding children. "My own feeling is that is now virtually impossible to say teenagers should not have mobile phones. I think the advice to secondary school children is to use them sparingly to text rather than phone, given the uncertainty.

I don't see any reason why children at primary school should have mobile phones." He also called for improvements to hands-free kits, and for the government to force manufacturers to make shoppers more aware of the RF radiation emitted by different handsets, known as their SAR ratings.



## Financial Times: show mobile SARs

In an article in the Financial Times called "Crossed Wires" on 7th December it was suggested that it is difficult to choose the phone with the lowest microwave emissions "because the mobile phone industry is reluctant to publish or display prominently the emission levels of handsets. If the industry really is confident about its products' safety, it should be more willing to display radiation ratings."

## UK government confusion on mobile dangers in the news

The Sunday Express on 8th November reported, in an article entitled "Health fear over plans to let pupils use mobile phones in lessons", that "Children are being encouraged to use mobile phones in school despite dire warnings from health chiefs". This followed a study published in the government's Professional Teacher magazine by BECTa, a government agency for technology in schools, recommending a "gradual adoption" of mobiles in lessons. It argued that this study "flies in the face of Department of Health advice and the Government's own expert report on mobile phones produced by Sir William Stewart, which concluded that "the use of mobile phones by children should be minimised," due to potential health risks."

## Childrens' seizures near phone mast

It was reported in October from Wales that since an O2 phone mast was erected 3-4 years ago, four children living within 100 metres have suffered seizures.

## Landowners' risks over masts

The Isle of Wight County Press reported on 11th December that the fear of being sued by people claiming they have been made ill by phone masts sited on council property has led to the IoW Council seeking clarification from its insurers.

## Power-lines and illness – UK government chooses illness

Yet another study has shown a significantly raised risk of leukaemia in children living within 200 m of power lines (Abdul Rahman HI et al, 2008), a risk known since 1979, while another study of leukaemia, cancer, cardiovascular and reproductive illnesses showed significant increases for long-term living within 40m of power lines (Fazzo L, et al., 2009). Ironically in October a UK government report refused to take the obvious action of siting new housing and schools away from power lines.



# International NEWS

## Court declares 80% of brain tumour disability caused by mobile use

Il Secolo XIX reported on 16th December that, for the first time, the judge in an Italian Labour Tribunal recognized the origin of the benign tumor on the trigeminal nerve as caused by occupational exposure to EMF irradiation. Innocenzo Marcolini, 57, had surgery and was saved but his quality of life is terrible. For 10 years he was a company executive in Brescia, working long hours using a cell phone and a cordless phone. This victory against INAIL (the Italian Labour Insurance) recognizes that 80% of his disability was caused by his occupation.

Angelo Levis, professor of mutagenesis at the University of Padua, an authority on the effects of EMFs on human health, and Joseph Grasso, a neurosurgeon from Brescia, were called as expert witnesses for the plaintiff. The expert appointed by the court accepted that it is plausible that there is a relationship between the illness suffered and EMF irradiation. The epidemiologist Valerio Gennaro from Genoa welcomed the Brescia sentence.

Professor Levis was contacted three years ago by two people, one from Brescia and one from Cremona, who

had very similar jobs to that of Mr Marcolini. They worked in customer services and made extensive use of cordless and mobile phones. While writing with the right hand, they kept the telephone to the left ear. The man from Cremona developed a malignant parotid tumour, while the man from Brescia had a benign tumour involving the trigeminal ganglion. In both cases the tumour developed on the left side of the head.

Professor Levis added: "Such cases are becoming more and more frequent, but few doctors are informed about these issues." He added that there are one million cases of brain tumours in the world every year. "We calculate that it is a disease with ten years of latency, so only now we are beginning to get the first data on the consequences of certain habits. Very soon we will be faced with the effects of over-using a mobile phone on young people, such as those who had a mobile in their school satchel when they were eight years old. I fear these will be very serious."

## Masts to be more than 1 km from schools

Mobile phone masts erected in Co Donegal, Ireland, will have to be at least one kilometre away from national schools, under local authority guidelines to be adopted in 2010.

## Leganés adopts interim “European” standard of 0.6 V/m

### – and Real Time monitoring of masts

Madridiario on 21st December reported that Leganés City Council, a large town near Madrid, approved limiting mobile phone masts to 0.6 V/m or a peak power density of 0.1 microwatt per square centimetre. It also guarantees monitoring levels and providing data in real time to citizens. Surveillance will be specially controlled in sensitive places such as inside homes, workplaces, schools, homes and hospitals and generally in any area possibly occupied by the same person for a period of more than six hours. The mayor’s office stated that 0.6 V/m would still be “entirely adequate for optimum mobile phone coverage in all areas of the town.”

## French towns adopt 0.6 V/m

In France, following the government round-table discussions in May 2009, Madame Chantal Jouanno, the Secretary of State for Ecology, in the presence of the Secretary of State for the Digital Economy, established a committee (COMOP) to oversee experimental reduction in EM radiation from phone masts. On 26th November it was announced that 283 towns had volunteered to reduce exposure to 0.6 V/m and 16 were chosen for the experiment. 0.6 V/m (0.1 uW/cm<sup>2</sup>) is the preliminary stage in reduction recommended by the BioInitiative Report. The long-term aim is 0.1 V/m (0.003 uW/cm<sup>2</sup>).

interim  
“European”  
standard of  
0.6 V/m

## Mast with 12% cancer and 10% death rate

According to Malagahoy on 24th November, there were 43 cases of cancer, 35 of which resulted in death, among the 350 inhabitants of Pérez Los Cortijos living metres away from a mobile phone mast next to the watchtower in Benajárfate, near the town of Velez-Málaga. The residents are demanding the removal of the 15-year-old phone mast in the village, a cause supported by the country’s opposition party UPyD. Antonia Delgado said “so far this year eight residents have died.” He added that his sister has breast cancer, his father cancer of the larynx, and his uncle a melanoma.

“I don’t know how many dead bodies the town council needs to see before they change their minds,” added Delgado. Antonio Marfil, who was diagnosed with a testicular tumour last April, declared that every time he goes past the road into the village, people are only 20 feet away from the mast and “every time we feel the radiation”. Two weeks before the municipal councillor for new technologies tried to calm the residents by assuring them that the radiation is within legal limits.

## Mast torched

Gulf Daily News in Bahrain reported on 25th November that arsonists torched a mobile phone mast in Muharraq. Council vice-chairman Abdunasser Al Mahmeed said: “I am a campaigner against masts, but I never dreamt of

burning them down. I believe that things can be solved through legal channels rather than arson.” He said, however, that the incident highlighted the need for proper regulations for masts across the country.

## Phone companies more health conscious than ICNIRP and HPA

In France Le Figaro reported on 16th December that Olivier Roussat, director general of Bouygues Telecom, said that he was ready to set a new limit of 6 V/m indoors, as required in Italy. This would mean about 20 V/m outdoors, a considerable reduction on the obsolete heating limits of ICNIRP.

Limits in Salzburg, Austria, and Valencia, Spain, are 0.6 V/m outdoors (BioInitiative); in Luxemburg and some parts of Belgium 3V/m; in Eastern Europe on average 6 V/m; in Russia 4.3 V/m; in China 6 V/m (in process of modification); in some parts of New Zealand 1-2.75 V/m; in Switzerland 4 V/m for the 900 MHz range and 6 V/m for 1800 MHz, and for both together in multi-band 5 V/m; in Lithuania, 100 times lower than in France.

## Lichtenstein to vote on 0.6 V/m

Ovum Telecom news on 2nd December reported that Liechtenstein’s population of 35,000 would vote on whether to overturn the Environmental Protection Law of May 2008. Article 34 of the law includes the provision that “The holder of base station sites are due to take all appropriated arrangements in order to technically keep the electromagnetic field as low as possible in order to have the regulation reduction to be feasible and reached by the end of 2012, which will be an real mean of EMFs limited to 0.6 V/m”.

## Operator tries to test mast symptoms

MyBroadband news on 30th November reported that iBurst agreed to shut down its disputed Craigavon tower on the 16th November for two weeks to see if the health symptoms described by some of the residents dissipated, “including nausea, skin irritations, vomiting, headaches and sleep disorders.” Tracey-Lee Dorny from the ‘Craigavon Task Force’, however, said that there is a “different time relief [for different complainants]. Those with rashes expressed that it had taken 6 weeks for the rash to heal after moving out of their homes, medical input and sleeping away completely from the tower.

Remaining skin texture was still to heal even after this time.” Russia insists on a 2km buffer between towers and residential properties, while New Zealand requires 500m. Cape Town family practitioner Dr Les Emdin wrote in the South African journal Natural Medicine in 2007: “Exposure of young children to electromagnetic field radiation may be more detrimental to their health than to adults, especially during development and maturation of the central nervous and immune systems and the critical organs.” Last year, Wits entomologist Dr Max Clark presented findings on a study commissioned by the Oppenheimer family, which showed where cellphone radiation levels were high, 10 percent of ant species disappeared from the landscape.

## EEA warning on mobiles

According to the Emerging Health Threats Forum on 25th November, European Environment Agency (EEA) officials believe scientific evidence is now more strongly in favour of a link between long-term use of mobile phones and brain cancer risk. The Agency first issued an “early warning” about the hazard in September 2007, spurred by the findings of the BioInitiative Report.

“The evidence for a head tumour risk from mobile phones, although still very limited, and much contested, is, unfortunately, stronger than two years ago when we first issued our early warning,” said Jacquie McGlade, EEA’s Executive Director. The judgment is based on research reviewed in articles in Pathophysiology.

## French agency recommends reducing public exposure

The French Agency for Environmental and Occupational Health Safety (Afsset) stated on 15th October that RF radiation affects cellular functions, as reported by around ten experimental studies considered by Afsset as being indisputable. It states that there is potential to reduce exposure to RFs, especially for mobile phones. Clear labeling of SAR would favour the least radiation-emitting mobile phones. Afsset also recommends mapping areas where levels of RF waves are clearly higher than average and suggesting a procedure to reduce the levels, as part of an environmental rationale to reduce exposure where possible.

## Bill for mobile health warnings – San Francisco

The San Francisco Examiner reported on 15th December that the Commission on the Environment policy committee voted 3-0 to propose all phones should carry their radiation level. This was in response to studies showing long-term brain tumours and lower sperm counts. The bill would make it illegal to promote mobiles in public schools. The city would have to purchase mobiles only with very low radiation, schools would have to educate students and parents about radiation, and mobile advertising aimed at children would be banned. The mayor was in support.



## Bill for mobile health warnings - Maine

According to businessweek.com on 15th October Maine’s House and Senate voted to approve Andrea Boland’s bill for consideration during next year’s session. This bill would require all cell phones and their packaging to carry a warning label, advising children and pregnant women to keep the device away from their heads and bodies.

## “Walls of greed” - governments pressured by telecoms money

*Dr Mercola published the following comment on his website:*

“The US government has significant conflicts of interest on this issue [setting biological safety limits for EMF]. For example, the top 20 telecom companies have spent \$2.3 billion in political lobbying over the past 10 years to influence government officials, both in the US and in other countries. The US also receives significant federal revenue from individual usage taxes, in addition to the revenue collected directly from the telecom industry. Last but not least, companies bought spectrum rights with little money down in the late 1990s, with the agreement to pay these loans back with user fees over time. Essentially, the FCC is a mortgage holder for the mobile phone industry! As is the case any time you’re dealing with conflicts of interest of this magnitude, it will take Herculean efforts to break through the walls of greed to protect human health. But it must be done, and it will require people like you and me to keep pushing for change.”

## Controlling children’s mobile use is ‘an urgent necessity’

*Dr George Carlo wrote on 4th November:*

“Most alarming is that we understand clearly the mechanism of harm for cell phone related damage, including epigenetically induced maladaptation. In effect, the mechanistic data portend that cell phone radiation exposure in this most vulnerable population of young people is adversely altering the genome of an entire future generation. With the pervasive penetration of cell phone use in teenagers globally, an unprecedented and insidious genetic experiment has reached global dimensions - and no one can predict with any degree of certainty, where it might lead. Controlling cell phone use in young people is not a choice. It is an urgent necessity.”



## Mobiles warning

Dr Howard Fisher presented a simple experiment which involved three samples of brain cells to the Dubai Congress on Anti-Aging and Aesthetic Medicine. The first sample was left alone, the second had a mobile phone attached to it for one hour and the third was exposed to a mobile phone fitted with a radiation guard. Fisher said: “We talked to two of the samples for 60 minutes. In the first, without the intervention device, we saw a 10.71 per cent decrease in the growth of the cells. This is no longer a myth.”

## “Mobile-boro Man’ – Is his second addiction a cancer-cell phone?”

The China Daily of 25th December carried a hard-hitting article by Michael Moffa on the dangers of mobile electro-smog compared with cigarette smoking. It describes ‘Mobile-boro Man’: “Head in his two clouds, he is clueless or in denial, for he is in the one hand, in grave danger of developing lung cancer, heart disease, emphysema, etc., and in the other hand, quite possibly at risk of developing other lethal diseases, such as brain or eye cancer, or, if he is luckier, one or more other serious health problems.”

The article states that, according to the WHO, 0.65 billion of the 1.3 billion smokers worldwide will die prematurely, with a 17% lifetime lung cancer risk for male smokers and 11% for women. In comparison there are 4.1 billion mobile users, where heavy users for 10 years starting before the age of 20 are 420% more likely than non-users to develop incurable ipsilateral glioma brain tumours, according to a peer-reviewed Swedish study of 2009 in Pathophysiology, which concluded that “current standards for exposure to microwaves during mobile phone use is not safe for long-term exposure and needs to be revised”.

## New Zealand Greens call for precaution

The new Zealand Green Party on 24th November submitted a minority report calling for a precautionary approach, and for further investigation into the health effects of long term exposure to electromagnetic radiation. “The Government should play it safe and stop allowing celltowers, antennas and masts to go up next to homes, schools and playcentres – people’s health should come first.” said Ms Kedgley, MP.



## Cell phone cancer conference

An international conference entitled “Cell Phones and Health: Is There a Brain Cancer Connection?” was held in Washington on 13th-15th September. The aim was to propose a US research agenda, but representatives of the cell phone industry all declined to attend.

## Cell phone tumour dangers confirmed

A joint Korean-U.S. team review of 13 past studies (Myung SK et al, 2009) supported two previous reviews, with all three indicating a 20-25% increase in tumours after ten or more years of cell phone use.



## French government may ban mobiles in schools

On 8th October the French senate approved draft legislation banning mobiles for children aged under 15 in schools on health grounds. It now has to be approved by the National Assembly. Advertising of mobiles to children under 14 would also be banned.

## 90% think electrosmog is harmful

According to a survey by research company Nielsen Baltics in September, telecompaper.com on 22nd October reported that almost 90% of Lithuanians believe that EMR is harmful and 71% believe that mobile masts could cause cancer, while some 66% believe that long calls on mobile phones could be a cause of cancer.



## Health warning removed by University of Pittsburg

Advice from the Cancer Institute at the University of Pittsburg, USA, given in 2008 about the dangers of mobile phones, was removed from the University website according to EMFacts Consultancy in October 2009. Instead Verizon Wireless was now listed as a ‘strategic partner’ with the University.

## Power line and leukaemia death in Israel

Karin Kdoshim from Givat Shmuel, a school pupil, was diagnosed with leukemia in May 2000 aged 17 and died later that year. Her family is filing a lawsuit against the power company since the power line radiation was 10 times more than the standard for which there is a cancer risk, according to IARC. Karin lived there since 1998, and the power company acted only in 2003 to reduce the level.

## Miscarriages two floors above airconditioners

Seven miscarriages within six months occurred in an Israeli hospital office with a magnetic field of 8 milliGauss (800 nanoTesla). The Israeli standard is 4 mG and the Environment ministry recommends 2-3 mG; the BioInitiative Report sets 1 mG. The radiation comes from two floors below from air-conditioning equipment.

## Full Signal – new documentary film

Full Signal is a 61-minute documentary film released in December 2009. It talks to scientists around the world researching the health effects of cellular technology; to activists fighting to regulate the placement of antennas; and to lawyers and law makers representing the people wanting those antennas regulated. It was filmed in 10 countries and 6 US states and features: Dr. David Carpenter, B. Blake Levitt, Professor Leif Salford, Dr. Zamir Shalita, Dr. Louis Slesin, Professor Olle Johansson and many others.



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# ES STORIES

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## **“I believed government reports, but my mobile phone was slowly ruining my health”**

The Leicester Mercury on 6th April 2009 carried a long article on Brian Stein. Called “I loved my mobile phone, but it was slowly ruining my health”, it described how Brian realised he was sensitised to phone radiation and how he has coped since. For two or three hours every day from 1985 to 2000 his phone was virtually plumbed to his ear. “I don’t mind admitting that I loved my phone” he said. “I was one of the first people with a mobile and I used it every day for long periods. I was told, repeatedly, that the radiation from my phone was not dangerous. I don’t think, considering what has happened to me since, that was the case.”

In the late 1980’s he started getting headaches but dismissed them as stress-related. It took him 15 years to make the link between his migraines and his mobile use. Over time his headaches increased. The tingling sensation in his head seemed to get worse, he noticed, when he held the phone to his ear. “I did think it might have something to do with my mobile, but I believed the scientists. I believed Government reports. I believed the articles I read in the newspapers.”

Now he has electrical hypersensitivity, or electrosensitivity. “More and more people are reporting these symptoms and, as time goes on, I’m positive we’ll see even more.” Today he does not have a mobile phone or a computer. He uses a landline only if it’s hands-free, and he won’t even watch TV. He is also chief executive of a successful multi-million pound food business and a ES-UK trustee.

## **No fluorescent lights or computer – ES sufferer**

Dr Helen Boynton, a local historian and geologist, was featured along with Brian Stein in the Leicester Mercury on 6th April 2009, as another person whose life is blighted by electrosensitivity. She cannot sit under fluorescent lights and does not have a computer or microwave oven in her home. She is a published author and speaker but when she speaks about electrosensitivity she finds that people either switch off or do not believe her. She is worried that our society is clogging the atmosphere with dangerous radiation: “I think, as a society, we have gone too far. We don’t understand enough about these rays – but we’re charging ahead regardless. I find it all quite incredible.”

## **Phone mast blight**

The Staffordshire Sentinel published a report on 5th November headed “Woman erects metal curtain to shield home from mobile phone mast.” It was about Nancy Watts, a disabled former IT consultant aged 54, who lives in a bungalow covered in steel mesh because a mobile phone mast at the end of her garden has left her in a wheelchair. She spends most of her time confined to a tiny room at the back of her home to try to avoid the mast just 20ft from her front window. She and her husband Phillip, aged 56, have spent £1,500 protecting the building with ground-to-roof cladding. Their small back room has also been converted into a ‘Faraday cage’, covered wall-to-wall and floor-to-ceiling in steel mesh sheets, to block out all electrical currents and they sleep under a mesh tent above their bed.

Nancy has had Multiple Sclerosis (MS) since 1985 and suffered only three relapses in 11 years. But after moving to Ashley Heath, near Loggerheads, in 1996 she began suffering several relapses a year and has been in a wheelchair since 2001. Mobile phone companies started using the existing electricity pylon in late 1996 for their transmitters. She said: “There is absolutely no doubt in my mind that the mast has caused these complications. Having to live with metal mesh around us is devastating.” Nancy says she cannot spend more than a couple of hours outside the cage without feeling disorientated and losing feeling in her limbs. Her husband complains of electro-sensitivity, which causes him pain. Professor Clive Hawkins, a clinical neurologist at Keele University Medical School and the University Hospital of North Staffordshire, who has treated Nancy, said: “There is good reason to believe that the electro-magnetic current disturbs the barrier between blood and brain, and blood and spinal cord. This is an important part of MS, the barrier breaks down and so proteins and antibodies enter the spinal cord or brain and cause inflammation.”

## **A lined hat – protection and cure of allergies**

*From a comment on Dr Mercola’s website by Pat Ormsby on 2nd December:*

“My biggest problem had been arrhythmia from prolonged ELF (powerlines, household current) as well as radio-frequency exposures and the hat [lined under several layers of cloth with laminated aluminium foil] reduced those episodes to rare occurrences, typically after spending much time in the vicinity of cell phone users. When the antennas are below, the hat is no help. A secondary benefit, which came as a surprise to me, was the near elimination of long-standing allergies, including one I’d had since early childhood to cats. This tells me I was sensitive to EMF all along, but none of us had any idea. It took the advent of cellphones to point out the dangers of EMF to so many of us - I suppose we should be ironically grateful! My health is better than it ever was - except when I have to deal with wi-fi and/or cellphone addicts. When that is unavoidable, I have what I call my “bee hat”, which is a silver-mesh veil that I attach to the hat. It’s all hand-stitched. Everyone thinks it’s a fashion item “snork”. It goes beautifully with my silver mesh shawl.”

## ES symptoms – one week's effects from 5 minutes of a mast

*From a Mast Victims' blog of 20th November.*

"I have avoided masts religiously and my improvement is marked. No generalised seizures, and even the throat spasms are reduced. I have very few symptoms to complain of, though I feel certain cognitive and motor faculties are not quite what they once were - memory is much improved but fatigue can bring back some of the barriers to recall. Also noticing more verbal slips - subtle things like minor word mispronunciation and letter reversal, which I normally catch immediately and correct. These occur in speech, typing and handwriting. But I don't wish to complain of these things too much - it is such a relief to be experiencing my overwhelming improvements generally and I'm grateful for them.

Last week I went out into the world of masts for the first time in several months. We were caught in an unexpected traffic queue at the foot of an extremely powerful mast - less than 50 m away - I had with me an 'Electrosmog Detector' and the audio report from it was deafening. There was little we could do there but wait, and I was under this heavy exposure for perhaps five minutes. Again, I had not been thus exposed for months. At the time of exposure I felt mild prickling and heat in my arms. My head was wrapped in highly conductive copper-tin Zelt fabric - a safety precaution to reduce head exposure to mast signal considering my more serious neurological symptoms - and my detector reported very little signal inside the wrapping.



Thus the brunt of the exposure was on the rest of my body, particularly my arms and torso, which were really bathed in the radiation. My symptoms began mostly the next day. I felt very heavy-headed and drowsy, with occasional difficulty keeping awake - this lasted about three days, improving slightly each day. I had frequent muscle spasms in my arms and legs lasting five of six days - mainly my arms (note they were far more exposed than my legs, which had the benefit of being better shielded by the car body), also improving slightly each day. I had vertigo - faint-headedness upon standing, which felt like it was the result of low blood pressure - gradually improving over the course of the week; and I had digestive disturbance - muscles deep in my abdomen felt as though they were involuntarily clenched tight, and this resulted in pain, gas and a sick feeling, which also has taken about a week to resolve (my diet was unchanged).

Not one of these symptoms was present in the weeks or even months before my recent exposure. My sleep, although mildly more disturbed after the exposure for about five days, was not really badly affected, and I wonder whether this had to do with the head protection I used. Now, just over a week on, I'm feeling back on track. It seems even a five-minute dose of high-enough intensity signal is enough for me to feel somewhat battered for about a week."

## Broadband mast causes ES symptoms

The Star of Johannesburg reported on 18th September and 6th October how broadband service provider iBurst erected a mast 50 metres from the McGregors' bedroom in August. A few days later, the bees left. In September the ES symptoms started. Tracey-Lee has a painful rash all over her body. "It starts as a hot spot, which looks like ringworm. The next thing you're itching and burning. You get so itchy you want to scratch your flesh off your bones," she says. She is constantly nauseous. They also get heart palpitations and headaches.

Their 10-year-old son Keegan, who also has rashes, has been off school six days in the past month because of retching. "Keegan has never had headaches in his life. Now he's waking up in the middle of the night with headaches. He's had three episodes of heart palpitations." Tracey-Lee and Keegan are spending alternate nights at her mother's house to get some relief. "When I'm off the property, the symptoms subside," she says. "It's like a nightmare and you don't know if you're ever going to wake up," says Dave McGregor.

Residents of nearby complexes have been getting headaches, insomnia, rashes, fatigue, upset stomachs and tinnitus (ringing in the ears) - all symptoms mentioned in scientific studies on electrohypersensitivity. Sabine Hark says: "I've noted that ever since the tower has been up, I battle to fall asleep. I doesn't matter how tired I am. I also wake up in-between." Betty Ngwenya, who sleeps in a room facing the tower, has had headaches, difficulty breathing and a rash all over her body for three weeks. "My body is itchy. I can't stand in one place, it's very sore." Just after the tower was erected, Melinda Treki's Alsatian went through a stage of throwing up once a day. The vet couldn't find anything wrong with the dog.

## ES-UK conference Podbean comments

*Someone who listed to one of the talks from the October conference posted the following:*

"Thank you so much. Dr Andrew's Goldsworthy's talk was very very interesting. I have Coeliac disease and I developed Labyrinthitis after 'flu a few months ago. The awful dizziness is gone but I am now left with a form of ES. I thought I was losing my mind and I am so reassured to hear this talk by Dr. Goldsworthy.

I am now extra sensitive to mobile phones, radio, TV and laptop. They set off what seems to me like an electrical sensation or charge in my forehead area between my eyes. Sometimes I feel nausea and my head feels very pressurized. I am now determined to do what I can to reduce my use and exposure to electromagnetic energy. I wonder if there is another interesting connection for me with ES as my father was a water diviner!"

## Unbearable hum from masts

*Taken from a blog posted on Mast Victims on 6th September and 13th December.*

"It is very weird, out of the blue, jab!, in my thigh, arm, wherever (could be anywhere), and then the sound/ vibration starts! My sleep has been obliterated. I feel completely unrested, even those nights when I fall asleep."

"Since my previous entry, I have confirmed 4 different sources in Brandon FL, all cell towers that make harmful low frequency noise, all under 5 miles away. I have been to these towers. They are making very low frequency noise from the top of the mast in all directions. Also, I believe that the unsafe microwave radiation at home has heightened my sensitivity to the sound, and created the "pin prick" pains that I am sometime experiencing.

As I write, the air feels "electric" at all points of my body, especially my head and limbs, and my ears are beginning to hurt from the sound. The sound can be completely unbearable and unblockable (I used earplugs, industrial earmuffs, and a thick pillow, and I still could not block the low frequency sound/ awful pain after last night. This is an absolute outrage, companies creating unsafe/untested signals that affect the surrounding environment for miles; even if everybody doesn't feel it, it is real and it is torture! I believed it was water pipes vibrating, then maybe a factory making sounds, never would I have believed this was unsafe cell towers if I didn't witness the awful phenomenon first-hand and up close."



## Experiencing WiFi health dangers – forced out of town. What about the rights of the electro-sensitive?

The Daily Mail on 26th November featured a letter entitled "Insidious dangers of a brave new wi-fi world ..." by Mrs Jacqueline Edwards. She recalled how Glastonbury was made a wi-fi town 18 months before and "since the moment it was switched on, I and others have suffered the consequences. My husband is electro-sensitive (a condition recognized by the World Health Organisation) and the wi-fi made him feel so ill we had to leave the house we were renting and move out of town right away. Others have similarly been driven away. While not everyone appears to be affected (so far), the future is an unknown quantity. I still work in the town, but too much time in the High Street makes me feel dizzy, so I avoid it if possible. In this age of human rights, I wonder what the "rights" are of people like us? Should councils be allowed to force wi-fi on towns, whether people want it or not? What about electro-sensitive people who are made ill from it? It seems the French and German authorities care more for the health of people in those countries than do the authorities here."

## Are we being polluted by electricity?'

This was the title of an article in the Daily Express on 10th November. It highlighted the case of Hannah Hughes, a bubbly and energetic child, so when the 11 year old began to fall ill every Wednesday after school her family was mystified. "I didn't understand why she was coming home sick," recalls her father Glynn Hughes who at the time worked as a telecommunications consultant. "Shortly after she moved to her secondary school she would complain of headaches every Wednesday. She'd also vomit and look very pale."

A friend thought it could be radiation sickness and asked Glynn if his daughter, now 16, spent any time in the part of the school which had a mobile phone mast. It transpired that each Wednesday she had a class just eight feet away from a mast. This was eventually moved from the school but Glynn from Preston Lancashire began looking into mast emissions and how to shield against them.

Soon local residents turned up at his door concerned they or their children were being made ill by radiation and wanting his expertise. Eventually he devoted himself full-time to the issue, setting up his company Wireless Protection ([www.wireless-protection.org](http://www.wireless-protection.org)). He now receives calls for help from around the world. "I think there is a much higher percentage of people with electrosensitivity than diagnosed," he says. "As soon as you remove or reduce the levels of radiation they are exposed to they feel much better, which is evidence in itself."

The Daily Express reported that electrosensitivity is the name given to the condition suffered by people who in varying degrees claim to be made ill by connection to electricity. Particular hazards are thought to include pulsed microwaves or high-frequency radio waves given off by devices such as mobile phone masts, cordless phones, mobiles, WiFi, baby monitors and burglar alarms. Symptoms include fatigue, nausea, headaches, earache, skin tingling, chest pains, gritty eyes, joint aches, lack of concentration, anxiety and depression.



## New ES-UK Leaflet

It's an excellent introduction to what ES is, with notes on its symptoms and causes. Give it to your relatives and friends, or anyone interested.

Copies are available on the ES-UK website and from the ES-UK BM Box address on this page.

### ElectroSensitivity UK

www.es-uk.info

#### What does ES-UK do?

- ES-UK runs a helpline to support people with ES, their friends and family, to ensure there is a sympathetic ear to hear individual's experiences and to offer information and practical help, where possible.
- We have information on ES, what it is, and what you can do about it, to enable you to improve your health and persuade others, including your medical contacts, of the reality of your condition.
- We maintain an up to date library of scientific research into ES.
- We have an interactive forum on the website for those people who can use computers, to share experiences and what has helped.
- We send out a bi-monthly newsletter keeping people informed about people's experiences, tips from sufferers about what helps them; information about ES in the workplace and at home; national and international news including new research.
- We do our best to encourage changes in medical opinion about ES, and to lobby for political change re: exposures, appropriate housing, work adaptations and benefits.

#### Contact

For more information about ES-UK, write to:  
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ES-UK is an independent charity Registered No. 1103018  
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Doctor Andrew Goldsworthy (S), Doctor Magda Havas (S), Professor Denis Henshaw (T)  
Professor Olle Johansson (S), Jean Philips (T), Doctor Hugo Schooneveld (S), Brian Stein (T), Philip Watts (T)

#### Electrosensitivity? What's that?

Electrosensitivity (ES) is a condition which can develop when people are exposed to things like mobile phones, mobile phone masts, powerlines, substations, computers, WiFi wireless networks, domestic wiring, DECT cordless phones and other household appliances.



Please send contributions for the ES-UK Newsletter to:  
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#### Aims of ES-UK

1. To help people suffering from electro-sensitivity
2. To educate the public about electro-sensitivity and related areas

#### Support ES-UK

A donation of £15 per year, or whatever you can afford, helps with the running costs of ES-UK. Cheques, payable to ES-UK, should be sent to the BM Box shown, with a Gift Aid declaration if you wish and are eligible. You may also donate electronically online via the ES-UK website using the secure Charity Choice button.

#### Newsletter

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for all people sensitised by electro-magnetic fields and radiation

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