

PHE's AGNIR, Rubin and "Voodoo science": "stop playing games with human health"

See page 16 for yet another attack on the "Voodoo science" followed by Dr Rubin and other psychologists in their attempt to claim that ES is psychological. This time Prof. Dariusz Leszczynski, a member of IARC, points out that objective biological data are essential for assessing ES. In 2012 Prof. Andrew Marino explained in the International Journal of Neuroscience how Rubin's subjective research was invalidated by not accepting the non-linear nature of the syndrome. PHE's AGNIR, therefore, of which Rubin is a member, MTHR, ICNIRP, the WHO and the wireless industry, all of which have been relying on this invalid "pseudo science", should abandon their minority psychological claim and start to investigate the true nature of ES with objective scientific data. As Prof. Leszczynski says, it is time to "stop playing games with human health".

Scientific proof of non-thermal effects

See inside for further studies supporting non-thermal adverse effects, now long accepted by the majority scientific consensus.



Time for WHO to set up 'IARN': a IARC for Neuropathology

The World Health Organisation should set up an International Agency for Research on Neuropathology, or extend the remit of IARC, writes the Editor. It would be like the IARC (International Agency for Research on Cancer, or CIRC: Centre International de Recherche sur le Cancer), set up in 1965, as suggested by d'Astier, a resistance leader in Lyon and Minister of the Interior in the Provisional Government 1944-46 under Charles de Gaulle. He wrote to him on 9th November 1963, supported by 12 experts, inspired by someone who saw his wife die of cancer. Based in Lyon it was supported by 10 countries by 1976. It aims to identify environmental causes and evaluate epidemiological and animal studies, now listing 400 cancer agents. Many neuropathological agents are already suspected. Brain disorders affect more people than cancer and cardiovascular disease combined, and the UK, with its skills in neuroscience, could be well placed to take the lead in setting up a new international research agency. See page 13 for neurological effects from environmental toxins.

Position of WHO, ICNIRP and IARC: "unsustainable and without justification"

Prof. Angelo Levis wrote in "Business bias as usual: the case of EM pollution" (in Elsner W et al, "Social Costs Today", 2012): "The tragedy is that the unfolding story of EMF looks set to become another case of history repeating itself – following in the tracks of ionizing radiation, asbestos, tobacco smoke, and many other now

demonstrated human carcinogens where evidence of harm was officially recognized only a score or even more years after the initial warnings. In view of the evidence we already have, this time we can act early ... In view of the considerable volume of experimental data demonstrating the biological and health effects of EMF, plus possible mechanisms of action, the position held today by the WHO, EC, ICNIRP, IARC and other major national and international agencies appears unsustainable and without justification."

Science on mechanism of biological sensitivity

See inside for more evidence on biological mechanisms of EM sensitivity.

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Thanks to volunteers

Many thanks again to our tireless volunteers trying to help the increasing numbers suffering from ES and to those informing doctors and officials about the nature of ES.

Growing difficulties for multiple disabilities: central resource base needed

A growing problem referred to ES-UK is where people suffer from a combination of environmentally disabling conditions. See under ES Experiences for one such case. Such situations require an overview from a central organization which can help social workers, councils, housing officers, solicitors, carers, care homes, NHS employees and doctors to understand the complex variety of needs required. This particularly applies to housing or care conditions. A central organization within the Department of Health would be best placed to provide this overview and resource base, rather than numerous individual charities and support groups.

Donating postage stamps

ES-UK is now registered with www.fundraisingstamps.com. For each kilo of stamps the charity receives £10. Send any UK or foreign stamps, used or unused, with the backing paper trimmed to under 1 cm around the edge but without damaging the perforations on the stamp, to:

ES-UK,
35 Wrecclesham Road,
Farnham,
Surrey
GU9 8TY

The tide is beginning to turn

More and more people are becoming aware of the non-thermal low-level biological effects of EM exposure. This is happening in medicine, education, academic research and even parts of the UK government, although progress is still very slow, especially when parts of industry and government do not keep up to date with the science or deny that there are medical problems.

Employment tribunal award

There is news of a UK employment tribunal responding positively to a person who lost their job through ES although not realising the cause until afterwards. The tribunal decision avoided referring to ES but accepted the relevant evidence.

Donations to ES-UK

Many thanks to those who have been able to make small or large donations to ES-UK. Your generosity has been most encouraging. It is enabling the charity to press ahead with plans for research and conferences. See page 4 for forms.

Christmas Cards

See page 3 for ordering ES-UK Christmas Cards.

Warning of EM risks at work

The Enterprise and Regulatory Reform Act amends the Public Interest Disclosure Act of 1988, to protect employees raising concerns about malpractice at work. Malpractice includes endangering the health and safety of any person or damage to the environment. An employee cannot be threatened or penalized

because they have made a qualifying disclosure but there must be 'public interest'.

Anyone suspect their boiler?

From Guy Hudson: "I have had two ES clients who are convinced that their boiler caused symptoms. In one case after a new electronic control unit was fitted, and another after a new boiler was fitted. It does not seem to be the ignition circuit, but while the boiler is running with the flame and pump in operation. I want to understand this more and compare experiences. Please contact guy@ben-e.co (no 'm' at the end of the email address)."



Assault from other people's WiFi and mobile phones

See ES Experiences for how seriously the police can take an EM assault on an ES person. The Criminal Injuries Compensation Authority changed its scheme rules in November 2012. Compensation is awarded only if the physical or mental injury is more than 'very minor'. See the Guide of 28th June 2013, which includes tinnitus etc. Rules for funding of Personal Injury Claims changed on 1st April 2013.



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tel: 0845 643 9748

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Registered Charity No. 1103018

To promote and protect the health of sufferers of
electrosensitivity in the United Kingdom through the
provision of support, education and practical advice.
To advance the education of the general public
in all areas relating to electrosensitivity.

Electrosensitivity UK aims:

**This year
- Help promote the
challenges of
electrosensitivity
with ES-UK
Christmas cards**

Please send order to

ES-UK c/o Brian Stein,
Bradgate Bakery,
Madeline Road,
Beaumont Leys,
Leicester, LE4 1WX.

All orders must be received
by Friday 25th October.
It is hoped that cards will be
dispatched during November.

All profits to ES-UK
- Printing part funded by
Gordon Flavell
- Admin and packing
sponsored by Brian Stein



I enclose a cheque made payable to ES-UK for £
You can also pay on the website with Paypal, and send your details to: cards@es-uk.info.

Cards are finished size of A6 (148x105mm)
with quality 350gm card and white envelope
Sold in packs of 10

- 1 pack - £6.40
- 2 packs - £9.55
- 3 packs - £12.95
- 4 packs - £15.95
- 5 packs - £19.45

sent to you by 2nd class post within the UK

Text inside the card reads

Wishing you a
Merry Christmas
and a
Happy New Year

Name

Address

.....

.....

.....

Tel

Please help by writing clearly - especially your post code

Please return to:
BM Box ES-UK, London WC1N 3XX, UK

ElectroSensitivity UK

Registered Charity No 1103018

Please tick as appropriate:

I enclose

a cheque for £_____ made payable to ES-UK

a standing order (see form below)

I would like to receive more information on legacy gifts

Please send me a receipt for this donation.

By not electing this option you will save the charity resources for more valuable work.

GIFT AID DECLARATION

Please treat this and all subsequent donations
I make to ES-UK from the date of this declaration as Gift Aid donations.

Name: _____

Address: _____

Postcode: _____ Phone _____

Email: _____

Signature: _____ Date _____

.....

STANDING ORDER AUTHORITY

If you wish to establish a regular standing order (monthly/annually) in favour of ES-UK,
please instruct your bank quoting your name and insert the appropriate details
(available from ES-UK by letter or email):

Please Pay (name of Bank):

Bank Sort Code:

Account Name:

Account Number:

Quote ref ES-UK SO/2013/your name

the sum of £_____ (figures) _____ (words)

on the _____ day of _____ and thereafter

(please tick as appropriate) ___ Monthly ___ Annually

Please send me a receipt for this donation.

By not electing this option you will save the charity resources for more valuable work.

Thank you. Your contribution will make a difference

Problems from a computer disc hard drive

Ryan writes: "I have had my shielded laptop since 2009 and until now it has never caused me problems. However, within the last few weeks I have noticed a burning sensation on my face and headaches. I tried using the laptop from some distance away and still got sensations. I was puzzled why I wasn't reacting to an unshielded 15" flat screen TV the same distance away. I realised that it must be the spinning discs inside the hard drive. I had linux ubuntu (an alternative to Windows) installed on a USB flash stick. When I booted up into the USB stick I had no reaction. I have now bought a Solid State Drive (SSD) which uses flash memory for my laptop and does not have these spinning discs inside. I now don't have any reactions and can use my laptop again."

[Some new laptops now come with a SDD. Most traditional hard drives use spinning discs: (DVD 4.7 in. (120mm) at 200-500rpm or faster), 3.5 in. (102mm) in desktops at 7,200-10,000rpm, 2.5 in. (70mm) in laptops and notebooks at 5,400-7,200rpm, and 1.8 in. (54mm) in iPods.]

European Citizens' Initiative: changes needed

The PECCEM (Platforma Estatal Contra la Contaminacion Electro-Magnetica) website has an English version of the Madrid resolution of 29th June called "European Citizens' Initiative (Iniciativa Ciudadana Europea): 'Electromagnetic Radiation'". These five pages cover most aspects of the practical measures needed to start resolving the problem of harm from the high levels of EM exposure. Representatives of organizations from France, Portugal, Spain and Sweden planned action on the Council of Europe's Resolution 1815.

Conference in Spain

There will be a conference in Spain on 23rd November 2013 with Dr. Olle Johansson, associate professor at the Karolinska Institute in Stockholm, Dr. Carme Valls i Llobet, a specialist in internal medicine and endocrinology and director of "Women, Health and Quality of Life" in Barcelona, Dr. E. Mayayo, pathologist at the faculty of medicine at the University Rovira i Virgili, Tarragona, Spain and Mr. J. Cortes, advocate.

ES effects: all masts should be over 300m away

A questionnaire from 250 inhabitants near phone masts showed that most of the symptoms, such as nausea, headache, dizziness, irritability, discomfort, nervousness, depression, sleep disturbance, memory loss and lowering of libido, were statistically

significant for those <300m from masts. The study concluded: "It is suggested that cellular phone BTS antenna should not be sited closer than 300m to populations to minimize exposure of neighbors" (Shahbazi-Gahrouei D et al, Electromagn Biol Med., 2013).

No WiFi on wise BA

BA's new aircraft will not have WiFi, according to the Daily Telegraph on 20th June.

Google's WiFi tracker with WiFi switched off

Google's Android 4.3 operating system has a feature called "Scanning always available" which still scans for networks even when WiFi is turned off, according to the Daily Mail on 7th August. [Many location systems and apps are now causing sudden high spikes in EM pollution when groups like children or university students move rooms. Apple iPhone 4G IOS 6.1 apparently makes switching off the location system more difficult. – Ed.]

ES shielding, according to the BBC

A BBC article on 1st July called "How to get away from everyday technology" included "radiation-blocking" clothes from lessEMF.com, a company founded in 1996 in New York by Emil De Toffol, an engineering graduate and former dentist. He does not suffer himself, but he had heard from customers around the world "complaining of a variety of symptoms ranging from headaches and irritability to tinnitus and cardiac issues." He said a certain percentage of the population is made quite ill. "Most popular tends to be shielding for the head – particularly for when people are sleeping." The article also featured Faraday cages and paint made in Japan in 2009 to block out WiFi radiation. [The BBC lists only foreign rather than UK companies for shielding products – Ed.]

Legal action against mobile phones in Canada

The Canadian legal practice Merchant Law LLP is seeking people to join class action litigation for brain tumours and health damage from mobile phones.

Prof Olle Johansson interview: mobile safe only at "5-10 km"

LexNaturalis published an interview by Kelly Mostard with Prof. Johansson in July. When asked how far from your body should a mobile phone be, to be safe, he replied: "5 to 10 km." He commented that the wireless industry knows the health problems but it is society which has to pay for it eventually "with their health but also financially." "Industry takes the profit. Society pays the cost."

New RF meter

EMFields have produced a new and simplified Acousticom 2 meter for microwave RF measurement. Although it uses the same detection system as the Acoustimeter, it is smaller and cheaper because it uses LED lights instead of an LCD screen to show peak levels from 200 MHz to 8,000 MHz (8 GHz), including mobile phones, smart meters, TETRA, WiFi and WiMax. It is sensitive to 0.01 V/m; some ES people have symptoms from 0.05 V/m or lower. The sound, which allows you to identify the type of signal, can be turned on and off; there is also an “alarm” sounder.



ES newspaper account: “a nightmare because of WiFi hotspots”

Ben Leo, in the Brighton Argus on 28th June, wrote a 2-page article on ES, following the excellent Stop Smart Meters! conference in Sussex on Sunday 23rd June. Headed “Gadgets’ real pain for some”, it started with Sarah Dacre, the treasurer at ES-UK, explaining the charity’s role as giving “unbiased and balanced information to people who have become sensitive to mobile and cordless phones, their masts, WiFi, and range of common everyday appliances.” She said “It’s not a coincidence that there are more and more people coming forward with similar symptoms, who have all had exposure to EM fields, whose condition appears to ease when they turn off their WiFi for example.”

Dr Erica Mallery-Blythe explained that all organisms are sensitive to EM exposure but “when that becomes conscious, when people are getting adverse symptoms or changes in their health which are disturbing to them, it becomes a conscious perception and that’s where we start to call them EHS.” Mike Mitcham said the spike of radiation from a smart meter was “very short in the same way as a bullet from a rifle.” The article also mentioned Guy Hudson from Burgess Hill, who undertakes EM surveys of homes.

The government’s Public Health England still failed to give proper weight to all the positive and convincing evidence for ES from 1932, claiming “the overall scientific evidence does not support the suggestion that such exposure causes acute symptoms,” followed by the incongruous plea, given that nothing else has yet been found to cause such symptoms in animals, plants, children and adults, that “effective treatments need to be found for these symptoms.” [The effective treatment, of course, as for all environmental toxins, is the removal of the EM

exposure, as accepted by international authorities like the Nordic Council of Ministers in 2000 and by other medically more advanced countries. – Ed.]

The Argus also featured Fred Hussain, with an MA and PhD in electrical engineering, who was probably harmed by microwaves during his research and is now so sensitive that “my wife is astonished when I can detect a transmitter mast on a motorway in advance of it becoming visible.” Although he has no other medical issues, is healthy and plays various sports, “going into cities and towns can be a nightmare because of various WiFi hotspots.” He has removed their cordless phone, energy meter and WiFi, and wears caps with EMF protection in polluted areas. “But the best option is to avoid high EMF environments, although this is not always practical and is becoming more difficult.”

Phone mast effects: cancer and brain tumours

Neha Kumar on the Wilcom website reported on the Round Table conference in Delhi on 28th May that Mr Sudhir Kasliwal from Jaipur said that two of his brothers had been diagnosed with brain tumour and one of them died last year, and his dog died from cancer last year. He said that since the masts have been switched off, following their battle with the operators and regulators, the birds and bees have started to return to the area.

EM levels in Europe

Average exposure in Europe is 0.08-1.8 V/m, with most mean EFs <1 V/m, and an estimated <1% >6 V/m and <0.1% >20 V/m (Gajšek P et al, J Expo Sci Environ Epidemiol., 2013).

Only safe limit: natural level of 0.000001-0.0000000001 µW/m²

The established science on the effects of current wireless devices shows that the only safe solution is not to use them, according to Prof. Olle Johansson. A genuine hygienic safety level is 0.000001-0.0000000001 µW/m², the natural background level during normal cosmic activities, proposed in 1997.

Symptoms from mobiles and computers

In a questionnaire on 350 people aged +9 years in Turkey on self-reported symptoms associated with EM exposure, users of mobile phones and computers more often complained of headache, joint and bone pain, hearing loss, vertigo/dizziness, tension-anxiety symptoms according to time of daily usage and women complained more often of headache, vertigo/dizziness, fatigue, forgetfulness and tension-anxiety than men (Küçer & Pamukçu, Electromagn Biol Med. 2013).

Camden and other London councils paid to irradiate their residents

Camden council in London announced on 13th May that it is contracting Arqiva to install WiFi on street lights and other public places. 16 other councils will also benefit financially from allowing the free 30 minutes of WiFi access.

Company fined for ionising radiation: “no safe exposure level”

Meyer Group Ltd was fined £60,000 after pleading guilty to failing to ensure the safety of workers, according to The Liverpool Daily Post on 5th July, because the instructions were in Chinese. Liverpool crown court was told there is no safe level of exposure to ionising radiation. Nigel Lawrence, prosecuting, said that because there were no readings taken at the time and the machine had been destroyed it was not possible to know if the radiation levels were negligible or excessive. He said: “Any adverse health effects may not be known for many, many years.” One affected worker said: “I took what Meyer told me about the machines to be true and I found out it was not. I will have to live with the emotional and mental agony of that for the rest of my life.”

Magnetised water: some advice

It is probably better not to use an electronic water conditioner if you are ES. It can transmit its effect for several metres both up and down the the pipe to which it is attached, using the AC field, even when the water is stationary. In contrast, a permanent magnet uses the flow of water through the DC magnetic field, only affecting the water which has actually passed through the field: i.e. water downstream of the magnet. Even this is best not used for the kitchen tap.

Tomato extract against radiation damage

Tomato extract can help reduce the neuro-degeneration in rats exposed to 900 MHz pre- and postnatal (Köktürk S et al, Exp Ther Med., 2013).

White Zones

The White Zone in Italy no longer exists since radiation masts were erected nearby.

Masts on flats: ES symptoms and cancers

The residents of Galaxy Heaven, a 10-story building in Mumbai, complain about the six phone masts and 18 antennas on their apartments causing them “constant headaches, hearing problems and nausea due to exposure to EM radiation”, according to the Daily Bhaskar on 31st July. Bollywood singer Sukhwinder Singh, who owns two floors, said they may end up with life-threatening ailments if they do not act fast, like the four residents of Hina Kunj building listed in a report as suffering from stage IV brain tumour and cancers.

Chemtrails increase conductivity: ES consequences from barium and aluminium

William Thomas in Wake Up World on 27th May says high levels of barium and aluminium from the RFMP/VTRPE Project Cloverleaf chemtrails are making the Earth more conductive. In 2002 Dave Dickie in Edmonton noticed that plants were showing signs of nutrient deficiencies or “chlorosis”, perhaps because electrical conductivity from these metals should be “1” but soils were 4.6 to 7 times higher. Aluminum levels were 0.148, and barium, 0.006 milligrams/litre. Tree and fish die-offs in California were also blamed on barium and aluminum; barium levels nearly doubled in California between 1991 and 2001. Francis Mangels at Lake Shasta blamed pH over 10-times the alkalinity of normal soil on huge increases of aluminum oxide. Dane Wigington reported that normal background levels of aluminum oxide in the Mt. Shasta snow was 0.5 unit (ug/l); allowable aluminum in drinking water is 50 units; government action is required at 1,000 units; EPA-tested snow on Mt. Shasta showed aluminum at 61,100 units.

In 2002 two Lawrence Livermore National Laboratory scientists at Wright Patterson Air Force Base in Ohio apparently said they sprayed aluminum oxide in the upper atmosphere to reflect incoming sunlight to slow global warming, and barium stearate aerosols for “over the horizon” military communications, 3-D mapping and radar. Fibres are also used. In addition solar flares could impact semi-conductors. Soapy rainwater on highways is a sign of barium salts. They also confirmed that HAARP transmissions from Alaska were used to bend the jetstream. In 2008 KSLA’s analysis of chemtrail fallout in Louisiana found 6.8 ppm barium levels, “more than 6 times the toxic level set by the EPA.” In 2010 Arizona air particulates reached 15.8x the limits for aluminum and 5.3x for barium.

Microwave Sickness is “of significant public concern”, although “Cell phones have enjoyed exceptional freedom from government oversight and control to protect against health and environmental hazards,” said Dr. John Wargo, professor of Environmental Risk and Policy at Yale University. “Total number of scientific studies on the potential effects on humans, animals, plants and insects from electrically-conductive contrails: zero.”

4G pain forces people out of homes

In June there were reports from California of 4G masts 1/3rd of a mile away when switched on forcing ES people out of their homes because of the pain.

Sicilian ES group

There is useful material on the website of the Associazione Elettrosmog Sicilia, via a translation programme: www.elettrosmogsicilia.org/

EM dangers, website

The website Light of Health (<http://lightofhealth.wordpress.com/category/electromagnetic/>) has useful material.

Book “Toxic Electricity”

This new edition of Stephen Magee’s book gives insights into various aspects of biological effects of RF and ELF. It has a general section on ES and EHS.

HAARP shut

The HAARP base in Alaska was apparently shut down apparently for financial reasons in early May 2013, according to the ARRL website on 15th July.

Reducing pains from an iPhone and iPad: water and salt

Rob supplies a personal account. This is not medical advice.

“I began getting pains in my hands, arms and head after using an iPhone excessively, about 8 hours a day for about six weeks say. I realised within minutes that the persistent, sharp/dull pains may be from the phone’s WiFi/EMF waves. Soon after the pains started I happened to be given an iPad, and foolishly tried to use it. This made the pains 10x worse. Eventually the pains got so bad, I had a severe headache for 3 days and could hardly sleep.

“I stopped using both iPhone and iPad at this point. The pains subsided slowly but I was now so sensitive I couldn’t use the PC without getting a headache, and also pain in my hand from simply touching the mouse. With the help of a tech friend I tried a number of preventative measures: a grounding mat beneath my key-board and mouse helped a little, and my friend painted the inside of my mouse casing with

silver electro-conductive paint, and connected the earth wire to the inside. This helped too, but I still had pains, especially in my head, ‘spots’ of pain deep inside. I tried to find a remedy - vitamin B17, and Omega 3 fish oil, but it didn’t get rid of the pains.

“Then one evening I happened to eat some cashew nuts, but added some salt to them (I don’t usually add salt to food). That night I woke a few times thirsty, and in the early morning had two deep dream-filled sleeps. After waking I noticed the pains in my hands and arms had gone, and the spots of pain in my head had moved from deep within my head to nearer the outer part. Almost immediately I realised that it may have been the salt, as it conducts electricity.

“I did a bit of research and found an interesting video (www.youtube.com/watch?v=1jBD-6lQ6B8). I decided to drink a small tea-spoon of salt in water, followed by a pint of water. Within a few hours the spots of pain were moving further to the out part of my head, and also melting away; they continued moving slowly out and down to the sides of my head. I took another dose that day and two the next, by which time the pains had now virtually vanished. It was such a relief! I had had them for about 3 months. I found out about electrolytes. I still had some residual pains, and although using the PC was okay, I was occasionally getting some pains off of it, and the iPhone was still a problem. However, trying the various salts, and keeping up the daily dosing for a week or so, I could then use the PC with hardly any problems, and the iPhone too, now and then. I believe I am still re-establishing my body’s electrolyte balance and it is taking a little while. The main thing is the persistent pains in my head and have gone, as well as those in my hands and arms. I’m almost getting back to normal.”

Phone mast hazards: ill health in 1-2 years at -10 dBm

A new pdf 8-page Newsletter on “Cell Phone/Tower Radiation Hazards and Solutions”, vol.1.no.1 (July/August 2013), has been published by the Electrical Engineering Dept., IIT Bombay, Mumbai, India. On page 8 it gives typical times for ill health to appear from living near a phone mast, depending on the individual’s sensitivity, immune condition and length of time present.

Years for appearance of ill health (general population) from 900 MHz GSM phone masts				
Power	Power density	Ill health	Limits	
<i>dBm</i>	<i>microW/m²</i>	<i>years</i>		
	58,000,000		Heating limit	UK: PHE
0	70,000	1-2		
-10	7,000	1-2		
-15	3,000	5-10		
-20	700	5-10		
-30	70	5-10		
-35	30	>10	LOEL	Lowest Observable Effect Level
-40	7	>10		
	6	>10	Biological	BioIn. 2012: general population
	3	>10		BioIn. 2012: children, sensitives
	0.000001	-	Nature	

READERS COMMENTS

Wireless electrosmog in care homes

There are reports of high electrosmog levels in some care homes, especially with wireless monitoring devices, reaching even 2.0 V/m. In one home allegedly five residents died within 48 hours from “flu-like” symptoms which a doctor thought was not viral but environmental, but the police decided after 18 hours they would cease investigations. There had been alleged concerns about devices using Tetra.

4G and new 3D radar effects

Various reports from around the country suggest that new signals in recent months are causing unpleasant effects. In particular muscular problems mean some people have been partially paralysed in one or more limb for a while or have experienced new pains. [Compare: Dept. of the Army, USA, “BioEffects of Selected Nonlethal Weapons (fn 1)”, 1998, unclassified 2006, p. 12: for 15 Hz, 1 ns: “the influence on subjects could vary from mild disruption of concentration to muscle spasms and loss of consciousness”. – Ed.]

Show pains

A reader reports attending a musical show in a London theatre where the leading cast were using radio mikes. On several occasions when especially male characters were singing loudly he could feel pains in the head or stomach.

Lower level meters needed

Some readers note that they can feel symptoms from mobile phones or WiFi below the lowest levels of some meters, such as 0.02 and 0.01 V/m or 1 microW/m². They wonder if similar sensing technology to that used by the mobiles and WiFi, which can apparently operate at lower levels, could also be used in meters, to allow them to measure lower levels of radiation.

Falling life expectancy: electrosmog, 4G and 3D radar?

A PHE report on the mysterious rise in death rates over the last year, in the Times of London on 25th July, might be linked with increased illness from higher levels of radiation from 4G phones, masts, and similar wireless systems. These can cause ‘flu-like symptoms and affect the immune system, especially in the elderly. Some other industrialised nations are also experiencing falling life expectancy, often dating from the 1990s when pulsed digital radiation from 2G phones became widespread and death rates rose by up to 10% for a month or two when the phone masts were switched on.

Henley and Wimbledon contrasted

A reader in the Stewards’ Enclosure at the Henley Royal Regatta noticed how pleasant the atmosphere seemed. Only later they saw that people using mobiles were reported, forcibly ejected and had their SE badges confiscated. In contrast levels of electrosmog were very high in Centre Court Wimbledon. Another reader put down the sudden upsets in rankings over the first few days to players unused to such high levels of electrosmog and suffering in muscular and cognitive ways.

Garden woes

A reader reports his enjoyment of the garden during the July’s sunny weather disturbed by sudden pains in the head. A meter showed very low levels of radiation except for single spikes up to 0.69 V/m co-incident with the pains over a 20 minute period. Was someone in another house or garden using a mobile? If so it was many meters away.



Health Column

“Return to Better Health”

Many thanks to Dr Zac Cox BDS for this Get Wired presentation on 23rd June 2013. None of this information constitutes medical advice and is for the purposes of research only. Please contact your doctor or health care professional for medical advice.

Dentistry

Your mouth is a window to your body's health! In order to get back your health you'd be best advised to :

1. Add to your diet all the nutrition that it's missing.
2. Remove your amalgams and other toxic metals but make sure it's done SAFELY by a holistic dentist, NOT your regular dentist...this is crucial!!!!
3. Remove ALL dead teeth and ALL root filled teeth. Again, make sure it's done by a holistic dentist.
4. Treat jaw infections (cavitations) and treat gum disease.

Sounds drastic? Maybe ...but holistic dentists and doctors are reporting that even the most life threatening dis-eases such as cancer, diabetes, heart dis-ease etc simply fade away when these simple steps are taken.

Mercury

Studies have shown that mercury leaks from fillings and rapidly spreads to every organ in your body, making you and every cell of you body a walking antenna for microwaves/RF. Why? Because every cell of your body will have metal in it. Couple to that the fact that mercury damages the blood brain barrier and is the most potent neurotoxic element known to man. And you have a recipe for ES! Mercury especially builds up in the heart ... anyone have palpitations!? And in the thyroid, making you fatigued and prone

to depression and anxiety. In fact there are very few dis-eases which are NOT associated with this awful substance! See www.iaomt.org for more details. Also a must-read is 'Toxic dentistry revealed' by Dr Graeme Munro-Hall BDS and Dr Lilian Munro-Hall BDS. This book reveals some very heart-warming case histories of people recovering from just about every dis-ease under the sun following holistic dentistry!! It really is inspirational!!!

Even if you don't have mercury fillings you may still have heavy metal toxicity from exposure to lead (incidentally tooth decay rates have dropped dramatically since they banned lead from petrol), vaccinations, pesticides, coal fired power stations etc. And the highest concentration of mercury builds up in the fetus. This may be a factor in autism because it's a well established fact that autistic children cannot detoxify mercury from their bodies. And furthermore when they do have the heavy metals removed by chelation they recover from autism! So the developing baby is unfortunately not protected in the womb and receives high doses of mercury from mum. If only dentists would stop using this poison!

Dead teeth / root-filled teeth

Studies have shown that about 80% of root-filled teeth are infected. The toxins released from these teeth are comparable to botulinum. This is very, very poisonous and has the effect of draining your energy and suppressing your immune system. Long term the toxins from these teeth may well be carcinogenic. The Parcellus clinic in Switzerland reported that nearly all their breast cancer patients had root-

filled teeth. And Drs Munro-Hall report that in 30 years of helping their patients they had never seen a cancer patient without a root-filling or a jaw infection. And that the cancer was always on the same side of the body as the root-filling / infection.

It's well established and accepted that gum dis-ease is associated with cancer but it's not widely accepted that root-fillings / jaw infections are. Personally I don't know of any adult cancer patient who does not have a root-filling / jaw infection (young children with cancer have generally been exposed to radiation).

The reason that root-fillings become infected is that there are literally miles of microscopic tubules inside teeth that dentists cannot fill. These tubes become infected and release poisons into your jaw bone and hence into your blood stream. Dentists don't pick these infections up on x-ray but they are visible on CT scans and ultra-sound (cavitation) and thermal imaging.

Jaw infections (cavitations)

When a tooth is extracted most dentists will leave the periodontal membrane inside the socket. However holistic dentists will remove this membrane together with any infected / dead bone. Nice! When the membrane is left in place it essentially traps bacteria inside the jaw bone and these bugs eat away the bone leaving a hollow space. Again, this is another contentious subject as most dentists don't accept they exist. Well, I have to say what you don't look for you don't find. So even if you have dentures you can still have jaw infections. And these infections are highly toxic and slowly wear down your

immune system ... and you with it!!

Can you get well without dealing with these dental issues? Well, most people can but there seems to be a stubborn percentage who cannot get well until they deal with these issues. And then they have often made dramatic recoveries.

I'd definitely recommend embarking on a common sense approach to getting well before dealing with the dental issues. Commit to 3 months of living 'clean' and then get the dentistry done. Again, I have to stress please, please go to a holistic dentist, NOT your routine dentist. Dr Mercola tells his story of how his routine dentist made him seriously unwell for 6 months because he did not have any training in holistic dentistry.

Complete health

Here's my guide to complete health. There's more, but not enough space to put it all down here.

1. Attitude
2. Sunshine
3. Breathe
4. Water
5. Salt
6. Glyconutrients
7. Antioxidants
8. Vitamins/minerals
9. Good fats
10. Iodine
11. Hormone stabilizers
12. Enzymes
13. Good greens/detox
14. avoid processed foods
15. avoid microwave ovens

1. Attitude

- Adopt an attitude of gratitude! Be grateful for what you already have and say out loud 'thank you' ...thank Life for providing for you so richly! I start every day by saying thank you for my wife, children, dog, cat, house, car, garden, food etc. I spend a good few minutes and I really mean it

too!!! Gratitude immediately puts you in touch with your Higher Self and it allows Love to flow through you to the person or object that you are being grateful for. This flow of Love, energy, chi, prahna is what actually heals you. Try it. I'm sure you'll love it!!!

- Bach Flower remedies, homeopathics and herbal medicine can all help to put you in a cheerful mood and this is when true healing takes place.
- Make a habit of watching comedies every day. Or listen to comedies whilst commuting or doing the dishes.
- Buy a joke book and tell 2 jokes every day.
- Sing !...singing is so good for the soul !
- Listen to good music.
- Do the gardening, go fishing, meditate, ride a bike, etc, you choose.
- But make it a habit to laugh, live and love.

2. Sunshine

Get outside every day in daylight. It doesn't matter if it's not 25 degrees C. Your body absolutely needs sunlight. Just don't get burnt. And avoid synthetic sunscreens which have many carcinogenic ingredients.

3. Breathe

Oxygen carries the life-giving prahna with it, so breathe deep and breathe easy. Outdoors is best in the fresh air and you can do various different breathing techniques such as yoga, chi kung, tai chi, etc, or you can just go for a walk, or bounce on a rebounder indoors. Exercise will oxygenate your body. Singing also oxygenates the body, so belt it out when you're in the shower!

4. Water

Drink 1.5 to 2 litres daily of good filtered water. Not public toilet water! Your body needs to get rid of toxins every day. To do this, it needs water to flush all the

poisons out. So make your body happy: drink water. This also helps to calm you down as the emotions are stored in the water inside of your body. More water - more calmness.

5. Salt

NOT processed salt please!! Your body craves salt - good quality sea or rock salt, such as Celtic sea salt, Himalayan or Bolivian salt. You need to drink water to flush the impurities out of your body, but you also flush out minerals at the same time. So it's vital to replace those minerals with about half a teaspoon of really good salt daily. Remember the Roman soldiers preferred to be paid in salt instead of gold. And that's where our word salary comes from.

6. Glyconutrients

This amazing breakthrough in health has literally changed thousands of people's lives. The latest report issued by the National Research Council has revealed that these nutrients are essential to life and that all diseases are significantly affected by them. The world leader Mannatech have a glyconutrient supplement without which I wouldn't be here today! Simply put, glyconutrients allow your cells to communicate properly and this in turn allows your body to kick out damaged cells and replace them with healthy ones.

7. Antioxidants

These protect your cells from free radicals which damage cell membranes. Vitamin C is the most widely known antioxidant but beware synthetic products. Make your own juice from green apples (the sharper the better) and carrots. The Australian bush plum is currently the most potent antioxidant known to science.

8. Vitamins minerals

Make sure your brand is entirely

natural - not from coal tar and oil refinery by products, as are 95% on the market. Preferably make sure your brand does NOT use juices to make their supplements; freeze drying is more expensive but vastly superior. Also hydroponically grown fruits and veg have more nutrients than organic, and have less pesticides (if any). So organic is NOT always best.

9. Good fats

Dr Budwig (see www.budwig-videos.com) created a simple but amazing 'cure-all' by mixing flax oil with cottage cheese. Incredible stuff - she had a 90% cure rate for cancer and also helped people with just about any dis-ease you can think of. Dr Budwig was nominated 7 times for the Nobel prize and, although her research and clinic have been ignored by medical professionals, her results speak for themselves.

Coconut oil is also superb and like the Budwig mixture helps to heal the body and brain .

10. Iodine

Just about everyone is deficient in iodine. This vital substance helps control ALL the hormones in your body as well as playing a vital role in programmed cell death (apoptosis). When missing from the diet, the body cannot get rid of dis-eased cells effectively and cells can grow out of control. Out of control cells are referred to by the medical profession as cancer. In fact there is a clinic that only uses iodine to treat breast cancer and it has phenomenal results. So make sure you get plenty of iodine. The best source is seaweed, such as seagreens. Or Leugols iodine.

11. Hormone stabilizers

Wild yam or Maca are well known for normalizing hormone levels in men and women. Hormones play a vital role in many many cellular functions.

12. Enzymes

As we get older and exposed to more toxins, our ability to make enough enzymes diminishes. Enzymes help us to get the most from our food and also to break down diseased cells and also just about every process in the body relies on enzymes.

The cheapest source is apple cider vinegar (WITH THE MOTHER), 1 teaspoon in a glass of water before every meal. Commercially available enzyme formulations are very good too. As is barley grass powder. I especially like www.greensupreme.net grown in the Amish country where they use nothing artificial whatsoever on their crops.

Dr William Kelley built his incredibly successful cancer therapy upon enzyme therapy. He found that cancer cells were broken down by pancreatic enzymes and his cure rate of 93% for 33,000 cancer patients proves his point!

Potatoes heal the spleen which in turn heals the pancreas. Make it a habit to eat spuds regularly. They produce a more even blood sugar level and this helps to stabilize your mood and your health.



13. Good greens / detox

Getting the heavy metals out of your body takes a while, so hang in there. The difficulty is that the metals are kicked out by the liver into the intestines, where

unfortunately the majority are re-absorbed by the large intestine. So you need something in your bowels to absorb the mercury to prevent it being taken back into the body. So what can you use? Well, there are many things and no method really seems to be vastly superior to another, although if you have the finances intravenous vitamin C and glutathione does show great and rapid results.

Chlorella
Alfalfa
Seaweed (alginate)
Apple pectin
Barley grass
Coriander (releases mercury from the brain)
Charcoal
Bentonite clay
Humic acids
IMD by quicksilver scientific
Zeolites
Intravenous Vitamin C / glutathione
Chelation therapy
Oil pulling - essentially swishing cold pressed sunflower oil / coconut oil around your mouth for 20 minutes has shown very promising results.

14. Avoid processed foods

Too many chemicals and no love = no energy for you.

15. Avoid microwave ovens

All microwaved food is effectively genetically modified and causes cancer.

16. Avoid EMFs

A Class 2B carcinogen - need I say any more? Why not use a wire and avoid this most dangerous toxin!

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EM EXPOSURE AND NEUROLOGICAL HARM

Digital dementia: electronic devices should be “banned from classrooms”

Doctors in South Korea report an increasing “digital dementia” among young people. They are so reliant on electronic devices that they can no longer remember everyday details like their phone numbers, according to the Daily Telegraph on 24th June. The problem of internet addiction for adults and children was recognised in the late 1990s. “Digital dementia” is a deterioration in cognitive abilities more commonly seen in people who have suffered a head injury or psychiatric illness.

Byun Gi-won, a doctor at the Balance Brain Centre in Seoul, told the JoongAng Daily newspaper: “Over-use of smartphones and game devices hampers the balanced development of the brain, Heavy users are likely to develop the left side of their brains, leaving the right side untapped or underdeveloped.” The right side is linked with concentration and its failure to develop affects attention and memory span, perhaps leading to early onset dementia in 15% of cases. Sufferers also suffer emotional underdevelopment, especially children because their brains are still growing. Dr Manfred Spitzer, a German neuroscientist and author of “Digital Dementia” of 2012, warned that the deficits in brain development are irreversible and called for digital media to be banned from German classrooms before children become “addicted.”

Increase in digital dementia

The Korea JoongAng Daily on 24th June reported that “Kim Min-woo, 15, started having memory problems recently. He started flunking tests in subjects that required heavy bouts of memorization.” He could not remember the six-digit keypad code to get into his own home and had to call the code up on his smartphone. A doctor told Kim’s mother that Kim had symptoms of early onset dementia due to intense exposure to digital technology; since the age of 5, Kim was addicted to the TV or the computer and loves computer games. “His brain’s ability to transfer information to long-term memory has been impaired because of his heavy exposure to digital gadgets,” said psychiatrist Kim Dae-jin at Seoul St. Mary’s Hospital.

Brain disorders in one third of UK adults cost £113bn each year

A study of 2010 data showed 45m diagnoses of brain disorders in the UK costing £113bn, more than New Zealand’s GDP. The most prevalent were: 18m headache requiring medical attention, 8.2m anxiety disorder, 5.3m sleep disorder, 4m mood disorders, including bipolar, and 1m addiction. There were 26,000 cases of brain tumour. One in 20 could not be attributed to physical problems. [Headaches, anxiety and sleep disorders are all well-known symptoms of EM exposure – Ed.]

Dementia was the most expensive at £19bn. Other studies show that dementia has the lowest direct health care costs, but the combined annual cost of health and social care, informal care and productivity losses is estimated at 2x cancer, 3x heart disease and 4x stroke. Productivity losses indirectly cost £52bn, almost half the total, with a quarter each for direct non-medical care (£30 billion) and direct healthcare (£30 billion). Prof. Sahakian said in the Wellcome Trust report of 25th July: “No group of chronic diseases costs the world more than brain disorders, with one-third of the adult population suffering from a mental disorder every year. However, although brain disorders affect more people than cancer and cardiovascular disease, they receive significantly less in research funding.” (Fineberg NA et al, J Psychopharmacol., 2013).

Governor’s warnings on mobiles: brain damage to prenatals

Dr Devra Davis in the Huffington Post on 2nd July reported that “climactic discoveries of brain damage tied with cell phone radiation galvanized the attention of scientists at the Black Sea Province of Samsun, Turkey.” At the Samsun conference on 17th June, Turkish, American, New Zealand and Saudi Arabian scientists detailed serious health risks from mobile phone and other wireless radiation. In response, Aksoy Huseyin, the governor of this province, on 19th June launched a major public campaign to raise awareness about mobile phone radiation safety, specifically geared towards pregnant women and young men interested in fathering healthy children. It made headlines around the country. On 27th June Hugh Taylor,

Yale University's chief of obstetrics and gynecology, affirmed this precautionary message, reporting that his lab had found that mice prenatally exposed to mobile phone radiation developed serious deficits in behaviour consistent with the brain damage presented to the Samsun conference. Studies on newborn animals found that mobile phone-exposed pups took 3x longer to find food and made 2x as many errors as control group pups. The brains of exposed animals had persistent changes in their hippocampus, critical to reasoning, thinking, introspection and processing of information.

Health effects of mobiles: "altering the brain's electrical response"

Arab News on 29th June reported an exclusive interview with Prof. Sultan Ayoub Meo, physician, medical educationist and scientist at College of Medicine, King Saud University in Riyadh. He said: "Mobile phone users often complain about burning sensations or a heating around the ear, headache, tension, dizziness, fatigue, sleep disturbance and impaired hearing and vision. Available scientific literature states that mobile phones emit a pulsed high-frequency EM field which can penetrate the skull, alter distinct aspects of the brain's electrical response, affect a wide variety of brain functioning such as electrical activity, electrochemistry, permeability of the blood/brain barrier."

Mobiles' and neurotransmitters: memory, learning, and stress

1800 MHz, SAR 0.843 W/kg, 0.02 mW/cm², modulated at 217 Hz disturbed monoamine neurotransmitters (dopamine, norepinephrine and serotonin) in 4 parts of adult rats' brains: "this may underlie many of the adverse effects reported after EMR



including memory, learning, and stress" (Aboul Ezz HS et al, Eur Rev Med Pharmacol Sci., 2013).

2.9 GHz reduces spatial learning and memory

2.856 GHz pulsed microwave at 10 mW/cm² and 50 mW/cm² for 6 min reduced spatial learning and memory in rats at 6 h, 1 d and 3 d after exposure, and caused degeneration of hippocampal neurons, decreased synaptic vesicles and blurred synaptic clefts (Wang H et al, Int J Radiat Biol., 2013).

Infra-red to change brain cells

Planet InfoWars on 31st May, in an article called

"Growing New Brains With Infrared Light?", reported that axon growth can be controlled by a "neuronal beacon", or near-Infra-Red laser at 785 nm wavelength and 80mW, shone near the axon. This generates localised heat causing the axon in rat brain to change its growth direction in about 10 minutes at temperature gradients of under 0.1°C (Black B et al, Opt Lett., 2013).

"Glymphatic" system discovered: clue to neurodegenerative diseases?

The US University of Rochester Medical Centre on 27th June reported that their scientists have discovered how the brain clears waste using the "glymphatic" system, a para-arterial network conveying central spinal fluid near to the blood in arteries and veins so that it transports waste material back to the liver. Dr Nedergaard said: "Essentially all neurodegenerative diseases are associated with the accumulation of cellular waste products. Understanding and ultimately discovering how to modulate the brain's system for removing toxic waste could point to new ways to treat these diseases." (Nedergaard M, Science, 2013).

Autism, gut bacteria and EM exposure

Health magazine on 3rd July had an article called "Lower Bacteria Levels in Gut May Be Tied to Autism in Kids", featuring a study (Kang DW et al, PLoS One, 2013) of fecal samples from 20 children with autism and 20 children without, where "autism and accompanying gastrointestinal symptoms were characterized by distinct and less diverse gut microbial compositions with lower levels of Prevotella, Coprococcus, and unclassified Veillonellaceae". Dr Mercola on 18th July recommended reviewing, especially for pregnant women since gut flora are inherited from the mother, EMF levels, vaccinations, antibiotics and probiotics, pasturized milk, sugar and sun exposure. Dr Natasha Campbel-Mcbride's "Gut and Psychology Syndrome" explains the importance of gut dysbiosis, i.e. how food can affect the mind.

Mobiles and WiFi: prenatal neurological effects and ADHD

Hugh Taylor, a Yale University obstetrician and gynecologist, studied mobile phones' effects on developing fetuses, according to a report headed "Experts: Cellphones pose threat to children's brains" in The Westerly Sun on 28th June about a meeting of scientists to warn people that "radiation from cellphones and wireless internet can negatively affect the brains of children, causing problems with perception, memory and sleep, among other vital functions". His team was the first to use mice which gestated under RF exposure to show behavioral

effects as adults such as hyperactivity, diminished memory and they were not anxious, causing them to act impulsively, in human terms, the symptoms of ADHD (attention deficit hyperactivity disorder). Exposed mice also had dose-responsive impaired glutamatergic synaptic transmission onto layer V pyramidal neurons of the prefrontal cortex (Aldad TS et al, Sci Rep., 2012).

Iron deficiency, demyelination and autism

Joe Imbriano sees autism as a neurological disorder and thus an electrical problem, related to demyelination of neurons. 25% of autistic people have insufficient iron. Iron deficiency is related to impaired cognition and concentration. These people are particularly susceptible to EM effects. Foliates help iron uptake in pregnancy. Carbonyl iron, often taken as an iron supplement, absorbs microwave radiation. See: <http://thefullertoninformer.com/carbonyl-iron-and-orange-county-the-autism-capital-of-the-state/>. It is known that demyelination, as in MS, also relates to ES.

Street light problems

There are reports of people suffering ear pains and headaches from new LED street-lights. The “horrendous” pains disappeared only when the council switched the street lights back to sodium ones.



Decreased brain response

Six hours a day exposure to 900 MHz decreased neuronal excitability of Purkinje cells in rats (Haghani M et al, Neuroscience, 2013).

Magnetic fields cause eye-movements and vertigo

All healthy subjects developed nystagmus (eye movements) in the static magnetic field (MF) of an MRI machine, but not patients lacking labyrinthine function, without head movement or change in magnetic field. Magnetic vestibular stimulation (MVS) seems to derive from a Lorentz force from interaction between the MF and naturally occurring ionic currents in the labyrinthine endolymph fluid. This force pushes on the semicircular canal cupula, which functions as a pressure sensor, leading to nystagmus and vertigo (Roberts DC et al, Curr Biol. 2011).

Children affected by power-lines

A study of 437 children aged 9-13 at two primary schools showed that those near 500 kV HVT lines had poorer performance on the computerized neurobehavioral tests for visual retention and pursuit aiming (Huang J et al, PLoS One, 2013).



Animal magnetic navigation

A useful summary article is: Dan Cossins, “A Sense of Mystery: Researchers from various disciplines are homing in on the mechanics of magnetoreception, an enigmatic sense that some animals use to navigate the globe”, The Scientist, 1st August 2013, the cover story called “A Biological Compass”.

Natural light and circadian rhythm

Under natural light the internal circadian clock synchronizes to solar time. Modern light exposure patterns contribute to late sleep schedules and may disrupt sleep and circadian clocks (Wright KP Jr et al, Curr Biol., 2013). BBC News on 1st August noted that modern lighting delays a rise in melatonin levels by about two hours.

Effects of light at night

Inappropriate nocturnal lighting can disrupt circadian and photoreceptor gene regulation (Bobu C et al, Mol Vis. 2013).

Pre-term births: pregnant mothers using mobiles and computers

Preterm births were associated with mothers using mobile phones and computers during pregnancy (Col-Araz N, J Pak Med Assoc., 2013).

PHE AND AGNIR: MORE CRITICISM

Rubin and “Voodoo science”: need for biological objective data

Prof. Dariusz Leszczynski, of the Radiation and Nuclear Safety Authority in Finland, in his “Between a Rock and a Hard Place” article in the Washington Times on 6th August called “Voodoo Science”, suggests that, because Dr James Rubin of King’s College, London, is a specialist in psychological medicine, ES/EHS research has stagnated in “psychological evaluations” instead of possible biological causes. Rubin, a member of PHE’s AGNIR, has written reviews of psychological diagnosis. These reviews are used by PHE, AGNIR, WHO and ICNIRP, but are “absolutely insufficient to prove or to disprove ES/EHS”. Instead, “hard biological evidence” is needed, with objective data such as “differences in transcriptome (expression of all genes) or in proteome (expression & activity of all proteins) between non-ES/EHS and ES/EHS persons”.

Rubin’s kind of “voodoo science”, aimed at proving that ES/EHS is just a mental and/or imaginary problem, is seen in two recent examples, analyzing news-media reports on possible harmful effects of EMR (PLOS One; J Psychosomatic Res), using this “voodoo evidence” to support the claim that ES/EHS are caused by news-media reporting. Prof. Leszczynski argues that Dr. Rubin and his co-workers do not need to “waste time and money” on such research, since such “medical students’ disease” is well known, and such “voodoo science” analyzing news-media reports is a “pseudo-science”, as is a survey of symptoms among self-diagnosed ES/EHS in Finland.

Prof. Leszczynski suggests that samples of blood, saliva, urine or punch-biopsies of skin could help biological analyses using transcriptomics and proteomics, increasingly the “approaches of choice in toxicology, ecotoxicology and help in human health risk assessment”. He argues that “Scientists



should stop playing games with human health and start gathering real, objective, data” on ES/EHS. Prof. Leszczynski says that he planned such objective experiments “but my bosses forbade it and my lab was closed down”.

PHE challenged over failure on 2B cancer rating

Safe Schools Information Technology Alliance (SSITA) along with 15 other national and international organisations, including ES-UK, and numerous individuals, in July issued a formal complaint to PHE/HPA for failing to include mention of the IARC 2B cancer agent for all RF exposure.

Does PHE/HPA keep evidence “constantly under review”?

On 26th June 2012 the DECC sent an email about the health dangers of wireless smart meters stating that “we have consulted with the Department of Health, as they keep the evidence base on these issues constantly under review, looking at all sources, nationally and internationally.” On 28th June 2012 HPA/PHE wrote to DECC that “In between the publication of formal reviews, the HPA monitors emerging scientific studies covering all EM frequencies and health.” (Fol request letter from DECC, 16th October 2012, on “Potential Health Effects of Smart Meters”).

PHE’s support for WiFi 2B cancer agent in schools: following industry?

People are increasingly associating WiFi in schools or home with cancer. The UK government’s PHE, based on its AGNIR 2012 RF report, says there is “no reason why schools and others should not use WiFi equipment” (4th July 2012). It says it follows ICNIRP whose 1998 standards follow closely those of the USA’s FCC, adopted in 1996 and created by the IEEE Std C95.1 in 1991 when the chair of the IEEE ICES Committee was allegedly C-K Chou, an executive of Motorola, part of the wireless industry which the limits supposedly regulate.

PHE/HPA again wastes public money: failure to study scientific consensus on health

In 2009 PHE/HPA wasted £0.33m on a study to confirm that WiFi levels were below the heating levels of ICNIRP, writes the Editor. This fact was already known from peer-reviewed studies and the

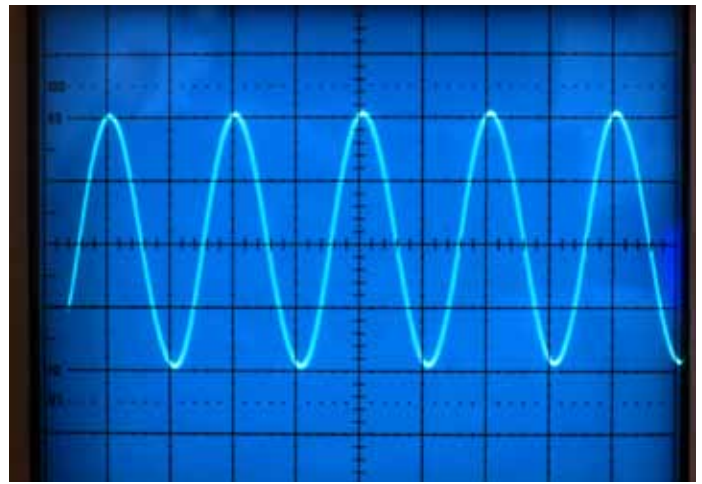
excellent BBC Panorama programme of 2007. PHE/HPA, however, failed to assess the short- and long-term health effects of constant non-thermal WiFi exposure in schools and thus failed a generation of the UK's children and teachers, with possible cancer-causing results.

Now PHE/HPA appears to be wasting more money on exactly the same type of project, this time on wireless smart meters. On 10th July 2012 HPA wrote to DECC: "Smart meters were identified as a priority for research in January 2010 following introductory discussions with DECC on the roll-out plans. We began thinking in more detail about what work could usefully be done in the following autumn when it was becoming clear from experiences elsewhere that the roll-out of meters was likely to lead to expressions of concern about possible health effects and that there would be a need for relevant exposure data to be gathered as part of addressing these concerns. The possibility of a research project and our attempts to find a source of funding, were also discussed at a joint meeting with DECC in January 2012. ... in June this year [2012] this was one of a number of projects that secured funding from HPA's Strategic R&D Fund. ...

The main aim of the project is to assess the contribution to personal RF EMF exposure arising from smart meter signals and compare this with the appropriate ICNIRP guideline values." It seems that the project will include laboratory experiments by Dr Mann of PHE and be completed in 2.5 years, presumably at the end of 2014. It is already well known that wireless smart meters are designed not to heat people and therefore this study is a waste of time if it simply compares radiation levels with ICNIRP heating levels. Instead, the UK needs studies at non-thermal levels on the harm to health of the general population and especially vulnerable sub-groups, such as children, the elderly and those already sensitised to EM exposure, the sub-groups already identified by ICNIRP in 2002 as vulnerable to EM exposure at non-thermal levels below its heating limits.

AGNIR's Prof. Haggard: assessing balance of evidence is "tricky"

The Weekly Zaman on 1st July had a long article by Rabia Spiker called "Are mobiles and Wi-Fi a health hazard?" In it Prof. Patrick Haggard, a member of AGNIR whose notorious 2012 RF Report is said by PHE and the government to be responsible for the high levels of EM exposure in the UK, said: "The tricky thing in this area is to look at the balance of the evidence."



PHE begins to recognise non-thermal dangers?

The Public Health England website was updated on 23rd July with two new additions. Under "Roll-out of 4G" it states: "PHE recommends that excessive use of mobile phones by children should be discouraged and mobile phone Specific Energy Absorption Rates (SAR) values should be clearly marked in the phone sales literature." Since all mobiles are designed to operate well below ICNIRP's heating limits, this means PHE is at last concerned about non-thermal effects. There is also a section called "Radio Waves: reducing exposure" where it is at last recognised that: "uncertainties in the science suggest some additional level of precaution is warranted, particularly for sources such as mobile phones." Again, since heating is not the issue, PHE appears to assume RF may have non-thermal effects.

PHE's other website information still tries to pretend that WiFi, Smart Meters and phone masts are safe, even though they have been specifically included by the IARC in the same cancer warning as for mobiles and the established non-thermal mechanisms are the same as for mobile phones. PHE now needs to warn the public that there is consistent evidence supporting the scientific consensus that all pulsed microwaves can be dangerous, including WiFi, mobile phone masts and smart meters.

Rt Hon Jeremy Hunt: need for "accountability"

Mr Hunt, the Health Secretary who is directly responsible via Public Health England and its Advisory Group on Non-ionising Radiation for ES problems caused by high radiation levels in the UK, announced on 20th June after the disclosure of warnings in the NHS being deliberately repressed: "There has to be accountability ... people have to know where the buck stops when something goes wrong."

GOVERNMENTS: BIASED, OUTDATED, MUDDLED?

PHE's AGNIR: not "independent"?

From an email (Fol) from the HPA to DECC on 23rd May 2012, entitled: RE: new HPA document on health effects and EMFs: where it says of the AGNIR RF 2012 report "It is important to describe the report as from an independent expert group that reports to the HPA, rather than as HPA report per se." In the last Newsletter it was argued that the AGNIR deliberately had as its first chair the pro-industry Sir Richard Doll as a 'front' to hide its support for very high EM pollution levels, and most of its members came from the pro-industry heating-only minority group.

Canada and Sweden: industry bias in supposedly medical advisory groups

The way that PHE's AGNIR can be seen as a 'front' to allow the UK government to hide the dangers of EM exposure was explained in the July 2013 Newsletter with Sir Richard Doll's role as its first chairman. The items below show similar industry bias in supposedly independent advisory groups in Sweden, linked with AGNIR, Canada and in the USA's IEI.

Second industry-bias conflict in Canada

According to "Second Wi-Fi panel member's conflicts are problematic", (Webster P, CMAJ, 8th August 2013), John Moulder apparently has "close industry ties and should be removed", in the view of Canadians For Safe Technology. He is said to have served as "a professional witness with a pattern of denying the suspected or identified risks" of EM pollution; "He has no place in influencing Canada's safety review."

Canadian conflicts-of- interests force change

Criticisms, such as "Federal Wi-Fi panel criticized for undisclosed conflict" (Webster P, CMAJ, 18th June 2013), led to the Royal Society of Canada announcing on 5th July that Prof Daniel Krewski resigned as chair of their review panel. This was over conflict of interest after he failed to disclose fully his government contracts.

Swedish advisory group SSI and IEI not "independent"?

According to Mona Nilsson's report of August 2013, in 2002 Lars-Erik Holm, director-general of the Swedish Radiation Protection Authority (SSI), hired Boice and McLaughlin to review mobile phones safety. The latter were at the International Epidemiology Institute, founded in 1994 by the USA National Cancer Institute, a pro-industry litigation and research group which in 2001 completed a \$373,000 study with funds from the two largest Danish telecoms companies, (Bloomberg Financial News, 26th February 2002; Johansen C et al, J Nat Cancer Inst., 2001) and in 2002 was involved in litigation defending Motorola in the Newman brain tumour case (Hardell et al, "Secret Ties to Industry and Conflicting Interests in Cancer Research", Am J Industr Med., 2006). The Danish study was notorious for omitting over 200,000 corporate customers, probably the heaviest mobile users. The Boice and McLaughlin Swedish report also claimed mobiles were safe (Boice JD, Jr. & McLaughlin JK, "Epidemiological studies of cellular telephones and cancer risk—a review" Statens Strålskyddsinstitut rapport (Swedish Radiation Protection Authority Report) www.ssi.se, 2002).

At the same time Holm made Anders Ahlbom chairman of the

Swedish Radiation Protection Authority's "independent expert group". Ahlbom produced 8 reports dismissing Hardell's studies, as well as other results showing health risks from mobile phone radiation. In June 2011 he resigned when Nilsson uncovered his directorship of his brother's consulting firm which supported mobile phones companies but did not appear as a declared conflict of interest at the time of the IARC meeting which classified RF radiation as a 2B cancer agent. According to Microwave News on 22nd May 2011 Ericsson was a client of his brother's consulting firm, whereas Ahlbom explicitly denied this.

Ahlbom, head of the Karolinska's Institute of Environmental Medicine, was "arguably the most important epidemiologist studying mobile phone radiation in Europe." He was a member of the private pro-industry group ICNIRP for 12 years and was then a consulting expert. Ahlbom's "protégée, Maria Feychting", according to Microwave News, works on the notorious COSMOS project, which critics see as again designed to find no harm. She is a member of PHE's AGNIR and deputy head at the Institute of Environmental Medicine at the Karolinska under Ahlbom. She is also a member of the pro-industry private group ICNIRP and scientific secretary of the Ahlbom's group at the Swedish Radiation Protection Authority.

House of Commons Library briefing notes need updating

The House of Commons Library briefing notes are not fully up to date as regards health effects from electromagnetic exposure. For instance the Standard Note on Smart Meters (SN/SC/6179), updated 20th June 2013, does not mention, in section 3.4 on "Health concerns; electromagnetic sensitivity", international recognition of electrosensitivity by

the Nordic Council of Ministers in 2000 and some other countries, or resolutions by the European Parliament and Council of Europe in 2011 regarding the recognition of ES, or include the IARC classifications of ELF and RF as 2B carcinogens.

New safety guidelines 2014-5: Lowest Observable Effect Level (LOEL) or Adverse Health Effects (AHE)

The new safety guidelines in 2014-15 for EM exposure to replace the outdated 6-minute heating-only levels currently used by PHE, AGNIR, SCENIHR, FCC, WHO and ICNIRP, should logically be based on safety margins below non-thermal evidence of LOEL (Lowest Observable Effect Level) (BioInitiative 2012 Report), writes the Editor. Safety margins below non-thermal evidence of AHE (Adverse Health Effects) causing “detectable impairment” to an individual or his/her offspring would need to be substantially greater to allow for current uncertainties in detecting the positive or negative nature of the observable effects (ICNIRP, 1998, p.494; FCC: OET no.56, 1999, p.6).

Mobiles at 2.0 W/kg or 0.000033 W/kg: muddles on non-thermal limits?

Australia’s ARPANSA Fact Sheet no.13, revised in July 2012, includes: “Some research has indicated that non-thermal effects resulting from low-level RF exposure may also occur. However, the existence of these effects and their implications has not been sufficiently established to allow for them in the Standard.” Yet it also states: “The Standard also sets limits for pulsed radiation that are intended to eliminate possible effects where heating is not evident (non-thermal effects).” Fact Sheet no.2, however, also revised in 2012, states that “In the ARPANSA Standard the SAR

limit for mobile phone handsets is 2 W/kg of tissue (averaged over 10 grams). This resulting limit includes a significant safety factor, with the maximum temperature rise in the side of the head tissue being less than 0.1°C.” This is clearly a heating standard, not a non-thermal or biological limit such as 0.000033 W/kg (Seletun, 2010).

DECC appoints communications director

Arthur Leathley, formerly at Virgin Trains, is DECC’s new communications director, according to PR Week on 2nd August. DECC is the government department in charge of smart meters, wind farms, and fracking. Alex Aiken, the government’s new comms director, took office in April.

Canadian Toolkit: mixed message on EHS

A 376-page “Radiofrequency Toolkit for Environmental Health Practitioners”, published in March by the BC Centre for Disease Control and the National Collaborating Centre for Environmental Health, warns about some of the dangers of RF exposure. On EHS, however, it admits that the condition is not yet defined but evidence has been found of symptoms, yet seems to doubt their existence, using typical sceptical phrases such as “mixed ... inconsistent...in general...reliably...reproducible and consistent...however...”: “Findings from population health studies of exposures from mobile phones and mobile phone base stations are mixed and inconsistent ... The prevalence of EHS is estimated to vary from 1% to 10% of the population. In general, subjects who are self-declared with “EHS” do not reliably detect RF when blinded to the source, and RF fails to trigger symptoms in self-declared EHS individuals in a reliable, reproducible, and consistent way. However, provocation studies

are limited to examining acute (short-term) exposure to RF, and acute symptoms and the effects of cumulative, chronic exposure to RF on persistent human health symptoms have not been studied thoroughly.”

WHO seminar: governments breaking Nuremberg code?

On 5th June 2013 WHO held a seminar at the French Agency for Food, Environmental & Occupational Health & Safety (ANSES) in Paris with 100 stakeholders from 40 countries on EM effects associated with mobile phones and masts, WiFi, smart meters and wireless technology. Eileen O’Connor, Sissel Halmøy and Kerstin Stenberg, board members from the International EMF Alliance, attended the meeting. O’Connor, representing the UK Radiation Research Trust said: “Many doctors and scientists worldwide believe there is a very real and significant risk to the general health of the public, wildlife and the environment. It is an infringement of human rights and may possibly be in contravention of the Nuremberg treaty to subject unsuspecting members of the public to RF/EMF emissions when they have not been shown to be safe, and indeed much research and observation suggest that there are significant risks. Because the public has clearly not given permission or approval or been given proper advice or words of caution to allow them to make informed decisions ...” Stenberg, of the Swedish Association for the EHS, said, “We are deeply concerned about the increased prevalence of precursory symptoms of EHS in society such as insomnia, concentration and behaviour disorders, depression and tinnitus. We need to reduce the knowledge gap in order to allow an early diagnosis and reduce the incidence of severe EHS.”

WiFi AND MOBILE HARM IN SCHOOLS

Open letter against WiFi from UK doctors

On 4th June a letter advising against the use of WiFi on health grounds was published by SSITA, a group educating schools on known WiFi health risks. It was signed by some doctors leading awareness in the UK of the health dangers of this 2B cancer agent: Dr Liz Evans, Dr Andrew Tresidder and Dr Erica Mallery-Blythe.

ARPANSA advice: keep WiFi routers “at a distance”, “reduce time you use them”

Fact sheet number 14, “How to reduce exposure from mobile phones and other wireless devices”, from Australia’s ARPANSA issued in June 2013 includes keeping WiFi routers “at a distance, for example placing the wireless router away from where people spend time” and “reducing the amount of time you use them”. [This advice is, of course, vital for schools and children – Ed.]

Australian mobile and WiFi warning

Perth Now on 3rd March reported an Australian Federal Government health warning on mobiles, cordless phones, WiFi, wireless security and baby monitors. It was published by ARPANSA, the Australian Radiation Protection and Nuclear Safety Agency. Steve Hambleton, president of the Australian Medical Association, said it was best that children did not hold mobile phones directly to their ears. Fact Sheet no. 11 on Mobile phones and children was revised on February 2013.

Excellent video on WiFi and mobile dangers for children

WiFi in Schools Australia published an excellent video in August on the serious health dangers of mobiles and WiFi. It also highlights the confusion in international, national and local

responsibilities for this appalling situation (“Safe & Smart 4 r Kids: reduce wireless radiation”, 2013, 9 mins, www.youtube.com/watch?v=GJPTzaNkcUk).

Heating effects measured by SAR range from 0.34 W/kg for the Galaxy SIII mobile and 0.90 for the iPhone5, to 1.07 for the iPad2 and 1.19 for iPad3. [Biological limits are: 0.000033 W/kg (Seluntun, 2010) based on a benchmark for adverse health of 0.0166 W/kg.]

Peak pulses from an iPhone on talk reached 190,000 microW/m², and from an iPad with WiFi but not downloading 700,000 microW/m². [Biological limits are: 0.01 Burgerform sleeping, 1.0 Salzburg indoors, 3.0 BioInitiative (2012) children and sensitives, 6.0 BioInitiative (2012) general population, based on a Lowest Observed Effect Level of 30.0 microW/m²]

ES boy denied school: “no place for discrimination”

Kim Goldberg posted an account of two ES boys on the Refugium website in August 2013. Jaden, aged 12, was able to attend school since it had minimal WiFi, and none near his classroom. Evan was 14 and had to be home-educated, however, because his school in the Sooke district on Vancouver Island refused to accommodate his disability. His mother said: “There is no place for discrimination in schools.” Evan said: “I had heart palpitations when WiFi was on, and I had headaches because I had a metal plate in my mouth which amplifies it and shoots it right to my brain.” Jaden said that until his family got rid of their WiFi his throat was really sore: “I had a lot of trouble breathing and a lot of mucus. Then they turned off the WiFi, and right away I could

breathe – within one day.” Their mother Tammy, who is also ES, said: “Our family uses the internet like every other family – we just choose to do it with wires.”

Canadian teachers against mobiles and hiding WiFi

The Elementary Teachers Federation of Ontario, Canada’s largest teachers’ union with 76,000 members, voted at its AGM that students’ mobiles should be turned off and stored, as one of a series of motions recognising mobiles and WiFi as potential workplace hazards for teachers, especially women, according to CNW Yahoo News on 15th August. Another motion demanded that WiFi transmitters should not be hidden in ceilings but labelled as part of a hazard control programme. A study on the harm from mobiles will be completed by February, according to the Huffington Post on 17th August.

Israeli Supreme Court: government must give number of EHS children in schools; need to restrict WiFi

On 18th July the Israeli Supreme Court was told in the appeal on the petition of August 2012 to ban WiFi in schools that the department of education had (a) banned WiFi from kindergartens, (b) children in first and second grades will be exposed to WiFi for only one hour up to three times per week, (c) WiFi will be used only where wired networks are not safe, although 1,300 out of 4,000 schools now have them. The Supreme Court ordered the Education Department to supply by 6th November 2013 the number of schools with wired and WiFi networks and the number of schools with EHS pupils.

Attorney Dafna Tachover submitted the 65-page brief with 640 pages of appendices on 13th June, emphasising the problem of

EHS and claiming that it is unreasonable to expose children to WiFi when it is proven to cause sickness. It sought to prove: (1) EHS is an existing illness, caused by EMF; (2) the thermal safety standard was proven false 40 years ago; (3) it is unreasonable to rely on the WHO because it is corrupt; (4) the Israeli Government's evaluation of the issue was unprofessional and negligent; and (5) the industry intentionally misled the public. The brief claimed that the contention of the government that the existing Israeli standard (1/10 of the Thermal Standard) "Protects with absolute certainty from known adverse health effects" is ridiculous as: (a) How can it be protective if people are sick with EHS? (b) How can it be protective when thousands of papers prove biological effects? (c) How can it be protective when even WHO declared RF a 2B carcinogen?

The brief emphasized that the EHS issue indicates that the damage already exists. Affidavits from seven professionals with EHS were provided, including an affidavit of a mother who has two daughters suffering from EHS; supporting scientific evidence was presented. It was shown that the government did nothing to investigate the issue despite ample notice and legal obligation. In addition, the brief sought to demonstrate the ridiculousness of the claim that the condition does not exist and/or that it is not proven to be caused by EMF's.

On 16th November the Israeli government has to submit its answer and the plaintiffs will have to respond 15 days later. The Court indicated that, following the submission of these responses, it intends to reach a decision.



SMART METER DANGERS

Refuse wireless Smart Meters: UK government still wants to expose you to a 2B cancer agent

On 23rd February 2012 DECC and Consumer Focus held a workshop entitled "Potential Health Concerns linked to Smart Metering". Although this raised significant health issues, the DECC consultation released on 27th July 2013 ignored this workshop and instead accepted the pro-industry heating-only hypothesis of PHE and ICNIRP. Yet most of the comments from February 2013 on smart meters posted on the DECC website concerned the known health dangers which people already experience. Why is the UK government so arrogant and so far out of touch with what people are actually experiencing and what independent, non-industry, scientists are saying? How can any government force a 2B cancer agent on its population, even in their homes?

Smart Meters' radiation higher than mobile phone masts

In a 4 minute US video a typical roof-top antenna is shown emitting 8-40 microW/cm², compared with a single PG&E smart meter reading 8-40 microW/cm², a bank of 5 reading 4-70 microW/cm², and a bank of 42 reading 4->200 microW/cm², with >300 pulses in 10 seconds and, unlike the phone antenna, no warning sign or barrier.

www.youtube.com/watch?v=N6VwYPL9aE4&list=PLA69545E741F08AA2

British Gas smart meter transmits every 2 seconds

Stop Smart Meters! UK report that measurements of a British Gas smart meter in London showed pulses every 2 seconds, equivalent to 43,200 pulses per day.

British Gas: confusing some customers

According to Stop Smart Meters! UK on 2nd August, Stuart Rolland, managing director of smart metering at BG, on 30th July wrote "you do not have to have a smart meter if you do not want one." On 1st August Kate Sadler, however, a representative of the BG customer relations team, wrote: "Every single one of our customers is going to have a Smart Meter installed. This isn't a customer choice." [The managing director is correct, since the government announced on 29th November 2011 that smart meters would not be compulsory –Ed.]

Legal challenge over smart meters: negligence, deceit, neurological damage

The VC Reporter on 25th July had an article entitled "The smart-grid health risk? Lawsuit claims utilities negligent, deceitful about smart meters" about a case filed against SC Edison, PG&E, smart meter manufacturers and installation companies for neurological harm from smart meters, negligence, fraud, deceit, product liability and intentional emotional distress. Dr. Robin Bernhoff, a medical toxicologist in Ojai, said: "From these peer-reviewed studies I've read, it's clear that the electrical signals the meters put out every minute are damaging to neurological tissue. It's not the thing you want in your house or neighbourhood."

Smart meter class action against utility company

On 25th July a smart meter class action was filed against BC Hydro by a resident where BC Hydro had already imposed a smart meter. Una St Clair said: "If I choose to avoid chemical fertilizers on my property because I think they're unhealthy, that is my choice. The same goes with exposure to smart meter radiation. In a free and pluralistic society, a possible toxin cannot be forced down anyone's throat – or forced onto one's property." David M. Aaron, counsel for the plaintiff, said: "The lawsuit asserts that the home is a private domain where free choice and autonomy rule. It claims a right of control over environmental exposures generated from one's own domestic dwelling."

"Take Back Your Power" film

Josh del Sol's acclaimed film on smart meter dangers was released on 5th September. According to USA Today on 12th August, Josh del Sol became interested in this topic in 2011 when a friend linked a serious illness to the recent installation of a smart meter. Del Sol said: "We had a difficult time getting anyone in the industry to talk to us on camera once they found out that we were wanting to get to the bottom of some of these concerns." (See the film's website for details of buying a DVD.)

Muscle twitching from smart meters

In a fascinating interview, Dr Laura Pressley from Texas explains how she and her husband noticed that their legs were twitching involuntarily in bed every 25 seconds when they were going to sleep. They ruled out their fridge and eventually asked a friend with a detector to check the smart meter fitted opposite their bedroom in 2009. This was pulsing every 25 seconds, so they then contacted Austin Energy, but the engineers thought the meters pulsed every 4-6 hours. They eventually persuaded the CEO to have the wireless part of the meter switched off. It was operating at both 900 MHz and 2.45 GHz at 30,000 microW/m², some 30 times higher than a typical mobile phone at 50 to 1,000 microW/m². In addition it was sending voltage transients, also harmful, around all the house internal wiring. (6th August, 13 mins: "Is Your Smart Meter Causing Brain Damage?" www.youtube.com/watch?v=dhF6C_pB22g&feature=em-uploademail)

Germany advises rejecting smart meters

The German Economy Ministry will probably refuse to follow smart-meter guidance from the European Union that 80% of homes should install the devices by 2020, because in a study it commissioned from the consultants Ernst & Young the EU proposal was deemed "inadvisable" for Germany, according

to Bloomberg Business Week on 1st August. For users with low power consumption, the installation cost would be greater than the achievable energy savings.

Texans urge choice over meters to protect against health dangers

Barry Smitherman, former head of the Public Utility Commission and Texas Attorney General candidate, asked the PUC to give residents a means to trade in so-called smart meters for a traditional electricity meter, according to Energy Choice Matters as reported by Dallas News on 31st July. Rep. Rafael Anchia, D-Dallas, said in March: "This is about vulnerable Texans that we need to protect."

Canada accepts health argument over wireless meters

CBC News in British Columbia reported on 11th July, under the heading "B.C. backs down on wireless smart meters", that the B.C. government will not force people to get a wireless BC Hydro smart meter, but the energy minister Bill Bennett said that someone will have to pay the "extra" cost.



BCUC: allows wireless meter opt-outs, but rejects EHS evidence

The British Columbia Utility Commission on 23rd July published a decision on smart meters in BC which allows an opt-out from wireless meters, which moves with the customer to any new property. There were over 30 pages out

of 170 devoted to the health problems of wireless meters, although the three commissioners, who do not appear to be doctors or experts in EHS, rejected a causal link between RF emissions and EHS symptoms, despite 79% of the 178 letters received expressing concern about the health dangers of wireless, and FortisBC agreeing that "some individuals would develop symptoms" when wireless meters were installed [p.146; some 80% of mast studies confirm these symptoms in the general population – Ed.]. There was no reference to children's greater susceptibility to the harm from wireless meters.

US bill for compulsory smart meters

A former PG&E consultant is apparently proposing a US bill to make smart meters compulsory. This is seen as a reply within a month to the six lawsuits already started against PG&E over health effects from smart meters.

Smart meter problems: cancer, hacking, not working

Smart meters not only dose you with a 2B cancer agent and can apparently be hacked, but, according to the Daily Telegraph on 10th August, “British Gas, which has installed 1m smart meters, admits they currently do not “work properly” in flats.”

Free download to check

Smart Meter security

For those concerned with financial rather than health security, SecureState in the USA released Termineter in July. This is a free download on Google Code for testing smart meters, although some critics say it also allows hacking.



ES AND SCIENCE: MECHANISM

Voltage-gated calcium channels: mechanism for good and bad EM biological effects

A review by Prof. Martin Pall of 24 studies concludes that EMFs, with their low energy photons, influence human biology not via heating and chemistry, but via L-type, and perhaps 3 other, voltage-gated calcium channels (VGCCs), since drugs can block these VGCCs. Prof. Pall writes: “EMF exposures act by partially depolarizing the electrical charge across the plasma membrane of cells, activating the VGCCs and it is the increased intracellular calcium levels that are responsible for the reaction to EMF exposure.” The studies implicate ELF, RF, nanosecond electrical pulses, static electrical fields and static magnetic fields, since living cells are rarely static, often moving rapidly in such phenomena as cellular ruffling.

The review also considers how VGCC activation can produce 2 well-documented responses to EMF exposure: (a) stimulating bone growth, (b) the production of

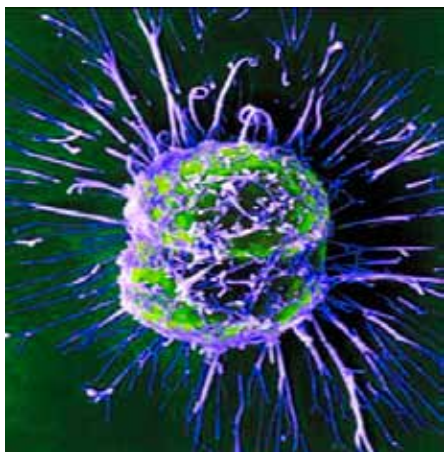
single-stranded DNA breaks. EMF exposures increase nitric oxide, often almost instantaneously, through calcium stimulation of the action of the two nitric oxide synthases in the cell, iNOS and eNOS, which are both calcium-dependent enzymes. Nitric oxide in the cell produces most physiological effects, stimulating the cycle GMP which stimulates, in turn, the G-kinase. Nitric oxide also acts as a precursor of peroxynitrite, a potent oxidant and reactive free radical precursor. EMF stimulation of bone growth and other benefits may use the first pathway and single-strand DNA breaks and other adverse effects the second.

Prof. Pall concludes that claims that biological effects of EMF exposures cannot exist because no plausible mechanisms are now clearly defunct, and we now know where to look in studies on mechanisms of EM exposure. EHS is similar to multiple chemical sensitivity (MCS), where chemicals act by indirectly activating the NMDA receptors and NMDA receptors have similarities to the L-type VGCCs.

(Pall ML, “Electromagnetic fields act via activation of voltage-gated calcium channels to produce beneficial or adverse effects” J Cell Mol Med, 2013.)

Comments:

Prof. Denis Henshaw points out that this further evidence on calcium efflux from cells, from all manner of EMFs, links with Goldsworthy’s paper. However, in the introduction Prof Pall says: “The reason that this is such a great puzzle is that these fields are comprised of low energy photons, with energies too low to influence the chemistry of our bodies.” In fact low intensity magnetic fields can and very much do affect chemical reaction rates by the Radical Pair Mechanism. This has its routes in The Zeeman Effect discovered in 1896 for which Pieter Zeeman obtained the Nobel Prize in 1902. Goldsworthy comments that Prof Pall’s paper fits in very nicely with his hypothesis (Goldsworthy A, “The Biological Effects of Weak EMFs: Problems and solutions, March 2012) which also explains the windows effect. “As I see



it, the VGCCs will be acting as amplifiers that convert a low level of EMF-induced calcium influx into a much more rapid one that gives an all or nothing response. Since these L channels remain open only for limited time, the effect is to generate one or more strong calcium pulses from a weak but possibly prolonged analogue input. It is in effect an analogue to digital converter, with more pulses indicating a stronger effect. On this hypothesis, relatively few pulses would lead to the activation of cellular repair mechanisms but a large number indicates serious membrane damage and sets in motion autocatalytic self-destruct mechanisms leading to the cell losing its normal function, followed by rapid apoptosis if the damage cannot be repaired in time. Perhaps we should look at both hypotheses together.”

30 minutes of 3G affects thermal pain threshold of healthy people: mechanism of subjective symptoms

30 min of 3G UMTS, at SAR 1.75 W/kg (1g) and 0.73 (10g) at 2cm depth, applied to the head reduced the desensitization effect of the thermal pain threshold as measured on the surface of the fingers, between repeated stimulations on the contralateral side, in 20 healthy volunteers. Genuine exposure, but not

sham, attenuated subjective sensitization to repeated thermal stimulation, lasting for about 60 minutes post-exposure.

The small nature of acute desensitization effects of genuine UMTS exposure suggest that either (a) the rapid contralateral pain response of the primary somatosensory cortex (S1), usually associated with unilateral stimulation, may not react to UMTS exposure, or (b) the exposure effects may be compensated by the often bilateral representation of pain of the secondary somatosensory cortices (S2), the parallel sub-system conveying thermal and noxious information located in the anterolateral (spinothalamic) pathway, especially in the higher order spinal cord and subsequent relay structure of the central nervous system (CNS).

The S2, which primarily discriminates pain intensity, is usually activated contralaterally to the stimulation side. Intensity discrimination is mainly a neocortical function which is primarily represented in sensory brain areas located in the vicinity of the source of the UMTS signal. Because brain tissue absorbs the energy of the signal, the behavioral effects attributed to non-thermal RF EMF exposure may be caused by subtle perturbations in neural oscillations, resulting in a decreasing internal signal-to-noise ratio. “The present results provide pioneering information about human pain sensation in relation to RF EMF exposure and thus may contribute to cover the existing gap between safety research and applied biomedical science targeting the potential biological effects of environmental RF EMFs.” (Vecsei Z et al, Bioelectromagnetics, 2013).

25% of EHS confirmed by heart rate variability

In a replication of a previous study in Colorado with 25 subjects, Dr Havas and Marrongelle tested 69 subjects for EM radiation for 3-min intervals from a 2.45 GHz cordless phone base station at 38 microW/cm² on heart rate variability (HRV). A few had a severe reaction with an increase in heart rate and altered HRV indicative of an alarm response to stress. Based on the HRV analyses, 7% were “moderately to very” sensitive, 29% “little to moderately”, 30% “not to little” sensitive and 6% “unknown”.

These results are not psychosomatic and are not due to EM interference. 25% of self-proclaimed sensitivity matched HRV analysis, while 32% overestimated and 42% did not know whether they were ES. Of the 39 participants claiming EHS, 36% said they also reacted to a cordless phone and experienced heart symptoms and, of these, 64% were classified as having some EHS based on their HRV response.

Novel findings include a delayed response to radiation. Orthostatic HRV testing combined with provocation testing may provide a diagnostic tool for some EHS. This protocol underestimates reaction to EM radiation for those with delayed autonomic nervous system reaction and it may under diagnose those with adrenal exhaustion, as their ability to mount a response to a stressor is diminished (Havas & Marrongelle, Electromagn Biol Med., 2013).



ES AND SCIENCE: NON-THERMAL EFFECTS ESTABLISHED

Non-thermal effects: accepted by scientific consensus

Non-thermal effects have been accepted since 1958 by the USSR and other countries with non-thermal safety limits. Since 2008, however, the scientific consensus in the west has also accepted adverse non-thermal effects. This is reflected in the Bionitiative 2007 and 2012 Reports, the EU Parliament's and Council of Europe Parliamentary Assembly's acceptance of non-thermal limits in 2009-11, IARC in 2001 and 2011, the Stewart Report's advice on reducing EM exposure in 2000, India's reduction to 10% of INCIRP limits in 2012, PHE's advice on reducing EM exposure in 2013, British Columbia Center for Disease Control's Radiofrequency Toolkit for Environmental Health Practitioners of 2013 (eg. page 9: male infertility, 250: oxidative stress as a "plausible explanation", 257: gene expression and protein formation). Even Sweden's SSI accepted non-thermal effects in 2010, admitting that changes to EEG in the Alpha band "appear to be mediated by a mechanism other than heating".

Non-thermal effects established:

(a) epidemiological evidence

This evidence derives from 1979 on ELF and more recently for RF, leading to IARC to classify both as 2B possible cancer agents at non-thermal levels in 2001 and 2011.

(b) biological evidence

- (i) Navigation systems in bird migration have been shown to use non-thermal magnetic effects.
- (ii) Peer-reviewed studies show a wide range of humans affected by geomagnetic effects, including aurora sensitivity and thunderstorms.
- (iii) Male fertility has been shown to be affected at non-thermal levels in 80% of studies.
- (iv) Numerous therapeutic non-thermal EM interventions are now in medical use across the world, approved by regulators and validated by physicians.

(c) basic physical/chemical reactions

Prof Denis Henshaw writes: non-thermal effects are deeply rooted in basic physics/chemistry, going back to the Zeeman Effect of 1896 which refers to the splitting of spectral lines due to alignment of the spin orientation of electrons in a magnetic field. The effect is quantum mechanical, not thermal, indeed the energies involved are 10,000,000 below thermal levels. It is counter-intuitive, but so is quantum mechanics. These non-thermal effects manifest themselves in the Radical Pair Mechanism (RPM).

This is the ability, very well known and completely established in spin chemistry, in which low intensity magnetic fields alter the spin states - and hence the chemical reaction products - of free radical pairs. In biology, magnetic fields drive the spin state of a radical pair from the short-lived (~10 ns) singlet state to the long-lived (about one micro-second) triplet state. In the latter case the radicals are more available to cause biological damage (see www.electric-fields.bris.ac.uk). There are many who deny non-thermal effects, some through dogma and ignorance, and some because they are not familiar with basic spin chemistry - taught in any good undergraduate chemistry course.

FDA in 1993: non-thermal RF accelerates cancer

An internal memo of 17th April 1993 by Dr May Swicord, then chief of radiation biology at FDA's CDRH and later at Motorola's Florida labs, and Larry Cress, stated: "This small and incomplete database strongly suggests that under at least some circumstances these exposures do indeed accelerate the development of cancer." "The data which exist strongly suggest that MWs can, under at least some conditions, accelerate the development of malignant tumors." A briefing document by Dr. Elizabeth Jacobson, CDRH's deputy director for science, for Dr. Bruce Burlington, the CDRH Director, stated: "Evidence exists of nonthermal and cytotoxic effects at power levels produced by cellular phones" [Microwave News, Jan/Feb.2003, pp.4-5].

Non-thermal effects proved: "gaping hole" in sceptic theories

From a letter by Jon Eakes in the Montreal Gazette on 6th May 2013 about the Royal Victoria's Invitro laboratory, part of McGill University, where "Dr. Paul Héroux has proven that EM fields far weaker than those given off by the smart meters do change the chromosome counts of human cells, effecting basic DNA changes.

Dr. Héroux ... discovered that low-powered EM radiation can radically change human metabolism by mechanisms other than the "thermal effect." This is research that punches a gaping hole in Health Canada's position of absolutely no-effect."



Peter's experience of ES: "I will keep fighting as long as I can"

Peter wishes others to know of his story. He wants the last five years of fighting his illness, and also fighting against scepticism, prejudice and mistreatment, not to have been for nothing. He writes: "Please send my gratitude to all the people at ES-UK." The following account of his complex conditions is taken from his 36 pages of detailed notes and doctors' letters.

Peter, a 41-year-old UK resident, has had ES since the 1990s when he was in his mid 20s. In 1988 he started to develop fatigue and muscular problems. This was diagnosed as a progressive congenital mitochondrial dysfunction in 1993. In 1994 he was also diagnosed with ulcerative colitis and in 1999 with ADD. In 2002 he had his amalgam fillings removed but then had high levels of mercury and developed some chemical and more electrical sensitivity. In May 2008 his condition became significantly more severe, with further wasting of skeletal muscles in his trunk, face and limbs; a consultant neurologist confirmed mitochondrial disease.

His ES also became worse in 2008 but then improved from 2009 to 2010 when he lived mainly free from electricity and in February 2009 he had his mains electric power switched off for a while. In 2010 his father could no longer care for him and Peter spent 9 weeks in hospital from November, causing a significant regression in his ES, but both the registrar and a psychiatrist believed ES did not exist although they did not test Peter; such unscientific attitudes did not encourage his family's support. He now lives without family, looked after by a few friends, mainly ex-carers and their families, and 27 hours of agency carers' help per week. They take his ES condition very seriously.

In October 2011 he developed Multiple Chemical Sensitivity when his kitchen was repainted and silicone sealant was used. He now cannot tolerate fumes from a gas heater for more than an hour. In winter, when the temperatures drop to 3-6°C, he wears 3 hats, has 4 thermal layers, 2-3 fleeces and a dressing gown, using 6-7 sleeping bags, but even so his health deteriorates. He suffers from damp, but cannot use bleach to remove the mould since he cannot live long away from the kitchen. He has to use organic vegetable-based candles for lighting

rather than scented ones. In 2011 he was also diagnosed by his doctor with trigeminal neuralgia, which can be triggered indirectly by EM exposure via a mitochondrial flare-up. Use of medication for this, codeine phosphate, is limited by his chemical sensitivity, as are paracetamol and aspirin.

For Peter, all three conditions and their symptoms, mitochondrial dysfunction, chemical sensitivity and electrical sensitivity, are inter-linked in that a chemical or EM exposure can trigger all three. This may suggest metabolic weakness, a common feature in some ES studies.

He bought a dog in 2011 when he could still walk a little, and has found his company invaluable, but has been unable to walk more than 4-5 metres since spring 2012. He cannot use a wheel chair on his own, so he is mainly restricted to the kitchen. All meals are prepared by carers and he needs their help to wash, although he then needs to rest for some hours. He has one hour of house cleaning per week and 3.5 hours for carers to act as his agents in posting and copying letters and making telephone calls. He is only allowed to leave his house with two carers present, so this rarely happens.

A severe episode of ES in November 2011 weakened his muscles so much that he now has to spend all his time resting on a recliner chair and finds swallowing difficult. His memory is also weakened, being easily distracted, his eyesight becomes blurry, and he has tinnitus and many burning pains. He eats very healthily, since he found that chocolates and cakes caused flare-ups. He had to avoid the lounge in his house because of the neighbour's WiFi, and is now in the kitchen where the EM exposure is less. In about January 2012 he became affected by the batteries in a carer's wristwatch. Just 30 minutes' exposure to a wristwatch in April 2012 caused severe symptoms in an uneven pattern for the next 6-7 days, including a flare-up of mitochondrial and trigeminal neuralgia.



This severe episode of ES in November 2011 was caused by carers bringing in mobile phones. His social worker had failed to inform the care agency that ES is 'real' and not 'imagined'. It was compounded by a disgruntled care worker deliberately bringing in his mobile for several consecutive nights, making Peter more sensitised and incapacitated. The police were superb, stating that this was an 'assault' and they were prepared to arrest the individual concerned and look to gain a conviction if an expert witness explained that Peter's symptoms could have been caused by a mobile phone. They were also adamant that his medical condition would not hinder his access to the legal process and were willing to take measures to ensure that he would not have to attend court if necessary.

In June 2012 a 15-minute exposure to a mobile phone led to convulsions 12 hours later and all the usual symptoms but in a more severe form, including 'tense and restless limbs', and mental hyperactivity. His sleep was reduced to none on the first night and then 2-4 hours intermittent light sleep thereafter. The subsequent trigeminal neuralgia, with unbelievable pain down the left side of his head, lasted for 17 hours. It also caused the progressive mitochondrial illness to develop further, meaning that more muscles became permanently weakened and ineffective, so he can no longer sit upright.

In 2009 Peter could tell within 5 minutes if someone had a mobile, but now it takes 20-30 minutes for him to notice symptoms like confusion and short-term memory defects. After these 20-30 minutes, therefore, the damage has already been done and he will be ill for the following week even if the stimulus causing the initial symptoms is removed after 30 minutes. The damage can be permanent, since the ES can affect his progressive mitochondrial condition. In contrast, back in 2009 he often recovered back to his baseline condition within a few hours.

His symptoms tend to worsen at weekends and in the garden, where the EM exposure is higher. He

can no longer have parcels delivered to his house since he is affected by the mobile and electronic signature devices. He would need two people to help him get to a nearby park but is made ill by the electric cable under the pavement. He has spent less than two hours away from his house and less than five hours in his garden since November 2011. At times Peter feels that his lonely and deprived situation has brought out the worst in his treatment by some carers, officials and businesses. He does not always follow up any failures in services, since he cannot use email and has not used a landline telephone for two years. Even writing can cause a flare-up in his condition, making him ill for days.

Some carers have been excellent and become friends, putting into perspective the few who have abused or exploited him. "ES-UK has also kept me going, as well as Dr Myhill. I can safely say I would not be here without her diagnosis letter provided in August 2011." This enabled Peter to seek better treatment, re-housing, and care at home, rather than enforced stays in hospital. "Also the Newsletters/leaflets from ES-UK have been extremely helpful." He found the book on ES/EHS by Michael Bevington useful, both in helping to show doctors that admission to a psychiatric hospital is inappropriate, and in helping him to keep his sanity by seeing in black and white the typical ES symptoms which he was experiencing.

Since his landlady has served notice in March, Peter's local council is legally obliged to provide a property which will not make him ill. He is now concerned that, if he has to leave his current accommodation, any inappropriate new housing, or even the journey to it, could trigger a flare-up of both his ES and mitochondrial dysfunction. It also seems that social services should have stepped in a long time ago to ensure he has suitable housing, such as with appropriate heating and hot water, given his severe disability. He is now dependent on his doctors, solicitors, social services and the local council to find a place where he can live free from chemical and EM exposure.



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.

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:
BM Box ES-UK, London, WC1N 3XX
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web. www.es-uk.info

ES-UK is an independent charity Registered No. 1103018

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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.

Newsletter

Thanks to Gordon Flavell for typesetting and use of photographs © and to Brian Stein for printing and distribution.

Donations

Donations should be sent to the BM Box, London.



for all people sensitised by electro-magnetic fields and radiation

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