

# Health Effects The Government Doesn't Protect You From

## Or: 'Why an ICNIRP Certificate Isn't Worth the Paper It's Printed On'

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The Government, and their 'Watchdog' the NRPB, make a big deal of the fact that all mast installations comply with ICNIRP Guidelines. A short time ago an NRPB spokesman declared that tests in school grounds had shown in all cases that nearby masts were not exceeding those guidelines, claiming that all the pupils in those schools were therefore safe from health risks from those masts. The only 'protection' offered by the Government to the British public from mast health risks is ICNIRP certification. Government Planning Policy Guidance Note 8 states:

'If a proposed mobile phone base station meets the ICNIRP guidelines for public exposure it should not be necessary for a local planning authority, in processing an application for planning permission or prior approval, to consider further the health aspects and concerns about them.'

Unfortunately, the ICNIRP Guidelines themselves explicitly state:

'these guidelines are based on short-term, immediate health effects such as stimulation of peripheral nerves and muscles, shocks and burns caused by touching conducting objects, and elevated tissue temperatures resulting from absorption of energy during exposure to EMF.'

In the case of potential long-term effects of exposure, such as an increased risk of cancer, ICNIRP concluded that 'available data are insufficient to provide a basis for setting exposure restrictions' (My emphasis)

In other words the guidelines are based essentially on thermal (heat-based) effects, the tendency of microwaves to raise temperature – the effect used in microwave ovens. There is a saying among those whose minds are closed to any other possible effects: 'If it can't heat you, it can't hurt you'. It's fair to say that none of the many scientists who have concerns about mast health safety seriously believe that any mast emits power at levels high enough to cause heat damage to human cells (although other effects can at times give rise to burning sensations – that's a different matter). As ICNIRP make clear in their statement highlighted above, their Guidelines (and thus ICNIRP Certification) give absolutely no protection against any possible long-term effects.

Peer-reviewed research studies have now shown the existence of non-thermal effects with long-term consequences at levels well below ICNIRP guidelines, some of which match observed symptoms near masts. Two examples (references at bottom of page) are:

## **1. Weakening of the blood-brain barrier**

This allows toxins in the bloodstream to pass into brain cells, leading to headaches and nausea – as observed round masts (and potentially large-scale brain damage in the longer term);

## **2. Reduction in night-time melatonin production**

Melatonin is a sleep regulator and anti-cancer agent, so a reduction in levels leads to sleep disorders and increased incidence of cancer – as observed round masts.

Assurances based on low power levels are irrelevant in these cases, which arise from totally different effects – an analogy would be if one were to dismiss the risk from a razor blade because it wasn't very heavy. The totally logical conclusion from this is that a very real health risk exists, from which the public is offered absolutely no protection by Government policy.

The Watchdog (the NRPB) seems to many people to be more concerned about watching out for any research studies showing health risks, so that it can leap on them and 'disprove' them, than it is in seriously watching out for the health of the British people. Strangely, such 'disproving' often takes the form of saying that since there's no known cause-and-effect mechanism by which they can easily explain the observations it's questionable whether they really happen. In a totally new field, such as the large-scale irradiation of populations with a new form of periodically-varying (pulsed) emissions it's highly likely that effects will be observed that have never been seen before, especially with something as complex as a living organism. The truly scientific response to such observations is not 'Hmm, that's odd, must be an experimental error' (particularly when you're evaluating the work of some other highly-respected researcher – you can take it that they have taken great care to ensure this is not the case before they publish their work). The truly scientific response – especially where people's health is concerned – is to investigate further into what might be causing this previously unseen effect. That has been the basis of all scientific progress down through the centuries. There are none so blind as those who don't want to look.

Another fundamental rule of groundbreaking science is Look For The Obvious. There are often very clear clues for those prepared to follow them – if they are genuinely interested in finding out the facts, rather than just proving themselves right or fitting the facts into a predetermined agenda.<sup>1</sup> Non-thermal effects of electromagnetic radiation (such as mast emissions) is a good example of this. There are clear links in a chain that are blindingly obvious to the truly objective researcher, ways ahead that cry out to be investigated – if the truth is the real objective.

### **Example:**

One widely experienced effect in proximity to masts is the phenomenon of microwave hearing – clicks and buzzes with no apparent cause. An associated

effect is 'the hum' (self-explanatory). Some people even get ear infections which they associate directly with living near a mast.

Now in the Stewart Report, Section 5 paragraphs 12 through to 26 detail the sort of requirements that might have to apply in order for an electromagnetic field to directly affect biological tissue – living cells. Nowhere in these paragraphs is the possibility considered of any form of crystalline deposit which might provide the 'missing link' between electromagnetic radiation and biological effects. It's interesting to note, though, that paragraph 18 does refer to a suggestion by Frohlich that a biological system might behave in some way like a radio receiver, amplifying a very small signal through a process of resonance; this idea is dismissed due to the unlikelihood of biological material resonating in this way – but of course one of the earliest types of radio was the 'crystal set', in which a mineral crystal was made to resonate (by tuning with a 'cats whisker') with an incoming radio wave, which is simply an electromagnetic wave of rather lower frequency than microwaves.

So what's all this got to do with microwave hearing? Well, as a body entrusted with guarding the public's health ought to know, the inner ear contains a substantial number of tiny crystals known as 'otoliths', or 'otoconia'. What is more, research has shown that these crystals are piezoelectric – that is, they respond physically to electrical fields.

As if any more clues were needed, the Stewart Report states explicitly, in para. 5.6, that any biological effect from mobile phones is likely to be from the electrical fields.

So: we have an effect people are physically experiencing around masts; we have a possible causal connection via crystals that respond to electrical fields; we have an official Report that says that any such effect is likely to be caused by the electrical fields in the emissions.

What we don't seem to have is any research to investigate this screamingly obvious possible cause-and-effect. Do we actually have a Watchdog that wants to know??

## **Example 2:**

Two years ago a fascinating research paper was published in the journal BioElectromagnetics, by researchers in Chemical Engineering and Molecular Physics. Now I may be unusual, but it seems to me that BioElectromagnetics is exactly where it's at if you want to know about effects of electromagnetic fields on biological organisms. If our Watchdog, and its counterparts around the world, aren't keeping up to speed on publications in that area, what exactly are they being paid for? So we can reasonably assume they saw that paper.

The paper described how the research group had isolated very large numbers of microscopic crystals from each of a number of human pineal glands. On the figures they gave, the average pineal gland must contain around 50,000 of these crystals,

which they described as ‘remarkably similar’ to the crystals found in the inner ear. (See a fuller report on this paper here).

It’s the pineal gland, near the middle of the brain, that is the primary source of melatonin production, known to be affected by mast emissions – see effect (2) above. This ties in with the symptoms of sleep disturbance and increased incidence of cancer seen around masts. If these crystals were known to be piezoelectric then the cause-effect chain would be complete.

So what does our Watchdog, and its global counterparts, do? Well of course, in their relentless search for the truth they will support this research in its next phase of proving these crystals to be piezoelectric, or not, as the case may be. Mobile Telecommunications Health Research has a real opportunity here to break new ground in our understanding of the effects of mast emissions on people.

Well, not exactly. Just at the point where they’re ready to test whether these crystals are in fact piezoelectric, and thus possibly responsible for effects shown in research and experienced by people exposed to mast emissions, funding for this research group has dried up. Obviously not something the world’s custodians of the public’s health want to know about. It’s left to the reader to figure out why that might be.

Clue: Who provides funding for the NRPB and the MTHR Programme? And who makes vast amounts of money out of the mobile phone industry and stands to lose billions if it’s proved unsafe?? Just a thought.

## **Research References For Two Non-Thermal Effects**

### **1. Weakening of Blood-Brain Barrier**

The classic work on this is:

‘Nerve Cell Damage in Mammalian Brain after Exposure to Microwaves from GSM Mobile Phones’, Leif G Salford, Arne E Brun, Jacob L Eberhardt, Lars Malmgren, Bertil RR Persson, *Environmental Health Perspectives*, January 2003 (Journal of the US National Institute of Environmental Health Sciences)

Clearly invalidates ICNIRP ‘safety’ guidelines, as used by HM Government. This study, which builds on previous work, relates to emissions from mobile phones, rather than masts. However the significance of this work is clear demonstration of serious brain-cell damage at power density levels *way below* those decreed safe by ICNIRP – see quote from Alasdair Philips (Powerwatch) on this paper, below. This indicates beyond reasonable doubt that the thermal-based ICNIRP ‘safety’ levels as used by our Government are totally inadequate – this must apply equally to masts as to phones, as the guidelines are based on the same (invalid) assumptions.

Alasdair Philips: 'Now we have both a possible mechanism (leakage of large molecules such as albumin through the blood-brain barrier) and direct evidence of neuronal death in rats. This occurred at 2 mW/kg SAR level ... mobile phones are allowed (ICNIRP) to put up to 1,000 times this SAR (2000 mW/kg or 2 W/kg) into the user's head! Extensive brain cell death was seen by an exposure level of 20 mW/kg for just one two-hour period. All mobile phone use with the phone held next to your ear will cause at least this level of microwave exposure to your brain cells – most phones can put more than 200 mW/kg into your brain cells when they are working.'

## 2. Melatonin reduction at night

Two relevant papers:

'Melatonin metabolite excretion among cellular telephone users', Burch JB, Reif JS, Noonan CW, Ichinose T, *et al.*, *International Journal of Radiation Biology*, 2002, 78:1029-1036

'Effects of the 1900 MHz electromagnetic field emitted from cellular phone on nocturnal melatonin secretion', Jarupat S, Kawabata A, Tokura H, Borkiewicz A, *Journal of Physiological Anthropology*, 2003; 22:61-63.

Note that two frequently-observed conditions among those living near phone masts are:

- (a) Sleep disruption
- (b) Increased incidence of cancer.

Melatonin is a sleep regulating agent and an anticancer agent – these are both well-known facts. The incidence of these conditions around masts is thus 'anecdotal' (!) confirmation of this observed research finding.

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<sup>1</sup> Of course the Government and the MTHR Programme wouldn't have a predetermined agenda, their only agenda is to find out what's best and safest for the public. No responsible Government would put tens of billions of pounds of licensing fees and tens of billions of pounds of annual tax revenue above the health, safety and welfare of its electorate.

Why, then, might Professor Lawrie Challis, Head of the MTHR Programme, have said as quoted here: 'The Government want us to say that these masts are completely safe and aren't dangerous, but we can't say that.'? Of all people, he must surely know that to have decided in advance what you want research to prove renders that research totally invalid. In order to be of any value, research must be totally unbiased, with no prior intention as to what you want it to prove.