

CRITIQUE OF ICNIRP'S DEFENCE OF MOBILE PHONE RADIATION

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<https://www.icnirp.org/en/applications/mobile-phones/index.html>

[No Date. Accessed: October 12 2019] Comments in red italics on text highlighted in blue.

MOBILE PHONES High Frequency

HF effects on the body and health implications

HF fields have the ability to penetrate into the body (the higher the frequency, the lower the depth of penetration), with the effect of this being a temperature rise in body tissue.

Misleading: one effect of RF radiation penetrating the body can be a temperature rise in body tissue. Other established outcomes can be the numerous proven non-thermal effects.

The body can accommodate a small increase in heat, in a similar way that excess body heat is dissipated when performing sporting activity. This is because the human body has a strong ability to regulate its internal temperature. However, above a certain level (referred to as the threshold) depending on the duration of exposure, HF exposure and the accompanying temperature rise can provoke serious health effects, such as heatstroke and tissue damage (burns).

Acute and long-term effects of HF exposure from the use of mobile phones have been studied extensively without showing any conclusive evidence of adverse health effects.

Wrong: there are numerous acute and long-term effects of HF exposure from the use of mobile phones which show conclusively, without any doubt at all, that HF can cause electrosensitivity symptoms and cancers.

Among all of this research, the risk of tumors in close proximity to the ear where the phone is held, e.g. brain tumors, has been the focus of numerous epidemiological studies. A few of these epidemiological studies have reported a slight increase in risk of some brain tumors for the small group of long-term and heavy mobile phone users ([read more](#)). These findings may be explained by reporting biases and weaknesses identified in the studies.

Wrong: these findings cannot all be explained by reporting biases and weaknesses but have been shown to be fully robust studies which convinced IARC in 2011 to classify RF as a 2B human carcinogen by a vote of 29 to 2. Since 2011 other studies have confirmed these findings.

Several studies have not reported any increase in brain tumors with mobile phone use.

Not important: negative studies prove nothing. The fact that this sentence has been added indicates how weak ICNIRP's claims are.

Also, experimental studies on animals and cells have failed to confirm the findings of the epidemiological studies,

Wrong and misleading: the animal NTP and Ramazzini studies both confirmed that there is 'clear evidence' that HF causes cancer. Since these and other studies provide 'sufficient animal evidence' and there are proven mechanisms, majority-viewpoint scientists now agree that HF meets the criteria for a class 1 certain human carcinogen.

and there is no biophysical mechanism that could explain carcinogenicity at such low exposure levels.

Wrong: established and proven biophysical mechanisms include oxidative stress, free radicals, DNA breaks, VGCCs, gene expression etc.

In addition, the increased risk observed in some of the epidemiological studies is inconsistent with the stable frequency of occurrence of these tumors in the population.

Wrong: the Philips et al study showed significant increase in brain tumours. Some studies claiming not to show increased risk were apparently flawed, such as the Australian one which omitted all cases over 60 years, which account for the majority of such cancers ([M.News](#)).

That is an important consideration, given the widespread and significant increase in the use of mobile phones in the general population during the last few decades.

Wrong: it cannot be an important consideration since it is an invalid claim.

A considerable amount of research has also been conducted on the relationship between HF fields and other outcomes such as headaches, concentration difficulty, sleep quality, cognitive function, cardiovascular effects, etc. To date, this research has not shown any such health effects.

Wrong and misleading: there are hundreds, if not thousands, of studies confirming such effects.

The only consistently observed finding is a small effect on brain activity measured by electroencephalography (EEG).

Wrong: this is not the only effect – see above.

The biological implication of these small changes is, however, unclear.

Then why say so, apart from trying to mislead the reader? Most scientists see this effect as consistent with all the other neurological and cardiovascular effects.

For example, they have not been shown to affect sleep quality or be associated with any other adverse effects.

Wrong, as explained above. Sleep disturbance is one of the most established adverse effects, and usually comes top or in the top three effects of studies of residents close to base stations in comparison with people living further away.

The overall evaluation of all the research on HF fields as emitted by mobile phones leads to the conclusion that HF exposure below the thermal threshold is unlikely to be associated with adverse health effects.

Wrong and misleading: it was known that RF causes adverse health effects in 1932 and nothing has invalidated this subsequently. Instead, thousands of studies have confirmed that RF can cause many adverse effects.

For some references see: [Selected Studies on ES and EHS](#)

Protection

To avoid health hazards from HF exposure emitted by mobile phones, the temperature rise in the body must be restricted.

Wrong, in that non-thermal effects must also be restricted. There is no evidence whatsoever from any scientist at all that the proven and established adverse effects from RF exposure can be generated by a temperature rise.

This can be achieved by limiting the absorption of HF energy, expressed in terms of the Specific Absorption Rate (SAR). In its guidelines ICNIRP recommends distinct SAR values applying to whole-body exposure, which is typical from [base stations](#) and for the head, and other locations in the body that are relevant for exposures from mobile phones.

ICNIRP follows up the HF related scientific research and any new information relevant to health.

Misleading: ICNIRP typically cherry-picks the, say, 20% of studies failing to find an effect but dismisses the 80% which find an effect.

A revision of the current ICNIRP guidelines on RF used as related to mobile phones is underway. [The public consultation of the draft guidelines is over.](#) The comments are being analyzed and the draft guidelines continued. For timely information on publication, please register to the [newsletter](#).

Key points:

This article by ICNIRP, in defence of the mobile phone industry, is not peer-reviewed and could not pass peer-review by a reputable scientific institution since it makes so many unscientific claims without any evidence or against the majority scientific evidence.

The ICNIRP keeps to a single minority viewpoint, that the only adverse effect is heating and that this is short-term, against the majority viewpoint that there are proven numerous effects which are not overtly related to heat and can be cumulative, meaning that there are also long-term effects.

It was discovered in 1953 that RF causes cancer. In 1953 the US decided to follow Herman Schwan's mistaken and invalidated hypothesis that the only adverse effect is heating, and so set limits to prevent a temperature rise of one degree in six minutes. In fact, exercise can lead to a bodily temperature rise of one degree within that time, but without the proven adverse effects of electrosensitivity, infertility, neurological and cardiovascular damage, and cancers, all of which are caused by non-thermal effects.

In contrast, the USSR accepted non-thermal effects for their guidelines in 1959 and Poland in 1961. Now about half the world does not follow ICNIRP and IEEE but instead follows non-thermal guidelines, although in 2007 the WHO still supported the ICNIRP's and IEEE's invalidated short-term heating guidelines, which the majority-viewpoint scientists regard as unscientific and not protective of health. The UK still follows ICNIRP's guidelines, even though in 2009 the EU Parliament voted that they were 'obsolete'.

International long-term biological guidelines, based on scientific evidence and to protect health, include: Seletun 2010, Bioinitiative 2012, EUROPAEM 2016 and IGNIR 2018.

- Background levels: 0.00002 V/m (0.000001 $\mu\text{W}/\text{m}^2$)
- International long-term biological guidelines: 0.006-0.2 V/m (0.1-100 $\mu\text{W}/\text{m}^2$)
- ICNIRP's short-term heating guidelines: 61 V/m (9,200,000 $\mu\text{W}/\text{m}^2$)

Majority-viewpoint scientific groups with an evidence-based approach to radiation:

[International EMF Scientist Appeal](#)

[5G Appeal](#)

[EMF Call](#)

[Stop 5G On Earth and In Space](#)

International long-term biological guidelines include:

[Bioinitiative 2012,](#)

[EUROPAEM EMF Guideline 2016,](#)

[IGNIR 2018,](#)

[Seletun 2010.](#)

See also:

[Serious flaws in the WHO & ICNIRP claims on 5G](#)

[Biological Effects: Majority and Minority viewpoints, and Guidelines](#)