

Column 23

IMPLICATIONS OF IARC CLASSIFICATION THAT ARE NOT SPOKEN ALOUD

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Disclaimer: *the opinions presented in this column are author's own and should NOT be considered as the official opinions of any of Dariusz Leszczynski's employers.*

MELBOURNE, Australia, August 2, 2012--In May 2011 at the meeting at the Headquarters of the International Agency for Research on Cancer (IARC) in Lyon, France, the Working Group of 30 scientists nearly unanimously classified cell phone radiation as a [possible carcinogen](#).

This surprising outcome, which went against the opinion propagated by the ICNIRP, was possible because the IARC invited to Lyon not only scientists that agreed with ICNIRP's opinion but also scientists that disagreed with it. The outcome was a real scientific debate (for more explanation [see earlier column](#)).

Following the IARC meeting, my first idea was that the classification of cell phone radiation as a possible carcinogen will scientifically justify the need for more research and will lead to more research funding to help close the gaps in the knowledge.

It was very naïve of me to think this way.

Nothing significant happened to the research effort. In fact, the industry considered the new classification as sort of a "clean bill of health" because cell phone radiation was not classified as a carcinogen.

There is also no new funding. The recent EU effort to fund in 2013 a single project to the amount of 6,000,000 Euros per 3-year period is a "drop in the sea of needs". It is like giving a heart patient aspirin instead of a heart transplant.

"...ENV.2013.6.4-2 Closing gaps of knowledge and reducing exposure to electromagnetic fields (EMF) – FP7-ENV-2013-two-stage

- *As previous studies have been inconclusive as regards possible health effects of exposure to EMFs, further research should be carried out to better understand the possible mechanisms generating biological effects through the use of novel approaches, as well as to collect and improve exposure and health risk assessment of EMFs, and also to underpin policy development. A large-scale prospective population study – that could reach beyond the EU – could be envisaged to investigate, inter alia, the role of radiofrequency (RF) exposures in cancer risk, neurodegenerative diseases, reproductive problems, behaviour and ageing, and exposure and health effects from intermediate frequency (IF) fields. More data on cumulative personal exposures from various sources should be collected. The research should also propose non technological means to reduce exposure.*
- *Funding scheme: Collaborative Project*

- *The requested EU contribution per project shall not exceed EUR 6,000,000*
- *Up to one proposal can be selected...*

There are, however, implications of the IARC classification that nobody dares to speak aloud.

Precautionary Principle

The IARC classification justifies implementation of the [Precautionary Principle](#). The EU document states as follows about the reasons to implement the Precautionary Principle (quote from the document's summary):

"...Recourse to the precautionary principle presupposes that potentially dangerous effects deriving from a phenomenon, product or process have been identified, and that scientific evaluation does not allow the risk to be determined with sufficient certainty.

The implementation of an approach based on the precautionary principle should start with a scientific evaluation, as complete as possible, and where possible, identifying at each stage the degree of scientific uncertainty..."

The IARC has done just what the Precautionary Principle document asked for. Namely: IARC evaluated all available scientific evidence on cancer and identified potentially a dangerous product (cell phone radiation) but scientific evaluation does not allow the risk to be determined with sufficient certainty.

Research funding

One important consequence of the implementation of the Precautionary Principle would be speeding up the research. The Precautionary Principle document says the following (quote from the document's summary):

"...Assigning responsibility for producing scientific evidence is already a common consequence of these measures. Countries that impose a prior approval (marketing authorisation) requirement on products that they deem dangerous a priori reverse the burden of proving injury, by treating them as dangerous unless and until businesses do the scientific work necessary to demonstrate that they are safe.

Where there is no prior authorisation procedure, it may be up to the user or to public authorities to demonstrate the nature of a danger and the level of risk of a product or process. In such cases, a specific precautionary measure might be taken to place the burden of proof upon the producer, manufacturer or importer, but this cannot be made a general rule..."

It means that decision makers (politicians) might decide that the cell phone manufacturers and service providers might be required to provide scientific proof that the cell phone radiation is safe.

Non-thermal effects of cell phone radiation

ICNIRP acknowledges only existence of the thermal effects of cell phone radiation. ICNIRP's opinion is that the non-thermal effects are not proven and that they are unlikely to exist. However, the IARC classification contradicts this opinion and indicates that non-thermal effects exist.

Namely: the decision to classify cell phone radiation as possible carcinogen was based predominantly on the results of Interphone study and studies of the Swedish group of Hardell, showing that long time extensive use of cell phone might increase the risk of development of brain cancer.

This means that the possible health effect (cancer) developed in people using regular cell phones, compliant with current ICNIRP radiation emission safety limits. Radiation emitted by such phones should not cause thermal effects and associated with thermal effects health risks.

This means that regular cell phones induce non-thermal effects that in consequence lead to increased health risk – risk of development of brain cancer.

It logically means that non-thermal effects exist because cell phones meeting ICNIRP safety standards do not induce thermal effects.

Safety standards for radiation emitted by cell phones

In my testimony in the [US Senate hearing in September 2009](#), I stated that the current safety standards are not sufficiently supported by the available science. The reason is the lack of studies on human volunteers that would demonstrate whether cell phone radiation induces biological effects in human body and what kind of effects in respect of quality and quantity. The answers to such questions can be obtained only by human volunteer studies examining molecular level effects of cell phone radiation. Such studies are opposed by the funding agencies as premature. As a result, to date, only three such studies were executed ([Karinén et al. 2008](#), [Volkow et al 2011](#), [Kwon et al. 2011](#)).

It means that we still do not know how the human body responds to cell phone radiation.

The outcome of the IARC classification goes further.

IARC classification indicates that current safety standards are insufficient to protect users. Results obtained in the Interphone study and Hardell studies were obtained from people using regular cell phones that meet current safety standards. In spite of meeting current safety standards, long-term avid use of these cell phones led to increased risk of cancer.

It logically means that the current safety standards are insufficient because the amount of radiation emitted by the cell phones causes increased health risk of developing cancer.

In summary, IARC classification:

First published in The Washington Times Communities

- **justifies implementation of the Precautionary Principle**
- **confirms existence of non-thermal effects that can cause health risk**
- **indicate that current safety standards are insufficient to protect health of the users**