



EVALUATION IN PERSPECTIVE (EIP)

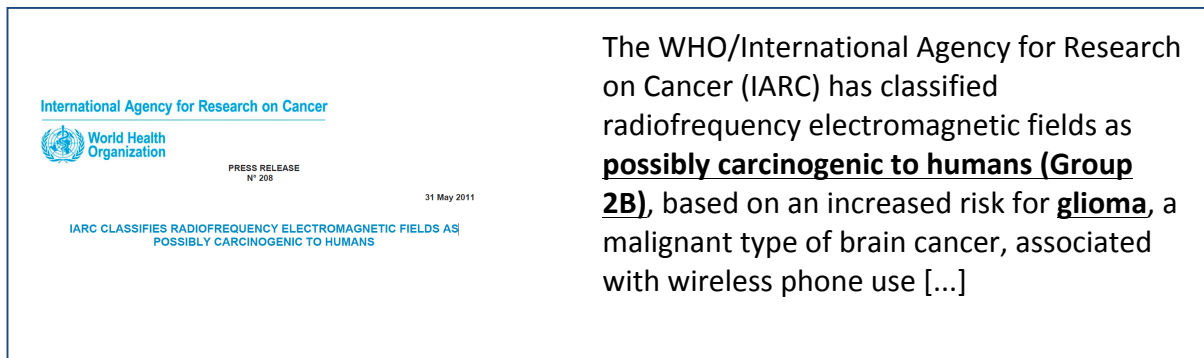
Communicating IARC's 2B classification of RF EMF

EVALUATION IN PERSPECTIVE (EIP) SERIES

How to communicate the 2B classification of RF EMF exposure from mobile phones as “possibly carcinogenic to humans”?

In spring 2011, the International Agency for Research on Cancer (IARC), an agency of the WHO, classified high-frequency electromagnetic fields (RF EMF), which are also used for mobile phones, as "possibly carcinogenic to humans".

This brochure is about how this classification should be communicated in order to be properly understood and helpful to assess the potential risk appropriately.



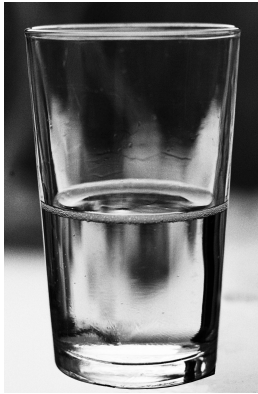
The WHO/International Agency for Research on Cancer (IARC) has classified radiofrequency electromagnetic fields as **possibly carcinogenic to humans (Group 2B)**, based on an increased risk for **glioma**, a malignant type of brain cancer, associated with wireless phone use [...]

Source: IARC Press release 31/05/2011

COMMUNICATION CHALLENGES

There is no common understanding of "possibly carcinogenic" in the population!

- Terms such as "possibly" or "rare", describing the probabilities, are interpreted quite different among the population: studies (1) show that such terms offer little orientation for the general population and lead to a tendency to over- or underestimate the potential hazard.
- In addition, people see different causes for the uncertainty, which leads to the evaluation "possibly". Besides genetic variability, respondents also mentioned the combined effect with other hazardous substances, disease predispositions or differences in exposure levels as causes (2).

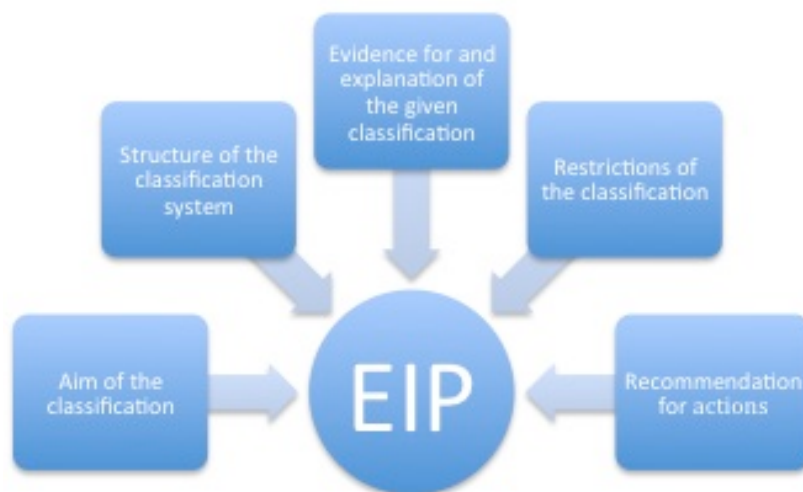


RISK COMMUNICATION TASKS

Risk communication should:

- characterize risk assessments precisely,
- explain why some risk assessments are more trustworthy than others,
- make it transparent on what experts agree and on what they disagree and explain these differences.

The “EIP-APPROACH “ (EVALUATION IN PERSPECTIVE)



Aim:

What is the function of the classification?

Structure:

How is the classification system structured?

Evidence:

What justifies the given classification?

Restrictions:

Which restraints have to be considered?

Recommendations:

What actions should follow from the classification?

The EIP-approach is intended to help non-experts to better understand the hazard classification for a substance – for example as "possibly carcinogenic".

For this purpose, it is important to convey the following information: The Aim of the classification, the structure of the classification system, evidence for and explanation of the given classification, and clarification of the restrictions. Useful are also recommendations for protective health actions.

“EIP” FOR IARC’S RF EMF CLASSIFICATION

AIM OF THE CLASSIFICATION

INFORMATION ABOUT THE AIM OF THE CLASSIFICATION

The IARC evaluates scientific findings for selected materials and substances regarding a carcinogenic effect. Nothing is said about the magnitude of risk to the public (if a substance is carcinogenic).

STRUCTURE OF THE CLASSIFICATION SYSTEM

1. DISCRIPTION OF THE CLASSIFICATION SYSTEM

2B is the weakest category still indicating that a carcinogenic effect is possible.



IARC SYSTEM

- Group 1: Carcinogenic to humans
- Group 2A: Probably carcinogenic to humans
- Group 2B: Possibly carcinogenic to humans
- Group 3: Not classifiable as to its carcinogenicity to humans
- Group 4: Probably not carcinogenic to human

2. APPLIED LOGIC FOR THE CLASSIFICATION

In order to classify a substance as "possibly carcinogenic", it requires no conclusive scientific evidence, limited evidence is sufficient.

EVIDENCE FOR AND EXPLANATION OF THE GIVEN CLASSIFICATION

1. EVIDENCE FOR THE CLASSIFICATION

Regarding the carcinogenic effects of RF EMF there is limited evidence from epidemiological studies and animal experiments.

“Limited evidence” indicates that the causation of cancer by RF EMF exposure is credible, but chance, bias and confounding can not be ruled out with reasonable certainty.

→ The carcinogenicity of RF EMF is not proved beyond reasonable doubt.

2. EXPLANATION THROUGH COMPARISONS

The insecticide DDT and coffee (coffee acid) are also classified as “possibly carcinogenic to humans”.

RESTRICTIONS OF THE CLASSIFICATION

1. WHAT CANCER ENDPOINTS?

The 2B classification “possibly carcinogenic to humans” refers to brain tumours (Glioma).

2. WHAT EXPOSURE SOURCES?

The classification “possibly carcinogenic to humans” refers only to personal exposure from wireless phones. This classification is not possible for other exposure sources such as environmental (e.g., base stations) or occupational exposure.

-> The extrapolation to other RF EMF exposure sources (cordless phones, WIFI, transmission towers, microwave ovens) is not backed by empirical data.

RECOMMENDATION FOR ACTIONS

INFORMATION ON PRECAUTIONARY MEASURES

The IARC system is not linked to recommendations on what should be the consequences in terms of required actions. In different countries, authorities recommend and implement different precautionary measures.

BACKGROUND

The EIP-approach was developed in two workshops with experts from science, NGOs and industry. Furthermore, the approach is based on a systematic review of the literature on risk communication. The EIP-approach is currently tested in an empirical study.

LITERATURE

(1) Lipkus, I. (2007). Numeric, Verbal, and Visual Formats of Conveying Health Risks: Suggested Best Practices and Future Recommendations. *Medical Decision Making*, 27 (5), 696-713.

(2) Wiedemann et al. (2012) Umfrage zum Verständnis der IARC 2B Kommunikation. Unpublished manuscript. Berlin: WF-EMF.

WHO WE ARE

The Science Forum EMF deals with science controversies using the example of health effects of electromagnetic fields (EMF). The forum is dedicated to a problem, which plays a key role in the social and political debate about the acceptability of telecommunications infrastructure. The Science Forum EMF will help ensure the scientific quality and integrity of research in controversies about the potential risks of EMF. The forum will also help to improve risk communication with the public and provide a networking platform for scientists.

CONTACT

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