

Health Effects, Guidelines and Uncertainty

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In formulating guidelines for limiting human exposures to electromagnetic fields, it is essential that any advice is objective, logical and consistent. Restrictions should be based on well-defined, established adverse health effects, with any assumptions and uncertainties used to the derivation of values made clear. Overall, the advice must be impartial and transparent.

Fundamental to the development of exposure guidelines are thorough reviews of the science, bringing together the published data from epidemiological and laboratory studies in a holistic manner. This constitutes the basis for the risk assessment process: the International Commission on Non-Ionizing Radiation Protection, the World Health Organization and the Health Protection Agency, among others, have carried out thorough and comprehensive scientific reviews of the data. Many laboratory and observational studies have investigated the possible effects of exposure to radiofrequency fields using a wide range of signals, exposure conditions and endpoints. However, the interpretation of the results of many of these studies is controversial. A spectrum of opinion exists within the scientific and wider communities, resulting in divergent views on what effects should constitute a basis for setting quantitative limits on exposure.

Intrinsic to this is the degree of certainty of any effect being caused by exposure. Only the effects where it is possible to make judgements on causality and there is supporting scientific data to provide insight into mechanisms underlying those effects are relevant to recommending quantitative restrictions on exposure. Residual uncertainties inform to the need to adopt further precautionary measures, and provide input into developing research priorities.

[The slides that follow were those presented at the conference]