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Environmental Health

P E R S P E C T I V E S

Published by the National Institute of
Environmental Health Sciences

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doi:10.1289/ehp.7306 (available at <http://dx.doi.org/>)

Online 23 September 2004



**The National Institute of Environmental Health Sciences
National Institutes of Health
U.S. Department of Health and Human Services**

Epidemiology of Health Effects of Radiofrequency Exposure

ICNIRP (International Commission for Non-Ionizing Radiation Protection) Standing Committee on
Epidemiology:

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Acknowledgements: We thank R Neale for help with an initial draft, M Feychting for comments and M Bittar for secretarial assistance. We thank ICNIRP for supporting this work and particularly Paolo Vecchia for invaluable advice and P Buffler for participation in planning of the work.

Short running head: Epidemiology and RF

Key words: Electromagnetic fields, EMF, Epidemiology, Health effects, Radiofrequency, RF

Outline of Manuscript Section Headers:

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 - a. Sources of exposure
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Abbreviations:

APC	Adaptive power control
CI	Confidence interval
DNA	Deoxyribonucleic acid
FM	Frequency modulation
Hz	Herz
Km	Kilometer
OR	Odds ratio
RR	Relative risk

SAR	Specific absorption rate
SIR	Standardized incidence ratio
SMR	Standardized mortality ratio
TV	Television
US	United States of America
W	Watt

Abstract

We have undertaken a comprehensive review of epidemiological studies about the effects of radiofrequency fields (RF) on human health in order to summarize the current state of knowledge, explain the methodological issues that are involved, and aid in the planning of future studies. There have been a large number of occupational studies over several decades particularly on cancer, cardiovascular disease, adverse reproductive outcome, and cataract in relation to RF exposure. More recently there have been studies of residential exposure mainly from radio and TV transmitters, and especially focusing on leukaemia. There have also been studies of mobile phone users particularly on brain tumours and less often on other cancers and on symptoms. Results of these studies to date give no consistent or convincing evidence of a causal relation between RF exposure and any adverse health effect. On the other hand, the studies have too many deficiencies to rule out an association. A key concern across all studies is the quality of assessment of RF exposure. Despite the ubiquity of new technologies using RF, little is known about population exposure from RF sources and even less about the relative importance of different sources. Other cautions are that mobile phone studies to date have only been able to address relatively short lag periods, almost no data are available on the consequences of childhood exposure, and published data largely concentrate on a small number of outcomes especially brain tumour and leukaemia.