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TI - Thermal and non-thermal health effects of low intensity non-ionizing radiation:
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AB - Exposure to low frequency and radiofrequency electromagnetic fields at low
intensities poses a significant health hazard that has not been adequately
addressed by national and international organizations such as the World Health
Organization. There is strong evidence that excessive exposure to mobile
phone-frequencies over long periods of time increases the risk of brain cancer
both in humans and animals. The mechanism(s) responsible include induction of
reactive oxygen species, gene expression alteration and DNA damage through both
epigenetic and genetic processes. In vivo and in vitro studies demonstrate
adverse effects on male and female reproduction, almost certainly due to
generation of reactive oxygen species. There is increasing evidence the exposures
can result in neurobehavioral decrements and that some individuals develop a
syndrome of "electro-hypersensitivity" or "microwave illness", which is one of
several syndromes commonly categorized as "idiopathic environmental intolerance".
While the symptoms are non-specific, new biochemical indicators and imaging
techniques allow diagnosis that excludes the symptoms as being only
psychosomatic. Unfortunately standards set by most national and international
bodies are not protective of human health. This is a particular concern in
children, given the rapid expansion of use of wireless technologies, the greater
susceptibility of the developing nervous system, the hyperconductivity of their

      brain tissue, the greater penetration of radiofrequency radiation relative to
      head size and their potential for a longer lifetime exposure.
CI - Copyright © 2018. Published by Elsevier Ltd.
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LA - eng
PT - Journal Article
PT - Review
DEP - 20180706
PL - England
TA - Environ Pollut
JT - Environmental pollution (Barking, Essex : 1987)
JID - 8804476
RN - 0 (Reactive Oxygen Species)
SB - IM
CIN - Environ Pollut. 2019 Mar;246:122-123. doi: 10.1016/j.envpol.2018.11.073. PMID:
      30529936
MH - Animals

MH - Brain
MH - Brain Neoplasms
MH - Cell Phone
MH - Child
MH - DNA Damage
MH - *Electromagnetic Fields
MH - Environmental Exposure/*statistics & numerical data
MH - Female
MH - Humans
MH - Hypersensitivity
MH - Internationality
MH - Light
MH - Microwaves
MH - Reactive Oxygen Species
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