

**Yes, there
really are
health risks
from wireless
radiation
exposure!**

**VOTE NO ON
SB 649!**



Table of Contents

World Health Organization Classified Wireless Emissions as a Possible Carcinogen	2
Other countries have issued precautionary warnings about the health risks from wireless exposure	2
International EMF Scientists' Statement About Health Risks From Wireless Radiation Exposure	3
Recently Published Study Showing DNA Damage in People Living Close to a Cell Tower	4
Statement on the recent U.S. National Toxicology Program's study: Exposure to wireless radiation causes cancer	6
The American Cancer Society's statement on the significance of the NTP study	6
"Cell Phones and Health" - CDPH public health advisory on wireless radiation exposure	7
US Department of the Interior Says FCC's Wireless Exposure Guidelines Are Obsolete	9
BioInitiative Report: A Rationale for Biologically-Based Exposure Standards	10

International Agency for Research on Cancer



PRESS RELEASE

N° 208

31 May 2011

IARC CLASSIFIES RADIOFREQUENCY ELECTROMAGNETIC FIELDS AS POSSIBLY CARCINOGENIC TO HUMANS

Lyon, France, May 31, 2011 -- 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 cancer¹, associated with wireless phone use.

(NOTE: Experts on this IARC committee have confirmed that the microwave RF exposure from cell towers is included in this 2B possibly carcinogenic classification)

Other countries have issued precautionary warnings about the health risks from wireless exposure

<https://ehtrust.org/wp-content/uploads/International-Policy-Precautionary-Actions-on-Wireless-Radiation.pdf>

International EMF Scientists' Appeal Concerning Health Risks From Wireless Exposure

After reviewing thousands of peer-reviewed, published studies on the health risks of wireless radiation exposure, 225 leading EMF scientists and health experts from 41 nations stated:

“These findings justify our appeal to the United Nations (UN) and, all member States in the world, to encourage the World Health Organization (WHO) to exert strong leadership in fostering the development of more protective EMF guidelines, encouraging precautionary measures, and educating the public about health risks, particularly risk to children and fetal development. By not taking action, the WHO is failing to fulfil its role as the preeminent international public health agency. Finally, this appeal calls upon the United Nations Environmental Programme, who serves as the “voice for the environment”, to evaluate the scientific evidence and propose more protective practices.”

On May 11, 2015, the ***Appeal*** was submitted to:

His Excellency Ban Ki-moon, Secretary-General of the United Nations;
Honorable Dr. Margaret Chan, Director-General of the World Health Organization; Honorable Achim Steiner, Executive Director of the U.N. Environmental Programme; U.N. Member Nations

As of March, 2017, the Appeal has 225 signatures of leading EMF research and health experts from 41 nations.

<https://emfscientist.org/index.php/emf-scientist-appeal>

Recently Published Study Showing DNA Damage in People Living Close to a Cell Tower

Electromagn Biol Med. 2017 Aug 4:1-11. doi: 10.1080/15368378.2017.1350584

“Impact of radiofrequency radiation on DNA damage and antioxidants in peripheral blood lymphocytes of humans residing in the vicinity of mobile phone base stations.”

Zothansiam, Zosangzuali M, Lalramdinpuii M, Jagetia GC.: Department of Zoology, Cancer and Radiation Biology Laboratory , Mizoram University , India.

Abstract

Radiofrequency radiations (RFRs) emitted by mobile phone base stations have raised concerns on its adverse impact on humans residing in the vicinity of mobile phone base stations. Therefore, the present study was envisaged to evaluate the effect of RFR on the DNA damage and antioxidant status in cultured human peripheral blood lymphocytes (HPBLs) of individuals residing in the vicinity of mobile phone base stations and comparing it with healthy controls.... The analysis of various antioxidants in the plasma of exposed individuals revealed a significant attrition in glutathione (GSH) concentration ($p < 0.01$), activities of catalase (CAT) ($p < 0.001$) and superoxide dismutase (SOD) ($p < 0.001$) and rise in lipid peroxidation (LOO) when compared to controls. Multiple linear regression analyses revealed a significant association among reduced GSH concentration ($p < 0.05$), CAT ($p < 0.001$) and SOD ($p < 0.001$) activities and elevated MN frequency ($p < 0.001$) and LOO ($p < 0.001$) with increasing RF power density.

<https://www.ncbi.nlm.nih.gov/pubmed/28777669>

“All of the recorded radiofrequency radiation (RFR) power density values in this study were well below the Federal Communication Commission’s (FCC) maximum permissible exposure limits in the U.S. for the general population. These limits are 10,000 mW/m² [milliwatts per square meter]. In contrast, the highest recorded value in this study was 7.52 mW/m² of RFR. The “exposed individuals” who resided within 80 meters of a cell antenna received an average of 5.00 mW/m² of RFR in their bedrooms.” Joel Moskowitz, PhD - UC Berkeley School of Public Health

NOTE: The average exposure level to those within about 240 feet of a cell tower in the study was 2,000 times BELOW the FCC allowed exposure level. The current 20 year old, obsolete FCC exposure guidelines allow for exposure to the microwave radiation emitted from cell towers as long as it doesn't exceed the level that is high enough to heat human tissue. The scientific basis for allowing people to be exposed to these extraordinarily high levels is the outdated assumption that there can be no possible biological harm from "non thermal" exposure. This underlying assumption continues to be the basis for our federal exposure guidelines in spite of the thousands of peer-reviewed, independently researched studies showing biological effects and harm **at levels many thousands of times below the "thermal" or tissue-heating levels allowed by the FCC guidelines.**

The \$25 million U.S. National Toxicology Program of the National Institutes of Health was specifically designed to test for "non thermal" effects as the laboratory animals were exposed to levels that the FCC considers "safe" – there was an increased risk documented for DNA damage and cancer. The [**American Cancer Society released a statement**](#) declaring that the NTP study ***"linking radiofrequency radiation to two types of cancer marks a paradigm shift in our understanding of radiation and cancer risk..."***

Statement on the U.S. National Toxicology Program that reports that exposure to wireless radiation causes cancer

"This \$25 million study, executed by the U.S. government, provides support for what we are stating in the 'International EMF Scientist Appeal' that precautionary approach should be exercised and lower electromagnetic field exposure guidelines should be set".

A partial release of this study, conducted by U.S. National Institutes of Health's National Toxicology Program is found at

<http://biorxiv.org/content/early/2016/05/26/055699>

Report of Partial Findings from the National Toxicology Program Carcinogenesis Studies of Wireless Radiofrequency Radiation

*"Given the widespread global usage of mobile communications among users of all ages, **even a very small increase in the incidence of disease resulting from exposure to RFR could have broad implications for public health.** There is a high level of public and media interest regarding the safety of cell phone RFR and the specific results of these NTP studies."*

The American Cancer Society's statement on the significance of the NTP study:

*"The NTP report linking radiofrequency radiation (RFR) to two types of cancer marks a paradigm shift in our understanding of radiation and cancer risk. The findings are unexpected; **we wouldn't reasonably expect non-ionizing radiation to cause these tumors.**" Otis W. Brawley, M.D., American Cancer Society Chief Medical Officer.*

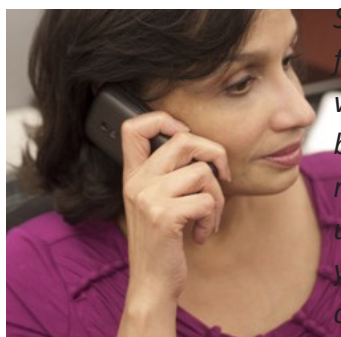
<https://acspressroom.wordpress.com/2016/05/27/ntpcellphones/>



Cell Phones and Health

Cell phones, like other electronic devices, emit a kind of energy called radiofrequency EMFs (electromagnetic fields). Health officials are concerned about possible health effects from cell phone EMFs because some recent studies suggest that long-term cell phone use may increase the risk of brain cancer and other health problems. For those concerned about possible health problems, this fact sheet provides information about how to lower exposure to EMFs from cell phones.

What do we know about cell phones and health?



Several studies have found that people with certain kinds of brain cancer were more likely to have used cell phones for 10 years or more. Most of the cancers were on the same side of the head that

people usually held their phones. Although the chance of developing brain cancer is very small, these studies suggest that regular cellphone use increases the risk of developing some kinds of brain cancer. Some studies have also linked exposure to EMFs from cell phones to fertility problems. As more studies are done and we learn more about possible risks for cancer and other health problems linked to cell phone use, the recommendations on this fact sheet may change.

EMF exposure from cell phones

Your exposure to cell phone EMFs depends mostly on your distance from the phone, the strength of the EMF, and how long and how often you use the phone. The farther away the phone is from your body, the lower the exposure. Your cell phone produces stronger EMFs at the start of a call, when it is trying to connect to a cell tower, and also when only one or two bars are showing. Your phone also emits stronger EMFs when used in a moving car, bus, or train, as the phone switches connections from one cell tower to another. Finally, some phones produce stronger EMFs than others.

What are EMFs?

EMFs are types of radiation. They are created by all electronic devices. Some devices, such as watches, create weak EMFs that are considered harmless. Others, like X-ray machines, generate very strong EMFs that can damage cells and tissues, and cause cancer and other health effects. This is why we try to only use X-rays when necessary. Cell phones make relatively weak EMFs, somewhat less than those from microwave ovens, but because they are used frequently and kept close to the head and body, cell phone EMFs can affect nearby cells and tissues.

April 2014

What can I do to reduce my exposures to EMFs from cell phones?

To lower your exposure to EMFs from cell phones:

Increase the distance between you and your phone by:

- **Using the speaker phone.**
- **Sending text messages.**
- **Use a headset and carry your phone away from your body.** EMFs from wireless (Bluetooth) and wired headsets are usually weaker than those from a cell phone.
- **Keep your phone away from your body.** A cell phone that is on can emit EMFs even when it is not being used. Do not sleep with your cell phone near you or carry it in a pocket or directly on your body unless the phone is turned off.

Limit your cell phone use when reception is weak or increase the distance between you and the phone. When your phone shows only one or two bars, it is emitting stronger EMFs than when three, four, or five bars are showing.

Reduce the amount of time spent talking on a cell phone.

- **Keep cell phone calls short**, even when using a wireless or wired headset.
- **Use speaker phone mode or a corded phone for longer conversations.**

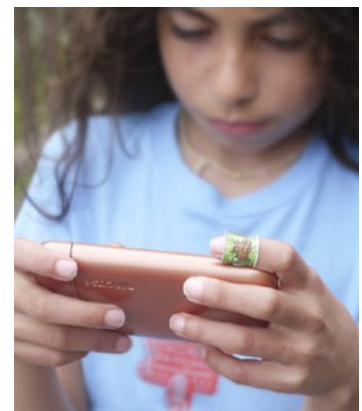
Corded phones produce very weak EMFs.

Take off your headset when you're not on a call. Wireless and wired headsets emit EMFs even when you aren't using your phone.

Do not rely on devices that claim to shield or neutralize EMFs from cell phones. These devices have not been shown to reduce exposures.

What about cellphone EMFs and children?

EMFs can pass deeper into a child's brain than an adult's. Also, the brain is still developing through the teen years, which may make children and teens more sensitive to EMF exposures. For these reasons, parents may want to limit their child's cell phone use to texting, important calls, and emergencies. Pregnant women, children, and teens can also follow the tips for reducing exposure listed above.



Where can I get more information?

For more information about EMF exposures and cell phones, please send an email to: cellinfo@cdph.ca.gov



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

FEB - 7 2014



US Department of the Interior Says FCC's Wireless Exposure Guidelines Are Obsolete

"The US Department of Interior charges that the FCC standards for wireless radiation are outmoded and no longer applicable as they do not adequately protect wildlife.

The Interior Department accused the Federal government of employing outdated radiation standards set by the Federal Communications Commission (FCC), a federal agency with no expertise in health. The standards are no longer applicable because they control only for overheating and do not protect organisms from the adverse effects of exposure to the low-intensity radiation produced by cell phones and cell towers:

....the electromagnetic radiation standards used by the Federal Communications Commission (FCC) continue to be based on thermal heating, a criterion now nearly 30 years out of date and inapplicable today.

The Department criticized the Federal government's proposed procedures for placement and operation of communication towers, and called for "independent, third-party peer-reviewed studies" in the U.S. to examine the effects of cell tower radiation on 'migratory birds and other trust species.'"

Excerpt from an article by Dr, Joel Moskowitz. Below is link to the full article:

<http://www.saferemr.com/2014/03/dept-of-interior-attacks-fcc-regarding.html>



BioInitiative 2012

A Rationale for Biologically-based Exposure Standards
for Low-Intensity Electromagnetic Radiation

You are here: Home / Conclusions

Search

Conclusions

Overall, these 1800 or so new studies report abnormal gene transcription (Section 5); genotoxicity and single-and double-strand DNA damage (Section 6); stress proteins because of the fractal RF-antenna like nature of DNA (Section 7); chromatin condensation and loss of DNA repair capacity in human stem cells (Sections 6 and 15); reduction in free-radical scavengers – particularly melatonin (Sections 5, 9, 13, 14, 15, 16 and 17); neurotoxicity in humans and animals (Section 9), carcinogenicity in humans (Sections 11, 12, 13, 14, 15, 16 and 17); serious impacts on human and animal sperm morphology and function (Section 18); effects on offspring behavior (Section 18, 19 and 20); and effects on brain and cranial bone development in the offspring of animals that are exposed to cell phone radiation during pregnancy (Sections 5 and 18). This is only a snapshot of the evidence presented in the BioInitiative 2012 updated report.

LOW EXPOSURE LEVELS ARE ASSOCIATED WITH BIOEFFECTS AND ADVERSE HEALTH EFFECTS AT CELL TOWER RFR EXPOSURE LEVELS

At least five new cell tower studies are reporting bioeffects in the range of 0.003 to 0.05 $\mu\text{W}/\text{cm}^2$ at lower levels than reported in 2007 (0.05 to 0.1 $\mu\text{W}/\text{cm}^2$ was the range below which, in 2007, effects were not observed). Researchers report headaches, concentration difficulties and behavioral problems in children and adolescents; and sleep disturbances, headaches and concentration problems in adults. ***Public safety standards are 1,000 – 10,000 or more times higher than levels now commonly reported in mobile phone base station studies to cause bioeffects.***

EVIDENCE THAT CHILDREN ARE MORE VULNERABLE

There is good evidence to suggest that many toxic exposures to the fetus and very young child have especially detrimental consequences depending on when they occur during critical phases of growth and development (time windows of critical development), where such exposures may lay the seeds of health harm that develops even decades later. ***Existing FCC and ICNIRP public safety limits seem to be not sufficiently protective of public health, in particular for the young (embryo, fetus, neonate, very young child).***

<http://www.bioinitiative.org/conclusions/>



**Protect Our Children's Health.....
Not TELECOM's Wealth!**

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