



THE FACTS: IARC DISCREDITED EVALUATION OF CELL PHONE RADIATION - MONOGRAPH 102

The International Agency for Research on Cancer (IARC) surprised the scientific community with its decision to [classify](#) radiofrequency from cell phones as “possibly carcinogenic.” This determination is an outlier in scientific research on the health impacts of electromagnetic radiation (EMF). In addition to being out of step with the broader scientific community, IARC’s evaluation was plagued by questionable interpretations of existing scientific work and discord within the Working Group charged with evaluating the carcinogenic risk.

Background:

- Since the invention of the radio at the dawn of the 20th Century, we have been using radiofrequency (RF) waves, a type of non-ionizing electromagnetic field (EMF). Since then, humans have come to rely on artificially generated radio waves for broadcasting, radar, communications satellites, computing and countless other applications.
 - The scientific consensus has long held that non-ionizing radiation is capable only of heating up thermal tissue and [cannot physically](#) alter atoms or molecules, even at high intensity levels.
- But the explosion in popularity of the cell phone prompted calls for a reevaluation of the potential health impacts of increased exposure to radiofrequency radiation. Throughout the early 2000s, a handful of scientific [studies](#) examined potential links between cell phone use and brain cancer [incidence rates](#), concluding that there was no evidence to suggest any correlation.
- Yet on May 31, 2011, IARC classified RF as a Group 2B “possible carcinogen.”
 - IARC based its conclusion on its own widely-criticized [Interphone](#) study, as well as a collection of studies conducted in [Denmark](#) by Dr. Lennart Hardell. IARC permitted Dr. Hardell to participate in the Working Group and “to vote despite the fact that he has testified as an ‘expert witness’ in litigation by brain cancer patients against cell phone companies.” ([Science-Based Medicine](#), April 2012)
 - In an unusual turn of events, the Monograph 102 opinion was [opposed](#) by a minority within the IARC Working Group.
 - The report itself acknowledged that the Danish and Interphone studies, the key evidence driving 2B classification, were “affected by selection bias and information bias.” ([Monograph 102, 2013](#))
- Following IARC’s classification, the U.S. Centers for Disease Control and Prevention (CDC) began a reevaluation of its public position on RF radiation to bring it in line with IARC Monograph findings. Several members of the IARC Working Group were also [working for the U.S. government](#) at the time.
 - In June 2014, the CDC published [new guidelines](#) on cell phone use that “recommend caution” but then quickly reversed itself in August 2014, [taking down the guidelines](#) and [deleting](#) any suggestion that it believes there may be health risks.

WHAT TO MAKE OF IARC'S CLASSIFICATIONS		
GROUP	WHAT DOES IT MEAN?	WHAT DOES IT INCLUDE?
GROUP 1	CARCINOGENIC TO HUMANS Sufficient evidence in humans. Causal relationship established.	Tobacco, mustard gas, plutonium, processed meats, canned fish, alcohol, sun
GROUP 2A	PROBABLY CARCINOGENIC TO HUMANS Limited evidence in humans. Sufficient evidence in animals.	Red meat, frying, very hot beverages, exposures from working in hairdressing
GROUP 2B	POSSIBLY CARCINOGENIC TO HUMANS Limited evidence in humans. Insufficient evidence in animals.	Pickled vegetables, radiofrequency electromagnetic fields, exposures from working in carpentry, gasoline
GROUP 3	CARCINOGENICITY NOT CLASSIFIABLE Inadequate evidence in humans. Inadequate evidence in animals.	Coffee, tea, caffeine, fluorescent lighting
GROUP 4	PROBABLY NOT CARCINOGENIC Evidence suggests no carcinogenicity in humans/animals.	ONLY 1 CHEMICAL EVER PLACED IN THIS GROUP OF ALL SUBSTANCES ASSESSED Caprolactam, which is used in the manufacture of synthetic fibres.

Source: [Compound Interest](#)

Monograph 102

What IARC Said

- “The evidence, while still accumulating, is strong enough to support a conclusion and the 2B classification. The conclusion means that there could be some risk, and therefore we need to keep a close watch for a link.” – *Dr. Jonathan Samet, Chairman of the Working Group* ([May 31, 2011](#))

What the Experts Said

- “According to current data, the FDA [Food & Drug Administration] believes that the weight of scientific evidence does not show an association between exposure to radiofrequency from cell phones and adverse health outcomes.” – *FDA statement* ([October 1, 2014](#))
- “Radiofrequency energy, unlike ionizing radiation, does not cause DNA damage that can lead to cancer.” – *National Cancer Institute factsheet* ([May 27, 2016](#))
- “To date, no adverse health effects have been established as being caused by mobile phone use.” – *WHO factsheet* ([October, 2014](#))
- “Since the IARC published its report the evidence against its conclusion has grown stronger. Three new studies of cancer incidence rates have shown that rates have remained flat up to at least 2009.” – *Science-Based Medicine* ([April 2, 2012](#))
- “There are more than 5 billion cell phones in the world. The fact that brain cancer incidence rates have remained flat in the US and elsewhere is one of the simplest and strongest indicators that cell phones do not cause cancer.” – *Science-Based Medicine* ([April 2, 2012](#))

Additional Links and Resources

- IARC classifies radiofrequency electromagnetic fields as possibly carcinogenic to humans (IARC, [May 31, 2011](#))
- US FDA Factsheet on radiofrequency fields (FDA, [Oct. 1, 2014](#))
- Cell phones and cancer: a study's muddled findings (TIME, [May 17, 2010](#))
- Behind the WHO's “cancerous” pronouncement on cell phones (Forbes, [Aug 23, 2011](#))
- What the WHO's cell phone-cancer statement really means, (IEEE Spectrum, [June 3, 2011](#))
- Are cell phones a possible carcinogen? An update on the IARC Report (Science-Based Medicine, [April 2, 2012](#))