

Risk of Brain Tumors From Wireless Phone Use

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FROM ABSTRACT:

The debate regarding the health effects of low-intensity electromagnetic radiation from sources such as power lines, base stations, and cell phones has recently been reignited.

The impact of wireless communication on human health has not been completely assessed.

Widespread concern continues in the community about the deleterious effects of radiofrequency radiations on human tissues and the subsequent potential threat of carcinogenesis.

Exposure to low-frequency electromagnetic field has been linked to a variety of adverse health outcomes.

This article surveys the results of early cell phone studies, where exposure duration was too short to expect tumor genesis, and 2 sets of more recent studies with longer exposure duration: the Interphone studies and the Swedish studies led by Hardell.

KEY POINTS FROM THIS ARTICLE:

- 1) "Health hazards due to the extensive use of cell phones among ever growing schemes of society are a matter of concern."
- 2) "Effect of radiofrequency radiation on the human giving rise to brain tumor is being extensively studied all over the world. Investigations suggest that the use of a mobile phone for 10 or more years can dramatically increase the risk of developing a tumor."
- 3) "Mobile phones use electromagnetic radiation in the microwave range, and this may be harmful to the human health."
- 4) The cell phone signal is absorbed deeply into the brains of children and up to 2 inches into an adult skull.
- 5) There is "serious neuronal damage in rat brains after an exposure to a microwave radiation from a cell phone, at levels comparable with what people would experience during normal use."

6) Most negative studies on cell phones and tumors “have been substantially funded by the cell phone industry.”

7) These authors cite evidence that shows:

- An association between cell phone use and the development of glioma, a type of brain cancer.
- There is a consistent pattern connecting cell phone use and the increased risk of developing brain cancer.
- Long-term cell phone use increases the risk of tumors of the head.
- The radiofrequency emissions from cell phones have been shown to damage genetic material which is a common precursor to cancer.
- The radiofrequency radiations from cell phones can damage the DNA in sperm. Cell phone storage in front pockets has been linked to poor fertility and an increased chance of miscarriage and childhood cancer.
- Long-term cell phone use can increase the likelihood of being hospitalized for migraines and vertigo by 10% to 20%.
- Independent research by a number of investigations has suggested a link between brain tumors and cell phone use.
- Cell phone radiation damages DNA, an undisputed cause of cancer.
- Cell phone radiation causes the blood-brain barrier to leak. “The leakage of the blood-brain barrier resulting from cell phone use increases the possibility of brain tumors.”

8) “The global system for mobile communications cell phones operates at a frequency of 900 or 1800 MHz. The interaction of cell phones with the base station via radiofrequency radiations occurs even when the phone is not in use.”

[Important]

9) “Radiofrequency radiation in this range [of 900 or 1800 MHz] is non-ionizing radiation. It does not carry enough energy to completely move an electron from an atom or molecule. Instead, the energy is sufficient only for excitation, the movement of an electron to a higher energy state.”

10) "Exposure of the brain depends on the type of phone and position of the antenna but tends to be highest in the temporal lobe and insular region and overlying skull, scalp, and parotid gland tissues. Irrespective of the type of phone, exposure is highest on the side of the head against which the cell phone is held and seems to be even higher in children owing to thinner scalps and skulls, increased water content of their brain, and lower brain volume."

11) "The adult brain absorbs the cell phones radiation almost entirely on the side of the head where the cell phone is held (ipsilateral); almost no radiation is deposited on the opposite side of the head (contralateral). In adults, the ipsilateral temporal lobe absorbs 50% to 60% of the total radiation. The ipsilateral cerebellum absorbs 12% to 25% of the total radiation."

12) There are 11 published studies examining long-term cell phone use (ie, use for 10 years) and the risk of developing a brain tumor.

13) Cell phone studies that claim they are safe may be flawed because of they may have not considered these factors:

- Cell phones radiation is higher in rural areas.
- Cordless phones, walkie-talkies, ham radio transmitters, and other devices are treated as unexposed, "although in fact, they are exposed."
- "A large number of brain cancer subjects died before they could be interviewed or were too ill to be interviewed," and therefore were not counted.

14) The independently funded Swedish studies led by Dr. Hardell have the most cases that used a cell phone for 10 or more years. The Hardell team concludes:

"The higher the cumulative hours of use, the higher the radiated power, the higher the number of years since first use, the higher the exposure, and the younger the user, then the higher the risk of brain tumor." (7 studies)

"The meta-analysis shows that long-term cell phone use can approximately double the risk of developing a glioma or an acoustic neuroma in the more exposed brain hemisphere."

"Long-term cell phone use elevates the user's risk of developing a brain tumor."

15) "The long-term epidemiological data suggest an increased risk of being diagnosed with an ipsilateral brain tumor related to cell phone use of 10 years or more."

- 16) "It is concluded that the current long-term epidemiological data are consistent in determining an increased risk of brain tumors associated with ipsilateral long-term cell phone use."
- 17) "Based on extensive research done on RFR exposure till date, the FCC has issued a warning label for cordless phones."
- 18) "Because the expert groups have suggested that the radiation from mobile phones greatly exceeds safe levels even at normal use, even a short call can have harmful effects."
- 19) "There is now a considerable body of evidence proving that microwave radiation from mobile and cordless phones causes brain tumors, disturbed brain function, and other health disturbances."
- 20) Steps one can take to reduce exposure to electromagnetic energy from cell phones:
- A)) Limit the use of cell phones to essential calls and keep calls short.
 - B)) Children should be allowed to use a cell phone in cases of emergency only. Because of their developing skulls, the radiation can penetrate much more deeply.
 - C)) Wear an air tube headset (not regular wired headset). The regular wired headset has been found to intensify radiation into the ear canal. The wire not only transmits the radiation from the cell phone but also serves as an antenna, attracting EMFs from the surroundings.
 - D)) "Do not put the cell phone in a pocket or a belt while in use or while it is on. The body tissue in the lower body area has good conductivity and absorbs radiation more quickly than the head. One study shows that men who wear cell phones near their groin could have their sperm count dropped by as much as 30%."
 - E)) If using the phone without a headset, wait for the call to connect before placing the phone next to the ear.
 - F)) Do not use the cell phone in enclosed metal spaces such as vehicles or elevators, where devices may use more power to establish connection.
 - G)) Do not make a call when the signal strength is 1 bar or less, which means the phone must work harder to establish a connection.
 - H)) Purchase a phone with a low specific absorption rate. Most phones have a low specific absorption rate level listed in its instruction manual. The low specific absorption rate level is a way of measuring the quantity of radiofrequency energy that is absorbed by the body.

- I)) Use a scientifically validated electromagnetic field (EMF) protection device. There are advanced technologies available nowadays that strengthen the bioenergy field and immune system against the effects of electromagnetic field (EMF).
- J)) Use text instead of talk.
- K)) Use landlines.
- L)) Keep the cell phone off most of the time. Let people leave messages and then call them back from a landline.
- M)) Limit the use of cell phones in rural areas.
- 21) "Cell phone radiation decreases as the square of the distance from the phone increases. As a result, even small changes in distance have a dramatic effect. With the use of a headset connected, the cell phone is not held directly against the ear, and thus, the absorbed cell phone radiation could be reduced by several orders of magnitude."
- 22) "Using a cell phone for 10 years approximately doubles the risk of having a diagnosis of a brain tumor on the same (ipsilateral) side of the head as that preferred for cell phone use."
- 23) "People should be very restrictive with using mobile phones, as there is a significant body of compelling scientific evidence indicating serious hazards from their use."
- 24) "Therefore, it is advisable to reduce the use to very few and brief calls. People younger than 20 years should have mobile phones that allow short message service messages only, but no talking, because the risks are far higher in young people."
- 25) "Moreover, it has been repeatedly confirmed that the radiation from base stations is harmful to health."
- 26) "The existing International Commission on Non-Ionizing Radiation Protection (ICNIRP) and Federal Communications Commission (FCC) exposure limits are based on a false premise that only thermal effects cause harm."
- 27) "We conclude that the current standard of exposure to microwave during mobile phone use is not safe for long-term exposure and needs to be revised."