

10 questions about your cell phone that you didn't know to ask!

1. How does my cell phone communicate?

Cell phones communicate in the microwave range of pulsed radiofrequency radiation (RFR). Microwave ovens also use RFR to cook food but the wattage is much higher than the wattage of cell phones and the RFR is not pulsed. Cell phones communicate via a transmitter emitting microwave radiation and a receiver receiving microwave radiation. These phones send information carrying radio waves to an antenna often found on a cell tower and the antenna sends signals back to the receiver of the cell phone.

2. Is microwave radiation only emitted when I am actively using the phone?

No, in addition to generating microwave radiation when actively using the phone, microwave radiation is also emitted every 3-5 minutes when the phone is on standby, so that it can connect with the cell tower for updates.

3. Does this microwave radiation penetrate the body?

Yes it does. When you hold a cell phone against the ear it will deeply penetrate $\frac{1}{4}$ of an adult brain, $\frac{1}{2}$ of a 12 year old brain and $\frac{3}{4}$ of a 5 year old brain. It will also penetrate your body and anyone else's within 2 feet of where the cell phone is being used.

4. Do cell phone companies recommend not putting the cell phone next to your ear?

They most definitely do. Most smart phone manuals state to keep the phone at least $\frac{1}{2}$ inch from your body. For example, the Blackberry Torch manual states "Use hands-free if available and keep the Blackberry at least .98 in. from your body, including the abdomen of pregnant women and teenagers, or it may cause your device to exceed radiofrequency exposure standards... The long-term effects of exceeding RF exposure standards might present a risk of serious harm." They also acknowledge the potential health impact from the use of cell phones in their annual 10k reports filed with the Security Exchange Commission.

5. Does this type of radiation impact my body?

Yes it does. Numerous scientific studies have proven that it causes a reaction in your body. Doctors use RFR to mend bones and relieve pain. The World Health Organization rated RFR as a possible carcinogen in the same category as the pesticide DDT, leaded gas, and chloroform. The scientific community has shown that RFR penetrates the brain deeply and affects the electrical and metabolic activity of the brain. It damages genes, living cells and the immune system. Another concern is that it increases glucose in the brain and altered glucose metabolism in the brain is one hallmark for Alzheimer's. RFR also weakens the brain blood barrier, which protects the brain from toxins, bacteria and viruses.

6. Do people feel the physical effect of the radiofrequency radiation?

Yes they do. People are sensitive to RFR, some more than others. Headaches, insomnia, fatigue, brain fog, the lack of concentration, skin rashes and memory problems are some of the common symptoms.

7. Is radiofrequency radiation emitted from anything else?

Yes, it is emitted from many household electronic products such as portable phones, Wi-Fi routers, baby monitors, iPads, iTouches, DSIs, WIIs, Xboxes, laptops, wireless computers, printers, keyboards and mice, smart meters that utility companies are installing, and smart TVs.

8. Why is our government not warning us about these potential health concerns?

The government continues to rely on outdated information from the 1990's that incorrectly concluded that if pulsed radiofrequency radiation doesn't create heat then it has no biological impact. We now know that this is not true. The Federal Communications Commission (FCC) is charged with making the rules concerning RFR health related issues, but their mission is to promote commerce, **not monitor health**. The General Accounting Office, in 2012, recommended that these regulations be reviewed and questioned if the FCC should be responsible for deciding the regulations. The "Cell Phone Right to Know Act" has been presented to the Committee on Energy and Commerce. This would require the Environmental Protection Agency (EPA) to set RF safety limits that ensure everyone (fetuses, pregnant women, children, the elderly, and everyone else) is not harmed by their daily use of and exposure to wireless devices.

9. What are other countries doing about this?

Many countries have taken a very active role in monitoring the health effects of RFR. The French Government has recommended banning cell phones from schools. French Parliament passed laws prohibiting the advertising of cell phones and the usage of cell phones in pre-schools and public schools for children under 14. It also required cell phones to be labeled with SAR values and recommended using headsets. Switzerland, Germany, Israel, France, The United Kingdom, and Finland have issued warnings to limit cell phone use, particularly by children. The highest Regional Court in Brescia, Italy has issued a judgment confirming a causal connection between the brain tumor of an employee and the use of cordless (DECT) and cell phones at work. Austria has provided workman's compensation for cellphone-related damages. The Israeli Ministry of Education published guidelines strictly limiting the use of mobile phones on all school grounds, citing children's and youths' increased risk of malignant tumors and also expressing concern about the "passive exposure" experienced by children who do not use phones.

10. Can cell phones be made safer?

Yes, they can. Certainly, if the public knows of the dangers and demands safer technology the industry will respond appropriately. The use of cell phones should be limited and never held to the ear. We owe it to ourselves and to our children to not harm our future health.

Please go to www.centerforsaferwireless.org
for additional information.



