



Magda Havas, PhD ■ Trent University

DON'T STAND IN FRONT OF THE MICROWAVE

Radiation Dangers from Phones, Plasma TVs and Computers, Too

Virtually everything with a cord or battery emits electromagnetic radiation—but some devices emit much more than others. The official exposure limit for electromagnetic radiation, set by the Federal Communications Commission, is based on old research that considered tissue heating to be the danger threshold.

New research: Radiation levels up to 1,000 times lower than the FCC's guidelines have been shown to affect our health.

Bottom Line/Personal interviewed Magda Havas, PhD, one of the leading experts in this field, about what to do...

CELL PHONES

In 2007, a study published in *The American Journal of Epidemiology* reported that cell-phone users who spent more than 22 hours a month on their cell phones were 58% more likely to develop tumors of the *parotid* (salivary) gland than those who didn't use cell phones as often. Another study found that the risk for *gliomas* (a type of brain tumor) and *acoustic tumors* (where the ear meets the brain) doubled on the same side of the head after a decade of cell-phone use.

Studies funded by the telecommunications industry consistently have shown that cell phones are safe.

Main flaws: These studies typically lasted six years or less, not long enough for tumors to develop. In addition, most of the studies defined

"heavy use" as using a cell phone just a few times a week—far less than the hours that many people spend on their cell phones every day.

Self-defense: Use cell phones only for emergencies or to retrieve messages. Return calls on a regular phone. When you do use a cell phone...

- **Regularly switch the phone from one side of your head to the other** to minimize one-side radiation exposure.

- **Turn off your cell phone when you're not expecting a call.** Even when you're not talking, cell phones send and receive signals to communicate with towers and satellites.

- **Never let the cell phone touch your ear or other body parts.** When talking, hold it at least one inch away from your head. Text-messaging is better than talking because the phone is farther away from your head. Bluetooth (wireless technology) uses radiation, but generally, levels are lower than those from your cell phone. Turn off cell phones in shirt or pants pockets.

- **Use a pneumatic (plastic air-tube) earpiece** to reduce the brain's exposure to radiation. Mercola (877-985-2695, <http://products.mercola.com>) sells these headsets, which have a hollow tube near the head rather than a wire running to the ear.

- **Don't use a phone in the car.** Using a cell phone or any wireless device while driving (or while in a train,

bus or plane) uses more power because the phone must continually be reconnecting with antennas. Also, the signal is reflected by the metal around you, so your exposure inside is higher than it is outside.

CORDLESS PHONES

Cordless phones, the kind with a base station and remote handsets that you can use anywhere in your house, use very similar frequencies to those used by cell phones. They pose the same risks.

Cordless phones with the designation Digitally Enhanced Cordless Telecommunications (DECT) technology are the worst, because they constantly emit radiation whether you're using the phone or not. They're more dangerous than having a cell-phone antenna inside your home.

Self-defense: Replace all cordless phones with corded phones.

WiFi

The majority of new computers, printers and similar devices now are equipped with WiFi (wireless) capabilities. Wireless signals are a strong source of electromagnetic radiation. As long as you are using a device that is receiving and sending information to and from the Internet without wires (this includes BlackBerries and iPhones), then you are being exposed to radiation.

Self-defense: Use cables to connect your Internet service to computers, not a wireless router. Similarly, it's safer to hardwire your printer to the computer

Bottom Line/Personal interviewed Magda Havas, PhD, professor of environmental and resource studies at Trent University in Peterborough, Ontario, Canada. She is a leading expert on radio-frequency radiation, electromagnetic fields, dirty electricity and ground current. She is coauthor, with Camilla Rees, of *Public Health SOS: The Shadow Side of the Wireless Revolution* (CreateSpace).

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than to use a WiFi connection. Hard-wiring means that you won't be able to easily use a single computer throughout the house or to "beam" a signal to your printer from another room. Some people find this inconvenient, but the added safety is worth it. You can have additional Internet cables installed in multiple rooms.

If you do use a wireless router: Place it as close as possible to the devices that it controls. At greater distances, the router is forced to amplify its signal. Turn off the router when you're not using the computer.

If you don't use a wireless router: Find out how to disable the WiFi settings in your computer and printer. In the "on" position, these settings prompt the devices to emit electromagnetic energy in order to find the nearest available router.

MICROWAVE OVENS

Medical technicians leave the room when X-rays are taken. People should be just as cautious with microwave ovens. *Reason:* Just about every microwave oven that I have tested, including the newest models, leaks

radiation. In my home, I could detect electromagnetic radiation from the microwave 20 feet away.

Self-test: Put your cell phone inside the oven, and close the door (do *not* turn on the microwave). Call the cell-phone number. If you hear the phone ring, the cell-phone signal was able to pass through the walls of the oven—meaning that microwaves are able to pass out.

Self-defense: Leave the kitchen when the microwave is on.

DIRTY ELECTRICITY

Household electricity normally is delivered at 60 cycles per second. Along with this stable current, however, come higher frequencies—spikes in power that cause surges of radiation from appliances and even unused electrical outlets.

This so-called "dirty electricity" has been linked to fatigue, headaches, difficulty concentrating and even cardiac symptoms in people who are sensitive (known as *electrohypersensitivity*).

Self-defense: Surge protectors, commonly used to protect computers

and other electronic equipment, will "clean" household current to some extent.

Better: Graham-Stetzer Filters. These devices filter electrical "noise." You just plug them into wall outlets. They're designed to clean up entire circuits in the house. The average North American home needs about 20 filters. When you plug the filters in, you can use a microsurge meter to measure the levels of dirty electricity and try to get the levels below 40 GS units. The filters and meters are available at some hardware stores and online at www.stetzerelectric.com and www.lessemf.com. *Cost:* About \$35 for a filter, \$125 for a meter.

PLASMA TELEVISIONS

Plasma TVs generate high levels of dirty electricity. Using one filter won't solve the problem—people with plasma TVs might have to use three or more filters to clean up the power, compared with just one filter for an LCD TV.

Self-defense: LCDs produce nearly as good a picture and produce less dirty electricity than plasma TVs. ■ ■