

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 **cell phone 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.

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.

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 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.

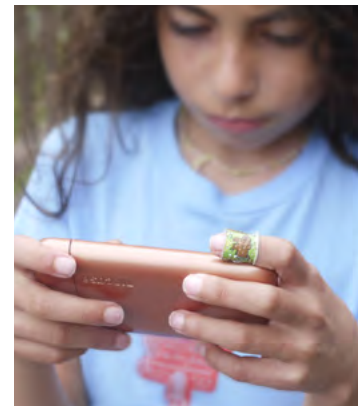
- **Keep cell phone calls short,** even when using a wireless or wired headset.
- **Use speaker phone mode or a corded phone for longer conversations.** Corded phones produce very weak EMFs.

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