



How to Reduce Exposure to Radiofrequency Energy from Cell Phones



The use of cell phones has increased dramatically in recent years, including among children and young adults. These phones put out radio frequency (RF) energy (a kind of radiation).

~~While Some scientists and are still debating the possible link between cell phone use and health problems, public health officials believe RF energy may affect human~~

~~health.~~ This guidance document describes RF energy, lists some of the **main potential** health concerns, and provides guidance on how people can reduce their exposure.

Why are people concerned about exposure to RF energy from cell phones?

~~Although the science is still evolving, Over the last 15 years~~ some laboratory experiments and human health studies have suggested the possibility that long-term, high use of cell phones may be linked to certain types of cancer and other health effects, including:

- brain cancer and tumors of the acoustic nerve (needed for hearing and maintaining balance) and salivary glands
- lowersperm counts and inactive or less mobile sperm
- headaches and effects on learning and memory, hearing, behavior, and sleep

These studies do not establish the link definitely, however, and scientists disagree about whether cell

What is RF energy?

Cell phones work by sending and receiving signals to and from cell phone towers. These signals are a form of electromagnetic radiation called radiofrequency (RF) energy. Other sources of RF energy include cell phone towers, TV and radio transmitters, smart meters, and microwave ovens. When a phone sends signals to a tower, the RF energy goes from the phone's antenna out in all directions, including into the head and body of the person using the phone. Cell phones also emit RF **radiation energy** when using Wi-Fi and/or Bluetooth, but at lower levels.

RF energy is not as powerful or as damaging to cells or DNA as some other kinds of electromagnetic radiation, such as X-rays or UV rays from the sun. Some scientific studies have, however, suggested that there may be increased health risks from exposure to RF energy.