

Disconnect: The Truth About Cell Phone Radiation

Book by Dr. Devra Davis

Reviewed by Jessica Seaver

Dr. Devra Davis never seems to write out of mere interest but rather out of conviction; she has a personal stake in the issues she covers. In *Smoke Ran Like Water*, she crusaded against pollution, an issue that devastated her home town of Donora, PA. Now, in *Disconnect*, Devra Davis brings to our attention a topic which affects us all: cell phone radiation. Of course, Dr. Davis uses a cell phone, but, more important to her, so did her pregnant daughter-in-law. Expecting her first grandchild, Dr. Davis first began asking the question: what can cell-phone radiation do to your brain? In *Disconnect*, she gives us some answers.

We all use cell-phones and generally view them as benign and extremely convenient if not essential items. Dr. Davis points out the fallacies of this mindset. She explores three basic aspects of the issue: 1) the nature of cell-phone radiation 2) what science knows and 3) what industry does.

Cell-phones emit pulsed radio signals of a similar frequency to those emitted by microwave ovens, though at a much lower concentration. Microwaves generally emit at 100 MHz, while the signals emitted by cell-phones are generally less than 1 MHz. We know that radiation at certain locations and in certain quantities can be dangerous, of course, but as Dr. Davis points out, cell phone radiation does not increase the temperature of its surrounding. If it doesn't heat things up, how can it be dangerous? This has always been the mentality and is, as we now know, flawed. Radiation does not need to cause an increase in temperature to be effective or to cause problems.

As an epidemiologist, Dr. Davis knows the right questions and the right people to ask. She gives a broad survey of the myriad experiments done on this subject, including surveillance studies performed by the Israeli Dental Association. These studies found a significant increase in parotid gland tumors (tumors of the cheek) in people under the age of 20. In fact, one in five parotid gland tumors occurred in people under the age of 20 in the past five years. Were these tumors caused by the use of cell phones? The Israeli Dental Association was convinced enough to issue a national warning about cell phones held to the head. France seems to agree and will soon require that all cell phones be sold with a headset, roughly stating that, while they are not certain of the risks, they think it prudent to take precaution. Why, Dr. Davis wonders, does the U.S. not also think it prudent to take precaution?

The U.S. cell phone industry does follow a set of guidelines, almost 20 years old, put forth by the government. These guidelines, however, are not applicable to most of us.

The upper-limits for acceptable doses of cell phone radiation were set using SAM, the specific anthropomorphic mannequin, which is over 6 feet tall, weighs over 200 pounds and has an 11 pound head. The size of his head is so critical as it corresponds with the thickness of his skull and the amount of fluid in his brain. SAM would have a thicker skull and more fluid than most people and thus would transmit radio waves less successfully. Dr. Davis points out that most cell phone users, especially those under the age of 20, are not 6 feet tall and do not have the type of skull thickness which the guidelines assume. A 12 year old may be thickheaded, but not enough to protect them from cell phone radiation.

While the guidelines are flawed, even cell phone companies admit that use of their product may lead one to exceed the recommended doses. The iPhone 4, for example, comes with a very fine print warning, buried deep within the packaging, which recommends against carrying the phone in your pocket as this might cause one to exceed the limit of acceptable cell-phone radiation. The iPhone is not alone. Many new phones have warnings, buried deep within the manuals, advising users not to keep the shiny new smart phones in their pockets. If it's not safe to keep my phone next to my body, why is it safe to keep it next to my brain?

The obvious question is: why don't I know about these dangers? Dr. Davis attempts to answer this question, citing some major disconnects between what science and industry know and what the public knows. She follows the careers of a few previously distinguished scientists who were accused of fraud, later proven to be false, for findings contrary to the preferences of the cell phone industry. Dr. Davis also unearths some important studies citing the effects of this radiation that have been buried in the continuous request for more research issued by the cell-phone industry.

For an engaging and informative read, pick up *Disconnect* and make the connections for yourself.

Jessica Seaver is a staff writer for TuftScope.

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