

Directions:

1. Demonstrate evidence of close reading.
2. Highlight your confusion.
3. Answer the two questions at the bottom of the page.
4. Write a 1+ page reflection in your WN.

Do Cell Phones Cause Cancer?

Are cell phones dangerous?

The scientific consensus has long been that they are not—though recently, some troubling research has led to new doubts. As soon as mobile phones began hitting the market in the 1980s, concerns were raised that the electromagnetic radio waves they emit might cause brain tumors and other types of cancer. But as cell phones became ubiquitous, at least a dozen major studies found no such link. The Food and Drug Administration said recently that three large epidemiological studies since 2000 showed “no harmful effects” from cell phone use, and the World Health Organization holds a similar view. The theory that cell phones pose health risks, says Dr. Eugene Flamm, chairman of neurosurgery at New York’s Montefiore Medical Center, “defies credulity.”

What’s the basis of that contention?

Cell phones emit non-ionizing radiation, waves of energy that are too weak to break the chemical bonds within cells or to cause the DNA damage known to cause cancer. There is simply no known biological mechanism to explain how non-ionizing radiation might lead to cancer. But some researchers say that the lack of a known mechanism does not rule out the possibility that one exists and has yet to be understood. They also say that older studies on cell phone safety contained a major flaw.

What’s the flaw?

As the FDA itself acknowledges, most of the studies examined cell phone use over a period of about three years—not long enough to rule out the possibility of long-term effects. “It takes at least 10, 20, or 30 years to see exposure to cancer,” says Israeli neuroscientist Dr. Siegal Sadetzki. She points out that it took decades before scientists could prove that people exposed to radiation at Hiroshima had a much higher incidence of brain tumors. Critics also say that the studies have largely ignored the impact of cell phones on teenagers and preteens, whose developing brains may be more vulnerable, especially since many of them tend to use cell phones for hours every day (see box).

What does recent research show?

Two major studies have found an association, though not a causal relationship, between cell phone use and certain cancers. Last year, the American Journal of Epidemiology published data from Israel finding a 50 percent higher risk of cancer of the parotid, a salivary gland near the ear, among habitual cell phone users. A Swedish analysis of 16 studies in the journal Occupational and Environmental Medicine showed a doubling of risk for acoustic neuroma, a tumor that occurs where the ear meets the brain, after 10 years of heavy cell phone use. “There are some very disconcerting findings that suggest a problem,” says Dr. Louis Slesin, editor of Microwave News, an industry publication that tracks the research, “although it’s much too early to reach a conclusive view.”

What does the industry say?

Citing the authority of the World Health Organization, cell phone companies say the technology poses no known risks and requires no precautions. They also stress that radiation levels from cell phones fall well within government safety guidelines. “The overwhelming majority of studies that have been published in scientific journals around the globe show that wireless phones do not pose a health risk,” says a spokesman for the Wireless Association, the leading industry trade group. But cell phone makers and service providers are nervously awaiting the results of an ambitious international research effort, called Interphone, on the health impact of cell phone use being conducted by WHO’s International Agency for Research on Cancer. The study, culling and analyzing data spanning more than a decade from 13 countries, is expected to be published later this year.

Any early word on what it will conclude?

Many experts say it will raise new red flags. They’re basing that expectation on the fact that some of the countries involved in the study, including Israel and Sweden, have already gone public with their own results. A recent analysis by Swedish oncologist Dr. Lennart Hardell looked at 10 European studies published between 2001 and 2007, most of which will also be part of the Interphone study. Hardell found “a consistent pattern of association” between certain brain tumors and long-term cell phone use. A 2007 research paper in Finland looked at brain cancer studies in five Northern European countries and found a “significantly increased” risk after cell phone use of more than 10 years.

So what should consumers do?

Nobody is saying we should all throw away our cell phones. But many health experts have stepped forward in recent months to say they now have enough concern that they are advising users to take some precautions—such as using speaker mode or earpieces, rather than holding the phone directly to your head. Just last week, the director of the prestigious University of Pittsburgh Cancer Institute, Dr. Ronald Herberman, warned his faculty and staff to limit cell phone use because of the possible cancer risk. Herberman cited a “growing body of literature”—including unpublished studies—that link long-term cell phone use to adverse health effects, though he acknowledged the findings are far from conclusive. “We shouldn’t wait for a definitive study to come out,” Herberman said, “but err on the side of being safe rather than sorry later.”

Worrying about the kids

Advocates who worry about cell phones’ impact on human health say they’re most concerned about children, who face a lifetime of exposure. “They may be much more affected,” says Dr. Paul Rosch of New York Medical College. “Their brains are growing rapidly, and their skulls are thinner.” Some researchers are now advising that pending further study, children should use land lines to speak to friends, and use cell phones only in emergencies. Dr. Siegal Sadetzki, the Israeli researcher, says it’s reasonable to assume that whatever harmful effects cell phones produce “will accumulate,” so children are particularly at risk. That doesn’t mean banning cell phones, she says, but finding ways to reduce radiation exposure among users. “Nobody will stop using this technology. There are car accidents and still we keep driving cars,” she says. “The question is, what precautions do we take?”

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What is the author’s purpose?

Who is the intended audience?

