

NCI Statement: International Study Shows No Increased Risk of Brain Tumors from Cell Phone Use

Interphone, an international collaboration, and the largest study of its kind to date, reported that overall, cell phone users have no increased risk of two of the most common forms of brain cancer -- glioma and meningioma. Furthermore, there was no evidence of risk with progressively increasing number of calls, longer call time, or time since the start of the use of cell phones. However, for the small proportion of study participants who used cell phones the most – measured as cumulative call time over their lifetime – there was a suggestion of increased risk of glioma, though the authors call this finding inconclusive. The study was published online May 17, 2010, in the *International Journal of Epidemiology*.

“While it is clear that research in this area will continue, this large-scale, long-term study contributes greatly to the body of scientific evidence about cell phones and brain cancer. Interphone also illustrates how difficult it is to identify and corroborate, or definitively rule out, any possible association between the two,” said National Cancer Institute (NCI) Director John E. Niederhuber, M.D. NCI is part of the National Institutes of Health. The investigators also say more studies are needed to assess risk associated with long-term heavy use, and risk for children and adolescents. The Interphone study focused on people ages 30 to 59, as they were expected to be the heaviest users of the devices. Interphone’s results are consistent with a NCI study of risk associated with use of analog cell phones, an older type of cell phone, from 1994 to 1998. Those study results, published in the *New England Journal of Medicine* in 2001, found no association.

Results from other epidemiologic studies have been inconsistent and have not addressed adequately many questions regarding cancer and other adverse health effects of cell phone use, particularly among children or heavy or long-term users of cell phones. Interphone sought to address the effects of long-term use by pooling data from numerous studies to assemble a wide range of patterns of cell phone usage. As a result, the Interphone study comprises 13 countries worldwide, although not the United States, and collected data from over 5,000 brain tumor cases and healthy controls on the frequency, hours per month, and cumulative duration of use of cell phones. Interphone’s findings are also more relevant to digital phones, the most common type in use today worldwide.

“Interphone will be the most definitive study of cell phones and risk of brain and central nervous system tumors for some time to come,” said Martha S. Linet, M.D., chief of NCI’s radiation epidemiology branch. “Cell phone use is ubiquitous, not only in the United States, but around the world. Together with international research partners, NIH is fully exploring this important and common exposure, and continues to invest in research to further our understanding of the potential health effects of cell phone use.”

Brain cancer incidence and mortality rates have changed little in the past decade. It is estimated that in the U.S. in 2009 there were 12,920 deaths due to brain cancer and 22,070 new cases diagnosed.

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Reference: Cardis E, et al. Brain tumour risk in relation to mobile telephone use: results of the INTERPHONE international case-control study. *International Journal of Epidemiology*. 2010: 1-20. doi:10.1093/ije/dyq079. For a NCI Fact Sheet on cell phones and brain tumor risk, please go to <http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones>.

NCI leads the National Cancer Program and the NIH effort to dramatically reduce the burden of cancer and improve the lives of cancer patients and their families, through research into prevention and cancer biology, the development of new interventions, and the training and mentoring of new researchers. More information about cancer, screening, and prevention is available on the NCI Web site at <http://www.cancer.gov>¹ or from NCI’s Cancer Information Service at 1-800-4-CANCER (1-800-422-6237).

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