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## Mobile Phone Use Not Related to Increased Brain Cancer Risk, UK Study Suggests

*Radio frequency exposure from mobile phone use does not appear to increase the risk of developing brain cancers by any significant amount, a study by University of Manchester scientists suggests.*

The researchers used publicly available data from the UK Office of National Statistics to look at trends in rates of newly diagnosed brain cancers in England between 1998 and 2007.

The study, published in the journal *Bioelectromagnetics*, reported no statistically significant change in the incidence of brain cancers in men or women during the nine-year time period under observation.

"Mobile phone use in the United Kingdom and other countries has risen steeply since the early 1990s when the first digital mobile phones were introduced," said lead researcher Dr Frank de Vocht, an expert in occupational and environmental health in the University of Manchester's School of Community-Based Medicine.

"There is an on-going controversy about whether radio frequency exposure from mobile phones increases the risk of brain cancer. Our findings indicate that a causal link between mobile phone use and cancer is unlikely because there is no evidence of any significant increase in the disease since their introduction and rapid proliferation."

The authors say that because there is no plausible biological mechanism for radio waves to damage our genes directly thereby causing cells to become cancerous, radio frequency exposure, they argue, if related to cancer is more likely to promote growth in an existing brain tumour.

As such, the researchers say they would expect an increase in the number of diagnosed cases within five to 10 years of the introduction of mobile phones and for this increase to continue as mobile-phone use became more widespread. The 1998 to 2007 study period would therefore relate to the period 1990 to 2002 when mobile phone use in the UK increased from zero to 65% of households.

The team, which included researchers from the Institute of Occupational Medicine in Edinburgh and Drexel University, Philadelphia, found a small increase in the incidence of cancers in the temporal lobe of 0.6 cases per 100,000 people or 31 extra cases per year in a population of 52 million. Brain cancers of the parietal lobe, cerebrum and cerebellum in men actually fell slightly between 1998 and 2007.

"Our research suggests that the increased and widespread use of mobile phones, which in some studies was associated to increased brain cancer risk, has not led to a noticeable increase in the incidence of brain cancer in England between 1998 and 2007," said Dr de Vocht.

"It is very unlikely that we are at the forefront of a brain cancer epidemic related to mobile phones, as some have suggested, although we did observe a small increased rate of brain cancers in the temporal lobe corresponding to the time period when mobile phone use rose from zero to 65% of households. However, to put this into perspective, if this specific rise in tumour incidence was caused by mobile phone use, it would contribute to less than one additional case per 100,000 population in a decade.

"We cannot exclude the possibility that there are people who are susceptible to radio-frequency exposure or that some rare brain cancers are associated with it but we interpret our data as not indicating a pressing need to implement public health measures to reduce radio-frequency exposure from mobile phones."

**Source:** Frank de Vocht, Igor Burstyn, John W Cherrie. Time trends (1998-2007) in brain cancer incidence rates in relation to mobile phone use in England. *Bioelectromagnetics*, 2011; DOI: 10.1002/bem.20648