

## Another Interphone Brain Tumor Study: More Questions

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September 2 ... While we were away on a summer break, another [Interphone](#) paper was released online: An analysis of the incidence of meningiomas (brain tumors) among cell phone users in five Northern European countries. It comes from the same teams that have previously reported increased risks of both [glioma](#) (another type of brain tumor) and [acoustic neuroma](#) (a tumor of the acoustic nerve) among long-term users. This time around the researchers from Denmark, Finland, Norway, Sweden and the U.K. did not uncover anything of note. Here's the summary statement from their [paper](#) in the *International Journal of Epidemiology*:

"We did not find evidence of increased risk of meningioma in relation to mobile phone use, as regular use, years since first use, lifetime years of use or cumulative number of calls, were not associated with an increased risk."

Yet, if you take a close look at the tables in the paper, some anomalies pop out. First and foremost, the calculated tumor risks or odds ratios (ORs) are all low. (An OR of less than one is protective, and an OR greater than one is detrimental.) There are two possible explanations: either cell phones confer close to instant protection against meningiomas, or —much more likely— some systematic bias screwed up the study.

We counted 65 ORs in the tables; 62 of these are below one. If cell phones have no effect, good or bad, all the odds ratios should be randomly distributed above and below one. But in the new meningioma paper, only three are above one. The Interphone teams acknowledge this surplus of low ORs. The "likely explanation," they say, is selection bias, which can lead to "the underestimation of the risk."

What they don't mention in the paper is that all three ORs that rise above one are risks for long-term users —those who have used cell phones for ten or more years. Nor do they compare these new results for meningiomas with the previously published findings showing elevated risks for glioma and acoustic neuroma among the same class of long-term users.

Sam Milham, an epidemiologist who has continued to work on EMFs since he officially retired some years ago, has published three different letters to the editors ([two](#) to the *American Journal of Epidemiology* and [one](#) to the *British Journal of Cancer*) questioning the low ORs in papers published by the Interphone teams from these five European countries. We called him and asked what he thought of this new paper.

"It's déjà vu all over again," replied Milham. "I guess I'm going to have to write another letter." "But there's more," he said, "there's a striking trend in the ORs." Milham explained that in 16 of 17 categories of exposure and latency among cell phone users, the OR in the most exposed groups is greater than the OR in the lowest exposed groups. Yet, that's not the case for contralateral risks—for tumors on the side of the head not exposed to the phone. In only one of these three categories is the OR greater in the highest exposure group.

"The bottom line," Milham concluded, "is that I think the paper shows that cell phones are in fact associated with meningiomas."

Everyone agrees that there are at least two kinds of bias potentially at work in the Interphone studies: selection bias which tends to lower observed risks, as in this latest paper, and recall bias which would raise the risks. We are told that the final paper has been delayed for close to three years because the participants cannot agree how to interpret the elevated risks from long-term use. It appears that that some members of the Interphone project have no problem publishing papers with consistently low ORs, but have qualms about releasing results with high ones.

So, where are we? Even before the final Interphone paper is published, we can be sure that, when it does finally appear, the controversy over long-term tumor risks will continue. Some say that prospective epidemiological studies (for instance, [COSMOS](#)) are the way to resolve the uncertainties. They may well help, but we would have to wait for a generation for the results. Epidemiologists no doubt favor 25-30 year projects—think of it as lifetime employment—and the mobile phone industry would also welcome a time-out, but from a public health point of view, this is unacceptable.

[ <http://omega.twoday.net/search?q=meningioma>

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