

Vol. XXVII No. 5

A Report on Non-Ionizing Radiation

April 2007

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Cell Phone Epidemiological Studies Point to Long-Term Tumor Risk

April 5...Taken together, the available epidemiological studies of long-term cell phone users point to a "consistent pattern" of increased risks of acoustic neuromas and brain tumors, according to a new analysis by the Hardell-Mild team in Sweden.

In their **paper**, which was posted on the *Occupational and Environmental Medicine* Web site yesterday, Lennart Hardell of Örebro University and Kjell Hansson Mild of the National Institute for Working Life in Umeå show that the tumor risk among those who have used mobile phones for ten years or more is highest on the same side of the head the phone was used (ipsilateral exposure). "These results are certainly of biological relevance since the highest risk was found for tumors in the most exposed area of the brain using a latency period that is relevant in carcinogenesis," they wrote, adding that, "Our findings stress the importance of longer follow-up to evaluate long-term health risks from mobile phone use."

The Swedish researchers and their American collaborator, Lloyd Morgan of Berkeley, CA, assembled a total of 15 case-control epidemiological studies, of which 11 had data for those who had used cell phones for ten or more years. In their meta-analysis, they found that the long-term, ipsilateral risk was two-and-a-half times higher for acoustic neuromas and twice as high for glioma (a type of brain tumor) as would normally be expected. Both risk estimates are statistically significant.

Earlier this year, a **meta-analysis** by members of the **Interphone** study group also reported an increased risk of ipsilateral brain tumors among those who had used mobile phones for ten or more years (see our **January 22 post**). Previously, Interphone researchers had **found** an elevated risk of acoustic neuromas among long-term users. See also our comment "**Is There a Ten-Year Latency for Cell Phone Tumor Development?**"

Malaysian EMF Meeting: WHO, ICNIRP and the U.S. Military

April 13...An **international EMF conference** will be held in Kuala Lumpur, Malaysia, during the first week of June, just a few days before the annual **BEMS meeting** in Kanazawa, Japan. Scanning the list of invited speakers and of members of the organizing committee, we are struck by the strong participation of the U.S. Air Force, which, for many years, has been much

more involved with harnessing microwaves for weapons development than with establishing thresholds for health effects (see *MWN*, M/A01, p.1 & p.19). **ICNIRP** is also playing a major role, with five present and past members (Ahlbom, McKinlay, Taki, Vecchia and Veyret) on the conference's international advisory committee.

Immediately after the EMF conference, there will be a twoday course on EMF Safety Management, held under the aegis of the WHO. According to the published schedule, every single speaker is from the U.S. military.

Rift Between Interphone Groups over Tumor Risk?

April 18...Is there friction within the Interphone study group? An exchange of letters in today's issue of the *Journal of the National Cancer Institute (JNCI)* exposes a rift between the Swedish Interphone group led by Maria Feychting and the Danish and German Interphone groups led by Joachim Schüz and Christoffer Johansen, respectively. At issue is the nature and extent of a possible tumor risk among long-term mobile phone users.

Late last year, Schüz and Johansen **updated** their analysis of a Danish cohort and concluded that it provides "evidence that any large association of risk of cancer and cellular telephone use can be excluded." (Schüz is now at the Danish Cancer Society in Copenhagen, where Johansen also works.)

In a **letter** to the *JNCI*, Feychting and Anders Ahlbom, both of the Karolinska Institute in Stockholm, counter that "such a global conclusion is premature and not supported by the data." They go on: "Although results from this and other studies concerning short-term use are reassuring, we do not see how these data provide convincing evidence against an effect of long-term use which for some time has been the critical issue in evaluations of potential health risks related to mobile phone use."

In their **reply**, Schüz and the other members of the Danish study team —including John Boice and Joseph McLaughlin of the **International Epidemiology Institute** in Bethesda, MD—appear to back off from their original conclusion, acknowledging that "further study is warranted to evaluate the possibility of an association between long-term cellular telephone use and brain tumor risk."

Interestingly, **Elisabeth Cardis** of **IARC** in Lyon, France, who is the principal investigator of the overall Interphone project, signed the letter from the Swedish team, as did **Paul Elliott** of Imperial College, London.

One additional comment: The Schüz letter could easily mislead the uninitiated reader into thinking that the Interphone results published so far do not show a link between long-term use and acoustic neuroma, a tumor of the acoustic nerve. In fact, they do. The Danish study did not find an association, but that may be because a cohort study offers no information about on which side of the head the phone was used (laterality) and therefore which side of the head was exposed to radiation. In their April 18 response, Schüz and coworkers write that "our acoustic neuroma results are overall consistent with the results of the pooled five-country study." That five-country study is an analysis from five Interphone teams —Ahlbom, Cardis and Feychting are all among the authors— which does have data on laterality. While it does not show a general elevated risk of acoustic neuroma after ten or more years of cell phone use, the five-country analysis *does* when laterality is added to the mix. Then, a clear statistically significant tumor risk becomes apparent. This was a key finding of the five-country analysis and is included in the abstract of the published paper.

Wi-Fi & EMFs in the U.K. Media: What's the Story?

April 23...Over the weekend, U.K. newspapers devoted more ink to EMF/RF-health issues than most U.S. papers do over an entire year. That may be good for increasing public awareness, but on the negative side, it is far from clear how much of what was written can withstand close scrutiny or will lead anywhere.

"Wi-Fi: Children at Risk from 'Electronic Smog" warned the Independent in huge type across the front page. Inside, under the headline "Is the Wi-Fi Revolution a Health Time Bomb?" Geoffrey Lean, the paper's environment editor, wrote that Sir William Stewart favors an official investigation into whether Wi-Fi networks pose a danger to health, especially when installed in classrooms. Sir William, the science advisor to former Prime Minister John Major, chaired the U.K. panel that issued the influential report in 2000, which famously recommended that children should be discouraged from using mobile phones (see MWN, M/J00, p.1). Sir William is the chairman of the Health Protection Agency, which provides expert advice on EMF/RF radiation to the U.K. government. In an accompanying editorial entitled "Hi-Tech Horrors," the Independent endorsed Sir William's call for an inquiry "before the technology is deployed any further." Decrying the fact that the U.K. government has ignored many of the Stewart panel's recommendations, the newspaper urged: "And this time, ministers must implement what [the new panel] recommends."

The trouble with Lean's scoop is that Sir William now says he was misquoted. He "has not taken a position on Wi-Fi," the HPA countered in a **statement** posted on its Web site.

Regardless of what Sir William's actual views may be, anxiety has started to take root. Teachers in **Britain**, and as far away as **New Zealand**, are calling for health studies of Wi-Fi radiation.

The U.K. *Sunday Times* ran its own front-page RF story. Its reporters claimed to have discovered a **cancer cluster** around a 90-foot mobile phone tower in Coleshill, a town east of Birmingham. The *Times* "revealed" that 31 people living near the tower have cancer or have died of cancer. Today, the *Times* **reported** that the offending tower has been torn down.

Will anything more come out of all this? We doubt it. With the tower gone, local concerns will die down. Epidemiologists will not want to pursue the cluster. They rarely get involved with phone towers because such studies are notoriously hard to do—and they dislike cluster investigations even more. In addition, estimating RF radiation exposures will now be more challenging.

Here's another reason: Coleshill lies to the south of Sutton Coldfield, the home of a BBC broadcast tower. Ten years ago, in a formal epidemiological study, Helen Dolk of the London School of Hygiene and Tropical Medicine **showed** that those living within 2 km of the BBC tower had twice the expected rate of leukemia (see *MWN*, *M/J0*, p.1). TV and radio towers pump out much more energy than cell antennas and would be expected to be easier to study. Yet, over the last decade, no one in the U.K. has attempted to further explore Dolk's provocative findings.

In other coverage, this time on the power line front, U.K. papers got hold of a copy of a report by the Stakeholder Advisory Group on Extremely Low Frequency Electromagnetic Radiation, known as SAGE, which spells out some government policy options on power lines. The most controversial of these is a ban on building homes and schools next to power lines (see for example the *Telegraph's* story). The official SAGE report is due to be released as soon as later this week, which will prompt more press coverage.

Finally, the *Sunday Express* featured an item on electrosensitivity.

On this side of the Atlantic, we are rarely offered such news stories. Here's the question: Would it be better for us to have them, warts and all, or for most Americans to remain oblivious to the possibility that EMFs and RF radiation are public health and environmental issues worthy of their attention?

More from the U.K.: Official Reassurances

April 24...In addition to all the print stories we reviewed yester-day, there have been various items on U.K. radio and television. For instance, yesterday, BBC News' "Newsnight" aired a long segment (at least for TV) on Wi-Fi health concerns. The piece concluded with an in-studio interview with David Coggon of the University of Southampton. Coggon was a member of the original Stewart panel on mobile phones and is currently a member

of the HPA's Advisory Group on Non-Ionizing Radiation (AGNIR). Coggon downplayed Wi-Fi health risks, at the same time endorsing the call for more research. Here's part of what he said: "There is quite a lot of evidence now accumulated on mobile phones and health and the balance of evidence overall doesn't point to problems. There is still uncertainty and there still needs to be further research going to the future. But, so far, we don't have a concern. On that basis, I think the level of concern about Wi-Fi is really fairly low." Like other members of AGNIR, notably its chairman, Tony Swerdlow, Coggon is unmoved by the growing body of data implicating long-term use of cell phones with higher rates of tumors. For those who are, we doubt that Coggon's reassurances will be persuasive.

Link Found Between Electric Blankets and Endometrial Cancer

April 26...Are you still using an electric blanket? Many gave them up in the early 1990s when EMFs first became a hot-button issue and many others after USA Weekend asked, "Is My Electric Blanket Killing Me?" on the front page of its January 1-3, 1993 issue. (USA Weekend is USA Today's weekly magazine, which at the time claimed to have 33.5 million readers.) Those who stuck with them might want to check out a new study, appearing in the June issue of the European Journal of Cancer Prevention, which points to an association between electric blankets and endometrial cancer. The research team, led by Ernest Abel of Wayne State University in Detroit, found a significant 15% increase in this type of uterine cancer among the more than 90,000 women surveyed who used electric blankets. Those who used them for at least 20 years had a 36% higher risk than those who used regular blankets or comforters. One possible mechanism to explain these results, Abel suggests, is that the EMFs from electric blankets suppress the nocturnal production of melatonin—this is the well-known "melatonin hypothesis."

SSI Offers Ways To Reduce Cell Phone Radiation Exposure

April 27...The Swedish Radiation Protection Authority (**SSI**) in Stockholm issued a **brochure** today on how to reduce radiation exposures from cell phones. It offers three strategies:

- (1) Use a hands-free set or a speakerphone;
- (2) Keep your phone away from your body;
- (3) Make sure you have a strong signal.

The SSI says that it sees no reason to advise people to stop using their cellphones but notes that there remain uncertainties about the long-term health risks (see SSI's **press release**, available only in Swedish, and our February 1 **report** on SSI's statement after the release of a study pointing to a brain tumor risk).

The Swedish mobile phone industry association, MTB, immediately criticized the wording of the brochure, according to Swedish television. The trade group said the use of the word "radiation" was "unfortunate" because it is loaded with negative connotations. So far, Telia has agreed to distribute the brochure.

Will the FCC Adopt Looser Cell Phone Safety Standards?

April 28...Bob Cleveland retired from the FCC yesterday. Ed Mantiply, who moved over to the commission in 2000 after nearly a quarter of a century at EPA, is taking over the RF-safety office that Cleveland ran for more than 26 years. Cleveland leaves behind one major piece of unfinished business Nthough we suspect that he won't mind letting others deal with it: Whether to replace the FCC's current cell phone safety standard with the much looser limit adopted by the IEEE in 2005 (see our January 14, 2005 post). Motorola and Nokia have been plotting this change for a long time. Motorola's C.K. Chou devoted years to co-chairing the committee that developed the IEEE standard. Some observers are surprised that industry hasn't yet formally petitioned the FCC to make the switch. Maybe it's waiting for the Bushies to appoint a sympathetic someone above Mantiply to push the IEEE standard through. The industry game plan will become clearer in due course.

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