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Could Cell Phone Use During Pregnancy Affect Children's Behavior?

May 14... It's certainly a provocative and surprising finding—almost to the point of being unbelievable. A joint U.S.–Danish team has reported that young children born to mothers who had used cell phones during pregnancy were more likely to have behavioral disorders, such as hyperactivity and emotional problems.

Using a phone as little as two or three times a day during pregnancy was enough to trigger behavioral issues. The incidence was up to 80% higher among those children who had also used cell phones by the age of seven. The survey, carried out in 2005-06, found that 30% of Danish seven-year-olds were already using a cell phone, though less than 1% for more than one hour a week.

These new results will appear in the July issue of *Epidemiology*. An electronic copy of the [paper](#) has already been posted on the Internet.

What is far from clear is what type of radiation exposure, if any, the fetuses actually received. As the researchers themselves concede, “The exposure reaching the fetus (either during conversation or when the phone is in standby mode) is likely to be extremely low.” An alternative explanation is that the cell phone radiation caused biochemical changes in the mother which then affected the fetus. The team notes that the vast majority of the mothers “carried their cell phones in a bag during their pregnancy” rather than on their bodies. Very few of them used a hands-free set.

Even some members of the EMF activist community are somewhat incredulous. “The findings are remarkable and without obvious explanation,” commented Graham Philips of [Powerwatch](#), a U.K. group. “Direct RF exposure to the fetus from a mobile phone handset is basically non-existent.” Philips was one of the first to spot the new paper on the [PubMed Web site](#).

The “lack of biological plausibility” is one of the key issues, [Jørn Olsen](#), a coauthor of the new paper, told *Microwave News*. Olsen is the chair of the department of epidemiology at the UCLA School of Public Health and is also associated with the University of Aarhus in Denmark. “We do not have a biological mechanism that could explain the findings,” he said, “That is, we do not know the ‘how’ or the ‘why’.”

The researchers make it clear that the observed findings need to be replicated before they are taken too seriously. “These results were unexpected and should be interpreted with caution. Observed associations are not necessarily causal,” they wrote. Yet they close the paper with the following warning, “If they are real, they would have major public health implications.” Among the other coauthors are [Leeka Kheifets](#), a professor-in-residence at UCLA, and Hozefa Divan, a doctoral student.

(continued on p.2)

Powerwatch's Alasdair Philips suggested that, if electromagnetic signals from cell phones were indeed behind the observed behavioral problems, he would favor ELF magnetic fields rather than the microwave transmissions. "The batteries powering mobile phones give off 217Hz pulses and these can induce relatively strong currents in the human body." But, he added, "there are many other non-EMF stressors that are in fact more likely to have been responsible."

Sam Milham, an epidemiologist based in Olympia, WA, thinks it would be a mistake to dismiss the new findings. "It's a solid study," he said. Milham pointed to a [paper](#) published last month by [Michael Persinger](#)'s group at Canada's Laurentian University, which shows that weak magnetic field pulses—as low as 30 nT (0.3 mG)—can cause structural changes in the brains of prenatally-exposed rats.

When asked whether he thought it is a good idea for a seven-year-old to use a cell phone, UCLA's Olsen replied, "It would be

reasonable to be cautious."

June 2... Editors and reviewers at *Epidemiology* thought long and hard before publishing the new paper suggesting that a child's behavioral problems can be traced, at least in part, to the mother's use of a cell phone use during pregnancy. This comes across in an [editorial](#) by [David Savitz](#) that appears the same issue (July) as the paper. The study is "a nearly perfect recipe for 'inflammatory epidemiology'," acknowledged Savitz, an editor at the journal who has long been involved with EMF research. But, he went on, "reviewers and editors believe that these findings are worth consideration by the scientific community. The very factors that make this result potentially inflammatory also provide the justification for deciding to publish such research—the exposure is common and growing, the outcome is a public health concern, and the laboratory can provide only limited insights for extrapolation to humans." The paper's take-home message should be, according to Savitz: "No call for alarm, stay tuned."

"Larry King Live" on Cell Phones and Brain Tumors

May 27... *Larry King* will devote tonight's [show](#) to a discussion on "Cell Phones: Are They Dangerous?" Among those scheduled to appear are Drs. [Keith Black](#), the head of neurosurgery at Cedars-Sinai Hospital in Los Angeles, [Sanjay Gupta](#), a neurosurgeon and CNN's chief medical correspondent, [Vini Khurana](#), an Australian neurosurgeon (see our [April 10 post](#)), Louis Slesin, the editor of *Microwave News*, and Michael Thun of the [American Cancer Society](#).

Black treated [Johnny Cochran](#), O.J. Simpson's attorney, who died of a brain tumor in 2005. Cochran's widow, Dale, will also be on the show. "There's a significant correlation between the side that one uses [a] cell phone on and the side that you develop the brain tumor on," Black [told](#) CNN's Gupta three years ago. Taking an opposing view was Howard Frumkin of [Emory University](#) and more recently [CDC](#). "This is a very low prob

ability kind of a thing approaching zero probability," Frumkin said, "There's no evidence to support the idea that Mr. Cochran's brain tumor resulted from cell phone use."

May 29... Next-Up, the European activist group, has posted the entire *Larry King Live* show on its Web site. Only the ads are missing. Click [here](#) to see the 44-minute video. A [transcript](#) is also available.

In addition to the guests listed in our [May 27](#) post, below, a seventh was invited at the last minute, perhaps to balance the majority view that there may well be a health problem with long-term use of cell phones: [Ted Schwartz](#) of New York-Presbyterian Hospital—a *fourth* neurosurgeon. He played the role of skeptic, telling Larry King: "I really think the overwhelming amount of evidence that we have from reviewing the literature has shown there really is no good, viable link between cell phone use and brain tumors."

It's worth noting that the [CTIA](#), the wireless trade group, declined to send anyone to be on the show. Instead, as Larry

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King told the viewers, CTIA referred CNN to the **American Cancer Society**. Like Schwartz, ACS' Michael Thun seemed well in sync with the industry position. "I think now most of the people who actually do research on brain cancer causes are very skeptical that cell phones cause brain cancer," he said. Vini Khurana, the Australian neurosurgeon, immediately responded, "I strongly disagree."

Interphone Updates

May 31... Some news notes on the **Interphone** study:

- Those who say there are no long-term cell phone risks often point to the Interphone **study** from Japan, published earlier this year, for support. As we have previously reported, the Japanese researchers said there was no association between cell phones and brain tumors, even though they found a close to sixfold increase in glioma among heavily-exposed users after ten or more years (see our **February 15 post**). That link was based on a small number of cases and was not statistically significant; the Japanese attributed the increase to recall bias. Bruce Hocking, an occupational and environmental health physician in Melbourne, Australia, suggests otherwise. In a **letter** published this week in the *British Journal of Cancer*, Hocking points out that the risk of meningioma (another type of brain tumor) is hardly raised at all (OR=1.14). He writes: "If recall bias is the true explanation for the increased risk of glioma, it should similarly have affected the meningioma group, but it has not. Therefore, the increased risk in the glioma group may be a true finding."

- Siegal Sadetzki, Israel's lead Interphone investigator, continues to warn about long-term risks. "I would say our results are in line with previous results that are showing something is going wrong here," she told Tyler Hamilton of the *Toronto Star*. His story, "**Listening to Cellphone Warnings**," appears in today's editions. "After 10 years or more we do see something there," Sadetzki said. She has **reported** an increase in parotid gland tumors among long-term users (see "**Set Interphone Free**" (**January 30**) and our **April 28 post**).

- Elisabeth Cardis, the head of the Interphone study now at the Center for Research in Environmental Epidemiology (**CREAL**) in Barcelona, told the *Star* that the completed study will be submitted for publication "soon." (She has made similar predictions in the past.) On May 27, she presented her latest update on Interphone at a **meeting** in Copenhagen. Her PowerPoint can be downloaded **here**.

- And last week, a group of Interphone researchers published a study on the possible impact of recall bias on the study results—based on surveys in Australia, Canada and Italy. The

paper appears in the *Journal of Exposure Science and Environmental Epidemiology*, which is making the full text available at no cost.

Animal Study Shows 3G Signals Can Promote Tumor Growth

June 3... Chronic exposure to 3G (UMTS) cell phone radiation can promote the growth of tumors, according to a new animal study presented at a **workshop** in Berlin last week. This finding is "remarkable," according to the lead researcher, Thomas Tillmann of the Fraunhofer Institute of Toxicology and Experimental Medicine (**ITEM**) in Hannover, Germany. At this point, only the conference **abstract (p.10)** is available. This results stands in contrast to those of the **PERFORMA** animal studies. (Tillmann was involved in one of the PERFORMA studies too.) Unlike the animals in the PERFORMA experiments which were restrained and under stress (see our report, "**Wheel on Trial**"), the mice in this new study were allowed to run free. The other crucial difference, other than the nature of the exposure signal, is that the mice in Tillmann's experiment were exposed for much longer than those in PERFORMA: 20 hours a day, seven days a week. In PERFORMA, the animals were exposed as little as one hour per day, and never more than four hours per day. Last year, in a separate study, Germany's **Alex Lerchl reported** no effects among lymphoma-prone mice chronically exposed to UMTS.

Leaving Lahkola Study Out of Swedish Report Was a 'Mistake'

June 4... It was a "mistake," says Anders Ahlbom. That's how he explains why his "expert group" left out the Lahkola study from its report on important EMF developments in 2007 for **SSI**, the Swedish Radiation Protection Authority (see our **March 14 post**). The **Lahkola** study points to a significant increased risk of brain tumors among long-term cell phone users in five countries participating in the **Interphone** project. This was a curious omission since two of the Lahkola coauthors helped prepare the **SSI report**. In a comment that has now been appended to the report, here's what Ahlbom, the chairman of the panel, wrote: "the paper was discussed by the group and was part of the basis for the conclusions. However, it was by mistake overlooked when preparing the report. The Expert Group regrets this accidental omission." What's missing is any mention at to why two other Interphone studies (from **France** and **Israel**), which showed elevated tumor risks, were also omitted from this same report.

“New York Times” Addresses Cell Phone Tumor Risks

June 3... Today's *New York Times* features a column by Tara Parker-Pope on cell phones and brain tumors, “**Experts Revive Debate Over Cellphones and Cancer**.” As of this afternoon, it is the most popular story (most e-mailed) on the *Times* Web site.

June 4... Parker-Pope's column is still #1 today—even beating out “New Hints Seen That Red Wine May Slow Aging,” which is on this morning's front page of the print edition.

June 13... In a follow-up to her column, “**Experts Revive Debate Over Cellphones and Cancer**,” published last week, Tara Parker-Pope, a health reporter at the *New York Times*, invited Louis Slesin, the editor of *Microwave News*, to talk about cell phones, radiation exposures (SARs) and the growing concerns over tumor risks. You can listen to the eight-and-a half-minute conversation on the *Times* Web [site](#). More than 180 comments

have already been posted on the *Times* blog, “**How Much Radiation Does Your Phone Emit?**”

Former NAS Panel Chair: More Studies on Cell Phones and Kids

June 6... **Frank Barnes** of the University of Colorado in Boulder is calling for more studies on the effects of cell phones on children. “There are definitely unknowns and there are definitely experiments that have been done—including some in my own lab—where I clearly don't know what the implications are biologically,” he **told** KCNC, the CBS TV station in Denver. “What we don't know is what long-term exposures may or may not do,” he said. Barnes chaired the National Academy of Sciences' panel, which issued a **report** on health research needs for RF radiation earlier this year (see our **January 17 post**). One youngster who was also interviewed admitted that she uses her phone “every minute constantly,” adding, “I am basically addicted.”

The **June 19** article, “Interphone: The Cracks Begin to Show” is available at <http://www.microwavenews.com/interphonecracks.html>.

Our piece on Interphone was picked up by the *International Herald Tribune* in its June 30th edition. See: “**Rift Delays Official Release of Study on Safety of Cell Phones**.”