Cell Phone Link to Tumors? — "We Don't Know"

Professor Armstrong's Lecture on Interphone

March 9, 2009

Tired of waiting for Interphone? Thanks to Professor Bruce Armstrong, you can now get a good idea of what the final results will show. A world-class epidemiologist and the head of the Australian Interphone study team based at the University of Sydney, Armstrong has combined all the available results published to date and, in a 45-minute lecture, reviews and interprets the potential tumor risks. His meta-analysis includes the as-yet unpublished Australian Interphone data.

In a nutshell, Armstrong finds that there are "suggestions" of an increased risk of brain tumors among long-term users of mobile phones. He advocates a policy of precaution, especially for children and recommends that RF health research continue. Armstrong's fundamental message is *"we don't know"* what the cancer risks really are. This is different from what we've heard in the past. Back in 2000, the Stewart panel in the U.K. also recommended caution, more out of recognition of our collective ignorance than any hard data. Armstrong is saying there is now a basis to support such concerns. Yes, the risks are uncertain and ambiguous, but the possibility that using a cell phone could lead to a tumor is no longer hypothetical. The risks may be small or they may be large, but the possibility is there. Armstrong, an Interphone insider, has changed the conversation.

A video of Armstrong's keynote talk, which was given on November 12, 2008 in Melbourne, is available on the Web site of the Australian Centre for Bioeffects Research (ACBR). *Microwave News* has transcribed Armstrong's conclusions from his PowerPoint presentation and they can be downloaded here. (Armstrong first went public about his concerns over mobile phone tumor risks in an interview with Australian television last year; see our April 28, 2008 post.)

How dangerous are mobile phones? Here's what Armstrong tells Tracee Hutchison, a radio and TV journalist, in an accompanying interview: "I think the short answer is that we don't know. I certainly can't say that it's harmful. Nor can I confidently say it is definitely safe. So, I am sitting on the fence right now." Armstrong then explains how he manages his own cell-phone risks:

> "There's a general principle in public health referred to as the ALARA principle (ALARA means 'as low as reasonably achievable'). As far as I'm concerned, I make my use of a mobile phone as low as reasonably achievable. So if I've got a landline phone, I don't use the mobile and if there's a landline phone nearby, I'll go and get to it, rather than use the mobile… I adopt the ALARA principle in my own use of a mobile phone."

There are now more than 4 *billion* mobile phone subscriptions around the world, according to a report issued last week by the International Telecommunication Union (ITU). Armstrong put this number in perspective for Hutchison, "If you multiply a small effect by a lot of people, you could get quite a lot of harm."

Members of the ACBR, notably Rodney Croft, its executive director, are challenging Armstrong's call for precaution. "While I agree with [Armstrong's] data, I don't agree with the conclusions he's reached. I still think we are a long way from that point. And we can't say that there are any problems or there's even much of a chance that there will be," Croft told Hutchison in his own videotaped interview. "Science can say some things conclusively —and that's that it hasn't found any problems." In the panel discussion that followed Armstrong's talk, Croft was even more dismissive. "I certainly don't feel that the science is strong enough at the moment to be going out there and telling people you should be taking these steps to protect against your children," he said, "I would not have any problem with my children using them," Croft told Hutchison.

What's strange about Croft's conviction that cell phones are absolutely safe is that, in his own research, he has shown that the radiation can alter the brain waves of human subjects at very low levels of exposure (SAR≤0.11W/Kg, 10g average). In a paper published last year, Croft reported that his work "adds strength" to the argument that mobile phone radiation can lead to bioeffects. But, what he has seen in the laboratory should be *impossible,* according to current RF dogma, to which Croft and the ACBR adhere. There are no mechanisms to explain how non-thermal levels of RF radiation from cell phones can change EEGs or cause tumors or do much of anything at all. Even though Croft has himself shown that the impossible is indeed possible, he has no trouble rejecting the possibility that Armstrong may turn out to be right. Never mind that epidemiology is outside his field of expertise (he is a psychophysiologist), and that Armstrong is of one Australia's leading epidemiologists who has spent the last decade helping run the largest study of cell phone tumor risks ever attempted.

Whatever the field of study, Croft embraces the prevailing dogma and rejects contrary views. In that same interview with Hutchison, Croft stated that cell phone radiation does not lead to changes in the permeability of the blood-brain barrier (BBB) or in the integrity

of DNA. "We do know that these aren't influenced by mobile phones," he told her. Croft may think this —as the cell phone industry would like us all to believe— but whether RF radiation can lead to leaks through the BBB or to DNA breaks are still open, unresolved questions.

Ray Kemp, a risk consultant and an honorary associate of the ACBR, was as dismissive of Armstrong as Croft when interviewed by Hutchison —perhaps more so. When asked for his take on Armstrong's call for precaution, Kemp replied, "What is quite clear is that it shouldn't be for the individual statistician or epidemiologist to be making judgments about what society should be doing on the outcome of the research they have. I think they have a voice to make but that does not mean to say that it's the correct view." Kemp's message is pay no attention to Armstrong's recommendations. No word on his opinion of John Snow, the British epidemiologist whose judgment call helped stop a cholera epidemic in London in 1854.

Croft and some of his ACBR associates published their own assessment of the mobile phone epidemiological literature last year. "The reported associations are in need of replication … before they can be treated as more than suggestive," they wrote in a paper published last December in the *Journal of Australasian College of Physical Scientists and Engineers in Medicine,* a local professional publication. (The GSM Association, a cell phone industry trade group, paid for ACBR's review of the epidemiological studies.) Interestingly, Armstrong and the ACBR team used the same term: they both see the Interphone results as suggestive. Yet they are miles apart on how to act on these findings. Armstrong favors precaution while the ACBR prefers a wait-and-see approach until the results are confirmed. What the ACBR does not say is that there are no replication efforts in the wings. This means that Croft would only call for action if brain tumor rates in Australia begin to rise. Armstrong said that the rates are holding steady. If the rates were to tick upward, a lengthy debate would no doubt follow as to whether the increase is real or another artifact.

The ACBR represents the RF research establishment in Australia and serves to protect the prevailing view that there are no low-level or nonthermal effects, even if their own members see them in the laboratory. It seeks to overrule dissenting views, like Armstrong's. This is the same role that ICNIRP and the WHO EMF Project have played for many years. Last week, for instance, Paolo Vecchia, ICNIRP's chairman and the coordinator of the Italian Interphone project, told *Corriere della Sera,* a leading national newspaper, that the Interphone results are "definitely reassuring." Vecchia, a physicist by training, went on to discount the long-term risks that have been reported and that concern Armstrong. Those risks are based on small numbers, he said, implying there's nothing to worry about.

The conflict between Armstrong and the ACBR is similar to the one that has paralyzed the Interphone project for more than three years. Some members of Interphone cannot admit that they can no longer say that mobile phones are safe. They cannot bring

themselves to say, "We don't know," which for Armstrong, is the only possible conclusion.

During the course of his lecture and his interview, Armstrong speaks in measured tones. He presents both sides to a fault. The only time he seems to become a bit unsettled is when, at the close of the interview, Hutchison asks for confirmation that the Interphone study will show that mobile phones are safe:

> *Hutchison:* "[There's] nothing [in the Interphone study] that would indicate a cause for real concern from what you've said?"
> *Armstrong:* "I did not say that."
> *Hutchison:* "We don't know…"
> *Armstrong:* "We don't know. We don't know that there is no cause for concern… *[pause]*… We don't know that there is a cause for concern… *[pause]*… We cannot exclude the possibility."

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Interphone, Bruce Armstrong, IARC, Australia, Rodney Croft, Ray Kemp, Paolo Vecchia,

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