



2016 Short Takes

Brain Tumors More Likely in Male than Female Rats

Historical Controls Show the Difference

June 1, 2016

One common criticism of the new NTP cell phone **cancer study** is that, unlike the male rats, there was no significant increase in tumors among female rats.

For instance in its latest assault on the NTP results, the *New York Times* is running a **comment** by a pediatrics professor in Indiana, in which he states:

"It's also odd that increased cancer was seen only in male rats and not in female rats. Do we believe that females are protected from cell phone radiation?"

The answer is in the **NTP report**. The tables on pp.9-11 show a clear difference between male and female rats with respect to the incidence of spontaneous tumors among the NTP historical controls. Male rats were *more than ten times more likely* to develop malignant gliomas (brain tumors) than females: 11 of 550 males developed glioma, compared to only 1 of 540 females.

For malignant schwannoma of the heart, the difference is less pronounced, but still evident. Males were more than twice as likely to develop this type of cancer than the females: 9/699 vs 4/699.

Note also that, while none of the control rats in the NTP cell phone study had glial or Schwann cell tumors (or pre-cancerous lesions, hyperplasias, in these two cell types), some exposed females did develop them but the increases did not reach statistical significance.

This is what **Ron Melnick**, who ran the NTP study before he retired in 2009, had to say about the male vs females tumor counts:

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"It is not surprising that the exposed males had more tumors than the females given what we have seen in the historical controls. But we can go one step further, the fact that we saw *any* of these tumors in the exposed females but none in the concurrent controls adds support to the conclusion that cell phone radiation leads to cancer among rats."

See also:

[News Media Nix NTP Phone Cancer Study; "Don't Believe the Hype" Are More People Getting Brain Tumors? GBMs, the Most Virulent Type, Are Rising](#)

And: "[Gender Differences in Chemical Carcinogenesis in National Toxicology Program 2-Year Bioassays](#)," published in *Toxicologic Pathology* in 2012. The paper is open access.

NTP Releases Draft Cancer Report

May 26, 2016
Updated May 30, 2016

This evening, the National Toxicology Program (NTP) released a draft of the report on its two-year cell phone cancer study. [Linda Birnbaum](#), the director of the NIEHS, and [John Bucher](#), the leader of the study, will present the report at a teleconference tomorrow, Friday. They are the director and associate director of the NTP, respectively. [Birnbaum did not speak at the press conference. Bucher was accompanied by [Michael Wyde](#), who ran the study, though he only made one comment during the hour-long telephone briefing.]

The report that was posted only covers rats. The accompanying study of mice found no effects on cancer.

For a copy of the report, go to bioRxiv.org. It includes the comments of some of those who were asked to review it.

The *Microwave News* story on what the NTP rat experiment shows is [here](#).

Some early coverage on Friday morning in [Wall Street Journal](#), [Mother Jones](#), [Scientific American](#) and [Consumer Reports](#).

The abstract of the report states:

"The US National Toxicology Program (NTP) has carried out extensive rodent toxicology and carcinogenesis studies of radiofrequency radiation (RFR) at frequencies and modulations used in the US telecommunications industry. This report presents partial findings from these studies. The occurrences of two tumor types in male Harlan Sprague Dawley rats exposed to RFR, malignant gliomas in the brain and schwannomas of the heart, were considered of particular interest, and are the subject of this report. The findings in this report were reviewed by expert peer reviewers selected by the NTP and National Institutes of Health (NIH). These reviews and responses to comments are included as appendices to this report, and revisions to the current document have incorporated and addressed these comments. Supplemental

information in the form of 4 additional manuscripts has or will soon be submitted for publication. These manuscripts describe in detail the designs and performance of the RFR exposure system, the dosimetry of RFR exposures in rats and mice, the results to a series of pilot studies establishing the ability of the animals to thermoregulate during RFR exposures, and studies of DNA damage. Capstick et al., "A radiofrequency radiation reverberation chamber exposure system for rodents"; Yijian et al., "Life time dosimetric assessment for mice and rats exposed to cell phone radiation"; Wyde et al., Pilot studies of the National Toxicology Program's cell phone radiofrequency radiation reverberation chamber exposure system"; Smith-Roe et al, "Evaluation of the genotoxicity of cell phone radiofrequency radiation in male and female rats and mice following subchronic exposure."

Later:

The report and press briefing have led to a huge number of stories. Check out Google news for many of these. Two of the best, not surprisingly, are in [Science](#) and [Scientific American](#).

June 13, 2016

Michael Wyde presented the results of the NTP cellphone animal study at the [BioEM2016](#) meeting in Ghent, Belgium, last week. A copy of his PowerPoint can be [downloaded here](#).

It May Not Be Impossible After All Weak Magnetic Fields Can Promote Cancer

March 18, 2016

Updated March 19, 2016

Weak RF fields may indeed be able to promote cancer, according to two leading members of the EMF/RF research community. Frank Barnes and Ben Greenebaum are offering theoretical arguments to explain how low-level RF radiation can alter the growth rates of cancer cells. They present their ideas in an [article](#) which has just appeared in the *IEEE Power Electronics Magazine*.

"Stuff is going on," Barnes told *Microwave News*. "We can see changes with very small fields." He granted that some may interpret what he is saying as "heresy."

"What we are postulating does not violate any laws of physics and chemistry," said Barnes, a distinguished professor emeritus of electrical engineering at the University of Colorado in Boulder and a long-time member of the National Academy of Engineering. Greenebaum, a professor emeritus of physics at University of Wisconsin-Parkside, was the editor-in-chief of *Bioelectromagnetics* from 1993 to 2006. Barnes and Greenebaum are coeditors of the most recent edition of the [CRC Handbook of Biological Effects of Electromagnetic Fields](#).

"Bob Adair's calculations are not wrong," Barnes added. "They just don't deal with the situations we are dealing with." He was referring to Robert Adair, a professor emeritus of physics at Yale University,

who has long maintained that weak field effects are incompatible with the laws of physics ([more on Adair](#)). Barnes was careful to point out that not all experiments would show effects because “biological systems have many feedback and repair mechanisms.”

“We have a reasonable hypothesis with a framework which allows others to do experiments which can show whether we are right or wrong,” Barnes said.

For some papers by Barnes and Greenebaum on weak field effects, [click here](#).

New York Times Looks Behind CDC Reversal on Cell Phone Risks

Based on More Than 500 Pages of Internal
Documents
[Update: CDC E-Mails Made Public]

January 1, 2016

Updated January 13, 2016

In August 2014, the Centers for Disease Control (CDC) issued and then rescinded precautionary advice on the use of cell phones. See our story, “[CDC Calls for Caution on Cell Phones, Then Gets Cold Feet](#).”

Today,* Danny Hakim, an investigative reporter at the *New York Times*, has published a behind-the-scenes look at what was going on at the time, based on more than 500 pages of CDC internal documents, including e-mails, together with follow-up interviews. His story, “[At CDC, a Debate Behind Recommendations on Cell Phone Risk](#),” states that [Chris Portier](#) —the official who originally endorsed precaution after he returned from the IARC meeting in 2011 where [RF was classified as a possible cancer agent](#)— was an isolated voice. “Mr. Portier’s view is not shared by many other experts,” according to Hakim.

He writes:

“CDC officials began debating how to back away from their recommendation of caution, internal emails show. One official proposed saying instead that other countries — ‘specifically the United Kingdom and Canadian governments’ — recommended caution. Others suggested pointing to determinations by agencies in Finland, Israel and Austria. Ultimately, though, no other country was mentioned.”

And concludes:

“‘Some organizations recommend caution in cellphone use,’ the agency’s guidelines now say. But the CDC is not one of them.”

Unfortunately, Hakim does not resolve the difference in outlook between CDC officials in the U.S. and their counterparts in many other countries. If, as Hakim argues, “Mainstream scientific

consensus holds that there is little to no evidence that cell phone signals raise the risk of brain cancer or any other health problems,” why do the others—including those in France and Russia, which go unmentioned— recommend caution? Is the science interpreted differently in the U.S. than elsewhere, or is it really about politics and economics?

Other items are left hanging. For instance, he writes that internal e-mails reveal that a CDC draft was criticized by an outside expert for including “statements that are scientifically incorrect.” That expert appears to have been [James Smith](#), a former chief of the CDC’s radiation branch, according to the *Times*. What is not clear is what the errors were.

Another loose end is a quote from an e-mail written by a CDC official in which she expresses “an incredible guilt complex” for her role in the precautionary guidelines published in June 2014. Her name is not given, nor is the reason for her guilt (because it was a false warning?).

Hakim quotes [John Boice](#), the president of the National Council on Radiation Protection and Measurements ([NCRP](#)), stating that his own research has found “no evidence for associations with [brain tumors](#) or any other cancers.” What is left out is that Boice is a coauthor of the [Danish cohort study](#), which many observers discount due to its many methodological shortcomings. (See our [“The Danish Cohort Study: The Politics and Economics of Bias.”](#))

An internal CDC e-mail obtained by the *Times* shows that there was concern in Vermont over the state’s legal liability for allowing wireless technology in public schools and libraries.

January 4, 2016

The [Environmental Health Trust](#) has posted 518 pages of CDC e-mails—presumably the same documents released to the *New York Times*. See the [EHT story here](#). The [CDC e-mails are here](#). (The pdf is not searchable.)

January 13

Be sure to see our [detailed story](#) on what really happened at CDC, based on those internal e-mails.

* Hakim’s story appeared in the January 2 print edition under the headline, “At CDC, Evolution of Advice on Phones” on the front page of the business section.