

**Ask the Doc: July 2016**

### **New cell phone study: a “Game Changer”**

For years I have been suspicious that cell phones could cause breast cancer. I have reported on 4 young women, all under the age of 30 who developed breast cancers directly below where the cell phone was placed in the bra (link:

<http://www.hindawi.com/journals/crim/2013/354682/>

None of these patients had a family history of breast cancer. The cancers were all multifocal meaning that there were multiple separate areas of invasion, roughly corresponding to the shape of their cell phone.

Critics have argued that these “cell phone” related cancers were simply due to chance. After all, thousands of women place their cell phones in their bra and breast cancer is a common cancer. The critics conclude that it is predictable that some cancer will by chance occur in an area where that cell phone was placed. The bottom line is that there is no proof that cell phones can cause any kind of cancer.

### **Cell Phones and Brain Cancers.**

There is also some indirect evidence that cell phones can cause brain cancer. Multiple international studies have been done to evaluate the possibility that there is a link between cell phones and brain cancer, but the studies have generally concluded that there is insufficient evidence to prove such a link.

However, one of the largest studies done on this subject did identify a subgroup of cell phone users who are at risk. The study found that individuals that have used a cell phone for more than 10 years and are

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“heavy users” (i.e. several hours every day) are at increased risk of developing a brain cancer. The two cancers associated with heavy cell phone use were **gliomas** and **acoustic neuromas**.

### **New Study: CTIA**

In response to growing public concern about cell phone safety, the Cellular Telecommunications Industry Association (CTIA), a lobbying group for the cell phone industry, pledged \$25 million for research to allay the public’s fears.

The National Toxicology Program (NTP), a branch of the National Institutes of Health, conducted the study. Initial results were released in May of this year, and the final report will be available for peer review and public comment by the end of 2017). (Link:

1. <http://www.saferemr.com/2016/05/national-toxicology-progam-finds-cell.html>
2. <http://www.usatoday.com/story/news/2016/05/27/study-rats-reignites-debate-over-cell-phones-and-cancer/85035080/>

### **Findings NTP Study:**

The study found that **one in twelve** male rats exposed to cell phone radiation developed a cancer or a pre-cancerous lesion as compared to no cancers in the group of rats that were not exposed to cell phone radiation.

Two different types of cancer were identified: **gliomas** of the brain and schwannoma of the heart. **Acoustic neuroma** is a type of schwannoma. Considering all the possible types of cancer that might have occurred in response to cell phone exposure, it is amazing that the two types of cancer

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found in the study corresponded exactly to what was being observed among heavy cell phone users.

### **CTIA Response:**

The response from the cell phone industry was predictable. They conclude that the study provided insufficient evidence to prove a relationship between cell phone exposure and risk of developing cancer. They point out that **none of the female rats exposed to cell phone radiation developed brain cancer**. They also pointed out that rats in the **control group** (i.e. no radiation exposure) had **a shorter lifespan** than rats exposed to cell phone radiation. They suggest that if the rats in the control group had lived longer they would have developed cancers.

### **Conclusion:**

It is likely we will not get “**proof**” one way or the other in the next few decades. Just as with tobacco and lung cancer risk it took almost a half-century to get general agreement that there was a direct relationship between smoking and the risk of developing lung cancer.

In the absence of proof it seems only reasonable to conclude that there is **potential risk** for both breast and brain cancer. One more reason to **make the bra a “no phone zone”** and to get Bluetooth if you are a heavy cell phone user.

The End