



Ramazzini Institute Study March 22, 2018

Animal Study on Base Station/Cell Tower Radiofrequency Radiation

The study entitled “Report of final results regarding brain and heart tumors in Sprague-Dawley rats exposed from prenatal life until natural death to mobile phone radiofrequency field representative of a 1.8 GHz base station environmental emission” is [published](#) online in the peer-reviewed Elsevier journal *Environmental Research*.

Study Design

Beginning in prenatal life until natural death, 2448 male and female Sprague-Dawley rats were exposed to radiation designed to mimic permissible base station exposures (1.8 GHz GSM modulated far field RFR of 0, 5, 25, or 50 V/m for 19 hours per day.)

Key Findings

- An increase in the incidence of very rare highly malignant tumors—schwannomas of the heart—was observed in male rats and reached statistical significance at the highest dose.
- This is the same rare and malignant tumors found to be increased in the US National Toxicology Program (NTP) \$25 million animal [study](#) of cell phone radiation that used far higher RFR exposure levels.
- The tumors are also the same histotype as tumors called vestibular schwannoma or acoustic neuroma [found](#) to be increased in people who use cell phones long term in case control studies ([Hardell et al., 2013.](#))

Why is this study so important?

- All Ramazzini RFR exposures were at non thermal levels the US government considers “allowable” for cell tower installations, yet a statistically significant increase in malignancies was found, therefore establishing that such very low levels of RFR can cause adverse health effects.
- The Ramazzini findings are consistent with and reinforce the findings of the National Toxicology Program cell phone RFR study.
- Two [Italian Courts](#), including the Italian Supreme Court, already have recognized cellphone radiation as the cause of tumor development.
- Scientists [state](#) that these experimental studies provide sufficient evidence to call for the International Agency for Research on Cancer to re-evaluate the carcinogenic potential of RFR in humans.

So what do we do about cell towers?

Transmitting wireless antennas such as those on cell towers, should not be near homes, schools, parks or hospitals. The priority should be to restore more wired communications to reduce the need for wireless connections. Wired communication is higher quality, less vulnerable to cyber attacks and safer for human health because wired technology does not have radiofrequency exposure.

In parallel with restoring and building out a wired infrastructure, the goal should be *to reduce the power density of cell towers and base stations*. People should have the opportunity to live and work in healthier environments.

Importantly, the exposures used in this study were at levels that are allowable and legal by the Federal Communications Commission. The Ramazzini and National Toxicology Program Studies show that these two decade old FCC limits from 1996 are non-protective. FCC limits must be updated to protect against biological effects such as cancer and other diseases.

How do we use technology but reduce exposure to this type of radiation?

While government decision makers implement protective policies, the public can reduce exposure by using technology in safer ways.

In the USA, the [Connecticut](#) and [California Department of Health](#) and the [American Academy of Pediatrics](#) have issued specific steps that people can personally take to reduce exposure from cell phones. Strategies they recommend include:

- Use speakerphone and distance the phone away from your head and body.
- When talking on the cell phone, use speakerphone or airtube wired headset to reduce exposure to your head.
- Avoid carrying your phone against the body like in a pocket, sock, bra or spandex pants.
- Prefer texting to voice calls.
- Minimize overall cell phone use.
- Minimize cellphone use when the signal is weak.
- Minimize cell phone use in a traveling vehicle.
- Use a corded phone for voice calls (not cordless)
- Maintain a distance from wireless virtual assistants and wireless “smart” tech.

[Read more about how to reduce cell phone radiation exposure here.](#)

The [Maryland State Council on Children’s Environmental Health](#) recommends reducing RFR in schools, and a new National Institute for Science, Law & Public Policy [report](#) recommends a hardwired (rather than wireless) telecommunication infrastructure.

- Laptops and tablets should be placed on a table, not on your lap.
- Turn the Wi-Fi OFF computers, laptops and electronics and connect to the internet with ethernet cords
- Used wired, not wireless accessories such as mouse, keyboard, speakers etc.
- Support investments in fiber optics and protect landlines in your community for telecommunications.

[Read more about how to reduce RFR in your home here.](#)

Ramazzini Institute Resources

[Link to the Ramazzini Institute Study.](#)

[Link to Media Advisory Online With Biographies for Experts on Conference Call](#)

[How To Reduce Exposure to Radiofrequency Radiation, 5G Factsheet](#)

National Toxicology Program (NTP) Cell Phone Radiation

[Dr. Lennart Hardell and Colleagues Comments on the NTP](#)

[Dr. Melnick Comments on the NTP](#)

[Dr. Annie Sasco Comments on the NTP/ Ramazzini Comments](#)

[Environmental Health Trust Comments on the NTP RF](#)

[Dr. Anthony Miller NTP Submission](#)

Additional Resources:

[Link to Infographic on Cell Phone Radiation](#)

[The National Toxicology Program Presentation on DNA Damage](#)

More at Environmental Health Trust [EHTrust.org](#)