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**Symptoms, Science and Nursing Interventions to Address**

**Wireless Radiation in Schools**

We are grateful for your interest in protecting children from wireless radiation! Schools and hospitals have the most extreme exposures of wireless radiation (radio-frequency radiation, or RFR). This is due to overpowered routers (access points) and hundreds of devices. All mobile and “smart” devices emit RFR, the same frequencies as microwave ovens. Children are most vulnerable, and will have a lifetime of cumulative RFR exposure.

**The most common sources of RFR in/near schools**: cell phones, cell towers, routers (access points), laptops, iPads, Air Pods, smart watches, smart speakers (Alexa, Echo), smart boards, security systems., printers

**Common Symptoms from Cumulative Exposures to Wireless Radiation**:

* Headaches / migraines, anxiety, agitation, depression, nose bleeds, sleep problems, tinnitus, “brain fog,” attention & memory challenges, behavioral problems. (Belpomme, 2020, Belyaev, et al, 2016)
* For users of air pod users: increased risks of ear infections, mold/fungus in ears, and hearing loss
* If these symptoms are worse at school, especially after a holiday or summer break, RFR may be the cause.

**Interventions for School Nurses (also Counselors & Parents):** This is different! This is evidence-based Environmental Nursing: ID the source of symptoms, then advocate to change the environment to protect kids.

* **Request school administrators and IT directors to view our recent webinar** at SafeTechNC.org

*Turning Down the Dial on Wireless Radiation in NC Schools: The Science, Symptoms, Solutions, and the Legal Imperative to Protect our Children.* Features electrical engineer professor, 2 MDs, tech expert, RN/EMF expert

* **Teach all students to keep cells phones off their bodies.** Keep phones in backpacks or lockers instead.
* **Encourage students** to usebattery-powered alarm clocks instead of cell phones (Casio, Braun are silent, dark)

**For symptomatic students and their parents: Share this handout**, including the reliable websites on the back side. Parents should immediately reduce screen time, RFR exposures, and tech access at home.

* **Have symptomatic students moved away from the router** / wireless access point, which is most often in the center of classrooms. It looks like a white disk suspended on the ceiling.
* **Encourage initiation of a 504 Plan**: seating away from routers, assignments on paper, brief breaks outside for brisk walking, permission to wear shielded bean, hard-wired connection in classrooms, ADA accommodations if needed.
* **Recommend safeguarding sleep at home** so children’s bodies recover more quickly from exposures at school. Turn off Wi-Fi overnight. Remove all wireless devices in the bedroom: no phones, laptops, PCs, gaming, speakers
* **Selected shielding clothing** will reduce RFR exposure. Helpful: “beanie” from LessEMF.com, plus clothing/fabric from LessEMF.com, SLT.co, GetLambs.com. Some companies have products that are not evidence based.
* **Easiest way to help parents assess for EMF sensitivity**: 3-day camping weekend in a remote area (like Lake James, Nebo, NC). Next best: Christmas vacation all unplugged (including phones, Wi-Fi, Alexa, gaming devices).
* **Encourage Best Practices on the Use of Wireless Radiation**: Keep laptops / iPads off the lap, distance from the devices (not the lap!), turn down power on access points, cell phone policies (More solutions: TechSafeSchool.org)
* **Over-the-Counter/Natural Remedies**: Mag-Threonate (NeuroMag), liposomal glutathione, essential oil of rosemary & peppermint applied to temples (added to carrier oil), Vit C in large, divided doses, melatonin 1 hour before bedtime (titrate dose as needed), soak feet nightly in warm water + Epson salts, detox baths.
* **Avoid pharmaceuticals** when possible, especially addiction anxiolytics and stimulants for ADD/ADHD

**More Interventions:**

* **Encourage** sun exposure early in the day, good hydration, aerobic exercise/brisk walking, sauna/sweating (to reduce toxic load), “grounding” outside barefoot on moist soil away from powerlines and wireless sources
* ***Critical*: Request a strong cell phone policy in your school:** Have phones put away all day, not just during class, which puts the burden on teachers to enforce. (see our Webinar near the end: Desert Sage High School)

**How SafeTech NC Can Help:** We can lend our RFR meter (Safe & Sound Pro II), provide remote presentations to leaders, CEU-level education for RNs, share template for 504 plan. Need more? Contact us at SafeTechNC@ProtonMail.com

**NC Physicians who treat EMF-related conditions**: Natalie Sadler, MD (Black Mtn), Raymond Oenbrink, DO (Asheville), Robinhood Integrative Health (Winston) AnneHinesMD.com (Winston); Sonia Rapaport, MD (Chapel Hill),

**Reliable Websites:**

* **Physicians for Safe Technology**: MDSafeTech.org<https://mdsafetech.org/wi-fi-in-schools-2/>
* **Environmental Health Trust:** EHTrust.org<https://ehtrust.org/wifi-in-schools-tool-kit/>
* **International Declaration on the Human Rights of Children in the Digital Age:** TheChildrensDeclaration.org
* **TechSafeSchools.org** see Resources tab for TSS’ Mitigation Guide, posters, letters to administrators
* **BabySafeProject.org** science on why to reduce RFR exposure in pregnancy, preconception care
* **BioInitiative.org** compilation of thousands of RFR studies by disease type; urges protective standards
* **ScreenStrong.org** resources to prevent and reduce screen addiction
* **SafeTechNC.org** : science, solutions, school webinar, and soon an EMF-savvy practitioners directory

**Sampling of Independent Science on the Health Effects of Wireless Radiation**

**Children’s Vulnerability:** Davis, D., Birnbaum. L., et al, *Wireless technologies, nonionizing electromagnetic fields and children: Identifying and reducing health risks.* [Current Problems in Pediatric and Adolescent Health Care](https://www.sciencedirect.com/journal/current-problems-in-pediatric-and-adolescent-health-care), [Volume 53, Issue 2](https://www.sciencedirect.com/journal/current-problems-in-pediatric-and-adolescent-health-care/vol/53/issue/2), February 2023

**American Academy of Pediatrics** on children’s vulnerability: <https://ehtrust.org/american-academy-pediatrics-recommendations-cell-phones-cell-towers-wireless-radiation/> (numerous letters since 2012 to FCC on need for safety standards)

**Autism:** Herbert, M., Sage, C.,*Autism and EMF? Plausibility of a pathophysiological link – Part I*. [Pathophysiology](https://www.sciencedirect.com/journal/pathophysiology)

[Volume 20, Issue 3](https://www.sciencedirect.com/journal/pathophysiology/vol/20/issue/3), 6/2013, Pages 191-209; also see Part II (same year, same authors)

**Cancer**: National Toxicology Program,*NTP Technical Report on the Toxicology and Carcinogenesis Studies in Sprague Dawley Rats Exposed to Whole-body Radio Frequency Radiation at a Frequency (900 Mhz) and Modulations (GSM and CDMA) Used by Cell Phones;* Technical Report 595; National Toxicology Program, U.S. DHHS, ISSN: 2378-8925 Research Triangle Park, NC.

**Treatment of EMF-Related Conditions:** Belyaev, I., Dean, A., et al, *European Academy of Envir Medicine EMF Guideline 2016 for the prevention, diagnosis and treatment of EMF-related health problems;*  Rev Environ Health, 2016 Sep 1;31(3):363-97.

## **ADD/ ADHD**: Birks, L. et al, *Maternal cell phone use during pregnancy and child behavioral problems in five birth cohorts*, [Environment International](https://www.sciencedirect.com/journal/environment-international), [Volume 104](https://www.sciencedirect.com/journal/environment-international/vol/104/suppl/C), July 2017, Pages 122-131

### **Mood / Mental Health:** Ismail, SA, et al**,** *Effect of Exposure to Electromagnetic Fields (Emfs) on Monoamine Neurotransmitters of Newborn Rats*, Ismail, SA, Biochemistry & Physiology, 1/2015, Vol 4, Issue 2

### **Seizures:** Azmy et al. [*Effects of mobile phones electromagnetic radiation on patients with epilepsy: an EEG stud*y](https://ejnpn.springeropen.com/articles/10.1186/s41983-020-00167-2); Egyptian Journal of Neurology, Psychiatry and Neurosurgery (2020) 56:36; and

Turner, R., *Lifestyle and environmental influences on electroencephalography, quantitative electroencephalography, and neurofeedback,*

Introduction to Quantitative EEG and Neurofeedback, 3rd edition, Elsevier 2023

**Environmental Nursing Textbook Chapter**: Dodd, C, Scarato, T., ***A New Form of Environmental Pollution: Wireless and Non-Ionizing Electromagnetic Fields.*** Alliance of Nurses for Healthy Environments Environmental Health in Nursing, 2nd Edition. 2022

**Oxidative Stress:** Yakymenko, I., et al. *Oxidative mechanisms of biological activity of low-intensity radiofrequency Radiation,* Electromagnetic Biology & Medicine, Vol. 35, NO. 2, 186–202, 2016

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