Supplemental Materials For Wireless Technologies, Non-ionizing Electromagnetic Fields and Children: Reducing Health Risks

I. Recommendations to reduce RF radiation
   1. Medical Organizations
   2. Public Health Organizations and Entities
   3. Schools and Buildings
   4. New Hampshire State Report on 5G Health and Environment
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Recommendations to reduce RF radiation

1. Medical Organizations

American Academy of Pediatrics (AAP)
AAP Cell phone safety tips for families (2016) ● Prefer texting to voice calls ● Use cell phones in speaker mode or hands-free to distance the cell phone away from the head. ● Make only short or essential calls on cell phones. ● Avoid carrying your phone against the body like in a pocket, sock, or bra. ● Do not talk on the phone or text while driving. ● If you plan to watch a movie on your device, download it first, then switch to airplane mode while you watch in order to avoid unnecessary radiation exposure. ● Minimize use in areas of low signal (i.e. how many bars you have). The weaker your cell signal, the harder your phone has to work and the more radiation it gives off. ● Avoid making calls in cars, elevators, trains, and buses. The cell phone works harder to get a signal through metal, so the power level increases. ● Remember that cell phones are not toys or teething items.
American Academy of Pediatrics Letters ● AAP Letter to the FCC Chairman calling for the FCC to open up a review of RF guidelines (7/12/2012) ● AAP Letter to US Representative Dennis Kucinich in Support of the Cell Phone Right to Know Act 12/12/2012 ● AAP to FCC Commissioner Mignon Clyburn and FDA Commissioner Margaret Hamburg calling for a review of RF guidelines 8/29/2013

Santa Clara California Medical Association
Santa Clara California Medical Association Bulletin Articles on EMF • Wireless Silent Spring • Wi-Fi in School: Are We Playing it Safe With Our Kids • Shallow Minds: How the Internet and Wi–Fi in Schools Can Affect Learning • A 5G Wireless Future: Will it Give Us a Smart Future • Autism Rising Environmental Factors Part 1. • Autism Rising Environmental Factors Part 2 • Saving Your Landline May Save Your Life • What's the Diagnosis Doctor? Electromagnetic Sensitivity
California Medical Association
In 2014, the California Medical Association passed two resolutions regarding wireless standards: 1. To "support efforts to reevaluate microwave safety exposure levels associated with wireless communication devices, including consideration of adverse non-thermal biologic and health effects from non-ionizing electromagnetic radiation used in wireless communications"; and 2. To "support efforts to implement new safety exposure limits for wireless devices to levels that do not cause human or environmental harm based on scientific research."
Massachusetts Medical Association
In 2021, the Massachusetts Medical Association passed a policy statement in support of "continuing research, including quality epidemiologic studies, by appropriate agencies and entities to produce evidence-based data on the effect(s) of radio frequency radiation on human health. If indicated, study findings should be used to revise and update public health standards for safe limits of human exposure to radio frequency radiation."
Austrian Medical Chamber, Cyprus Committee on Environment and Children's Health
The 16 Practical Rules to Reduce Cell Phone and Wireless Radiation
Athens Medical Association
16 Recommendations to reduce human exposure to wireless radiation (2017)

TIPS TO REDUCE YOUR WIRELESS RADIATION EXPOSURE

WHERE & WHEN

Keep a distance. Avoid holding your cell phone or cordless phone near your head or body during phone calls. Don't carry your cell phone in your pocket, in your bra, or close to your body when it is powered on. Especially keep the phone away from your head and reproductive organs. Use speakerphone, text, or wired headset. Avoid talking longer than necessary.

Wait for a good signal. When the signal is poor, your wireless devices emit more radiation so avoid use when surrounded by metal such as in an elevator, or while travelling in automobiles, buses, trains or aircraft.

Reduce secondhand exposure. Reduce the time you spend in locations where many people are using cell phones in close proximity to each another, especially on public transit.

Turn off wireless devices at bedtime. Turn off your cell phone, Wi-Fi router, and other wireless devices at bedtime and at other times when not in use.

WHO & HOW

Minimize children's use & exposure to wireless radiation. Children's health risks are greater so limit their use of cell phones and other wireless devices. Turn off Wi-Fi and cellular on devices used by kids. Teach children to use wireless technology safely.

Pregnancy & fertility. If you are pregnant or planning for a baby be especially careful as wireless radiation exposure is linked to reproductive health effects and also to sperm damage. Do not use a wireless tablet or laptop in your lap.

Use airplane mode. Turn off cell phones and other wireless devices when not in use or switch to Airplane Mode. Turn off Wi-Fi and Bluetooth when not in use.

Use wired connections. Use a wired, land line phone whenever possible. Forward cell phone calls to your land line and check on them when you get home. Use wired Internet connections.

TAKE ACTION

Electromagnetic hypersensitivity. If you think you are developing allergic symptoms from wireless radiation exposure, keep a log of your exposures and your symptoms. Then reduce your exposures for two weeks, and see if your symptoms are reduced. Discuss the results with your healthcare provider.

Governmental action is essential. Send the *International EMF Scientist Appeal* (**EMFscientist.org**) to your elected representatives. Ask them to adopt policies to make wireless technology safer. Encourage them to fund education and research through a modest fee on mobile device subscriptions (e.g. a nickel a month). Work with others to get schools to remove Wi-Fi and provide students with Internet access via wired networks.

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Electromagnetic Radiation Safety
Website: http://www.saferemr.com
Facebook: http://www.facebook.com/SaferEMR
News Releases: http://pressroom.prlog.org/jmm716/
Twitter: @berkeleyprc



Maryland Children's Environmental Health and Protection Advisory Council

Guidelines to Reduce Electromagnetic Field Radiation

December 2022

Introduction

The Maryland Children's Environmental Health and Protection Advisory Council (CEHPAC) identifies environmental health issues that impact children and seeks to protect them from exposure to environmental hazards. Under Md. Code Ann., Health-General §13–1506, CEHPAC is directed to:
(4) Gather and disseminate information to the public, including the research and medical communities, community–based organizations, schools, and State agencies, on how to reduce, treat, and eliminate children's exposures to environmental hazards to further the public's understanding of the environmental hazards that may potentially affect children; and

(5) Recommend uniform guidelines for State agencies to follow to help reduce and eliminate children's exposure to environmental hazards, especially in areas reasonably accessible to children…

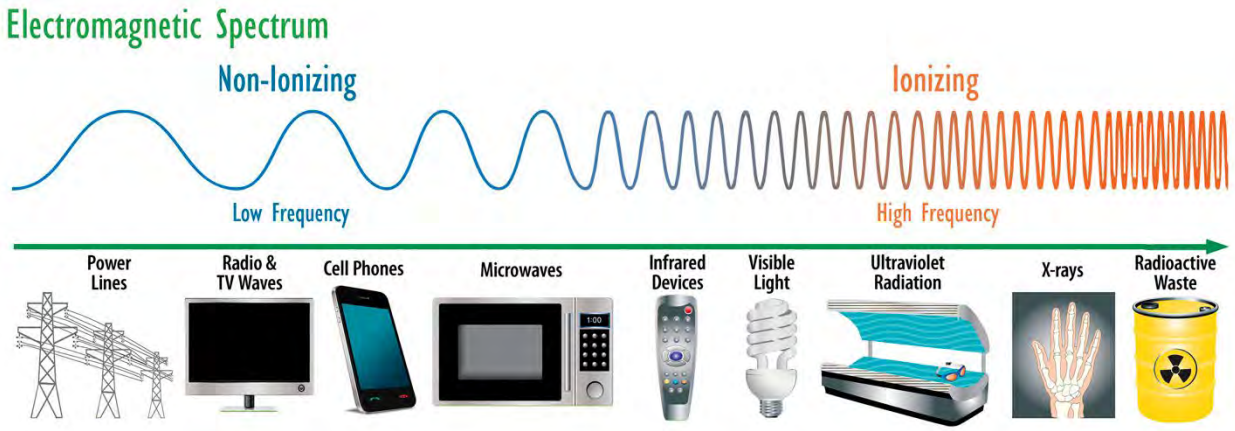


Figure 1. Source: National Institute of Environmental Health Sciences

In 2016, CEHPAC adopted a report on WiFi Radiation in Schools in Maryland to examine questions related to potential health outcomes linked to exposures associated with WiFi technology. This report expands on that work by compiling information on how families can reduce their daily exposure to non-ionizing electromagnetic fields. If you are interested in a more detailed analysis and policy recommendations please see the 2016 WiFi Radiation in Schools in Maryland Final Report.

What are electromagnetic fields?

"Electromagnetic fields are a combination of invisible electric and magnetic fields of force. They are generated by natural phenomena like the Earth's magnetic field but also by human activities, mainly through the use of electricity. Mobile phones, power lines and computer screens are examples of equipment that generates electromagnetic fields." - European Commission's Directorate General for Health & Food Safety

How do wireless devices work?

Cell phones and wireless devices use a type of non-ionizing electromagnetic field called radiofrequency radiation to transmit information.

"Radiofrequency (RF) energy is a type of electromagnetic radiation. It is used to transmit signals carrying information in the form of radio waves. Radio waves are broadcast using a transmitter. When the radio waves reach a receiver, the signal is converted back into the information that was originally sent by the transmitter. When you talk on a cell phone, your cell phone acts as a transmitter and your voice is carried on radio waves to the person you are calling. Their phone acts as the receiver and converts the signal back into your voice. In addition to cell phones, other wireless devices such as radios, Wifi routers, satellites, radars and pacemakers can send or receive RF energy waves." - US EPA's RadTown

Are there health concerns about exposure to RF energy from cell phones and wireless technologies?

For a more detailed analysis, please see the 2016 WiFi Radiation in Schools in Maryland Final Report, which examined the current evidence linking radiofrequency radiation to health outcomes, including cancer. While the science is still evolving, there are broad concerns about exposure to RF radiation.

According to the California Department of Public Health, "…some laboratory experiments and human health studies have suggested the possibility that long-term, high use of cell phones may be linked to certain types of cancer and other health effects, including:

- brain cancer and tumors of the acoustic nerve (needed for hearing and maintaining balance) and salivary glands,
- lower sperm counts and inactive or less mobile sperm,
- headaches, and
- effects on learning and memory, hearing, behavior, and sleep"

There are no definitive studies establishing a causal link in humans, and scientists disagree about whether cell phones cause these health problems and how great the risks might be.

Children may be at greater risk than adults from exposure to RF energy. Their bodies and brains are still developing and are more vulnerable to exposures that could cause harm. Because their skulls are thinner and their heads are smaller than those of adults, children have a relatively greater risk of exposure to the RF energy of cell phones. Children also will accumulate many more years of cell phone and wireless exposure than adults. Animal research has also shown the potential for health effects of RF radiation to a developing fetus.

In 2011, the International Agency for Research on Cancer (IARC) classified wireless radiofrequency radiation as a Class 2B possible carcinogen based on research that found long term cell phone use associated with a form of brain cancer.

The 2016 WiFi Radiation in Schools in Maryland Final Report recommended "…limiting exposures as much as feasibly practical, without negatively impacting education." The Department of Connecticut Department of Health takes this a step further and states, "It is wise to reduce children's exposure."

Sources of Children's Exposure to Wireless Radiofrequency Radiation

Common sources of radiofrequency radiation exposure to children include:

- Cell phones
- Cordless phones and their base station
- Tablets, laptops, and computers
- WiFi routers and hotspots
- Wireless video game consoles/handsets
- Wireless Baby monitors
- Signal boosters
- Wireless headphones, printers, speakers, keyboard, mouse
- Wearable wireless tech including "smart" watches and fitness wristbands
- Wireless "smart" appliances
- Wireless utility meters
- WiFi or Bluetooth toys

The Basics of Reducing RF Exposure

Increase Your Distance

The closer you are to a cell phone or wireless device, the higher the exposure to your brain and body. The further away you are, the lower the radiation your body absorbs. Notice how close children are to you when you are using a cell phone or wireless device, and minimize their exposure. For example, do not rest a cell phone on your baby or hold a transmitting device near their bodies.

Minimize Time on Wireless

A child's daily exposure adds up over time. Every time you reduce your child's exposure, even in small ways, you can decrease the overall cumulative exposure to mitigate risk.

Choose Safer Technology Solutions

As consumers, parents and caregivers have safer options when it comes to connecting to the internet or choosing which electronics to purchase. Once you are aware of this issue, you can make low RF radiation choices and choose corded connections whenever possible. Take a look at what you have in your home and swap wireless devices with corded connections if possible. For example, use a corded keyboard or earbuds with a wire.

Recommendations to Reduce Cell Phone and Wireless Device Radiation Exposure

Cell phones, wireless devices, and WiFi routers emit RF radiation all the time, even when you are not using them. Even in standby mode, your phone emits RF radiation because it is constantly searching for service or new messages. If you do not need your cell phone, simply turn it off or put it in airplane mode. This applies to all other wireless devices, including laptops, tablets, video gaming consoles and smart speakers. Additional recommendations are provided below as general guidelines.

Around the Home[1]

- Replace cordless phones with corded home phones.
- Unplug cordless phones when not in use (if you have at least one corded telephone in the house, you can always be reached, even if the cordless phone is off at night).
- Remove electronics from the bedroom and especially around your bed and the crib.
- Avoid sleeping with electric blankets and heating pads; if you use an electric blanket to preheat your bed, unplug it before sleeping. If you only turn it off, the electromagnetic field will still be present.
- Do not stand close to a microwave oven when it is on or let your child press their face up to it watching the food cook.

Cell Phones

- Try to keep devices, especially cell phones, away from the head and body. Keeping them an arm's distance away significantly reduces exposure.[2]
- When you are talking on a cell phone, use the speakerphone to reduce exposure to your head.[2]
- Avoid carrying your phone against the body like in a pocket, sock, bra, or spandex pants. Cell phone manufacturers cannot guarantee that the amount of radiation you are absorbing will be at a safe level.[2]
- Make only short or essential calls on cell phones so that you minimize your daily exposure.[2]
- Use text messaging rather than voice calls when possible.[2]

Laptops and Computers

- Choose wired Internet (ethernet cable modems) at home instead of wireless systems, if possible.[3]
- Place WiFi routers as far away from children as possible.[3]
- Consider using a switch to shut down your wireless router when it is not in use.[3]

[1] These recommendations are based on a Fact Sheet by the Collaborative on Health & the Environment.
[2] These recommendations come from the American Academy of Pediatrics (AAP).
[3] Based on the California Department of Health review.

- Instead of laps, place electronic devices, tablets, and laptops on desks and tables which can serve to increase the distance between the device and children's bodies.[3]

Turn Wireless Antennas Off

- Airplane mode is a setting that turns transmitting antennas off in wireless devices.
- If you plan to watch a movie on your device, download it first, then switch to airplane mode while you watch to avoid unnecessary radiation exposure.[2]
- Teach children to turn off WiFi when not in use, especially if they are sleeping (also see bedroom suggestions below).[3]
- Newer phone models turn most of the wireless antennas off with Airplane mode, but Bluetooth or WiFi may stay on, so check that all antennas are set to off such as 4G, 5G, Bluetooth, WiFi hotspot, location.

Learn About When Your Cell Phone Goes to Highest Exposure

Reduce or avoid use of cell phones and wireless technologies when the devices are going to maximum power, which means the device will result in higher radiation exposures.[2,3]

- *You are in an area of low signal:* Keep an eye on your signal strength (i.e. how many bars you have). The weaker your cell signal, the harder your phone has to work and the more radiation it emits. It is better to wait until you have a stronger signal before using your device.
- *You are traveling in a car or vehicle:* Avoid making calls in cars, elevators, trains, and buses. The cell phone works harder to get a signal through metal, so the power level increases. When vehicles are traveling, the device also increase power to switch connection to each cell tower the vehicle passes.
- *You are streaming video and large files:* The more streaming data, the higher the radiation exposure.

Helpful Tips

- If your tablet or laptop does not have an ethernet port you can get a special adapter that allows you use ethernet with thunderbolt or USB ports.
- Many cell phones can also be plugged into ethernet port with an adapter made for cell phones.
- Use wired peripherals and accessories (e.g. a wired mouse, wired speakers, and wired printers) rather than wireless.
- Wireless virtual assistants emit RF so choose wired tech whenever possible.
- Wireless gaming consoles emit RF even when not in use so keep these out of the bedroom and choose wired handsets.

In the Bedroom

- Cell phones should be powered off at night.[2]

- If your child or teen needs an alarm clock, get a battery powered alarm clock for the bedroom.[2]
- If they must use a cell phone for an alarm clock, teach them to turn the phone to airplane mode with wireless antennas off every night (the alarm will still work).[2]
- Do not charge a cell phone or wireless devices near your child's bed. Charging creates higher electromagnetic fields even if you are not using the device.
- Children should not sleep with their head near a wall that has the electric panel, electric meter, or appliance on the other side.

Read the Fine Print

Read the "fine print" from the manufacturer's instruction manual which may tell users to keep a distance between the phone and your head and body. These fine print warnings range from a few millimeters to almost an inch. The fine print warnings on other wireless devices such as WiFi routers, home cordless phone base stations, and baby monitors generally state devices should be at 20 cm, or about 8 inches. If people are closer than the manufacturer-stated separation distance, then they can be exposed to RF levels that violate the US government FCC limits for this type of radiation.

Beware Radiation Protection Devices

Do not rely on a "radiation shield" or other products claiming to block RF energy, electromagnetic fields, or radiation from cell phones. According to the U.S. Federal Trade Commission, products that interfere with the phone's signal may force it to work harder and emit more RF energy to stay connected, possibly increasing your exposure. There are no standard protocols for testing and comparing devices to ensure they work. It is best to use wired corded electronics to reduce RF radiation rather than rely on an untested product.[3]

If You are Pregnant

Findings on prenatal impacts have led doctors to sign onto an EPA-recognized educational campaign called The BabySafe Project*urging pregnant women to reduce wireless exposure to minimize risks to their babies' brain development. They recommend many of the same things listed above, including:

- Keep your cell phone away from your body. Never carry it in a pocket or bra.
- Do not sleep with your phone. Switch your phone to airplane mode whenever you are not using it.
- Keep your wireless laptop or tablet away from your body. Never rest your wireless device on your tummy.
- Use a corded landline if at all possible, rather your cell phone or cordless phone.
- Don't sit anywhere close to your router or smart meter. Turn off routers at night.
- Whenever possible, connect to the internet using wired (ethernet) connections.

*The BabySafe Project is a joint initiative of Environmental Health Trust and Grassroots Environmental Education.

Scientific Appeals

Scientists have organized numerous appeals highlighting the existence of non thermal biological effects and the need for new policies to reduce exposure.

The International Scientists Appeal to U.N. to Protect Humans and Wildlife from Electromagnetic Fields and Wireless Technology" was started in 2015. As of November 2022, 257 scientists from 44 nations and 15 supporting scientists from 11 nations have signed this appeal requesting: which has nine collective requests:

1. Children and pregnant women be protected;
2. Guidelines and regulatory standards be strengthened;
3. Manufacturers be encouraged to develop safer technology;
4. Utilities responsible for the generation, transmission, distribution, and monitoring of electricity maintain adequate power quality and ensure proper electrical wiring to minimize harmful ground current;
5. The public be fully informed about the potential health risks from electromagnetic energy and taught harm reduction strategies;
6. Medical professionals be educated about the biological effects of electromagnetic energy and be provided training on treatment of patients with electromagnetic sensitivity;
7. Governments fund training and research on electromagnetic fields and health that is independent of industry and mandate industry cooperation with researchers;
8. Media disclose experts' financial relationships with industry when citing their opinions regarding health and safety aspects of EMF-emitting technologies; and
9. Safe zones (radiation-free areas) be established.

There have been many appeals over the years such as the Reykjavik Iceland Appeal on Wireless in School (2017), the Scientist 5G Appeal to the EU(2017) , the Nicosia Declaration (2017), the International Society of Doctors for Environment 5G Appeal (2018) and the 2020 Consensus Statement of UK and International Medical and Scientific Experts and Practitioners on Health Effects of Non-Ionising Radiation.

How to Reduce Exposure to Radiofrequency Energy from Cell Phones



The use of cell phones has increased dramatically in recent years, including among children and young adults. These phones put out radio frequency (RF) energy.

Some scientists and public health officials believe RF energy may affect human health. This guidance document describes RF energy, lists some of the potential health concerns, and provides guidance on how people can reduce their exposure.

Why are people concerned about exposure to RF energy from cell phones?

Although the science is still evolving, some laboratory experiments and human health studies have suggested the possibility that long-term, high use of cell phones may be linked to certain types of cancer and other health effects, including:

- brain cancer and tumors of the acoustic nerve (needed for hearing and maintaining balance) and salivary glands
- lower sperm counts and inactive or less mobile sperm
- headaches and effects on learning and memory, hearing, behavior, and sleep

These studies do not establish the link definitely, however, and scientists disagree about whether cell phones cause these health problems and how great the risks might be. This document is intended to provide guidance for those people who want to reduce their own and their families' exposures to RF energy from cell phones, despite this uncertainty.

What is RF energy?

Cell phones work by sending and receiving signals to and from cell phone towers. These signals are a form of electromagnetic radiation called radiofrequency (RF) energy. Other sources of RF energy include cell phone towers, TV and radio transmitters, smart meters, and microwave ovens. When a phone sends signals to a tower, the RF energy goes from the phone's antenna out in all directions, including into the head and body of the person using the phone. Cell phones also emit RF energy when using Wi-Fi and/or Bluetooth, but at lower levels.

RF energy is not as powerful or as damaging to cells or DNA as some other kinds of electromagnetic radiation, such as X-rays or UV rays from the sun. Some scientific studies have, however, suggested that there may be increased health risks from exposure to RF energy.

How can you reduce your exposure?

Keep your phone away from your body. Keeping your phone just a few feet away from you can make a big difference.

- ***When you talk on your cell phone, avoid holding it to your head—use the speakerphone or a headset instead.*** Wireless (Bluetooth) and wired headsets emit much less RF energy than cell phones.
- ***Send text messages instead of talking on the phone.***
- ***If you are streaming or if you are downloading or sending large files, try to keep the phone away from your head and body.***
- ***Carry your cell phone in a backpack, briefcase, or purse; NOT in a pocket, bra or belt holster.*** Because your phone's antenna tries to stay connected with a cell tower whenever it's on, it emits some RF energy even when you are not using it. It does not emit RF energy when it's in airplane mode. (Airplane mode turns off cellular, Wi-Fi, and Bluetooth.)

Reduce or avoid using your cell phone when it is sending out high levels of RF energy. This happens mainly when:

- ***You see only one or two bars displayed.*** Cell phones put out more RF energy to connect with cell towers when the signal is weak. If you must use your phone when the signal is weak, try to follow the other guidance on this page.
- ***You are in a fast-moving car, bus, or train.*** Your phone puts out more RF energy to maintain connections to avoid dropping calls as it switches connections from one cell tower to the next unless it is in airplane mode.
- ***You are streaming audio or video, or downloading or sending large files.*** To watch movies or listen to playlists on your phone, download them first, then switch to airplane mode while you watch or listen.



What about children?

Children may be more at risk for harm from exposure to RF energy because:

- RF energy can reach a larger area of a child's brain than an adult's brain.
- A child's brain and body grow and develop through the teen years. During this time, the body may be more easily affected by RF energy and the effect may be more harmful and longer lasting.
- A child who uses a cell phone will have many more years of exposure to RF energy in his or her lifetime than someone who started using a cell phone as an adult.

There is not a lot of research about the effects of cell phone RF energy on children or teenagers, but a few studies have shown that there may be hearing loss or ringing in the ears, headaches, and decreased general well-being.

Don't sleep with your phone in your bed or near your head. Unless the phone is off or in airplane mode, keep it at least a few feet away from your bed.

Take off the headset when you're not on a call. Headsets release small amounts of RF energy even when you are not using your phone.

NEW HAMPSHIRE STATE COMMISSION

2020 REPORT: 5G HEALTH AND ENVIRONMENT

In 2020, the New Hampshire State Commission issued a Final Report with 15 recommendations to "to protect people, wildlife, and the environment from harmful levels of radiation" after a year-long investigation with numerous meetings and expert testimony.


State of New Hampshire

MEMORANDUM

"A likely explanation as to why regulatory agencies have opted to ignore the body of scientific evidence demonstrating the negative impact of cellphone radiation is that those agencies are "captured."

Recommendations To Update RF Exposure Regulations With New Science

- A resolution to US Congress to require the FCC to commission an independent health study and review of safety limits.
- New measurement protocols needed to evaluate high data rate, signal characteristics associated with biological effects and summative effects of multiple radiation sources.

Recommendations To Address Impacts to Wildlife And Environment

- Engage agencies with ecological knowledge to develop RF-radiation safety limits that will protect the trees, plants, birds, insects, and pollinators.
- Under the National Environmental Policy Act, FCC should do an environmental impact statement as to the effect on New Hampshire and the country as a whole from 5G and the expansion of RF wireless technologies.

Recommendations To Reduce Public Exposure

- Require setbacks for new wireless antennas from residences, businesses, and schools.
- Cell phones and wireless devices should be equipped with updated software that stops cell phones from radiating when positioned against the body.
- Establish RF-radiation free zones in commercial and public buildings
- New Hampshire health agencies should educate the public on minimizing RF exposure with public service announcements on radio, television, print.

Recommendations To Utilize Safer Alternatives

- New Hampshire schools and libraries should replace Wi-Fi with hardwired connections.
- Support statewide deployment of fiber optic cable connectivity with wired connections inside homes.

Recommendations To Increase Transparency

- State should measure RFR and post maps with RF measurements..
- Require 5G structures to be labeled for RFR at eye level and readable from nine feet away.
- RFR signal strength measurements for cell sites should be done by independent contractors.
- NH professional licensure to offer RF measurement education for home inspectors.
- Warning signs posted in commercial and public buildings.

Collaborative for High Performance Schools	Low EMF Best Practices Summary • Evaluate for common wiring errors, correct them and ensure compliance with National and state electrical codes. • Measure magnetic field levels to ensure compliance with 1 mG in new construction and 2 mG in existing. • Ensure devices (tablets laptops) are used on a desk. Operation on the lap or body is prohibited. • Workstation equipment must be at least 2 feet away • Computers and devices are TCO-certified or lab tested to meet TCO Criteria "Mandate A.4.2" for EMF emissions. • Laptops or notebooks must have an Ethernet port and a physical switch to disable all wireless radios at once and an adaptor with a 3-pin plug. • Install and use wired local area network (LAN) for internet access instead of Wi-Fi. • Prohibit use of DECT and cordless phones (2.4 GHz and 5.8 GHz) unless they have been lab tested to demonstrate that they do not emit in standby mode.
Building science and radiofrequency radiation: What makes smart and healthy buildings Clegg et al. 2020	• Consider alternative approaches to wireless technology. Recommendations include: • Neighborhood infrastructure with cable access for high-speed, wired telephone and Internet; • Within buildings use cables, preferably shielded, in Local Area Networks (LAN) to provide wired access points for all networking and data transmission, including wired connections for modems, routers, Internet and media; lighting, heating, ventilation, air conditioning (HVAC), thermostats and humidistats; surveillance and security systems; fire detection and response (e.g., sprinklers); pool equipment such as pump and treatment controls, etc.; • Install easily accessible wired (not cordless) phones and prohibit installation and use of cordless phones; • Throughout the building, provide connections to hardwired CAT6 or CAT7 Ethernet cables, preferably shielded, to service devices such as computers, tablets and other devices. Use wired peripherals and accessories. Ensure that all wireless features are turned off or disabled; • Install wired RJ11 phone jacks for corded and landline telephones; and • Use analog, non-transmitting utility (water, electricity, gas) meter options, that do not transmit data wirelessly.

Examples of Fine Print Warnings for Cell Phones and Wi-Fi Devices

All cell phones and Wi-Fi devices like routers, speakers, and gaming consoles have fine print instructions in their manuals stating that the user should maintain a specified minimum distance between their body and the phone or device in order to ensure compliance with regulatory safety limits.

LG G8

"Body-worn Operation: This device was tested for typical use with the back of the device kept 0.39 inches (1.0 cm) from the body. To comply with FCC RF exposure requirements, a minimum separation distance of 0.39 inches (1.0 cm) must be maintained between the user's body and the back of the device."

Apple iPad IOS4

"To be sure that human exposure to RF energy does not exceed the FCC, IC, and European Union guidelines, always follow these instructions...Orient the device in portrait mode with the Home button at the bottom of the display, or in landscape mode with the cellular antenna away from your body or other objects."

Playstation 4 Pro

"This equipment should be installed and operated with at least 20 cm (8 inches) or more between the radiator and the person's body."

Amazon Echo Dot (4th Generation) Kids Edition

"…it is advised to use the Products in such a manner that minimizes the potential for human contact during normal operation…This Device should be installed and operated with at least 20 cm between the radiator and your body."

OC1A Owlet Baby Monitor Camera

"This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body."

Samsung Galaxy Z Fold 3 5G (2021)

"Body-worn SAR testing has been carried out at a separation distance of 1.5 cm. To meet RF exposure guidelines during body-worn operation, the device should be positioned at least this distance away from the body."

When cellphones are tested in body contact positions, (i.e closer than the instructions recommend), the way most children and teenagers use phones today, some cell phone models have been found to violate allowable levels up to 11 times the U.S. regulatory limits. However, most parents are unaware of these manufacturers' instructions.

Are You Pregnant?

Protect Your Baby from Wireless Radiation!



Recent studies from Yale University show that exposure to wireless radiation can have profound effects on brain development, including symptoms of Attention Deficit/ Hyperactivity Disorder (ADHD).

Now, doctors and researchers around the world are urging pregnant women to take simple steps to limit their exposure to wireless radiation.

For more information, including links to scientific studies and video interviews with medical doctors and public health experts, please visit our web site, **BabySafeProject.org**.

10 Tips for Reducing Your Exposure to Wireless Radiation

1. Avoid carrying your cell phone on your body (e.g. in a pocket or bra).
2. Avoid holding any wireless device against your body when in use.
3. Use your cell phone on speaker setting or with an “air tube” headset.
4. Avoid using your wireless device in cars, trains or elevators.
5. Avoid cordless phones, especially where you sleep.
6. Whenever possible, connect to the internet with wired cables.
7. When using Wi-Fi, connect only to download, then disconnect and disable Wi-Fi.
8. Avoid prolonged or direct exposure to Wi-Fi routers.
9. Unplug your home Wi-Fi router when not in use (e.g. at bedtime).
10. Sleep as far away from wireless utility meters (i.e. “smart” meters) as possible



The BabySafe Project

www.BabySafeProject.org

#KnowYourExposure

What’s Your Exposure? Take the Quiz!

Produced by Grassroots Environmental Education , a non-profit organization, in association with Environmental Health Trust © 2014 Grassroots Enviromental Educaiton, Inc.

Ways to REDUCE Cell Phone Radiation

Here are some examples of recommendations made by the American Academy of Pediatrics, the Vienna Medical Association, and the Cyprus Medical Association.

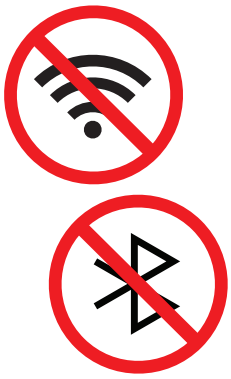


AIRPLANE MODE

Learn how to set your phone to Airplane Mode with antennas OFF. Airplane Mode turns off most of the wireless antennas.

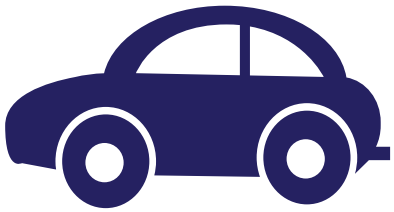
ANTENNAS OFF

Also be sure the Wi-Fi, Bluetooth, and Mobile Data antennas are OFF in the phone settings. Even with antennas off, you still can play music, take photos, and make videos.



AVOID MAKING CALLS IN CARS

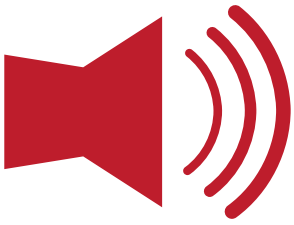
The cell phone works harder to get a signal through metal, so the radiation is stronger.



TEXT INSTEAD OF TALK

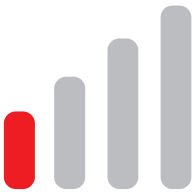
Remember to hold the phone away from your body. Pics and video increase radiation.





SPEAKERPHONE

Keep the phone away from your brain by using speakerphone.



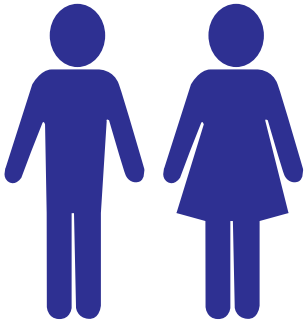
BEWARE THE LOW SIGNAL

The weaker your signal strength, the stronger the radiation from your phone.

DO NOT SLEEP WITH YOUR PHONE

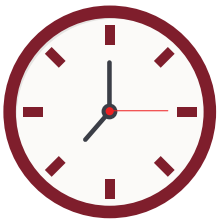
Use a battery-powered alarm clock, and power off the phone.





DISTANCE IS YOUR FRIEND

Phones should not be in your pocket, bra, or touching your body.



REDUCE TIME

Reduce the time you spend on cell phone and wireless overall. Choose safer tech.

Learn more at **www.ehtrust.org**

ENVIRONMENTAL HEALTH TRUST

BE SUPER-SMART
REDUCE WIRELESS

Simple steps to practice safe tech.



TURN IT OFF WHEN NOT IN USE.

Avoid unnecessary radiation by powering off wireless devices, network equipment, and hotspots when not in use, like at bedtime.



PRE-DOWNLOAD INSTEAD OF STREAMING.

Remember that when you wirelessly stream videos or music the radiation goes into your body. It is better to pre-download audio and video files and then watch or listen with wireless connections turned off.



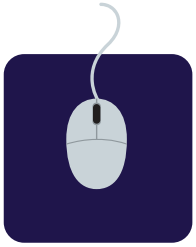
USE A PLUG-IN ETHERNET CORD.

It is super fast. Whenever possible connect your laptop, tablet, or computer with an ethernet cord (with Wi-Fi OFF, and Bluetooth OFF).

CORDED PHONE

Corded phones do not emit wireless radiation.





WIRED (NOT WI-FI & NOT BLUETOOTH)

Use a wired mouse, speakers, printer, game system, keyboard, tv, etc.



DISTANCE MATTERS.

Maximize the distance between people and wireless devices.

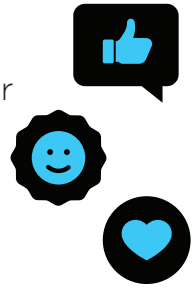
HEALTHY SLEEP

Remove electronics and wireless devices from around your bed. Do not sleep with your cell phone.



MINIMIZE FACETIME AND SOCIAL MEDIA ON CELL PHONES.

When you use facetime or post images, your phone emits more radiation. Instead, do social media or video sharing on a computer connected to the Internet by ethernet cord (with Wi-Fi turned off).



ENVIRONMENTAL HEALTH TRUST

Learn more at **www.ehtrust.org**