

10 Steps to Safer Technology at Home:

How To Reduce Exposure To Wireless Radiation



Take One Step at a Time.

Safe tech at home is simpler than it may seem. Yes-wireless radiation is everywhere and yes, we can reduce our exposure.

Please take the time to become wise about our use of wireless transmitting devices (WTDs) such as smart phones, home cordless phones, tablets, laptops, gaming devices, and desktop computers. Be informed on these *Ten Steps To Safe Technology* so you can make wiser choices in technology use. EHT is presenting these steps for people first learning about the issue.

BEST HOME STEP: Get a corded landline for your home.



Home cordless phones emit radiation like cell phones so every home should have a corded landline (with a curly cord to the handset). Forward cell phones to your home line while you are at home. Prefer the landline corded phone for voice conversations.



1. Distance is Your Friend

One basic, very important concept is “Distance Is Your Friend.” The amount of radiation absorbed into the human user decreases very rapidly with distance from whatever wireless device you may be using. Decrease your exposure by increasing your distance from emitting sources. For example, always keep cell phones and wireless laptops away from your body.

- Become aware of the various emitting sources in your surroundings so you can maximize distance from as many of them as possible. Keeping a distance is just the first step in reducing your risk. The next step is installing safe corded connections so you can eliminate these sources of radiation entirely.

2. Airplane Mode ON, and Wi-Fi OFF, and Bluetooth OFF



“Airplane mode”, also known as “flight mode,” is a setting on your wireless device that stops the microwave radiation emissions.

- On every computer, laptop, tablet, or WTD, there is a function key that turns OFF the Wi-Fi transmitter. There is also a function key that turns OFF the Bluetooth transmissions.
- Whenever you hand a child a technology device such as cell phone, tablet, or laptop, please set the Airplane mode to ON, and Wi-Fi to OFF, and Bluetooth to OFF.
- Devices should be used on a table and *never on a lap*.

3. Prefer Non-Wireless Connections



For home phones (landline), internet, printer, speakers, and entertainment gear, connect by cord or cable with all wireless features off.

- **Wi-Fi Internet Connections at Home:** As an easy first step, power off the Wi-Fi router at bedtime. Then ask your internet provider how to connect with plug-in cords and turn off the antennae feature of the modem or router. Many companies allow you to manage the wireless settings online and you can simply turn it off via the internet. Sometimes a swap to a non-wireless modem is necessary.
- **Trade in your home cordless phones for corded phones.** Most cordless phone base stations constantly emit high levels of microwave radiation regardless whether or not any connected handset is in use. The cordless phone handsets also emit microwave radiation. Corded landlines have no wireless radiation emissions and therefore this simple step can substantially reduce your daily microwave radiation exposures.
- **Wire Up Game Stations and Controllers:** Choose gaming devices that have the option to connect the hand controllers with a cord.
- **Hardwire Accessories (Printer, Keyboard, Mouse, Speakers, etc.):** Wi-Fi printers are a hidden source of constant Wi-Fi emissions, just like a Wi-Fi router or cordless phone base. The safest choice is a hardwired non-wireless printer. Some wireless printers allow the wireless antennae to be turned off via an internal network setting, so contact the manufacturer for directions. For some machines, the “OFF” setting is retained in memory, but for some machines you must reset to “OFF” each time you power on. Also, whether or not the “OFF” setting is retained, during each powering on start-up procedure some machines do self-diagnostics that include checking the ability to emit a very strong Wi-Fi signal, so it is wise to distance yourself from the device during its start-up procedures. A mouse with a cord has no wireless radiation emissions (there is no setting to change).
- **Remember:** If a user or tracking device is wireless, it has wireless radiation emissions.

Watch a video on how to hardwire your ethernet here.



4. Turn It Off



- Wireless enabled devices are always transmitting radiation even when you are not surfing the internet or using the device to talk or message. The only way to stop these emissions is to set the wireless antennas to OFF.
- Why? Wi-Fi devices continuously check in with their main network (cell tower or Wi-Fi router) to be sure a connection exists. This radiation activity is called a digital handshake. For example, a Wi-Fi router emits a beacon signal at regular intervals to signal the available network (whether or not any person or machine is using the network). Similarly, a Wi-Fi enabled tablet or other personal use device will also signal at regular intervals hunting for a network (whether or not a person is using that connection). Those signals are all radiation emissions.
- You can easily decrease your family's firsthand and secondhand radiation exposure by turning off wireless networks and devices whenever you are not actively using them, such as at night while you sleep. (This is often people's first step and the next step is fully hardwiring.)
- Turning off wireless devices (and their related gear)—for example, gaming, entertainment, and computer systems—when not in use also saves significant energy and makes all around good sense.

- Note: Turning Wi-Fi off when not in use *only* eliminates wireless exposures while the WiFi is OFF but still allows you to be exposed when the Wi-Fi is ON. Therefore you are still getting significant exposure when you turn the Wi-Fi ON. EHT considers this step a *first step* in reducing exposures and we recommend you take *the next step* get the hardware to fully hardwire your home and office to eliminate exposures. There is no known safe level of exposure.

5. Power Off Wireless Devices When Driving



Power off wireless connectivity in vehicles. Mobile devices distract drivers even if hands-free. Cell phones and streaming tablets and laptops also emit higher power radiation during travel because the metal surroundings create radiation hotspots inside the driver and passenger areas of your vehicle. Plan ahead so that you do not need to use any cell phones or wirelessly enabled devices in the car. Going on a road trip and your children want to watch movies? Before you leave, download the movies

onto the device so that during the trip wireless access is not necessary.

6. Practice Safer Phone Use



For adults who must use a mobile phone: use speaker phone or a plug-in earpiece to keep the phone away from your brain and body, and when you are **not** using the phone be sure to power off or set the phone on Airplane/Flight mode and the Wi-Fi to OFF and the Bluetooth to OFF.

Minimize your overall cell phone use to limit the duration of your daily exposure. Prefer texting instead of voice calls and hold the phone

out, away from your body when you press “send,” and do not rest your phone against your abdomen as you text. Do not carry a powered on cell phone in your pocket or bra. Cell phones emit radiation constantly, even when you are not actively using them. Even if you turn wireless antennas off, they are still emitting magnetic fields so power them 100% off before you carry them near your body.

Children should not use mobile phones except in emergency.

Rethink how you use cell phones when you are near children. Children’s skulls are thinner than adults’ and their brains are still developing. Hence, radiation from cell phones penetrates more deeply into their brains and is likely to cause more damage. For example, do not use a cell phone

while an infant is on your lap, and do not carry your cell phone in your baby carrier. Keep a transmitting cell phone or wireless device away from a child's brain and body.

Note: The safest way to use a cell phone is to turn it off and use a corded landline.

7. Safeguard Your Sleep



Pew Research reported that 75% of children sleep every night with their cell phone beneath their pillow. Be aware that [wireless radiation and light seriously impact our sleep](#) so be sure to power off all screens and electronics well before bedtime.

- Many newer TVs, gaming systems, and computers plugged into electricity or on battery power will have radiation emissions even if in power off mode, so it is best to remove them from the bedroom or completely disconnect them from their power source.
- Need an alarm on your phone? You can set the phone to Airplane/Flight Mode ON and the Wi-Fi and Bluetooth to OFF and still use the alarm feature.
- Be sure to charge cell phones and tech devices outside the bedroom, because charger gear generates other types of electromagnetic fields that are also linked to health issues.
- Locate screens in family areas—not in bedrooms.

8. Decrease the Power of the Signal



- Be aware of situations where your cell phone or wireless device has higher wireless radiation emissions so you can eliminate and reduce your use in these situations.

Your device will emit more radiation in these circumstances:

Traveling in a moving car, bus, or train: The phone emits stronger RF to avoid dropping calls as it switches connections from each cell tower it passes. The metal surroundings of a vehicle (also including elevators, aircraft, and watercraft) can cause the radiation to bounce around, which increases your exposure. Research finds that if one passenger is using a cell phone or other wireless device, the radiation penetrates into the other passengers in the vehicle.

- Before you enter a vehicle or elevator, turn ON airplane mode and turn OFF Bluetooth and Wi-Fi.
- Choose a non-wireless GPS model for navigation.

- Do not stream inside vehicles. Passengers can use electronics with pre-loaded movies and applications (instead of streaming).

Streaming audio or video or downloading large files: The larger the amount of data moving wirelessly, the more RF exposure. The more apps, the more updates, which means higher RF. Wireless internet connections for transferring data files (instead of streaming) are slower, which means longer RF exposure.

- Learn how to use ethernet cords to connect laptops, tablets, and cell phones to networks with wireless turned OFF, so that you can listen to audio, watch video, or download large files for use anywhere.
- Video chat only when you are at a computer with a corded internet connection (with both Wi-Fi and Bluetooth turned OFF).
- If you want to listen to music or watch a video, first download the files (preferably by using a corded connection) onto your device (instead of streaming) so that you can watch and listen without continuous RF.
- Prefer to use social media (with photos and video) when you have a corded internet connection rather than on a cell phone.

Areas of low reception: The fewer the bars on your cell phone or wireless enabled device, the higher the radiation it is outputting. So do not use– or minimize your use of wireless and cell phones *when the signal is weak*. Note: We are not recommending getting a strong signal everywhere with more cell towers because if a cell tower is nearby and your signal is strong, the whole body radiation is higher. We are saying to minimize overall wireless use and especially in low reception areas. We are advocating for overall reductions in wireless use so more cell towers are *not* needed.

Unless it is an emergency, wait until the signal is stronger before using the phone. Better yet, find a corded phone to make the call.

- Turn phone and device off or on airplane mode in low reception areas.
- Prefer texting over voice in low reception areas.

Several apps are active: The more applications open or running in the background on your device, the more connections and RF radiation the device is making. Apps are always updating (even when you are not actively using them), and social media is always sending you notifications.

- Delete apps you do not use.
- Close apps whenever you are not using them.
- Turn OFF social media notifications.

Home Wi-Fi routers are often set to cover all areas within 100 meters with the radiation. Talk to your neighbors about this issue so they start to use safe technology and reduce the exposure in the community. We have found many people educating their neighbors can make a huge difference. For example, if you get your community to reject smartmeters, then your home is

safer. However if you only are able to opt out but all your neighbors have smartmeters, then you are still receiving their signals into your home. You also can educate your neighbors to at least turn their Wi-Fi off at night which will decrease your radiation exposure (Get them a Christmas timer to turn it off at midnight till 7 am for example.)

- Once again, *the best protection* is to turn off the wireless and cellular ...and hardwire your tech with ethernet and a corded home phone.

9. Decrease Time and Length of Wireless Device Use



The longer you connect wirelessly, the more radiation you absorb into your body. So keep your wireless phone calls and Wi-Fi use short—whenever possible. We all need internet access and good long phone calls, so be sure you have a landline corded phone and wired home computer to use for safe internet connections.

No wireless radiation is emitted from ethernet cables. Be sure all the accessories for your tech is corded *not wireless*. Minimize your time

spent in Wi-Fi hotspots. Minimize time overall on wireless devices and teach your friends about this issue so you (and they) can be less exposed when you hang out with them.

10. Read the Fine Print



All device manufacturers advise that each wireless device should be at some distance away from human bodies and brains. For example, printers, computers, and wireless routers instruct that the distance between the device and a human body must be at least 20 cm (about 8 inches).

- Keeping these devices closer than the manufacturer's designated distance can result in a violation of the federal government's official

radiation exposure limit. Exceeding these levels can result in your body absorbing thermal levels of microwave radiation. Such levels can heat your body and lead to sterility, burns, and brain damage. Learn more about fine print instructions for cell phones and tech devices at [EHT's Fine Print Warning Page](#).

- Before a phone, tablet, MP3 player, etc. is placed into a pocket or bra or tucked into clothing, power the phone to OFF. If you set Airplane mode to ON and Wi-Fi to OFF and Bluetooth to OFF you will stop the wireless radiation. However, you will not stop the ELF-EMF/magnetic fields so always power phones off before placing them against your

body. Always also use those settings to turn off wireless before devices are near a pregnant abdomen.

A few other rather important things:

Laptops: Use a grounded 3 prong plug for the power supply. *Yes you may have to buy this separate when you buy your laptop. (MACs come with a two prong adapter as well as a two prong).*

Lighting: Opt out of fluorescents. They have mercury in them. Even halogens can create electromagnetic interference. Incandescent bulbs seem to be the safest from an electromagnetic perspective, however they are not energy efficient. Did you know that years ago when they first came on the market, incandescents had the ability to last far far longer but the companies created what was called the “[light bulb cartel](#)” to ensure bulbs had a shorter life span and the companies could sell more bulbs. *Contact your elected representative and tell them you want power saving bulbs that are safe for our health.*

No Smartmeters: Ensure you and your neighbors utility meters are analogue, not digital and not wireless. Companies are replacing your power meters with meters that emit radiation. Learn about [smartmeters here](#).

Schools matter: Children are exposed to ever increasing levels of wireless in schools. Schools should have wired technology. [Get resources on how to address Wi-Fi in Schools.](#)

Reducing Exposure to ELF-EMF from Electronics and Electrical Appliances.

ELF-EMF fields from electronics and appliances fall off rapidly with distance. At one foot away the field is generally reduced. At two to three feet, it is significantly reduced. Experts are less concerned about the brief exposures to ELF-EMF we encounter every day but more concerned about longer-term exposures, such as every night.

- Do not sleep near a charging cell phone or a charging laptop or digital device. Always charge devices away from sleeping/living spaces and preferable during the daytime. Charging generates high EMFs near the cord and batteries can catch fire during charging.
- Do not use a cell phone while it is charging as the ELF-EMF field is high. Likewise- try to use your laptop on battery, rather than while charging. Always unplug the laptop once it is charged.
- Corded alarm clocks and radios can have intense EMFs, so replace your alarm clock with a battery powered alarm clock. This will reduce your exposure at night.
- Do not sleep with your head or body near a wall that has the electric panel, electric meter or appliance on the other side.
- Unplug appliances and electronics such as TV's and microwaves ovens when not in use. This reduces ELF and also reduces energy consumption. An easy way to do this for electronics is to get a powerstrip that you can easily switch off.

- Remove electronics from the bedroom—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 EMF will still be present.
- Do not stand near a microwave oven when it is on.
- EMFs from electrical wiring can be reduced if you flip the switch on the breaker for the electrical circuits near the bedroom at night. However circuits are not designed to be flipped every night so we recommend getting a “kill switch” set up in your home so all you have to do is flip one switch at night to turn off breakers all at once.
- Get a magnetic field meter to take measurements in your home. If your ELF measurements show high levels in your home, it could be faulty wiring which an electrician can fix. Often simple fixes can greatly reduce ELF-EMF exposure.
- Take measurements in your home if you live near powerlines because levels can be high throughout the house from the EMF emanating from high voltage powerlines.

Meaningful Policy Change is Critical to Full Protection

Yes-wireless radiation is everywhere and yes, we can reduce our exposure with personal changes like these above but the reality is that we are exposed every day to more and more radiation from cell antennas that we cannot control. Now with 5G and 4G densification industry is pushing for antenna installations near our homes and estimates are several million *new* mini cell towers worldwide. We cannot reduce this exposure with personal changes. We need meaningful long lasting policy change. This means talking to your elected officials. This means organizing awareness and action in your community.

Educate Yourself With In Depth Videos NOW.

The Institute for Building Biology has developed an [8 Part video series](#) with education on how to reduce EMF at home.

It is a must watch for anyone interested in reducing EMF in the home.

Watch certified Professional Building Biologist Oram Miller explains and demonstrates methods and practices for assessing and mitigating common household wiring errors that can affect human health adversely.

Source: <https://ehtrust.org/take-action/educate-yourself/ten-steps-to-safe-tech/>