

# SMARTER USE OF SMART DEVICES: BLUE LIGHT, WIFI AND SLEEP



**Note: This recording will be available at [LipheBalanceCenter.com/events](http://LipheBalanceCenter.com/events)**  
**The PDF will be available at [WirelessSafetySolutions.com/news](http://WirelessSafetySolutions.com/news)**

## **Introduction to Building Biology**

Because of my lifelong interest in natural health, I've studied "Building Biology" and will be sharing practical information and suggestions for making your home and office spaces "greener" and hopefully healthier to occupy. While so many of us eat organic whole food and filter our air and water, few of us think about how our electronics might be affecting our well-being.

Building Biology was developed in Europe about 35 years ago to foster greener and healthier indoor environments. Aspects of green construction include building with non-toxic construction materials, filtering air and water, using clean light sources, using chemical free cleaning products, assuring correctly installed electrical wiring that doesn't leak stray electrical fields, and managing interior and exterior sources of wireless radiation.

Tonight, I'll be share the Building Biology teachings on "greener" use of our smart devices and electronics.

To fully implement Building Biology's recommendations in your home or office, you can have your place inspected by Certified Building Biologist, who will use various meters to evaluate your environment and offer remediation advice. Fixes may be needed if your electrical system has wiring errors that are throwing off dirty electricity, eliminating stray electrical voltage in your bedroom or office, or if you'd like to lower the amount of wireless radiation indoors.

## **Why should we care about EMFs and stray electrical fields?**

Although we've probably heard that EMFs and cellphones use aren't great for us, most of us really don't understand why this is so or what to do about it. "Everything wireless" IS the modern world and there's no way to avoid it. In fact, it makes our lives SO much better and so much more fun!

But we have to remember that for thousands of years we've lived ON the earth without electricity. Our bodies are accustomed to living in energetically clean, neutral environments and now we're living full-time in a man-made sea of frequencies. Even though most of us don't feel electrical fields or wireless signals, they constantly pass through and interact with every single cell and system of our bodies.

Arthur Firstenberg's book, "The Invisible Rainbow" has a 5-star rating on Amazon, and traces the history of electricity from the early eighteenth century to the present, making a compelling case that many environmental problems, as well as the major diseases of industrialized civilization—heart disease, diabetes, and cancer—are related to electrical pollution.

There are hundreds of biological reactions that our cells and bodies endure in the presence of both electricity and wireless devices, so tonight we'll discuss how to greatly decrease this "electro-smog" in our offices and bedrooms.

- First, we can use fewer wireless devices and turn them off at night before going to sleep
- Second, with the help of a Building Biologist, we can minimize indoor wireless radiation, & perhaps install wifi-blocking materials that are about 95% effective in blocking out ambient wifi signals
- Third, we can reduce the stray electrical voltage that naturally emanates from electric cords, even when devices are turned off.

If we're more grounded and living in a more neutral, natural environments without so much electrical interference, we may find ourselves growing calmer, getting better quality sleep and perhaps even having better long-term health.

## An Introduction to ElectroMagnetic Fields (EMFs)

As we'll see in the chart below, ElectroMagnetic Fields, or EMFs, exist in a spectrum of frequencies and fields that include radio and television waves, microwaves, X-rays, light, ultraviolet light and radioactive elements. There are two fields that create EMFs: Magnetic Fields and Electrical Fields. And there are five sources of EMFs that we regularly interface all day long:

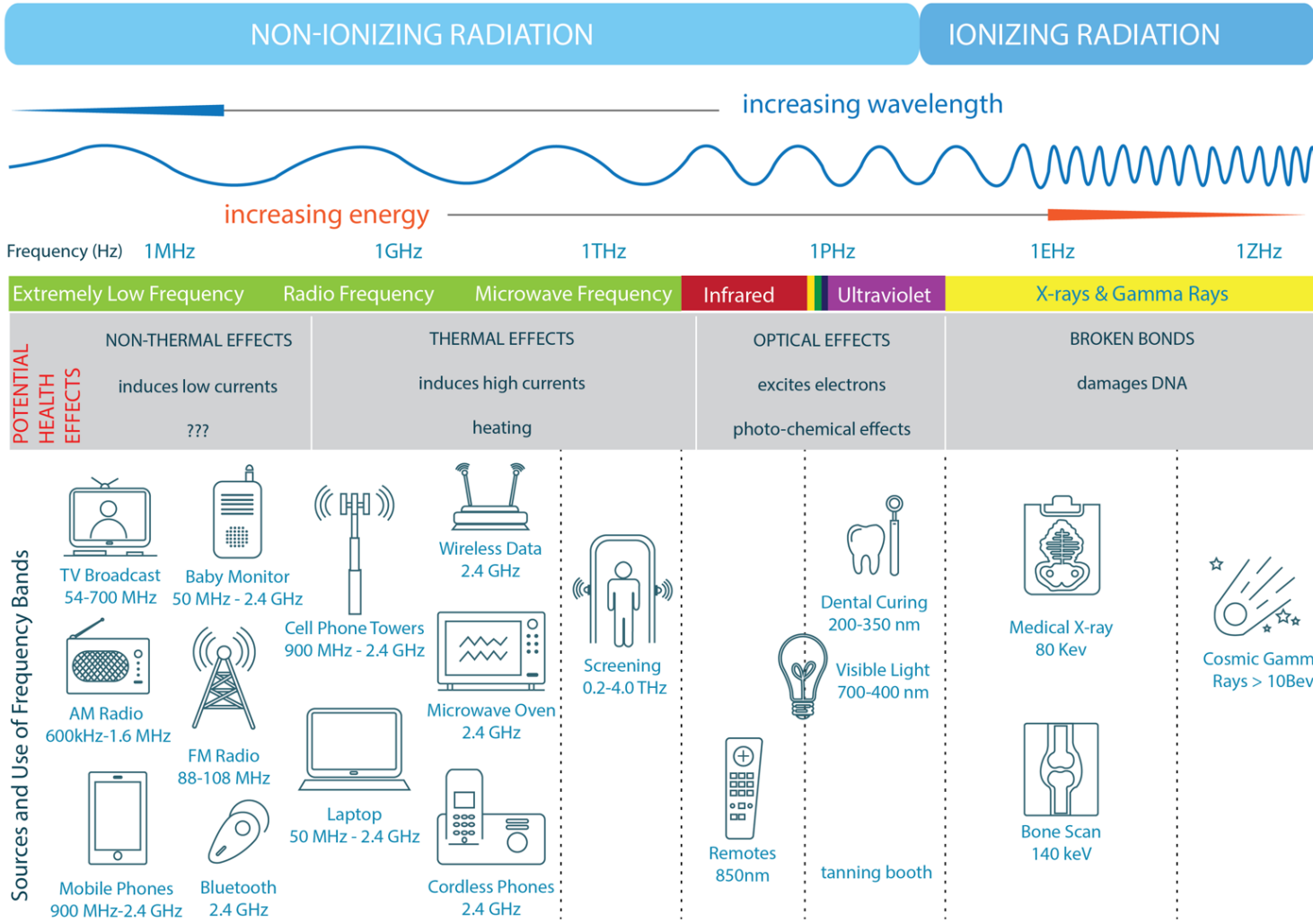
1. **Wireless frequencies** used for smartphones and all wireless devices include radiation-emitting high frequency microwave & radio waves.
2. **Extremely low frequency electric fields** come from voltage, power lines, electrical wiring in your walls, electric blankets, appliances and devices plugged into your electrical sockets.
3. **Low frequency magnetic fields** come from faulty wiring, refrigerator motors, electric stoves, hair dryers, current on metal water pipes, power lines and transformers outside your home.
4. **Dirty electricity** can come from cordless phones, energy-efficient appliances, computers, hair dryers, smart meters, televisions and Wi-Fi routers.
5. **Artificial light**, including LEDs, compact fluorescent bulbs and halogen lights. The best types of light bulbs are full-spectrum traditional light bulbs with higher wattage, as they have the most natural color spectrum and lowest flicker rates.

It's vital to understand that even when a device is turned off, if its plugged into the wall – the electric CORD is emanating voltage. So while our lamp or computer printer is turned off, there's still electricity flowing on the cord between the electrical socket and the device. The electric cord itself is "live" and emanating a small amount of stray electrical voltage that's entering our bodies. We didn't have this going on 125 years ago before electricity was brought into our homes.

The great news is that there's a lot we can do to decrease all these fields around it ... it just takes a little work and small adjustments to our routines.



# ELECTROMAGNETIC RADIATION SPECTRUM



Health effects vary per individual. They result from a complex interplay of genetic and non-genetic factors. This information is part of Detox Your EMFs: The Ultimate 21-Day Digital Detox. Learn more at: [www.NontoxicLiving.Tips](http://www.NontoxicLiving.Tips)



## HOW WIRELESS TECHNOLOGY WORKS

Everything wireless and Bluetooth works because there's an invisible handshake between the smart device and the transmitter. Outside in the world, the transmitters sending signals are cell towers which look like huge piano keys -- or through public wifi. Our smartphones connect with the cell towers for phone calls, texting and data transmission. Wifi is generally used for accessing the web for using apps.

Indoors, the cable companies give us modems with routers that transmit wifi to our devices. BlueTooth is a variation of wifi -- its a technology that wirelessly connects devices in close proximity to each other like earbuds, the computer's keyboard and mouse, and gaming devices.

Even though most of us don't feel these signals, they affect every cell and biological system in our bodies in multiple ways. Here are three links where you can learn more about the biological and medical effects of wireless technology:

Environmental Health Trust:

<https://ehtrust.org/science/medical-doctors-consensus-statements-recommendations-cell-phoneswireless/>

Physicians for Safe Technology: <https://mdsafetech.org/>

For Doctors & Medical Researchers: The BioInitiative Report: <https://bioinitiative.org/>

It's worth mentioning that some people do have strange symptoms caused by wireless and electronics, and about 1% of the world's population is actually incapacitated by it and must live off the grid or in very remote areas. This "electrical sensitivity" is called "Electrical Hyper-Sensitivity" or EHS. Integrative doctors can help EHS people, and working with a Building Biologist to remove irritants at home would be vital as well. More info on EHS here: <https://www.electrosensitivesociety.com/>

This is a great Ted Talk by ex-Silicon Valley engineer Jeromy Johnson on his EHS: <https://www.emfanalysis.com/ehs/>





## BLUE LIGHT: SCREENS, LEDs AND HOW IT AFFECTS OUR EYES

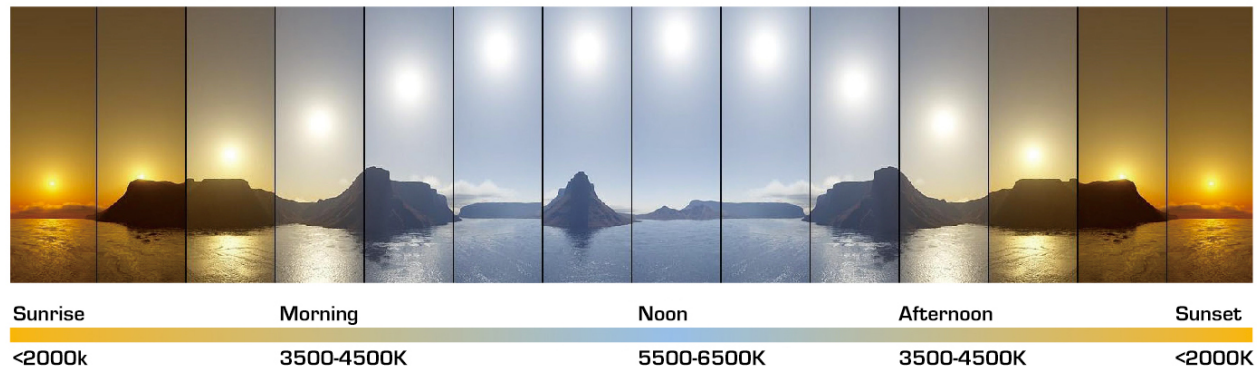
Now we'll turn toward understanding the blue light emitted by our computer and smartphone screens.

Outdoors, there's a natural cycle of color temperatures throughout the day, related to the sun's movement from daybreak to sunset. At sunrise and sunset the color temperature is warmer and more golden and perfect for great photography, and at mid-day the color temperature is more blue. This cycle affects our brains' regulation of wake and sleep cycles.

Our brains are hard-wired to be alert mid-day when the sun's color temperature is blueish, around 5500 kelvin. As evening approaches, the sun goes down, the sky starts to amber and at sunset the light temperature lowers to around 2000 kelvin which produces a more amber-colored light.

Screens have a color temperature of around 5500 kelvin, which is the mid-day color temperature -- so when we're using screens at night, our brains are tricked to believing it's mid-day because the screens are emanating the sun's mid-day color temperature of 5500 kelvin.

Hence using blue-lit screened devices as we head into evening is sending the wrong messaging to our brains and stimulating us to keep us awake – fortunately, this is super easy to fix:-)!



## **THE THREE WAYS THAT BLUE-LIGHT EFFECTS OUR EYES:**

Blue Light can influence our eyes and brains in three ways.

**Digital Eye Strain:** Using screens for long periods of time can cause eye strain.

**Possible Risk for Eye Health:** My eye doctor says the cornea and lens screen out the blue light and says its of no danger or concern for the eyes, confirmed by medical studies on this topic. He said there's some evidence that suggests ultraviolet light exposure may be a very soft risk for macular degeneration. At the very least, its good to wear UV400 sunglasses when outdoors to protect our eyes from the sun's UV rays. Both Jarrow and Life Extension have eye-protective blue light supplements which you can discuss taking with your doctor.

**Trouble Sleeping:** Nature's cycle of the bluish sunlight during the day and amber light as we head into the evening helps set our circadian rhythm and melatonin regulation, which both regulate our sleep-wake cycles. Managing the blue light of screens will help our body maintain healthy circadian rhythm.

We can easily handle the blue light in a few ways, we'll show you how to this now.

### **Enabling Blue Light Protection on devices between sundown and waking up**

Most computers, tablets and phones have system software that allows you to program the ambering of your screen as evening approaches. Please take out your phone and we'll show you how to do this.

**Mac computer:** Displays> Nightshift Button on lower right> (enter times of sunset and sunrise)

**iPhone & iPad:** Settings> Display & Brightness> Night Shift (enter times of sunset and sunrise)

**Android devices:** Settings > Display > Blue Light Filter

## **USING BLUE-BLOCKING SCREEN FILTERS & GLASSES:**

### **Install a Blue Blocking Filter directly over your screens: gives 24/7 Protection**

Install a Reticare filter over your computer monitor, tablet or smartphone. I prefer this option because it offers full-time protection, so I prefer it over the software programs: <https://reticare.com/us/>

### **Wear Glasses when shopping, outdoors at night in heavily lit areas or night driving:**

Most commercial lighting is now LED and fluorescent, called “junk lighting”, so consider wearing these glasses (yellow) when you’re outdoors at night in heavily lit areas, inside when shopping and while driving at night: <https://truedark.com/shop/daylights/truedark-daylights-elite/> -- \$89

Or for \$15, the best blue light blocking glasses are orange: Uvex Blue Light Blocking Glasses. What’s so cool is that when you wear them you’ll notice that you can’t see things that are blue!

[https://www.amazon.com/Uvex-Prot%C3%A9g%C3%A9-Blocking-Computer-Glasses/dp/B07Z2FRBFK?ref\\_=ast\\_sto\\_dp&th=1&psc=1](https://www.amazon.com/Uvex-Prot%C3%A9g%C3%A9-Blocking-Computer-Glasses/dp/B07Z2FRBFK?ref_=ast_sto_dp&th=1&psc=1)



Another company offers a bundle of 3 light correcting glasses \$35:

<https://techwellness.com/collections/body/products/what-is-blue-light-these-glasses-block-natural-and-screen>

## Greening your Office, Computer and Bedroom Spaces:

As we know – we lived without electricity until about 175 years ago. Our bodies are meant to live and thrive without artificial stimulation. So in Building Biology, our primary goal is to bring our environments back to neutral with less electronic interference.

First, consider cutting back on or eliminating most wireless devices you use. Do you really need to wear a smart-watch or ask Alexa about the weather? Consider going back to using ethernet and USB cords to hard-wire your computer keyboard, mouse, printer and headphones like we did in the 1990s.

With all electronics and wireless, distance is our friend and involves three things:

- 1) Moving electrical cords and the little black transformer boxes, and surge protectors as far away from you as possible, or turning them off not when not in use and before bed.
- 2) Moving your modem or wifi router as far away from you as possible. If the cable company installed the wireless router next to your desk, have them come back and move it to an area farthest away from you. We'll soon cover an easy way to turn off the wireless router before bed.
- 3) Replacing everything Bluetooth with corded peripherals. If your computer still has USB outlets, you can go back to a corded mouse, keyboard, speakers, and headphones and then you'd deactivate the Bluetooth preferences on the system software. Then turn off BlueTooth in the system preferences.

Also its highly recommended to move these corded black boxes at least 3 feet from you.





## Easy Ways to Decrease Wireless and Electrical Voltage around Us

So tonight we've learned that electrical current is emitted from electrical wires that are plugged in, even if the device is turned off. If we are near lots of electric cords, we have some degree of electrical voltage running through our bodies which isn't ideal. In Building Biology, we use a "body voltage meter" to measure how much voltage is around us and then we make modifications to lower the levels. There are a few easy fixes to lower the electrical voltage around us.

- We can unplug rarely used appliances, and plug in as needed, then unplug after use.
- We can install an "on-off plug-in switch" between the electric cord and the socket. This switch will cut electrical current that would ordinarily travel through the electric cord. Turn the switch on when you need the electricity, and turn off when not needed. This can be done with the lamp cords next to your bed, or with the printer in your office. These lamp timers are sold on Amazon, just search "2 or 3 prong switch" to locate them.
- It makes no sense to have wifi running while you're asleep... An easy way to turn off wifi overnight is to place a "lamp timer" between the wifi transmitter and the electrical socket. Program the timer to shut off wifi between 11 pm and 7 am. This will dramatically lessen the number of hours that you're exposed to wifi and might help you get a more restful night's sleep. Please note that doing this may also cut off your internet and TV cable signals, depending on how your cable system is set-up, so understand your entire system before implementing this plan.



## **Your Office Desk: Voltage-Free Surge Protector, Electric & Ethernet Cords**

The company “Electrahealth” sells electrical peripherals that are shielded and emit no electrical voltage. I recommend replacing everything around your computer and desk with these products – it's a very easy fix with huge benefits. I replaced my computer's electric cord, ethernet cables, surge protector, and got a computer grounding cable from them. I still have a few electrical cords around my desk, but much lower voltage using these products. The guys there are also super nice, patient and helpful.

<https://www.electrahealth.com/>

## **Grounding to the Earth: Part of the Solution**

Connecting with the earth's natural electromagnetic fields for at least 20 minutes a day is called “Grounding”, which connects us with the earth's negative ions. It's a great way to rebalance and restore our energy fields and it's VERY easy to do in multiple ways:

- Walking outdoors in leather soled shoes is grounding (sneakers and rubber soles block the earth's natural fields from entering our feet)
- Walk barefoot on the beach or grass (being mindful of high Lyme areas)
- Sit on a park bench or on the ground with your back against a tree, swim in a lake or ocean
- Take a 20 minute bath with 1-2 cups of sea or Epsom salts
- “Grounding Mats” and products are not recommended because your electrical sockets may be emitting “dirty electricity”, and the grounding mats can amplify these wiring problems.
- Himalayan Salt Lamps also emit negative ions that somewhat neutralize indoor electro-smog

## **Creating a “Sleep Sanctuary”**

200 years ago we probably slept on the ground floor of a cabin, certainly without electricity and going to sleep whenever we blew out the candles. Our bodies and cells were truly at rest without any artificial interference. Now we live in a sea of invisible electrical and magnetic fields – all of which are vibrationally pinging our cells as we sleep, when our bodies are trying to regenerate and heal.

Many of us know about the famous integrative Dr. Klinghardt. It was from Dr. Klinghardt that I first heard about the concept of creating a “sleep sanctuary”, which means that a bedroom is free of electrical and wireless fields. This neutral environment permits our bodies to rest, heal and renew without man-made interference.

If you live in an apartment – you are living with fields coming from outdoor cell towers, yours and your neighbor’s devices. With the help of a building biologist, you can permanently “shield” your apartment with window film, paint and certain materials that block out wireless signals by 99%. A bed canopy might be recommended, which offers almost full protection during sleep.

If you live in a single family home and disable all wireless devices and transmitters before sleep – you may not need to do anything unless you have fields from outdoor cell towers, or have electrical wiring issues that are discovered.



## Smart Phones

Now we'll discuss some ways to use your smart phone more safely, which includes using it less if possible.

- Texting and talking via speakerphone are highly preferable to placing the phone next to your ear.
- At home, you can have the cable company re-install a corded landline phone for a small charge. Forward your cellphone calls to the landline when home, and put the phone in airplane mode until needed.
- Turn off BlueTooth in system preferences if you're not coupling the phone with your car, earbuds, speakers etc.
- Don't use cordless phones, as they emit very high EMFs. Stick with a corded landline.
- Keep your phone in Airplane Mode if you don't need to receive phone calls or texts, turn on phone as needed
- Don't carry the cellphone in your bra or pockets, carry it in a backpack or handbag.
- Ideally use smartphone only when you have excellent reception with 4-5 bars. With lower reception like 1-3 bars, the phone has to work harder for a connection and emits more radiation.
- Delete apps you're not using, as they are all actively updating your location, doing upgrades etc. in the background even when not in use. Turning off location tracking and notifications with rarely used apps is wise. Be sure not to disable anything on regularly used apps like phone, email, texts/ messaging, google maps and Waze.
- Stay with the oldest 4G cellphone you can, each new generation phone emits stronger and stronger fields. The iPhone 11 is the last generation of 4G, all newer iPhone models are 5G.
- Get rid of BlueTooth air-buds or use minimally. An Air-tube headset is better than wired headsets as no current can be conducted via the air tubes, but can be on wired headsets. There are many air-tube headsets online, but not all have great acoustic quality... here's a good one: <https://techwellness.com/products/anti-radiation-emf-protection-headphone-headset>



## **What about Protective Cellphone Cases, Pendants and EMF Omitting Gadgets?**

While protective cellphone cases, pendants, stickers, crystals and other gadgets may decrease the effects of EMFs around us, because they are energetic, their benefits aren't measurable on our meters. Building Biologists only trust their meters which give concrete readings and unfortunately the energetic devices don't register on the meters so we can't determine their effectiveness.

I've experimented with many of these products over the years, and have ended up wearing only a "Rejuvenizer" pendant from Phyllis Light, and an EMF sticker on my smartphone.

<https://lighthelaling.com/collections/rejuvenizers-emf-protection-jewelry-5g>

Our hostess Barbara endorses products from "You Matrix", which has stickers placed on phones, laptops, tablets and on the inner soles of shoes -- which she would like to talk about now.

<https://youmatrixit.com>

## **EMF Protective Clothing**

There are materials made with particulate metal that block out 90+% of wireless radiation, and clothing made with these materials work well to shield your body from wireless. The issue is that the materials are very sensitive to water and sweat, and their effectiveness degrades over time with too much washing.

So my advice is to wear them occasionally as needed if you'll be flying, driving long distances or spending a lot of time in cities. You can buy long-johns and t-shirts to wear under regular clothing, a hoodie for over your shirts, pants and various head coverings. Please note that the clothes are locally produced and sizing can vary, so wise to buy two sizes to see what fits you, and return the rest.

<https://www.lessemf.com/personal.html>, tel. 518-608-6479

## **Miscellaneous Tips: Extra Trivia**

Hybrid and electric cars can have very strong EMFs, best to test drive them to see how you before purchasing. I was in a hybrid car a few months ago, and I got a very painful earache from the car, so will avoid hybrid and electric cars for now.

Electronics with built in motors like air conditioning units and refrigerators emit high magnetic fields. Stay at least 4-5 feet from these and its no problem.

To minimize stray electrical voltage from entering your body, use laptops on a table and not on your lap.

Don't use tablets, laptops or smartphones while they're charging-- as the electricity flows from the charging device through your fingertips, into your body. Use the battery power with all devices.

Turn off heating blankets after warming up the bed because heating blankets are a huge EMF source. Use a battery powered alarm clock to avoid the electric cord being near your bed.

Don't use wireless charging devices, recharge directly connected to electrical socket.

## **Consulting with a Certified Building Biologist**

We've covered a lot of eclectic information tonight and made many suggestions.

I strongly recommend having a certified Building Biologist do an assessment for you IF you're considering shielding your space or feeling worse at home. They'll check your wiring for electrical errors, measure wireless fields from both outdoor and indoor sources, then offer suggestions which may include

- using special paint and/or fabrics to block signals from exterior sources
- help you lower wireless signals from your home internet and cable systems
- fixing unwanted electrical fields
- installing a bed canopy.

Last important fact: Once you shield out wifi from a space, you've effectively created a "faraday cage", so while you're blocking wifi out, the shielding will also trap and amplify your own wifi. Shielding with the proper supervision is strongly recommended for this reason, so you are helped and not hampered.

If you live in an apartment, remediation costs are generally in the \$500- \$2000 range w/ bed canopy  
If you live in a stand-alone home, often the only remediation needed is to modify how you use wireless devices, and perhaps going back to hard-wiring everything with ethernet cords like we did in the 1990s.

## **Local Building Biologist Referrals by Region**

NY Metro: Matt Waletzke, Healthy Dwellings: <https://healthydwellings.com/>

US and Canada: <https://buildingbiologyinstitute.org/find-an-expert/certified-consultants/>

**Thank you for attending this presentation, hope it was informative!**

For questions or to download a PDF of this presentation, please contact me at: [WirelessSafetySolutions.com](http://WirelessSafetySolutions.com)



## **Additional Educational Information**

Educational Videos on Building Biology assessment methods, meters and remediation:

<https://buildingbiologyinstitute.org/free-videos/>

Environmental Health Trust: Best informative website with tons of educational information:

<https://ehtrust.org/everyone/>

Documentaries to learn more: “Generation Zapped” and others, trailers here: <https://ehtrust.org/films-on-cell-phone-radiation-cell-towers-and-wireless/> and “Take Back Your Power” about smart meter problems in Canada <https://www.takebackyourpower.net/>

### **Best-Selling Books:**

“The Invisible Rainbow” by Arthur Firstenberg: history of electricity and its effects on health

<https://www.amazon.com/Invisible-Rainbow-History-Electricity-Life/dp/1645020096>

“The Body Electric” by Robert Becker, on our body’s electrical system

[https://www.amazon.com/Body-Electric-Electromagnetism-Foundation-Life/dp/0688069711/ref=sr\\_1\\_1?crid=2Q7KPGBOZ3UCS&keywords=the+body+electric+by+robert+becker&qid=1648134033&s=books&prefix=the+body+electric%2Cstripbooks%2C62&sr=1-1](https://www.amazon.com/Body-Electric-Electromagnetism-Foundation-Life/dp/0688069711/ref=sr_1_1?crid=2Q7KPGBOZ3UCS&keywords=the+body+electric+by+robert+becker&qid=1648134033&s=books&prefix=the+body+electric%2Cstripbooks%2C62&sr=1-1)

“Zapped” by Anne Louise Gittleman, an enjoyable easy book explaining it all

[https://www.amazon.com/Zapped-Shouldnt-Outsmart-Electronic-Pollution/dp/0061864285/ref=sr\\_1\\_1?crid=2I5IJMZ0XB6UQ&keywords=zapped+ann+louise+gittleman&qid=1648134144&s=books&prefix=zappe%2Cstripbooks%2C54&sr=1-1](https://www.amazon.com/Zapped-Shouldnt-Outsmart-Electronic-Pollution/dp/0061864285/ref=sr_1_1?crid=2I5IJMZ0XB6UQ&keywords=zapped+ann+louise+gittleman&qid=1648134144&s=books&prefix=zappe%2Cstripbooks%2C54&sr=1-1)

## Do's and Don'ts for Safe Technology



Technology	Do's	Don'ts
<b>Cell Phones</b>	<ul style="list-style-type: none"> <li>Use a speakerphone or airtube headset.</li> <li>Turn the power off if you need to put a phone in your pocket.</li> <li>Choose a wired phone when you can, especially for long calls.</li> <li>Set Airplane mode ON with WiFi OFF more often.</li> <li>Power off Cell Phones in a car, a bus, train, airplane, elevator.</li> </ul>	<ul style="list-style-type: none"> <li>When using the phone, never touch your head or body with the phone.</li> <li>Don't use a cell phone when the network signal is weak, because then the radiation from the phone is higher.</li> <li>Don't carry a cell phone in your bra. Don't carry a cell phone in any clothing pocket.</li> <li>Don't sleep with a cell phone or tablet or any wireless electronics near your head.</li> </ul>
<b>Home Phones</b>	<ul style="list-style-type: none"> <li>Get a Corded Phone for your home.</li> <li>Keep your landline.</li> <li>Run lines into all the rooms where you need a phone.</li> <li>Use a wired VOIP system.</li> </ul>	<ul style="list-style-type: none"> <li>Do not use a cordless home phone. The DECT phone bases constantly emit microwave radiation. Many people have these bases directly beside their beds, and this is a significant source of microwave radiation to be removed from sleep areas.</li> </ul>
<b>Printers</b>	<ul style="list-style-type: none"> <li>Use cords to connect to them.</li> <li>If must use a WiFi printer; set the WiFi function to its lowest setting.</li> <li>Purchase a non-WiFi printer.</li> </ul>	<ul style="list-style-type: none"> <li>Don't place a wireless printer in your office near your workspace. Wireless printers constantly emit microwave radiation and should not be located near our bodies per the manufacturer's instructions.</li> </ul>
<b>Tablets and Laptops</b>	<ul style="list-style-type: none"> <li>Use Tablets and Laptops with ethernet connections. Set the WiFi to OFF and the Airplane/Flight mode to ON. Download applications so that kids can use the Tablet with the WiFi off.</li> </ul>	<ul style="list-style-type: none"> <li>Don't use wireless enabled laptops if ethernet is available. Don't use laptops on your lap. Don't forget to turn the wifi connection off when you are not using it.</li> </ul>
<b>Internet Routers</b>	<ul style="list-style-type: none"> <li>Get Fully Wired (cords/cables) System. Many internet providers allow you to manage the WiFi power signal online and you can simply turn the WiFi off through the internet. Non-wireless modems can be requested and ethernet cords can be used at home.</li> </ul>	<ul style="list-style-type: none"> <li>Don't leave your WiFi Router on all the time.</li> <li>If you must keep your WiFi router, always power it off at least at bedtime and during the day when it is not in use. If there is no on-off switch, simply unplug it from the electrical outlet.</li> <li>Don't use boosters or Wi-Fi access points which add significant microwave radiation into the home.</li> </ul>

## Do's and Don'ts for Safe Technology



Technology	Do's	Don'ts
<b>Mouse</b>	<ul style="list-style-type: none"> <li>Buy a corded computer mouse.</li> </ul>	<ul style="list-style-type: none"> <li>Don't use a wireless mouse.</li> </ul>
<b>Fitness Body-Worn Devices</b>	<ul style="list-style-type: none"> <li>"Smart" Watches, fitness counter bracelets, WiFi glasses etc.</li> <li>Do opt for non-wireless devices or devices where the antennae can be turned off.</li> </ul>	<ul style="list-style-type: none"> <li>Do not wear these devices on your body or your wrist or head.</li> </ul>
<b>Game Consoles</b>	<ul style="list-style-type: none"> <li>Get gaming consoles and controllers that connect by cords/cables. Limit play time on wireless computer games and unplug the power to the console when not in use.</li> </ul>	<ul style="list-style-type: none"> <li>Don't use wireless gaming devices. If wired are unavailable, when not playing then power off the base. (Even when you are not using the consoles they emit radiation.)</li> </ul>
<b>Other Wireless Devices</b>	<ul style="list-style-type: none"> <li>Buy devices that connect by cords/cables. If they have wireless capability, be sure you can turn those emission features OFF.</li> </ul>	<ul style="list-style-type: none"> <li>Don't use Bluetooth, wireless speakers or any other wireless electronic accessories.</li> <li>Don't use wireless digital baby monitors, virtual assistants, drones or thermostats etc.</li> </ul>
<b>Smart Meters</b>	<ul style="list-style-type: none"> <li>Contact your electric company to replace your wireless "smart" meter with an analogue "legacy" meter. In some states there are free opt outs. In other states you must pay or there is not an option yet. Join your state's citizen group working on this issue.</li> </ul>	<ul style="list-style-type: none"> <li>Talk to your neighbors so they can switch out their meters reducing the RF in your area. Don't put your bed against the wall with a smartmeter on the other side.</li> </ul>
<b>Electronics</b>	<ul style="list-style-type: none"> <li>Sleep without nearby electromagnetic field generating devices. Get a battery powered alarm clock.</li> </ul>	<ul style="list-style-type: none"> <li>Store and use phone chargers, extension cords and electrical devices away from sleeping areas. Sleep in rooms that are not near electricity meters (yours and your neighbors').</li> </ul>

**The Unwanted Handshake:** Even when you are not actively using a mobile device, when Airplane mode is not on and when WiFi is not set to off, the invisible connection is open and wireless devices like tablets and cell phones continue to emit bursts of microwave radiation (unless the mobile device is powered off). This is called a handshake, for example, a cell phone sends out the microwave signals to tell the cell tower the phone is nearby. The concept is as if the phone is saying to the network, "If anyone wants to call or text me, here's where to send it." When a cell phone is traveling in a vehicle, then the phone also handshakes with each new cell tower it passes saying, "Here I am, glad to meet you, come find me anytime." In the same way, the wireless devices in your home each send a radiation "handshake" of sorts to your home router. The only way to stop these radiation emissions is to turn the wireless features OFF.

# Checklist for Low-EMF Computer

## Set-up For Any Computer

- ✓ Device always on a table. Feet flat on floor. Screen is at—or slightly below—eye level.
- ✓ The "high-five test." If you can't properly high-five your computer screen, you're sitting too close. Position monitor at least 24 inches (61 cm) away from you.
- ✓ Reduce glare by adjusting screen tilt/position.
- ✓ Light your area with soft light beside your device (not fluorescent, not strong LED).
- ✓ Use laptops and tablets running on battery-only. Avoid or minimize use during charging.
- ✓ Use a three-prong grounded power cable for laptops, tablets, and desktops.
- ✓ Move electrical wires, chargers, and electric equipment away from your body.

## Remember Settings

- Device settings: Wi-Fi OFF & Bluetooth OFF. If you do this by Airplane Mode, confirm both are OFF.
- Turn OFF wireless antennas in your Wi-Fi router/modem. (Best is to replace with WiFi-free modem.)

## Use Wired, Not Wi-Fi and Not Bluetooth

Use corded (not Wi-Fi, not Bluetooth) mouse, keyboard, printer, speakers, and other accessories.

Connect devices to your modem using ethernet cord. Check if you need an adapter to connect to the ethernet.

After connecting by ethernet cord, make sure Wi-Fi is OFF on device and modem, and make sure Bluetooth is off on devices).

Multiple users? Connect a corded ethernet switch to the modem or to the ethernet, then you can add more ethernet cords to numerous devices.

## Reduce Blue Light on ALL Screens



- Blue light blocker covers are usually available for all screens.
- Blue-blocking eyeglasses.
- Download software that reduces blue light and flicker.

# How to Reduce Electromagnetic Fields

## Create A Sleep Sanctuary

- ✓ Remove all screens and electronics from bedroom and other sleep areas.
- ✓ Use a battery-powered alarm clock.
- ✓ Do not sleep near a charging device or a charger that is connected to electricity.
- ✓ Do not sleep near a video game that is connected to electricity.
- ✓ At least power OFF wireless and Wi-Fi before bedtime and other periods of non-use. Best interest is wired (not Wi-Fi).
- ✓ No electrical cords under or near the bed.
- ✓ Turn off AND unplug electric blankets and heating pads before using them.
- ✓ Do not sleep at a wall where an appliance or electrical panel/meter is on the other side.

## Smart Meters

(measure consumption of electricity/water/gas)

Smart meters emit several types of EMFs: radiofrequency, magnetic, harmonics.

- Opt out of a smart meters.
- Analogue meters are the safest.
- Join with others in your community to ensure everyone has a free "Opt-Out."

## In Cars & Other Vehicles

Prefer all phones and screens are powered OFF (or at least set to Airplane Mode with both Bluetooth and Wi-Fi OFF.

For GPS prefer without Bluetooth.

Text/call when you are outside the vehicle.

You can turn OFF the vehicle's Bluetooth. Contact manufacturer about turning OFF other wireless antennas.

A mobile phone that is not in Airplane Mode or powered off automatically goes to high power in traveling vehicles, whether or not the phone is actively being used.

Metal surroundings trap and reflect signals, increasing exposures to all occupants.

## All Electronics Emit EMFs

Even when Wi-Fi is OFF, EMFs spill out of devices because of the electrical or battery power. This applies whether or not the device or appliance has a screen. The intensity of this exposure is reduced by increased distance from the source.

- Do not put electronic devices on laps.
- Keep and use screens and electronics on a table.

## Reduce Cell Phone EMF Radiation Exposure

First and foremost: Minimize your overall use, and prefer a corded phone.

- Use speaker phone
- Hold the phone away from head & body.
- Do not carry a powered ON phone in your pocket or bra.
- Reduce active apps & background apps.
- Turn OFF notifications & automatic updates.
- Avoid use when signal is weak.
- Children should not use mobile phones except in an emergency.
- Avoid use inside a metal vehicle as radiation reflects and increases — in a car, van, bus, truck, train, airplane, elevator.
- High data transfers (such as video and photos) increases EMF radiation emissions.

## Around the House

- ✓ Replace cordless phone with corded phone.
- ✓ Replace Bluetooth and Wi-Fi with wired connections (including for baby monitors).
- ✓ Arrange to replace your smart utility meter with an analogue meter.
- ✓ Disconnect or remove fluorescent light fixtures.
- ✓ Wire up gaming stations and controllers, TVs, and other entertainment systems.
- ✓ Replace strong LED bulbs.
- ✓ Forward mobile phones to home corded phone line so mobiles can be off more often.

**Talk to friends and family so they are aware and can make choices.**

## Tips & Tricks

Get a battery-powered alarm clock for bedrooms.

Learn how to use a cord to connect your tablet, laptop, and mobile phone to Internet.

Text from your corded computer with online apps.

LCD screens have lower EMFs.

Use an electricity timer or a power strip to power off electrical/electronic items off when not in use.

Purchase, rent, or borrow an EMF meter to "see" the levels in your home.

## Safer Charging

- Do not use wireless charging.
- Charge devices away from work/sleep/living spaces.
- Do not use or sleep with a mobile phone/device while it is charging.
- Do not sleep with a powered on device.



## Prefer a Corded Telephone

Prefer to have and use a corded telephone (not cordless). If a corded landline is not available, then prefer Voice over Internet Protocol (VoIP) or a telephone line connection from your Internet provider.

## Sources of Magnetic Field EMF Radiation

Magnetic fields are linked to miscarriage, leukemia, and more. MFs penetrate through solids (for example: through walls and metal, people and pets). Know sources and distance yourself.

Minimize exposure time.

- Powerlines
- Power strips (and stronger when on)
- Electrical panel
- Appliances
- Microwave oven
- Magnetic induction
- Hybrid cars (measure levels at all seats)
- Overhead projectors
- Electrical wiring errors (electrician can fix)
- Variable-speed motors
- Electrical substation
- ... many other items

## Sources of Wireless

- Mobile phones
- Home/office cordless phones
- Cordless phone base stations
- Tablets/Laptops/Desktops
- Wi-Fi router/modem
- Video game consoles and handsets
- Baby monitors (near baby & near parent)
- Wireless-enabled MP3 players
- Signal boosters
- Security home hubs
- "Smart speakers" & virtual assistants
- Wireless peripherals such as headphones, printer, speakers, keyboard, mouse.
- Wearable wireless tech including "smart" watches and fitness wristbands.
- "Smart" appliances
- Wi-Fi
- Bluetooth
- ... many other items

## Sources of EMF Due To Electromagnetic Interference (EMI)

The best way to reduce EMI is to remove sources:

- Dimmer switches
- CFL light bulbs
- Fluorescent lights
- Several types of LED light bulbs
- Digital utility billing meters
- Solar panel inverters
- Electronics chargers
- Variable-speed motors (HVAC, portable fans and heaters, other appliances that are stationary or portable, treadmills)
- Electronic power converters
- Devices with switched-mode power supply
- LCD TVs & Plasma TVs
- ... many other items

## Safer Lighting

Lights can create EMI if they have a switched-mode power supply.

- Choose incandescent or halogen bulbs (with edison screw base), cleaner LEDs.
- Do not use CFL bulbs.
- Do not use fluorescent light fixtures.
- Minimize/remove bright white LEDs.

## Replace Sources of EMI

- Replace dimmer switches with on/off switches.
- Replace CFL and fluorescent light bulbs/ fixtures with safer lighting.
- Choose machinery without variable-speed motors.
- Prefer electronics without switched-mode power supply.
- When devices or chargers are not in use, unplug them from the power source.