

## Message from the Parish Nurses

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### HOW TECHNOLOGY AND LIGHT AFFECT SLEEP

**At least ninety percent of us use technology in the hour before we go to bed, and children often use electronic media to help them relax at night. If you or your children are among these nighttime technology-users, you may not realize the extent to which this can make it harder to settle down to sleep. We need to learn how to develop healthy habits around technology and sleep, so we can reap the benefits that both have to offer.**

#### HOW SUN LIGHT AFFECTS SLEEP

Your ancestors lived by the sun. As it rose, they awoke. As it set, they turned in and slept. Before electricity, the world went dark with the disappearance of the sun, save for some candlelight. This means the human body became accustomed to the rhythms of light and dark. Internal processes adapted to match what was happening in the external world.

Sunlight is blue-heavy, so this energetic light keeps you awake and alert. In fact, blue light actually suppresses your body's secretion of melatonin, the sleep hormone. This is why your body naturally wants to wake up in the morning. Dusk is the opposite. As the sun recedes, the residual light is steeped in red (lower energy, longer wavelength). This means red light has the opposite effect of blue, and doesn't suppress melatonin. So, it doesn't interfere with your natural circadian rhythm.

#### HOW TECHNOLOGY AFFECTS SLEEP

There are several important ways that technology can impact our sleep. Most people don't suffer from all of these problems, but nearly everyone will notice one or more problem on this list that are present in their life.

- **Blue Light:** The blue light emitted by screens on cell phones, computers, tablets, laptops, televisions and even eReaders restrain the production of melatonin, the hormone that controls your sleep/wake cycle or circadian rhythm. The more electronic devices that a person uses in the evening, the harder it is to fall asleep or stay asleep. Besides increasing your alertness at a time when you should be getting sleepy, which in turn delays your bedtime, using these devices before turning in delays the onset of REM sleep, reduces the total

amount of REM sleep, and compromises alertness the next morning. Over time these effects can add up to a significant, chronic deficiency in sleep.

- **Overstimulation:** It may seem harmless to answer a few emails before bed or unwind with a favorite movie, but by keeping your mind engaged, technology can trick your brain into thinking that you need to stay awake. All types of activities such as: video games, surfing the web, seeing something exciting on Facebook, or reading a negative email, can stimulate the brain and release adrenaline. When this happens it makes it almost impossible to get to sleep quickly.
- **Unexpected Sounds:** Just because you're not using your cell phone before bed doesn't mean that it can't harm your sleep: If you keep your notifications on, you may wake or stir every time the chimes of late-night texts, email, calls, or calendar reminders goes off. It's a well-known fact that noise disrupts sleep and that these disruptions can lead to a higher chance of heart problems like stroke and cardiovascular disease. Noise from mobile devices or technology is no different. About 72 percent of children ages 6 to 17 sleep with at least one electronic device in their bedroom, which leads to getting less sleep on school nights compared with other kids, according to their parents. The difference adds up to almost an hour per night, and the quality of snoozing is negatively affected too.
- **Addiction:** Technology addiction is real and it, too, can interfere with sleep. For a person who is addicted to their phone, tablet, computer, or another device, putting it down can feel almost impossible. This sort of disruptive addiction is common with mobile smartphones, though it can happen to any device. Generally, researchers determine a person's addiction level by monitoring how much time a person spends using a device, though it can also be measured by how often the device is picked up during the day, how urgently a person needs to check a device after hearing a notification sound, and how a person feels when they can't be on their device or can't be connected to the Internet for a period of time.

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More information can be found at:

<https://www.sleepfoundation.org/why-electronics-may-stimulate-you-before-bed>

<https://www.sleep.org/articles/ways-technology-affects-sleep>

**Visit:** [www.StAgnesShepherdstown.org](http://www.StAgnesShepherdstown.org) for "How To Minimize The Effects Of Technology On Your Sleep". **Click on:** Parish Health Newsletter

## HOW TO MINIMIZE THE EFFECTS OF TECHNOLOGY ON YOUR SLEEP

Technology is the future and screens are not going away anytime soon – if ever. It's a fair assumption that most adults and children don't want to give up their screens completely. Luckily, there are some things you can do about finding a healthy balance.

- **Eliminate your screen usage at a certain time.** It's important to initiate a digital curfew for the entire family, a time at which you and your kids turn off all electronic devices for the night. You'll want to stop using technology at least an hour before bedtime. Decide what time you need to lay down, based on what time you're getting up and how much sleep you need. Then, subtract an hour or two from that, the earlier in the evening, the better, but whatever feels realistic.
- **Plan your bedtime routine.** Going cold turkey might be hard for you and your children. You may not know what to do with yourself after you turn off your technology. Your children may need your help or they may be able to help you. Come up with some relaxing activities that you can do in your hour or two before bedtime that don't involve technological devices. Consider things like taking a warm bath, journaling, taking a walk, or talking to your loved ones. Reading an old-fashioned printed book under lamplight (as opposed to bright overhead lighting) is a great choice. Using an e-ink e-reader (like the Kindle Paperwhite, as opposed to the Kindle Fire) is also a good idea, because it doesn't produce the same type of blue light that a smartphone or tablet would. You may need to try several things before you find what works for you. Swap out your wind-down activities. Remember to keep these activities relatively unstimulating, so you don't wake your brain up.
- **Leave it outside your room.** Since your technology can also disturb you after you fall asleep, make a place for it outside your room. Leave it in your office, your extra bedroom, or even on the kitchen counter. Put your charger there, too, so you can wake up to everything charged and ready to go. If you use your phone for an alarm clock, make sure you have another option. A cheap clock from the store can take its place.
- **Turn off your notifications.** If you need to have your technology in your bedroom with you for some reason, turn off all of your notifications at night. Many devices have some sort of Do Not Disturb mode, where you can determine which notifications do and do not get through. You can also set it up so you only receive alerts from certain people, in case you have a message coming in that can't wait.

- **A few ways to decrease exposure to blue light.**

Since the light that emanates from most devices is the biggest problem for your sleep, changing that light can go a long way toward helping you get better rest.

- Some devices come with a way to do that built into the technology.
- For others, you can download free apps that will let you eliminate or filter out most of the blue light.
- A few devices, like some backlit eReaders, don't have a nighttime option. On these, though, you can usually swap the background and foreground colors. Instead of reading black print on white screen. Do white print on black screen, instead. This won't eliminate all of the blue light.
- Computer glasses with yellow-tinted lenses that block blue light can help.
- Anti-reflective lenses reduce glare and increase contrast and also block blue light from sun and digital devices.
- Intraocular lens (IOL): After cataract surgery, the cloudy lens will be replaced with an intraocular lens. The lens naturally protects the eye from almost all ultraviolet light and some blue light. There are types of IOL that can protect the eye and retina from blue light.

## WHERE ARE YOU EXPOSED TO BLUE LIGHT

The largest source of blue light is sunlight. In addition, there are many sources.

- Fluorescent light
- CFL (compact fluorescent light) bulbs
- LED light
- Flat screen LED televisions
- Computer monitors, smart phones, and tablet screens

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More information can be found at:

<https://www.sleephelp.org/how-technology-impacts-your-sleep-and-what-to-do-about-it>

<https://www.pcmag.com/news/35497/how-to-stop-gadget-blue-light-from-disturbing-your-sleep>

**Click on:** Sleep Guides: topics are About Sleep, Resources, Sleep Disorders, and Sleep Help

**Click on:** Sleep Help: topics are Sleep Help for Children, Sleep Help for New and Expecting Mothers, Sleep Help for Seniors, and Sleep Help for Shift Workers

**Check out** their Blog: They have some very interesting topics.