



GENERAL ACUPUNCTURE

The Risk Behind Technology: An Insomniac's Nightmare

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Chronic insomnia can lead to serious problems. We consolidate memories, heal our bodies, generate stem cells, remove neurotoxic waste products, and mitigate pro-inflammatory cytokines when we sleep. The current medical literature is rich with repercussions of sleep deprivation such as higher risk of coronary heart disease, a higher tendency toward injury, weight gain, and accidents, and generally diminished sense of well-being accompanied by decreased immune system function.^{1,2,3,4,5,6} There are dozens of organic etiologies of insomnia in medical texts — I'm going to discuss those caused by light/electromagnetic field-emitting (EMF) technologies, and easy lifestyle suggestions to enhance your treatment outcomes.

How much Sleep is enough?

According to the National Institutes for Health, school-age children need at least 10 hours of sleep daily, teenagers need 9-10 hours, and adults need 7-8 hours. In a National Health Interview survey, 30 percent of adults admitted to getting less than 6 hours of sleep per night which is far from optimal.⁷ Too much sleep can trigger inflammatory chemicals leading to chronic disease, so we have to work within a "sweet spot" depending on our age and personal needs.



It's obvious that our insomnia patients aren't suffering from a benzodiazapine deficiency, and the treatment of chronic insomnia with any kind of drug is a dangerous proposition. From 2005 to 2015, the number of deaths in the U.S. due to benzodiazapines nearly tripled. Anticholinergic medications have been linked to brain shrinkage and dementia.⁸ The FDA recommended in 2013 that manufacturers of zolpidem, classified as a hypnotic, (Ambien, Ambien CR, Edluar and Zolpimist) lower the recommended dosage due to "next-morning impairment" making driving risky. [WebMD](#) lists the common side effects of prescription sleeping pills such as Lunesta, Ambien, and Halcion:

- Burning or tingling in the hands, arms, feet, or legs
- Changes in appetite
- Constipation
- Diarrhea
- Dizziness
- Daytime drowsiness
- Dry mouth or throat
- Gas
- Headache
- Heartburn
- Impairment the next day
- Stomach pain or tenderness
- Weakness



Cell phones, tablets, computers and TVs

Television and computer monitor screens have grown over the past decade, blasting our eyeballs with light. Even the light from a cell phone is enough to inhibit the release of melatonin in our brains.⁹ Nocturnal melatonin suppression is most sensitive to short wavelength (blue) light (approximately 460nm) emitted from screens. In a 2011 "Sleep in America" poll, 95 percent of the respondents used some kind of electronic device a few nights per week within an hour before going to sleep.

There is also recently published evidence that the EMF generated by charging your cell-phone (or other device) near the head of your bed may endanger sleep quality. The EMF generated from the phone will impede sleep if you do not use a corded headphones or ear buds. Wi-Fi is also a culprit if the transmitter is located close to the bedroom.¹⁰ Experts suggest turning off the modem before retiring.

Sleep Hygiene

The National Sleep Foundation defines sleep hygiene as "a variety of different practices and habits that are necessary to have good nighttime sleep quality and full daytime alertness." They recommend the following:

- Limiting daytime naps to 30 minutes. Napping does not make up for inadequate nighttime sleep. However, a short nap of 20-30 minutes can help to improve mood, alertness and performance.
- Avoiding stimulants such as caffeine and nicotine close to bedtime. Also using alcohol in moderation is key. While alcohol is well-known to help you fall asleep faster, too much close to bedtime can disrupt sleep in the second half of the night as the body begins to process the

alcohol.

- Steering clear of [foods](#) that can be disruptive right before sleep. Heavy or rich foods, fatty or fried meals, spicy dishes, citrus fruits, and carbonated drinks can trigger indigestion for some people. When this occurs close to bedtime, it can lead to heartburn that disrupts sleep.
- Establishing a regular relaxing bedtime routine. A regular nightly routine helps the body recognize that it is bedtime. This could include taking warm shower or bath, reading a book, or light stretches. When possible, try to avoid emotionally upsetting conversations and activities before attempting to sleep.
- Insuring adequate exposure to natural light. This is particularly important for individuals who may not venture outside frequently. Exposure to sunlight during the day, as well as darkness at night, helps to maintain a healthy sleep-wake cycle.
- Exercising to promote good quality sleep. As little as 10 minutes of aerobic exercise, such as walking or cycling, can drastically improve nighttime sleep quality. For the best night's sleep, most people should avoid strenuous workouts close to bedtime. However, the effect of intense nighttime exercise on sleep differs from person to person, so find out what works best for you.
- Making sure that the sleep environment is pleasant. Mattress and pillows should be comfortable. The bedroom should be cool — between 60 and 67 degrees — for optimal sleep. Bright light from lamps, cell phone and TV screens can make it difficult to fall asleep, so turn those light off or adjust them when possible. Consider using blackout curtains, eye shades, ear plugs, "white noise" machines, humidifiers, fans and other devices that can make the bedroom more relaxing.

You may recommend the following for your patients:

- Hide your alarm clock. If you have an LED clock, that's enough light to disturb quality sleep. Psychologically, it adds pressure when you open one eye to check the clock and count down to the alarm.
- Put two tennis balls in a sock and tie a knot to hold them in place. Situate them under the base of your skull (anmian) for several minutes as you prepare to drift off to sleep.
- Use a Calcium/Magnesium supplement before bed. (Natural muscle relaxant.)
- Take 100mg of 5-HTP (Hydroxytryptophan) about an hour before bed. (Contraindicated for anyone who's taking anti-anxiety/SSRI medications.)
- Supplementing with melatonin is also an option. (5-HTP is a precursor to melatonin, so you wouldn't advise taking both.)
- Women should be checked for iron and copper deficiencies - both will interfere with quality sleep.
- If your patient complains of being exhausted before bed, but their brain "won't turn off," recommend L-Theanine, which increases GABA and alpha brain wave activity. Studies on L-Theanine have used doses as low as 50mg, but more frequently between 200-250mg 30-60 minutes before bedtime with no grogginess upon waking.

Reduce Negative Effects of light

1. There are a number of apps that will slowly reduce the blue frequency of light from your phone or computer screen as the evening approaches. (e.g., Apple's Night Shift). Use the search terms "Blue light filter app."
2. Several types of blue filter glasses are also on the market that will allow users to check their email or watch TV before bedtime.

When the next patient complaining of insomnia walks into your clinic, make sure to communicate the deleterious effects of Wi-Fi and light emanating from electronic devices, and discuss how they can improve the quality of their sleep with a few lifestyle adjustments.

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JULY 2017