

Sleep Deprivation in the Age of Electronics

Proper sleep hygiene is important in optimizing sleep and minimizing sleep deficit. The bedroom should only be used for sleep. Televisions, personal electronic devices, and other blue-light distractions should be removed from the bedroom. A 2014 poll by the National Sleep Foundation offered a glimpse into just how pervasive electronics have become in American bedrooms. About 90% of adults reported having at least 1 electronic device in their bedroom, and many admitted to having multiple devices, such as televisions, laptops, and tablets. Furthermore, 26% of respondents said that they sent or read text messages, e-mails, or other electronic communications after they had initially gone to sleep at least once in the week preceding the survey.

Unplugging before going to bed proves to be a difficult task. However, it is essential that electronic devices do not accompany the individual into the bedroom. There are significant scientific data correlating light with promoting wakefulness. Photoreceptors in the retina sense light and dark, which allows the brain to align the circadian rhythm to the external day-night cycle. This signaling of light and dark enables one to be alert in the morning and fall asleep at the appropriate time at night. Small electronic devices emit enough light to miscue the brain and promote wakefulness at night, which over time permanently alters the circadian rhythm and leads to chronic sleep deprivation.

Effects of using electronic devices in the hours before bedtime contributes to sleep deprivation, they are:

- Prolongs the time it takes to fall asleep
- Delays the circadian clock
- Suppresses levels of melatonin, the sleep-promoting hormone
- Reduces the amount, and delays the timing of, REM sleep
- Reduces alertness the following morning
- Increases alertness immediately before bedtime, which leads to delayed bedtime