

Electronics, Light and the Science of Sleep

There is robust scientific data documenting the role of light in promoting wakefulness. Photoreceptors in the retina sense light and dark, signalling our brain about the status of the outside world and aligning our circadian rhythms (or sleep patterns) to the external day-night cycle. This signalling of light and dark helps us to be alert in the morning and throughout the day, and be able to fall asleep at the appropriate time at night. The power of light as an alerting agent is easy to imagine when we think of the sun rising and setting, but it may be more difficult to appreciate when considering the light that emits from a PC, Laptop, Tablet or Smartphone.

Nonetheless, careful studies have shown that even our small electronic devices emit sufficient light to trick the brain and promote wakefulness. As adults we are subject to these influences and our children are particularly susceptible.

Children, Electronics and Sleep

The increasing use of electronics in children's bedrooms creates a culture of evening engagement, and as a consequence, light exposure that negatively impacts on sleep patterns, sleep quality and daytime alertness.

- Children using electronic media as a sleep aid to relax at night have been shown
- to have later weekday bedtimes, experience fewer hours of sleep per week and report more daytime sleepiness.
- Adolescents with a bedroom television have later bedtimes, more difficulty initiating sleep and shorter total sleep times.
- Texting and emailing after lights out, even once per week, dramatically increases self-reported daytime sleepiness among teens.
- Not all electronic usage is recreational as homework is essential for our children and their work is often completed on the computer, a significant light source late in the evening.
- Increased academic demands, busy social and extracurricular schedules and the lure of entertainment conspire to keep our children electronically engaged at night. It's useful to have a mutually agreed "cut off" point, which parents and child are happy with.

Many children are not fulfilling basic sleep requirements and adequate sleep is essential for growth, learning, mood, creativity and weight control. Understanding the influence of light and evening engagement on sleep is the first step in helping parents address the dilemma of electronics in the bedroom.