

## Does Blue Light emitted from digital devices really harm your eyes?

You may have heard that blue light emitted from digital devices such as smart phones, tablets, and flat screen TVs may be harmful to your eyes. As of today, there is no clinical evidence of damage to the eye from the blue light produced by digital devices.<sup>(1,2)</sup> The Association of Optometry's position paper acknowledges that "there have been studies of the effects of visible blue light irradiation on the retinas of rats and rhesus monkeys, but that the length and intensity of exposure to visible blue light in these studies far exceeded that of natural daylight or screen use."<sup>(3)</sup> The discomfort people experience after looking at their digital device screen for a long period of time is most likely caused by digital eyestrain. Although there is no conclusive evidence that visible blue light will harm your eyes, there is a study that attributes increased blue light exposure to sleep pattern disruptions.<sup>(4)</sup>

For those that would rather limit their exposure to blue light, it's important to know that the majority of blue light that most people are exposed to comes from sunlight. Consider wearing sunglasses with brown and gray lens colors when you're outside to reduce blue light exposure.

You can also reduce blue light exposure and the adverse effects of extensive digital device usage if you:

- Limit your and your children's digital device screen time to two hours per day.
  - Use a blue light filter found in the settings of your digital device. Some may refer to it as blue shade, night shift, blue filter, etc. If your device doesn't have one, you can download a blue light filter app from the App Store or Google Play.
  - Try eye drops to alleviate dry eye associated with eye strain.
  - Practice in the 20/20/20 rule: Every 20 minutes, look at something 20 feet away for 20 seconds. Bulbs, Computers, Tablets, and the Blue Light Hazard." Eye
1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4763136/>
  2. Tosini, Gianluca, Ian Ferguson, and Kazuo Tsubota. "Effects of Blue Light on the Circadian System and Eye Physiology." *Proceedings of the National Academy of Sciences of the United States of America* 112:4 (2015): 1124-1129. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4734149/>
  3. AOP Position. Visible Blue Light. Our position on the clinical evidence and advice relating to blue light. <https://www.aop.org.uk/advice-and-support/policy/position-statements/visible-blue-light>
  4. Chang, Anne-Marie et al. "Evening Use of Light-Emitting eReaders Negatively Affects Sleep, Circadian Timing, and next-day Alertness." *Journal of Clinical Sleep Medicine* 11:10 (2015): 1173-1180. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4313820/>

## RESOURCES & REFERENCES

