

# COVID-19: INCREASING SCREEN TIMES IN OUR PEDIATRIC POPULATION

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There was a time (not so long ago), where electronics such as computers, tablets and phones were almost exclusively used by adults. Some children would be allowed on these devices, maybe for an hour or two, to play a video game or watch a video. Fast forward to today, and these electronic devices are less of a recreational item for children, but an essential.

Today's kids are growing in an evolving world that is revolving around computers. Sprinkle the current pandemic on top of things, and it is no surprise surveys reveal that screen time, as reported by parents, has gone up 5-fold between pre-pandemic and now.

So, what's the big deal?

When we look at something up-close, muscles inside the eye contract to bring that object into focus. This "focusing power" has a fancy name called accommodation. It is accommodation that naturally declines with age, until around age 40 or so, when we notice that decline more significantly and have trouble SEEING near objects, not just FOCUSING on them. The issue of eyestrain arises when that accommodation system is put under continual stress associated with extended screen time. Just like your muscles in the rest of the body, the eye muscles are no different. With time, they fatigue and lose their ability to function optimally. This leads to a spectrum of symptoms that classify under eyestrain: headaches, blurry vision and eyes feeling sore. In children, these complaints can easily be overlooked, especially when a basic visual acuity exam determines the child is 20/20, and the provider does not do additional supplementary testing and happily exclaims to the parent "he/she does not need glasses!" A child may indeed benefit from a pair of prescription reading glasses if they fall under these circumstances. Reading glasses alleviate eyestrain by focusing the near object (computer, phone, etc.) instead of the muscles doing the work to focus, thus alleviating the work demand of the muscles, and any associated symptoms.

The next factor associated with eyestrain beyond accommodation, is the blue light emitted by electronics. Blue light in recent times has been a hot debated topic. Before it was linked with an increased risk of retinal pathology (specifically macular degeneration). This has since been largely discredited. However, where blue light plays a significant role is sleep. Blue light emitted from screens suppresses the release of melatonin, a hormone that orchestrates the circadian rhythm. In the pediatric population, sleep is especially crucial given the role it plays in the development of the child cognitively and physically. The American Academy of Pediatrics used to have a recommended allotted time with electronics, now they are weaning away from these guidelines given the reality of today's world. There are several methods to combat the potential

sleep disruption of blue light. First and most obvious is limiting screen time before bed, preferably discontinuing use at least 2 hours before bedtime. A second method is incorporating “blue-blocking” lenses in glasses. As the name implies, these glasses filter the amount of blue light that is transmitted through the lenses of the glasses, reducing exposure and thus the associated sleep disruption. Another alternative is installing apps on your child’s electronic device that act as blue-blocking filter themselves, altering the amount of blue light emitted from the device screens.

Lastly, the increasing role of electronics in children’s lives is increasing the prevalence of dry eyes. Studies have shown electronic use decreases the amount of blinking we do. Because the blinking mechanism is connected to our tear film, reduced blinking causes tear film instability, and thus dry eyes. This leads to a cascade of events that promote inflammation on the surface of the eyes, manifesting in a variety of symptoms such as burning, itching, redness, tearing and fluctuating vision. Simple techniques to combat this includes being more conscious of your blinking or use of artificial tears to supplement the natural tear film produced. More advanced treatment options can be discussed with your child’s eye doctor should symptoms persist or worsen.

Whether we like it or not, electronics have become a big part not just of our day-to-day life, but of our kids’ lives. Electronics house not only their recreational time, but their educational one. Your child’s visual system is beyond 20/20 and their symptoms may need to be addressed individually depending on their environment and habits. If your child complains of any of the symptoms discussed, or you notice a decline in school performance when transitioning to electronic learning, consider seeing an eye doctor for further testing that may help alleviate possible eyestrain linked to prolong screen time.

To schedule an optometry appointment with Community Health Centers, please call 407-905-8827 or 352-314-7400. Medicare, Medicaid and private insurances accepted. A sliding discount program, based on family size and income, is available.

## **References**

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3. Eng, J. (2020, May 04). Parents Alarmed As Kids' Screen Time Skyrockets During COVID-19 Crisis-Here's What You Can Do. Retrieved August 19, 2020, from <https://parents-together.org/parents-alarmed-as-kids-screen-time-skyrockets-during-covid-19-crisis-heres-what-you-can-do/>

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Community Health Centers, Inc. (CHC), a Federally Qualified Health Center, provides quality and compassionate primary healthcare services to insured, uninsured, underinsured, and underserved children and adults within Central Florida. CHC provides care to nearly 70,000 patients, each year, in the Apopka, Bithlo, Clermont, Forest City, Four Corners, Groveland, Lake Ellenor, Leesburg, Meadow Woods, Pine Hills, Tavares and Winter Garden communities. [www.chcfl.org](http://www.chcfl.org)