Children's Vision & Effects of Electronic Screens

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Alberta Association of Optometrists

Recommendations for Safe Use

As a parent, it's important to understand the impacts of screen time on your child's vision. As the amount of time children are spending looking at screens – computers, tablets, smart phones, video games, television – increases at home and school, the risk of myopia (or nearsightedness, which means things at a distance are blurry) also increases. It is projected that by 2050, half of the world will have myopia[1]

There are life-long vision impacts when children develop myopia early in life. They can also develop sight-threatening diseases, such as glaucoma, cataract, and retinal detachment.

Children's visual systems continue to develop until they become adults. Helping them to protect their eyes during these developmental years is very important.

[1] Holden BA, Fricke TR, Wilson DA et al. Global prevalence of myopia and high myopia and temporal trends from 2000 through 2050. *Ophthalmology* 2016; 123: 1036-1042

What you should know:

- Research conducted by the Alberta Association of Optometrists indicates children are now spending approximately 50% of their waking hours looking at screens and teenagers are spending more than 60%.
- While playing outside or participating in activities away from close-up work is important to eye health, 60% of parents reported their children were spending less time in these playtime activities. Seventy-nine percent of parents with children who have been diagnosed with myopia reported their children were spending even less time in non-screen activities.
- Children can also develop an inward turning eye when they hold a device too close to their face – within 30 cm – for extended periods of time.
- Although some children may report burning, itchy or tired eyes or even blurry vision when using portable electronic devices, many children may ignore or not report discomfort especially if they are enjoying a task.
- The impacts of screen time can reach beyond vision. Extended periods of screen time use can increase the risk of obesity, poorer school performance, poorer sleep quality and risky behaviours in older children. Younger children can experience delays in critical cognition (acquiring knowledge and understanding through thought, experience, and the senses), learning and social skills. Research conducted by the Alberta Association of Optometrists indicates the issue most reported by Alberta parents is poor behaviour, followed by reduced attention span.

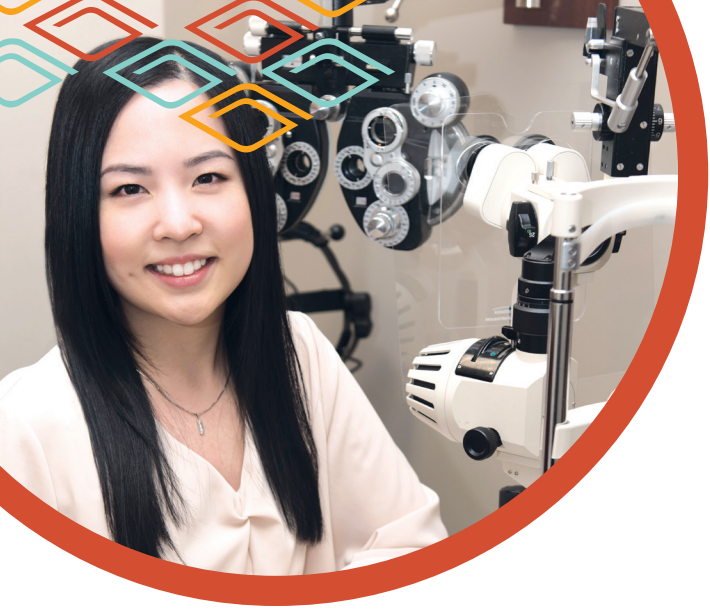
Recommended screen time for children[2]:

- 0 to 2 years – Zero screen time, except for live video-chatting, using programs such as Skype and Facetime. This should take place with parental support.
- 2 to 5 years – Limit to one hour per day. What the child is viewing should be monitored by a parent to ensure it is appropriate for the child's age. This will allow parents to discuss the content and provide context to what they are viewing.
- 5 to 18 years – Ideally no more than two hours per day of recreational screen time. It's difficult to monitor the total hours when combined with school, however parents should consider the impact on their child's development and needs.

[2] Recommendations of the Canadian Association of Optometrists/Canadian Ophthalmological Society.

How you can Reduce Screen Time impacts

- Limit the use of handheld devices.
- Put all electronics away 1 to 2 hours before bedtime. Parents can charge devices in the evening, so they are not in their child's bedroom.
- Take eye health breaks. Every 20 minutes look at least 20 feet (6m) away for 20 seconds.
- If weekday screen time use has been high, unplug for the weekend or even just one day!
- Plan for outside playtime.
- When watching a video, move it to a television screen instead of a small phone.
- Ensure children hold reading material (phones or books) the length of their forearm away from their face.
- Book an annual eye exam with your Optometrist. Children often do not complain about eye strain, eye fatigue, dry eyes, or headaches, so it's important to be proactively looking for these challenges.



Your Optometrist Can Help

Children who develop myopia almost always progress to some degree. Younger children who develop myopia often have quicker rates of progression. Your optometrist can help you decide the best treatment method for your child. Some of the options include:

- Specialty designed eyeglass lenses. These lenses help reduce the strain on the eye while looking at screens or at anything up close for long periods. Your optometrist will work with you and your child to find the best eyeglass lens solution.
- Multifocal soft contact lenses. These specially designed contact lenses provide clear central vision. Your optometrist will help you determine if your child is a good candidate for treatment.
- Ortho-K contact lenses. There are specially designed contact lenses that your child wears over night. The curvature of the lens flattens the cornea that temporarily reduces myopia (nearsightedness). The lens must be worn each night to be effective.
- Atropine eye drops. These drops at nighttime has been studied and proven to reduce changes in the eye that lead to progression. Side effects of low concentrations of these eye drops are considered minimal. Your optometrist will determine the appropriate concentration and length of treatment for your child.

Annual Eye Exams

- Ensuring your child has an annual eye exam is very important as their vision and eye health is developing and can change quickly. The earlier an eye health or visual problem is identified, the more likely it can be corrected.
- Children are often unaware they have a vision issue as they believe what they are seeing is normal.
- It's not uncommon for parents to believe they would know if their child has a vision problem, however these issues can be hard to spot particularly if there is a problem in only one of the eyes.
- If your child is not seeing properly, it can impact their ability to learn as 80% of learning is visual.
- There is Alberta Health coverage available towards these appointments until your child reaches their 19th birthday.

Optometrists complete a Bachelor of Science degree or higher, followed by a four year Doctor of Optometry degree from an accredited university. They are a primary source for all your vision, eye health and eyewear needs. If you do not currently have a optometrist, visit our website at **www.optometrists.ab.ca** and click on *Find an Optometrist*. This will provide a list of optometrists in your area.

For information about many other common eye-related conditions, visit our website's Eye Health Library.

optometrists.ab.ca/eyehealthlibrary

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