

## Digital Eye Strain

Computers, tablets, smartphones, and other screen-based electronic devices have a strong and growing presence in our lives. COVID lockdowns and increased social pressure to stay connected have increased screen time. Not surprisingly, the incidence of digital eye strain is increasing.

Digital related eye strain, also called "Computer Vision Syndrome" or CVS, affects people of all ages.

### Digital eye strain may manifest as;

- Blurred vision,
- Tired and sore eyes
- Dry or even watery eyes
- Headaches
- The eyes feeling achy and tired
- Light Sensitivity

These symptoms are no different from the symptoms experienced from reading or doing intensive close work for too long.

### How to gain relief from digital-related eye strain

- **Put your most addictive devices in another room**  
Keep digital devices out of bedrooms. This benefits by separating your work from your private life, and leisure time from and sleeping.
- **Blink**  
The average blink rate is around 15 times per minute. With computer use, the blink rate may reduce to only seven times per minute and sometimes as low as five times per minute. Eyeblink is a simple to use computer app that reminds you to have regular breaks and monitors blink rate. Eyeblink works on Mac or Windows and is a fantastic tool.
- **Take regular breaks**  
At least every 20 minutes, take a short break.  
Look up and away from near work and relax vision by looking at least 6 meters away.
- **Use more printed material**  
Improved blink rates are improved when using printed material. Some people also find that work and study productivity increases when using printed material. Consider the environment and use recycled paper and print on both sides of the page.
- **Have your Contact Lenses Reviewed**  
People who wear contact lenses generally suffer more from dry eye when using digital devices. Technology has advanced in lens materials and design to help address dry eye problems for contact lens wearers. Talk to your optometrist about the most appropriate lens type for your needs.
- **Use artificial tears**  
These act as a lubricating agent and form a smooth protective coating on the front of the eye. Your optometrist can advise which are most appropriate.

- **Ensure your digital device set-up is comfortable**  
Adjust screen contrast and brightness so that it is comfortable and not excessively bright relative to the surroundings  
Take some time to set up the screen – angle or tilt it to reduce glare. Most modern devices have high-resolution screens and anti-glare surfaces. Avoid using screens in an otherwise dark room and set up screens to minimise reflections on the screen.  
Adjust the position and height of the screen so that it is comfortable. For a desktop computer, this is typically at arm's length. Laptop computers and tablets tend to be closer.  
Ensure the position of the screen or digital device during use allows good posture to be maintained.
- **Don't use screen time as a reward**  
Are you looking for a reward? Indulge in a one-minute mindfulness break. You can do this with the help of time management apps like 'Breathe'. After you return to your task, you'll feel great and come back to your task refreshed. Or you can try some other reward options such as listening to your favourite music, going for a walk, or taking a quick run. Take a coffee break at your favourite café.
- **Boost your non-screen time activities**  
One of the best ways to get a mental boost is to exercise regularly. It boosts energy, concentration, and your overall health. Try scheduling three short workouts per week. You'll notice many benefits, including improved mental focus. Plus, your eyes will thank you for working out too!
- **Define roles for your device**  
Do you use your laptop for work or study? Minimise activities that are unrelated to work or study. Keep your leisure activities for a separate device. Avoid activities such as passive scrolling or other non-purposeful chores.
- **Track your smartphone usage**  
With your smartphone, it's easy to track your usage. Set up tracking in seconds. View your daily or weekly statistics. See which apps you spend the most time on. Turn it into a weekly game, where you try to lower your smartphone usage each week. Aim for a personal best.
- **Book an eye test with an optometrist**  
Have an eye examination to ensure that the eyes are healthy and that the prescription is accurate and current. Conditions such as myopia, hyperopia, astigmatism, or presbyopia can exacerbate eye strain. There are several sophisticated "digital" lens designs optimised for use with digital devices. Your optometrist will be able to advise you on the most appropriate for your needs.

This advice is correct for both adults and children.

## Screen Use for Children

Parents have reason to be mindful of how much time their children spend on digital devices. Technological innovation has transformed teaching, media, information technology, and the

lives of children. As schools introduce computer-based learning programs in the early years of education, the undeniable fact is that children are spending more time in front of screens.

Quality sleep time is an important consideration in normal childhood development. Increased arousal from computer gaming, and the suppression of melatonin by blue light emitted from screens, are implicated as mechanisms for poor sleep patterns observed with increased screen time.

Children in pre-schools are also commonly exposed to screen-based "educational" applications. Success in learning environments is multifactorial. Educational success includes developing higher-order thinking skills and executive function such as; task persistence, impulse control, emotion regulation, and creative, flexible thinking. Traditionally these skills have been taught through unstructured activities and social play together with child-parent-teacher interactions.

## **Myopia**

The worldwide incidence of myopia, or near-sightedness, is increasing in children. Factors that explain this more complicated than increased near and digital demands. Despite this, excessive time spent on digital devices and near tasks, such as reading, reduces time spent outdoors. Outdoor time is significant and can help to delay or prevent the progression of myopia.

## **Recommendations**

The World Health Organisation (WHO) has recommended no screen time for children younger than 1-year-old. The American Academy of Pediatrics recommends no digital use (other than video-chatting) for children in the age range of 18 to 24 months.

## **General Recommendations**

- Set limitations on digital device/media use.
- Children 2 – 5 years, no more than 1 hour per day to allow children time to engage in other activities necessary to health and development.
- Considerations to help achieve this result.
- Set places in the home environment that are device-free, for example, in bedrooms.
- Set activities that are device-free, for example, family mealtime.
- Try not to limit interaction time such as reading together at bedtime, exercise, play, and social interaction.
- Digital devices can play a useful role in certain situations such as medical appointments, air flights, etc. Try to avoid using digital devices to calm children.
- Apps and programs such as F.Lux and Apple Night Shift can help reduce blue light from screens. Reducing blue light from screens can be helpful for those using devices at night.
- No screens 1 hour before bedtime.