

With so many of people using technology devices at work and at home, digital eye strain has become a major problem. Studies show that eye strain and other bothersome visual symptoms occur in 50 to 90 percent of people that use computers/technology daily. With an increase in digital technology, many individuals suffer from physical eye discomfort after screen use for longer than two hours at a time. This collection of symptoms is called **digital eye strain**. According to the Vision Council more than 83 percent of Americans report using digital devices for more than two hours per day, and 67 percent report using two digital devices simultaneously.

## Digital Eye Strain signs and symptoms include:

- Sore, tired, burning or itching eyes
- Watery or dry eyes
- Blurred or double vision
- Headache
- Sore neck, shoulders or back
- Increased sensitivity to light
- Difficulty concentrating
- Feeling that you cannot keep your eyes open



digital  
eye  
strain

## Computer Eye Strain: 10 Steps for Relief

### 1. *Get a comprehensive eye exam.*

Having a routine comprehensive eye exam is the most important thing you can do to prevent or treat computer vision problems. If you haven't had an eye exam in over a year, schedule a visit with an eye doctor near you. Be sure to tell the eye doctor that you use a computer regularly.

### 2. *Use proper lighting.*

Eye strain often is caused by excessively bright light either from outdoor sunlight coming in through a window or from harsh interior lighting. When you use a computer, your ambient lighting should be about half as bright as that typically found in most office.

### 3. *Minimize glare.*

Glare on walls and finished surfaces, as well as reflections on your computer screen also can cause computer eye strain. Consider installing an anti-glare screen on your monitor and, if possible, paint bright white walls a darker color with a matte finish. If you wear glasses, purchase lenses with anti-reflective (AR) coating.

### 4. *Upgrade your display.*

If you have not already done so, replace your old tube-style monitor (called a cathode ray tube or CRT) with a flat-panel liquid crystal display (LCD), like those on laptop computers.

### 5. *Adjust your computer display settings.*

- **Brightness.** Adjust the brightness of the display so it's approximately the same as the brightness of your surrounding workstation.

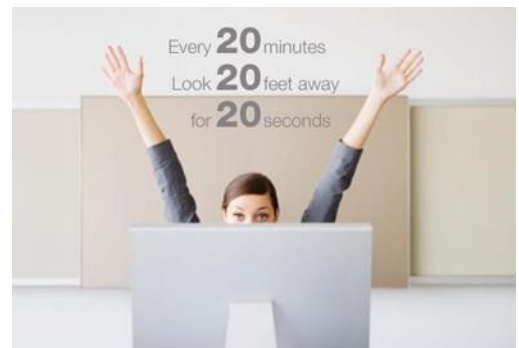
- **Text size and contrast.** Adjust the text size and contrast for comfort, especially when reading or composing long documents. Usually, black print on a white background is the best combination for comfort.
- **Color temperature.** This is a technical term used to describe the spectrum of visible light emitted by a color display. Blue light is short-wavelength visible light that is associated with more eye strain than longer wavelength hues, such as orange and red. Reducing the color temperature of your display lowers the amount of blue light emitted by a color display for better long-term viewing comfort.
- **Text Size and Color on Your Digital Screen.** To avoid eye strain, at what size should your computer display text? According to computer vision syndrome expert Dr. James Sheedy, it should be three times the smallest size that you can read from your normal viewing position. The best color combination for your eyes is black text on a white background.

#### 6. *Blink more often.*

Blinking is very important when working at a computer; blinking moistens your eyes to prevent dryness and irritation. To reduce your risk of dry eyes during computer use, try this exercise: Every 20 minutes, blink 10 times by closing your eyes as if falling asleep (very slowly). This will help rewet your eyes.

#### 7. *Exercise your eyes.*

Another cause of computer eye strain is focusing fatigue. To reduce your risk of tiring your eyes by constantly focusing on your screen, look away from your computer at least every 20 minutes and gaze at a distant object (at least 20 feet away) for at least 20 seconds. Some eye doctors call this the "20-20-20 rule."



#### 8. *Take frequent breaks.*

To reduce your risk for digital eye strain and neck, back and shoulder pain, take frequent breaks during your computer work day. During your computer breaks, stand up, move about and stretch your arms, legs, back, neck and shoulders to reduce tension and muscle fatigue.

#### 9. *Modify your workstation.*

If you need to look back and forth between a printed page and your computer screen, this can cause eye strain. Place written pages on a copy stand adjacent to the monitor. Light the copy stand properly. Improper posture during computer work also contributes to eye strain.

#### 10. *Consider computer eyewear.*

For the greatest comfort at your computer, you might benefit from having your eye care professional modify your eyeglasses prescription to create customized computer glasses. This is especially true if you normally wear contact lenses, which may become dry and uncomfortable during sustained computer work and bifocals.

## Children and Digital Eye Strain

According to the American Optometric Association (AOA), parents severely underestimate the time their children spend on digital devices. An AOA survey reports that 83 percent of children between the ages of 10 and 17 estimates they use an electronic device for three or more hours each day. Children today have grown

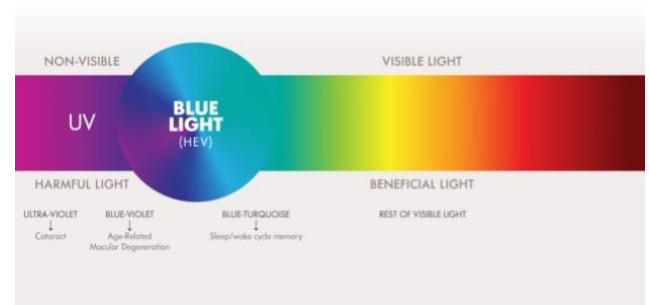
up with technology always at their fingertips. Whether they're playing the latest game or doing homework, technology permeates their lives early on and increasingly becomes part of their daily routine as they get older.

"When parents think about their kids' mobile consumption habits, they often don't think about how much time they spend on devices in the classroom," said Lori Roberts, O.D., chair of the AOA's New Technology Committee. "Each year when school starts we see an increase in kids complaining of symptoms synonymous with eye strain. Essentially, they're going from being home over the summer with a minimal amount of time spent using their devices back to a classroom full of technology, and their time on devices often doubles, leading to a strain on the eyes."



All children should have annual eye exams especially when complaining of symptoms of digital eye strain (see above). Eye exams performed by an eye doctor are the only way to diagnose eye and vision diseases and disorders in children. Undiagnosed vision problems can impair learning and can cause vision loss and other issues that significantly impact a child's quality of life.

Optometrists are also growing increasingly concerned about the kinds of light everyday electronic devices give off - high-energy, short-wavelength blue and violet light - and how those rays might affect and even age the eyes. Today's smart phones, tablets, LED monitors and even flat screen TVs all give off light in this range, as do cool-light compact fluorescent bulbs. Early research shows that overexposure to blue light could contribute to eye strain and discomfort and may lead to serious conditions such as age-related macular degeneration (AMD), which can cause blindness.



**If you have any questions about this topic, please reach out to CompassionLink at [info@compassionlink.org](mailto:info@compassionlink.org). We will be happy to answer your questions.**

**Sources:**

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