

COMPUTER USE AND EYE STRAIN - WEB LINKS

All About Vision

Children and Computer Vision Syndrome

<http://www.allaboutvision.com/cvs/children-computer-vision-syndrome.htm>

- **Have your child's vision checked.** Before starting school, every child should have a comprehensive eye exam, including near-point (computer and reading) and distance testing.
- **Limit the amount of time** your child spends at the computer without a break. Encourage kids to take 20-second breaks from the computer every 20 minutes to minimize the development of eye focusing problems and eye irritation. (Some eye doctors call this the "20-20 rule.")
- **Check the ergonomics** of the workstation. For young and small children, make sure the computer workstation is adjusted to their body size. The recommended distance between the monitor and the eye for children is 18 to 28 inches. Viewing the computer screen closer than 18 inches can strain the eyes. [Read more tips for reducing [computer eye strain](#).]
- **Check the lighting.** To reduce glare, windows and other light sources should not be directly visible when sitting in front of the monitor. Reduce the amount of lighting in the room to match the computer screen.
- 7 Things You're Doing at Your Desk That Will Give You Eye Strain (Infographic)
<http://www.allaboutvision.com/cvs/eyestrain-infographic.htm>

American Academy of Ophthalmology

Computer Use and Eyestrain

<http://www.geteyesmart.org/eyesmart/living/computer-usage.cfm>

- Sit about 25 inches from the computer screen and position the screen so your eye gaze is slightly downward.
- Reduce glare from the screen by lighting the area properly; use a screen filter if needed.
- Post a note that says "Blink!" on the computer as a reminder.
- Every 20 minutes, shift your eyes to look at an object at least 20 feet away, for at least 20 seconds: the "20-20-20" rule.
- Use artificial tears to refresh your eyes when they feel dry.
- Take regular breaks from computer work, and try to get enough sleep at night.

American Optometric Association

Impact of Computer Use on Children

<http://www.aoa.org/optometrists/tools-and-resources/clinical-care-publications/environmentaloccupational-vision/computer-use-needs/impact-of-computer-use-on-childrens-vision?sso=y>

- **Build in break times.** A brief break every hour will minimize the development of eye focusing problems and eye irritation.

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- **Carefully check the height and position of the computer.** The child's size should determine where the monitor and keyboard are placed. In many situations, the computer monitor will be too high in the child's field of view. A good solution to many of these problems is an adjustable chair that can be raised for the child's comfort. A foot stool may be helpful in supporting the child's feet.
- **Carefully check for glare and reflections on the computer screen.** Position the monitor to minimize glare. Windows or other light sources should not be directly visible when sitting in front of the monitor. When this occurs, the desk or computer may be turned to prevent glare on the screen. Sometimes glare is less obvious.
- **Adjust the amount of lighting in the room for sustained comfort.**

Computer Vision Syndrome

<http://www.aoa.org/patients-and-public/caring-for-your-vision/protecting-your-vision/computer-vision-syndrome?sso=y>

- **Location of computer screen** - Most people find it more comfortable to view a computer when the eyes are looking downward. Optimally, the computer screen should be 15 to 20 degrees below eye level (about 4 or 5 inches) as measured from the center of the screen and 20 to 28 inches from the eyes.
- **Reference materials** - These materials should be located above the keyboard and below the monitor. If this is not possible, a document holder can be used beside the monitor. The goal is to position the documents so you do not need to move your head to look from the document to the screen.
- **Lighting** - Position the computer screen to avoid glare, particularly from overhead lighting or windows. Use blinds or drapes on windows and replace the light bulbs in desk lamps with bulbs of lower wattage.
- **Anti-glare screens** - If there is no way to minimize glare from light sources, consider using a screen glare filter. These filters decrease the amount of light reflected from the screen.
- **Seating position** - Chairs should be comfortably padded and conform to the body. Chair height should be adjusted so your feet rest flat on the floor. If your chair has arms, they should be adjusted to provide arm support while you are typing. Your wrists shouldn't rest on the keyboard when typing.
- **Rest breaks** - To prevent eyestrain, try to rest your eyes when using the computer for long periods. Rest your eyes for 15 minutes after two hours of continuous computer use. Also, for every 20 minutes of computer viewing, look into the distance for 20 seconds to allow your eyes a chance to refocus.
- **Blinking** - To minimize your chances of developing dry eye when using a computer, make an effort to blink frequently. Blinking keeps the front surface of your eye moist.

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Harvard Vanguard Medical Associates

How Computer Use Affects Your Vision

<http://www.harvardvanguard.org/specialties-and-services/eye-care/common-visual-conditions/computer-use-and-your-eyes>

- **AMBIENT LIGHTING AND SCREEN PLACEMENT**
 - ✓ You may need to remove or dim overhead lights, and use desk lamps with shades for other deskwork.
 - ✓ Natural light from windows should be controlled with blinds or drapes.
 - ✓ Reduce reflected glare on your computer screen by placing it so windows and other bright light sources are not directly behind or in front.
 - ✓ If you cannot solve glare problems by rearranging the furniture, try hoods that extend above the screen and glare shields that cover the screen. However these devices may interfere with the screen's character resolution (the lightness or darkness of the type).
 - ✓ Tilting the screen also may reduce glare. Glare-reducing computer screen overlays are also available
 - ✓ Adjust the contrast (the lightness or darkness of the screen) to a comfortable level using the buttons on the terminal.
- **WORKSTATION SUGGESTIONS**
 - ✓ Position the monitor 24-28 " from your eyes with the top of the screen at eye level
 - ✓ The center of the screen should be about 20 degrees below eye level
 - ✓ Place reference materials as close to the monitor as possible. Copy holders are helpful in holding the material in place. By arranging the copy next to the screen, you reduce the need for excessive eye and head movements.
- **BODY POSTURE**
 - ✓ Your wrists should be in a straight or "neutral" position.
 - ✓ Your upper arm and forearm should create a 90-degree angle.
 - ✓ Your chair height should be adjustable with good lower back support.
 - ✓ Elbow, hip, and knee joints should be as close to 90 degrees as possible.
 - ✓ Feet should be flat on the floor or on a footrest.
- **WORK HABITS**
 - ✓ Take regular breaks from your computer, such as 2-3 minutes each half-hour and 10-15 minutes every 2 hours.
 - ✓ Regularly focus on distant objects. Look out a window or at an object at least 20 feet away to relax the eyes. Maintaining a close focus on the computer monitor can create a focusing spasm.
 - ✓ Do simple stretching exercises to relax the whole body.

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TIME Inc.

How to Avoid Computer Eye Strain

<http://healthland.time.com/2012/09/13/computer-eye-strain-explained-and-how-to-avoid-it/>

- **Have your eyes checked regularly.** If you need a new or changed prescription but don't have it, using a computer will be difficult, period.
- **Reposition the computer.** The screen should be about an arm's length away and positioned directly in front of your face, not off to the side. Position the monitor so its center is 4 to 8 in. below your eyes, which allows the neck to relax while you read and type.
- **Follow guidelines for good posture.** It'll reduce strain on the back, neck and shoulders.
- **Ensure proper lighting.** Try the visor test to determine if current lighting is a problem: look at the monitor and cup your hands over your eyes like a baseball cap. If your eyes immediately feel better, then the lighting should be changed. Experiment with brighter and dimmer lighting, as well as the angle of the lights, to find what's most comfortable for your eyes.
- **Reduce glare.** Installing anti-glare filters on the monitor, adjusting window shades and changing the screen's contrast and brightness can help reduce glare and reflections.
- **Blink frequently.** It should prevent dry eyes. If that doesn't work, consider using lubricating eye drops. Also make sure air vents aren't blowing on your face (this can dry out the eyes), and use a humidifier if the room is super dry.
- **Take regular work breaks.** Stand, stretch or just look off into the distance, away from the computer, every 15 minutes or so to give the eyes a break.
- **Clean the monitor regularly.** Dust can decrease screen sharpness, making the eyes work harder.

WebMD

Computer Vision Syndrome

<http://www.webmd.com/eye-health/computer-vision-syndrome>

- **Cut the glare.** Change the lighting around you to reduce glare on the computer screen. If a nearby window is casting glare on your screen, move the monitor and close the shades until the glare disappears. Ask your employer to install a dimmer switch for the overhead lights if they're too bright, or buy a desk lamp with a moveable shade that distributes light evenly over your desk. Putting a glare filter over the screen monitor also can help protect your eyes.
- **Rearrange your desk.** Researchers find that the optimal position for your computer monitor is slightly below eye level, about 20 to 28 inches away from the face. At that position, you shouldn't have to stretch your neck or strain your eyes to see what's on the screen. Put a stand next to your computer monitor and place any printed materials you're working from on it. Then, you won't have to look up at the screen and back down at the desk while you type.

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- **Give your eyes a break.** Look away from the screen every 20 minutes or so and either gaze out the window or scan the room for about 20 seconds to rest your eyes. Blink often to keep the eyes moist. If eyes are getting overly dry, try using lubricating eye drops.
- **Tweak your computer settings.** You don't have to live with the factory-installed settings on your computer if you're uncomfortable. Adjust the brightness, contrast, and font size until you find the best settings for your [vision](#).