

Novel Strategies to Relieve Eye Strain

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STORY AT-A-GLANCE

- › Modern technology causes widespread eye strain by reducing natural blinking rates from 15 times per minute to just five to seven times when using screens
- › Follow the 20-20-20 rule and take longer breaks – look 20 feet away for 20 seconds every 20 minutes. Another variation is taking five-minute breaks hourly
- › Blue light from screens disrupts your sleep patterns by suppressing melatonin production, affecting your circadian rhythms significantly
- › Regular exercise benefits your eye health by reducing risks of dry eye disease, myopia, cataracts, glaucoma, and age-related macular degeneration through body-wide effects
- › Lutein and zeaxanthin from leafy greens protect your vision by filtering harmful blue light and concentrating in the macula, reducing macular degeneration risk

Are you experiencing tired, achy **eyes** lately? You're not the only one, as modern technology, particularly the excessive use of screens and rampant exposure to blue light, has caused a massive increase in eye strain. Not even children¹ are safe from this problem. That said, protecting your vision is important especially as you age, and there are many strategies available to help you.

What Causes Your Strained Eyes?

Many factors influence eye strain, but one of the biggest contributors is using your eyes too much. Below are the most common causes:

- **Non-blinking causes eye strain** – Blinking is an instinctive action that helps keep your eyes moist. According to Dr. Chantal Cousineau-Krieger, an ophthalmologist at the National Institutes of Health, not blinking enough causes your eyes to dry out.²

In relation to this, computer screens have been pointed out as a top cause of eye strain because they make us blink less. According to the American Academy of Ophthalmology (AAO), humans normally blink 15 times per minute. However, computer screens reduce this to five to seven times only.

- **Air exposure** – Being exposed to air blowing directly in your face will contribute to eye dryness. Examples include sitting in front of a fan, air vents from a car, or windy weather.
- **Presbyopia** – Commonly known as age-related farsightedness, this condition causes you to have trouble focusing on objects up close. It usually affects people in their early- to mid-40s, and progressively worsens until the age of 65 years.³
- **Undiagnosed eye conditions** – According to the Cleveland Clinic, an underlying problem such as uncorrected vision or eye muscle imbalance increases the risk of eye strain.⁴ While corrective glasses are employed to fix these problems, there may be times when they cause more problems.

Have Your Eyeglasses Checked

If you're wearing eyeglasses, you probably only have one pair that you use for everything, from driving a car to reading and walking. However, there are certain cases when relying on them too much isn't ideal, as they can worsen your vision.

- **Consider removing your eyeglasses if you have presbyopia** – Wearing glasses encourages your eyes to stay in one place instead of moving around, which is what you want to keep your eyes healthy. In my [interview with optometrist and eye health](#)

coach Taylor DeGroot, she explains the downside of using eyeglasses:

"Healthy eyes like to move a lot and they don't like to just stay in one place and stare. That's another bad habit people have. They stare and keep their eyes in one place. That's also what glasses train the eyes to do.

Glasses have an optical center, so there's one part in the glasses where you see most clearly. Glasses in a way are kind of visual confinement because they lock your eyes into one place."

- **Consider using two pairs of eyeglasses** – If your prescription lens is based on your vision at 20 feet, it'll actually become 20 times stronger when working on something nearer, such as using a computer. She explains:

"I would say if you're spending most of the day on the computer and you can go without the glasses, obviously, do that. But if your prescription is too high and you can't see anything at near, just get another prescription that's set for that distance.

I prefer two separate pairs of glasses. The problem with bifocals and progressives is that they lock your eyes. You can only see from a very specific part of the glasses, so that locks your eyes into that one position. That's locking up your posture, and that's also locking up the nervous system because eye movements obviously correlate with emotions."

- **Train your brain** – There's evidence that targeting perceptual learning by repeatedly practicing a demanding visual task may improve visual performance in people with presbyopia. In one study, the brain training enabled subjects to "overcome and/or delay some of the disabilities imposed by the aging eye."⁵

5 Helpful Strategies to Reduce Eye Strain

Putting yourself in front of a screen is now an inevitable part of modern life. That said, it's important you be conscious of your screen time to minimize your risk for eye strain before your vision problems worsen. Here are other practical tips to help you manage it:

- **Try the 20-20-20 rule** — Simply put, your eyes should take a break every 20 minutes by looking far into the distance about 20 feet away for 20 seconds. While this is a start, research shows that this is not enough to prevent nearsightedness.^{6,7}

Rather, I suggest you take a five-minute break every hour you face a screen. As you rest, don't just switch to another screen. Instead, take a real break — get up, take a walk, and stretch your body so you're not completely sedentary to allow your eyes from taking a break at looking things up close. This is important to relieve eye strain and let your blink rate return to normal.⁸

- **Avoid blue light exposure** — It's becoming more common for people to scroll through their phone while lying in bed, thinking it'll help them fall asleep faster. In reality, the opposite occurs because screens emit blue light, which throws your circadian rhythm off. As noted by Harvard researchers:

“While light of any kind can suppress the secretion of melatonin, blue light at night does so more powerfully. Harvard researchers and their colleagues conducted an experiment comparing the effects of 6.5 hours of exposure to blue light to exposure to green light of comparable brightness. The blue light suppressed melatonin for about twice as long as the green light and shifted circadian rhythms by twice as much (3 hours vs. 1.5 hours).”

That said, I recommend you make it a habit to minimize screen exposure after sunset. During the evenings, use warmer light sources instead of bright lights to signal your body to go to sleep. If you absolutely need to use devices at nighttime, I recommend using blue light filters or wearing specialized sunglasses that block blue light.

- **Reduce screen time usage wherever possible** — This is probably one of the most practical ways you can reduce your exposure to devices that emit blue light. Ask yourself how much time do you really need to spend in front of screens for work and leisure, and commit to areas where you can cut back.

For example, try to schedule specific times for checking emails or messages rather than scrolling through the internet during idle time. In addition, consider adopting hobbies that do not need to use screens, such as reading books or learning a musical instrument. Consider visiting your family or friends instead of talking with them through a screen, too.

- **Try pencil push-ups** — According to ophthalmologist Dr. Colman R. Kraff, this exercise is commonly used to train your eyes to converge when looking at an object near you, which can help improve eyesight.⁹ Here's how to perform this exercise:¹⁰
 1. Hold a pencil at arm's length. The pencil should be vertical, with the eraser pointing upward just below eye level. Then, position it in front of your nose.
 2. Move the pencil to your face while concentrating your vision on the eraser. Stop after you see two pencils rather than one.
 3. Slowly move the pencil back to arm's length while focusing on keeping a single image.
 4. Begin the exercise for 30 seconds, then build up to 60 seconds three times a day.
- **Get your body moving** — Interestingly, research has shown that exercising regularly helps reduce your risk for various eye-related because of its positive effects throughout your whole body. As noted in a study published in *Frontiers in Medicine*:¹¹

"[I]t can be inferred that for individuals suffering from DED (dry eye disease), myopia, cataracts, glaucoma, DR (diabetic retinopathy), and AMD (age-related macular degeneration), or those at high risk, when physical

activity is appropriately tailored to their conditions, long-term, regular exercise of moderate to vigorous intensity can help delay the onset and progression of these diseases or alleviate their symptoms.

This offers a promising avenue for the prevention and treatment strategies of a variety of ocular diseases.”

That said, I recommend that you start going for daily walks, aiming to get around 10,000 steps. After that, the benefits of exercise start to plateau. For a more detailed look at the benefits of walking, read [“Don’t Underestimate the Power of a Good Walk.”](#)

Your Diet Sets the Foundation for Optimal Eye Health

Lastly, I want to emphasize the importance of carotenoids found in food, which contribute to optimal eyesight. These include lutein, zeaxanthin, and astaxanthin, which act as antioxidants to protect your eyes from the damaging effects of oxidative stress and harmful light wavelengths.

- **Lutein and zeaxanthin are concentrated in the macula¹²** – This is a small area in your retina that is needed for central vision. More importantly, these nutrients help filter out harmful blue light from digital screens, which, as I’ve discussed earlier, interrupt your circadian rhythm.
- **Lutein reduces damage caused by blue light** – According to a team of researchers from Harvard Medical School and The University of Hong Kong, writing in the journal *Nutrients*:

“As the peak wavelength of lutein’s absorption is around 460 nm which lies within the range of blue light, lutein can effectively reduce light-induced damage by absorbing 40% to 90% of incident blue light depending on its concentration.

The outer plexiform layer of the fovea, where the majority of axons of rod and cone photoreceptor cells are located, is the retinal layer having the highest density of macular carotenoids including lutein. Hence the photoreceptors are protected against photo-oxidative damages from blue light.”¹³

- **Only lutein and zeaxanthin cross the blood-retina barrier** — One of the most interesting properties about lutein and zeaxanthin is their ability to concentrate in the macula compared to form macular pigment, “which is essential for maintaining optimal visual performance and is often used as a proxy for predicting the risk of developing macular diseases.”¹⁴

Higher levels of lutein and other carotenoids are linked to a lower risk of AMD. To showcase their importance in eyesight, research noted that people with increased levels of lutein and zeaxanthin have a 65% lower incidence of neovascular AMD compared to those who consumed less.¹⁵

- **Load up on leafy greens** — The best dietary sources of lutein and zeaxanthin are leafy greens such as spinach and kale. Research shows that even a half-cup serving of spinach (around 60 grams) every day for four weeks already increased macular pigment density.¹⁶ In addition, pasture-raised eggs, as well as yellow and orange fruits, contain these important carotenoids.
- **Minimize linoleic acid intake** — Lastly, DeGroot noted that your eyes are susceptible to damage caused by a high intake of polyunsaturated fat (PUF). That said, keep your LA intake below 5 grams daily, but if you can get it below 2 grams, that’s even better for your health.

To help you achieve this goal, I recommend using the Mercola Health Coach app, which is coming out soon. It contains a special feature called the Seed Oil Sleuth, which will help track your LA intake to a tenth of a gram.

For more foods that contain lutein and zeaxanthin, refer to the list below:¹⁷

- Dark leafy greens, such as spinach and kale
- Carrots
- Broccoli
- Egg yolks
- Red and yellow peppers
- Leeks
- Parsley
- Basil

Frequently Asked Questions (FAQs) About Relieving Eye Strain

Q: What are the main causes of eye strain?

A: Eye strain is often caused by excessive screen time, not blinking enough (especially when using devices), exposure to blowing air (fans or vents), presbyopia (age-related farsightedness), and undiagnosed vision conditions like eye muscle imbalances.

Q: Can wearing glasses contribute to eye strain?

A: Yes. Wearing glasses excessively can restrict eye movement, locking your vision into one place, which worsens eye strain. It's recommended you try removing eyeglasses or having separate pairs for different distances, rather than using bifocals or progressive lenses, to allow your eyes more movement.

Q: How can I reduce eye strain from screen use?

A: Implement the 20-20-20 rule (every 20 minutes, look at something 20 feet away for 20 seconds), take longer breaks hourly to stretch and move, avoid blue light exposure especially in the evening, reduce overall screen time, perform pencil push-up exercises, and maintain regular physical activity.

Q: Why is blue light from screens harmful?

A: Blue light from screens significantly disrupts your circadian rhythm by suppressing melatonin production, making it harder to fall asleep. Harvard researchers indicate blue light exposure can shift sleep patterns significantly more than other kinds of light.

Q: What dietary changes help improve eye health?

A: Eating foods rich in carotenoids, especially lutein and zeaxanthin found in leafy greens (spinach and kale), carrots, pasture-raised eggs, and colorful fruits and vegetables, support optimal eye health. These nutrients protect the eyes from oxidative stress and damage caused by harmful blue light, helping to prevent conditions like age-related macular degeneration (AMD).

Sources and References

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