

Conclusive Evidence Proves Screens Destroy Your Eyes

Analysis by Dr. Joseph Mercola



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STORY AT-A-GLANCE

- > Myopia (nearsightedness) is a vision problem in which close objects appear clear but distant objects are blurry
- Nearsightedness is thought to be caused by refractive errors in your eye, which occur when the shape of your eye prevents light from focusing properly on your retina, either due to changes in the shape of your eye, the shape of your cornea and/or changes in your lens due to aging
- > According to recent research, excessive staring at electronic screens results in significantly increased risk for myopia and speeds its progression by altering the structure of your eyeball
- Excessive screen time also causes the glands that keep your eyes moist to atrophy, resulting in painful dry eyes
- > Melatonin and lutein are important for eye health. Lutein in particular has been shown to significantly reduce your risk for myopia. The most important prevention strategy, however, appears to be spending more time outdoors in natural daylight and cutting screen time

Nearsightedness (myopia) is incredibly common, affecting 41.6% of Americans. By 2050, myopia is predicted to affect half the global population. ^{2,3}

Myopia is a vision problem in which close objects appear clear but distant objects are

blurry. This condition is thought to be caused by refractive errors in your eye. Refraction is the bending of light as it passes through one object to another.

When light rays are refracted through your eye's cornea and lens, they become focused on the retina, which then converts the light into messages sent through the optic nerve to your brain, which then interprets the messages into images.

Refractive errors occur when the shape of your eye prevents light from focusing properly on your retina due to changes in the shape of your eye, such as the length of your eyeball or shape of your cornea, and/or changes in your lens due to aging. But what exactly is responsible for these changes?

Conclusive Proof: Excessive Screen Time Promotes Myopia

According to recent research, excessive staring at electronic screens is to blame. As reported by CBC News:4

"Eye health experts say research now links overuse of computer and smartphone screens to several progressive, irreversible eye disorders, such as dry eye disease and myopia, at rates not seen before ...

Over time, staring too long at screens can change the structure of the eyeball and lead to atrophy of the glands that keep it moist. Research is now pointing to excessive screen time for the rise in eye disorders, such as dry eye and myopia, which are becoming more common and affect more young people ...

While myopia or nearsightedness has a genetic component, it has been shown to progress faster in people who overuse screens ... When the eye is forced to stare at something too close, the brain and eye adjust or 'accommodate' to increase close-up vision.

Over time, the squeezing of muscles can change the shape of or elongate the

eyeball. This can cause dramatic changes in eye function, especially in a child's eye that's not fully developed ...

[Dr. Vivian Hill, a Calgary-based pediatric ophthalmologist and surgeon who chairs the Council on Advocacy of the Canadian Ophthalmological Society] calls the pandemic the 'worst' thing for myopia, as rates spiked worldwide. She also said she's seeing more cases of crossed eyes and double vision."

How Long Is Too Long?

Unfortunately, we still do not know exactly how many hours is too many when it comes to screen time. Hill suggests that rather than fixating on a specific number of hours, be aware of how your eyes feel while you're watching TV, working on your computer or browsing the net on your phone. If your eyes feel dry, tense or tired, take more frequent breaks and be conscious of your need to blink more often.

That said, children between the ages of 5 and 17 should keep their screen time below two hours a day, Hill suggests. Overall, there appears to be a linear progression between screen time and the risk for myopia, so the more time a child spends looking at electronic screens, the higher their risk for nearsightedness. In the first year of life, a baby should not be exposed to electronic screens at all. Dr. Rana Taji, an ophthalmologist with Toronto Medical Eye Associates, told CBC news:⁵

"There is an explosion of a faster progression of myopia in children. Just the other day I had a patient who was 9 or 10 years old, and we've been watching him. His prescription has progressed at an alarming rate, faster than the average. We've had multiple discussions about reducing screen time and increasing outdoor activity."

Spending Time Outdoors Is Protective

Hill stresses that slowing the progression of myopia in children is crucial, because myopia raises the child's risk of retinal detachment, glaucoma and other eye problems later on.

Like Taji, Hill advises her young patients to spend recess and lunch outdoors, to take breaks when using digital devices, and to make sure they're getting daily exposure to natural sunlight. Sunlight releases dopamine in your retina, slowing the growth of your eye and therefore possibly slowing the elongation of the eye and changes to your sight.⁶

Remarkably, a British survey from 2016 found that 75% of children in the U.K. spent less time outdoors than prison inmates. Considering we've just gone through three years of on-and-off lockdowns and school shutdowns, this statistic may be even worse nowadays.

Electronic Screens Also Promote Dry Eye

Dry eye is another common eye problem that can be triggered or exacerbated by excessive screen time. Research⁸ has shown that looking at digital devices reduces your blink rate, which in turn degrades your gland function. As reported by CBC news:⁹

"When humans stare at screens, their blink rate decreases. Blinking activates the meibomian glands. If the eye does not blink enough, this can clog the glands and, over time, damage them. Dr. Vivian Hill ... said it's critical to give eyes a break and lubricate them by blinking.

'Whenever we're staring at a screen, our blink rate goes down to about 10% of normal. So that means we're blinking once instead of 10 times,' she said. 'The eyelids are little windshield wipers that have oil glands in them that basically smooth the oily tears, the moisturizing tears, over the eyeball."

Melatonin's Role in Myopia

Melatonin can be synthesized in your eye tissues including the lens, retina and cornea, which have melatonin receptors,¹⁰ all of which hints at melatonin's importance for regulating eye processes.

Several studies have also associated myopia with poor sleep, including poor quality sleep, insufficient hours of sleep, late bedtime and delayed melatonin circadian timing, which further suggests melatonin plays a role — although the extent or precise nature of that role is still unclear. As reported in the February 1, 2023, issue of Review of Myopia Management:¹¹

"Of the identified risk factors, two major behavioral risk factors for childhood myopia incidence and progression, namely education and insufficient outdoor time, have been confirmed across many studies. Lately, emerging evidence from several studies has been accumulating for the role of sleep in childhood myopia ...

[S]everal studies have associated more myopia with problematic sleep ... Additionally, a higher concentration of melatonin, the hormone that initiates sleep, was identified among myopic individuals in the morning compared to non-myopes.

Does this mean that myopes have more overnight melatonin residue, which can increase their daytime sleepiness? Is this difference associated with daily outdoor hours? Future studies may be able to answer this question.

The importance of a regular light-dark cycle or circadian rhythm on the normal development of the eye was noticed early in the 1950s and has been endorsed by many later studies.

Genetic factors involved in circadian entrainment were associated with refractive error development; modifications to the Clock Gene that regulates

circadian rhythm could stimulate abnormal ocular growth and induce myopia. Meanwhile, diurnal rhythms were detected in various ocular components.

For instance, axial length of the eye is the longest around midday and decreases to the shortest around midnight before elongation starts.

Amongst those rhythms, variations in axial length and choroidal thickness are of particular interest to myopia research.

A recent study found significant differences in refractive error and axial length diurnal changing patterns between late versus early sleepers, suggesting a connection between poor sleep and myopia through disrupted ocular rhythms ...

[A]Ithough outdoor time is a well-established protective factor against childhood myopia, the mechanisms underlying its protective effect are not well understood ... [T]aking sleep into consideration may offer a new perspective. Outdoor activities can produce better sleep as it promotes the regulation of melatonin secretion, leading to regular sleep onset in children.

Seasonal variations, probably due to differences in day lengths or light hours between seasons, were observed in myopia development, axial length diurnal rhythms, and sleep patterns, indicating a complex relationship among these factors."

As detailed in "Can Melatonin Impact Your Eye Health?" melatonin has also been shown to lower intraocular pressure in patients with glaucoma^{12,13,14} and counteract lens damage associated with cataracts. It may also be useful for age-related macular degeneration and dry macular degeneration.

Lutein Protects Against Myopia and Other Eye Diseases

Lutein is another nutrient that is really important for eye health and helps to protect

against myopia. In one 2020 study,¹⁵ subjects with the highest lutein concentrations were found to have a 40% reduced risk of nearsightedness. An earlier study,¹⁶ published in 2017, found people with the highest plasma lutein concentrations had a 43% lower risk of myopia.

Lutein also helps ward off age-related macular degeneration, cataracts, glaucoma and other eye diseases. Lutein concentrates in your macula, which is the part of your retina responsible for central vision. It's also found in your lens.

Importantly, lutein is very efficient at filtering out blue light — the type that comes from cellphones, computers, tablets and LED lights. Blue light induces oxidative stress in your eyes, which increases your risk of macular diseases. Lutein, however, acts as a shield against it.

Your body cannot make lutein, so you must get it from your diet. Following are 10 foods that are particularly rich sources of lutein.

Dark leafy greens	Carrots	
Broccoli	Egg yolks	
Red and yellow peppers	Sweet corn	
Avocados	Raspberries	
Cherries	Paprika	

Lutein and other carotenoids are fat-soluble, so to optimize absorption be sure to consume it along with a source of healthy fat, such as coconut oil or grass-fed butter. Because organic, pastured egg yolks contain fat, they're among the healthiest sources of lutein.

Spend More Time Outdoors

While certain nutrients are important, the recommendation to spend more time outdoors may be the real key here. Two studies, the first published in 2007¹⁷ and the second in 2008,¹⁸ found that rates of nearsightedness in children appeared to be closely linked to the amount of time spent outdoors. The greater the number of hours spent playing outside, the lower the risk of nearsightedness.

The most important prevention strategy appears to be spending more time outdoors in natural daylight and cutting screen time. 99

Research¹⁹ published in June 2022 highlights the benefit children reap when spending more time outdoors. Among children aged 5 to 17 who live in urban areas, the myopia rate is 41%, whereas children who live in rural areas — and tend to spend more time engaged in outdoor activities — have a myopia rate of just 15.7%.

One previous study^{20,21} concluded that spending just one more hour outdoors each week may decrease a child's risk of myopia by 14%. Another study showed that by encouraging children at one school to spend their daily 80-minute break outdoors, rates of myopia dropped to 8% compared to 18% at another nearby school.²²

According to optometrist Donald Mutti, children who are genetically predisposed to nearsightedness are 300% less likely to need glasses if they spend at least 14 hours a week outdoors.²³

Research by Ian Morgan of the Australian National University suggests that exposure to light levels of at least 10,000 lux for three hours a day may protect children from nearsightedness.²⁴

This is the amount of light you would be exposed to on a bright summer day. An

indoor classroom, by comparison, would only provide about 500 lux. So, a simple way for parents to protect their children's eyesight is to make sure they trade some of their screen time for outdoor playtime.

The Bates Method for Nearsightedness

While the conventional view is that myopia is irreversible, many have been able to improve their nearsightedness using a method conceived by Dr. William H. Bates over 100 years ago.

A board-certified ophthalmologist at the top of his field, Bates taught his method to many, and it was so effective that it ended up being banned in New York after the optometrists lobbied the local politicians. Today, his method is being taught by Bates Method International.²⁵ It's also detailed in Bates' book, "The Bates Method for Better Eyesight Without Glasses."

The Bates Method works by relaxing the muscles surrounding your eyes. You have six muscles on the outside of your eye that allow your eye to move and follow visual interests. The problem is that any number of factors can cause you to strain, and as soon as you strain, your vision starts to blur.

The action of straining essentially squeezes your eyeballs, contorting them. This makes your vision blurry, as it alters where the field of vision "lands" on your retina. Now you have three basic choices.

1) You can get corrective lenses. The problem is that now you're creating permanent strain, 2) you can get laser in-situ keratomileusis (LASIK), which permanently alters your focal length, or 3) find out what's making you strain, then relax and get your vision back.

One of the most famous Bates Method techniques is palming. Here's a quick summary of how it's done. First, look around and notice the level of clarity of your vision at present. Then:

- 1. Place the center of your palms over your eyes. Relax your shoulders. You may want to lean forward onto a table or a stack of pillows, to facilitate relaxation.
- 2. Relax like this for at least two minutes.
- 3. Remove your hands, open your eyes, and notice whether anything looks clearer. Usually, it will.

The Bates Method is quite simple, yet it requires patience and a certain amount of finesse. Remember, the goal is not to "train" or exercise your eyes to make them stronger. The goal is to relax them.

Bates was also a proponent of sun exposure to the eyes to help correct vision problems,²⁶ and recent research suggests he was on the right track 100 years ago. It just goes to show that, as humans, we cannot extract ourselves too far from the natural world.

Indeed, we depend on the natural order of things to thrive, and that includes being exposed to sunlight during the daytime, and avoiding light exposure once the sun has set. Altering this natural order has consequences for our health, including but certainly not limited to our vision.

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A study published in the journal Nature, carried out by the Medical Center of the University of Pennsylvania and the Children's Hospital of Philadelphia, corroborates this relationship. The results of the study indicate that: - 34% of children who had slept the first two years of life with the night light of a dim pilot were myopic. - 55% of children who had slept with a lamp or light bulb on developed myopia in adulthood, five times more than among children who had slept in the dark during their first years of life. Although other factors may be involved, they affirm, it is clear that the absence of darkness in nighttime sleep may be an important risk factor for the future development of myopia. Current epidemiological research, quantified by validated surveys, supports the idea that time spent in outdoor activities has a beneficial effect in reducing the prevalence of myopia in children and young adults.

An association between increased physical activity and reduced myopia progression has been reported in college students, although this association may have been confounded by other factors in the outdoor environment where much of the activity took place. Other studies suggesting that activity alone cannot explain the effect of outdoor activity. If increasing the viewing distance typically associated with being outdoors has a positive effect on the reduction. In relation to remote viewing outdoors, the accommodative demand to see beyond about 6 meters is minimal.

The obvious difference between spending time outdoors and spending time indoors is in light exposure. The spectral composition of outdoor light includes large amounts of ultraviolet (UV) and infrared (IR) in addition to light in the visible spectrum. Indoors, the UV portion of the spectrum is largely absent and if incandescent lighting is used, the composition of the light is often biased towards the red end of the spectrum. Indoor light intensity is rarely more than 800 lux, while outdoor light intensity is around 50,000 lux on a sunny day with blue skies and is rarely less than 5,000 lux, even when cloudy.

The cumulative light exposure for one hour spent outdoors is much greater than one hour spent indoors. In general, it is believed that this increased exposure to light during the day is the most likely basis for the beneficial effect of outdoor activity in reducing the prevalence of myopia. www.researchgate.net/profile/Graham-Quinn-2/publication/12962583_Myopi.. www.researchgate.net/profile/John-Phillips-28/publication/221927506_My.. www.nature.com/.../35004661.-Without proper interventions, the current myopia epidemic is projected to affect 50% of the world's population by 2050, making it the leading cause of irreversible blindness. The protective effect of time spent outdoors could be due to the unique characteristics (intensity, spectral distribution, temporal pattern, etc.) of sunlight that are missing from artificial lighting.

At the same time, studies in animal models have revealed the efficacy of light and its components in delaying or even halting the development of myopia and have endeavored to elucidate the possible mechanisms involved in this process. In general, the available data from human and experimental animal models suggest that high-intensity light, even in discontinuous patterns, is capable of preventing the onset of myopia. These findings support the need for well-designed outdoor programs for children, especially in countries where myopia is prevalent. High classroom illuminance during the day reduced axial elongation in the eyes of children with shorter AL.

Increasing the light level in the classroom by allowing more sunlight may be a protective measure against the development of myopia. NO is a neurotransmitter that participates in the regulation of retinal responses. Vitreous concentrations of NO depend on ambient light conditions and may play a role in protection against developmental myopia. During this COVID-19 pandemic, toddlers, children and adolescents are exposed to an unprecedented amount of time indoors, raising concerns about an increasingly severe myopia boom.

265268 Despite these peculiar circumstances, there is today a need for a consensus on the optimal, feasible, and non-invasive light interventions for the prevention of myopia in children, either through more time outdoors or lighting. adapted architectural or light therapy devices. research.unl.pt/ws/portalfiles/portal/35939562/Muralidharan_Therap_Adv.. (2021) www.ekjo.org/.../view.php (2021) run.unl.pt/bitstream/10362/130478/1/Muralidharan_Therap_Adv_Ophthalm_2.. (2021) core.ac.uk/.../483537862.pdf (2021)

Posted On 05/04/2023

juststeve

Interesting, true to my contrarian nature, long range vision is good, it's the near vision that is blurry. But, until recently, if taken outdoors in bright sunlight, I could read the fine print of a credit card terms.

May God keep your sight, Just, yes, the move from a rural life mostly outdoors, to an indoor life with artificial lighting, was directly related to the industrial revolution and modern culture. Furthermore, research has shown that this lack of outdoor exposure also causes myopia in schoolchildren. Two hundred years ago, nearsightedness was not common, but now it emerges as a pandemic that can represent a great burden of visual impairment in the next generation. The environment in which children live has changed dramatically, with compulsory education at the end of the 20th century; this type of education and the architecture of windowless schools with artificial light are probably the root of the recent epidemics of myopia. MYOPIA AND CULTURE deliverypdf.ssrn.com/delivery.php?ID=879069123085014119090069094126006.. (2022)

In this review the main findings were that exposure near work, including occupational exposure in adults, might be associated with myopia. Some regions, such as Asia, may be more susceptible to myopia risk in case of exposure close to work. According to some studies, myopia is significantly associated with continuous reading, longer reading duration, and shorter reading distance, due to eye growth promotion by sustained accommodation. In addition, myopia can also be related to the question of the contrast between the support and the text. Taking breaks after 30 minutes of reading can protect against nearsightedness, leading to an innovative device developed to monitor near work, triggering an alert if risky behavior is detected.

In conclusion, close work appears to be associated with myopia, including occupational exposure in adults. The prevalence of myopia after near-work exposure was significantly higher in adults (46%) compared to children (31%). In addition, our results suggest that the probability of myopia in adults with occupational exposure to close work is 21% higher compared to those not exposed. MYOPIA AND NEAR WORK: A SYSTEMATIC REVIEW AND META-ANALYSIS www.mdpi.com/.../875 (2022)

Posted On 05/04/2023

GIN8275

Outdoor time? These clowns look at their phones while walking.

And a great danger to children. Children seem to have been born with a smartphone in hand. The advice of parents should be aimed at young people seeking and finding a world full of possibilities at a time when hormones and boredom rule your life. Conversations with the person you liked, jokes, laughs and tell your friends everything, organize dances and meetings to talk and be able to see that music video with the most requested songs, play creative video games. Above all, we must avoid long and useless discussions that inevitably arise between adolescents and parents, which most of the time end with a "you don't understand me" from your child.

Agree on mobile-free moments, for example, that lunch and dinner times are to be with the family and discuss what has happened to you during the day. Turn off the television and put away the phones and spend that quiet time, talking. In addition, it also serves to gain less weight. Exercise healthy control. Monitoring what pages you visit, what friends you have on social networks, installing parental filters, etc. Do activities together, such as sports, excursions, trips, games, restaurants, etc. With patience and common sense we can get adolescents to stop being addicted to mobile phones and use them responsibly.

Posted On 05/04/2023

wondergreen11

Using the Bates Method I have gone from -3.5 to -2.5 so far. Although I took a break from the method, my eyes have not worsened again. A friend of mine did the Bates Method until achieving 20/10 vision and her eyes have remained so for over ten years. Another for over 20 years. I am starting the method again to continue to good eyesight.

bburns1955

Wow, that's great! I need to start doing that & see if it'll help my 67 y.o. eyes.

Posted On 05/04/2023

Segstar

I can tell you from experience these Electronic screens do a number on our bodies and unfortunately the delicate eyes take a huge pounding. But the worse of these devices are the CELL phones, especially the newer 5G ones..Not only are you "staring" and "squinting" at them closer, but you are getting a ton of radiation from them. In terms of you computer set up, i have rigged up a standing desk system with a cheap 4ft table bought at Costco and built a stand which i placed my 2 24 inch monitors on.I have an old PC case i use for my keyboard, mouse and writing area.I am set up as close to the patio screen door so i can "vary" my vision to see far out..This is part of the 20/20/20 rule, meaning every 20 mins you look up from your screen and focus on an item approximately 20 feet away for at least 20 seconds.

Focusing on an item in the distance allows our eye muscles to relax after being subjected to prolonged screen time. But i personally think we should do this every 5 to 10 mins because sometimes we get very involved in what we're doing and forget to do this. Personally i can't wait for the weather to warm up so i can set up on my back deck BARE FEET..Being outside in Nature is phenomenal, and you simply cannot beat that..Lunch time i sit on my swing chair bare back and soak up the rays and then move to the garden bare feet where i will wet my feet.I can tell you the soles of my feet have been great while doing this, and being grounded in Nature.

I also have my pull up bar and do squats, push ups,dips etc. About 2/3 years ago i noticed the vast difference in my eyesight after moving outside..Palming is a superior part of the Bates method as it really "relaxes" your eyes and help to alleviate the "tension." Don't forget nutrition as our bodies are sorely lacking in these Vital nutrients.. And we can thank these Conventional growers for bastardising our foods..Also keep your "pipelines" strong and clean so they can deliver the goodies where they are much needed.

Good advice, Segstar, yes, the effects of a prolonged session in front of the monitor, the console, or the TV, we have all felt them at some time: dry eyes, blurred vision, lights and flashes that do not disappear even with our eyes closed, pain head and neck, dizziness, insomnia, etc. Yes, it is very important to sit correctly and get up every hour to do gymnastic exercises if we are at home: 1. Body weight must be distributed between the floor we walk on and the chair, with the feet resting on the floor, even using footrests, which also, they keep the legs a little higher, which will also be beneficial for circulation.

2. At least two thirds of the thighs must rest on the chair, in addition to placing them parallel to the ground. With the knees at the same level as the hips or above them, never cross the legs because it affects the correct blood circulation. 3. The back must remain fully supported on the chair for as long as possible or, failing that, on a good lumbar support, separating it from the backrest from time to time to keep it upright and active. The computer monitor should be at a distance from the face between 500 to 850 mm, slightly below the eyes, with the keyboard, it should be low enough to prevent the shoulders from being raised, and remain relaxed throughout.

moment. Similarly, the forearms should be parallel to the ground and the elbows. The posture does not always have to be static or forced, with short breaks from time to time (the recommended minimum frequency is 5 minutes per hour). You have to get up from the chair and walk, do some relaxation exercises, take the opportunity to drink water, etc. Ergonomic chairs, footrests, mouse and keyboard wrist rests are some of the accessories that are worth considering if you spend many hours working at a desk or computer.

The problem is not only the brightness that falls on the eyes, but also that we blink less and always keep the focus fixed at the same distance. Our eyes work more than necessary, in a forced way, and in the long term vision problems can arise. Luckily, eye strain can be greatly reduced with a few simple exercises and usage guidelines. It is appropriate to adjust the monitor itself so that it only emits the light that you really need. Access the controls and under a little brightness. Keep lowering it until you find a comfortable position that does not emit a lot of light, but does not force you to strain your eyes. You may also need to adjust the contrast a bit.

It is also advisable to reduce the color saturation. Colors that are too strong produce more brightness. Your tracker may have an Eco mode or Extended Use mode. Ideally, the top edge of the screen should be slightly below the eyes. If you have to refer to papers, put them on a easel at the same distance as the screen, so you don't have to continually change angle and focus. By tradition, because that's what paper sheets are like, we are used to working with editors using white backgrounds and black text. But this produces a lot of brightness, which is tiring on the eyes. Ophthalmologists advise using a black or dark blue background and white text.

The room where you use the computer should be well lit. That there is the same level of light in front of the monitor as around it. There should be no reflection on the screen. If a lamp hits it, move it around. Windows should be on the side of the monitor or behind it, never in front of it. Experts recommend taking a break of 5 to 15 minutes every hour of computer use. It is important to get up from the chair, walk around a bit, and look at a different distance from the one we are in front of the monitor. The ideal is to look at distant objects for a while through a window.

When you get up in the morning, you should not use your mobile or computer immediately. Wait at least 10 minutes for your eyes to fully wake up and adjust to the ambient light. Similarly, don't go to bed at night immediately after using a screen. There are these exercises that you should perform at least once a day: 1) Change the perspective: At least five minutes every hour of computer use, look out the window and focus on distant objects for 10 minutes. If possible, leave your mobile at home and go for a half-hour walk. When you walk down the street don't look at the ground. Look straight ahead or at buildings, and focus on faraway objects. Try to read signs that are far away.

2) Eyestrain: Look to the side, where there are no screens or strong lights, and open your eyes as wide as you can for five seconds. Then close them as hard as you can for the same amount of time. 3) Dry eyes: perform 10 slow blinks, opening and closing the eyes completely. Then 5 quick blinks, and again 10 slow ones. We finish by closing our eyes for a minute. 4) Muscular relation: blinks very hard, clenching the eyes and the muscles of the jaws and mouth. Next, open your eyes and mouth as much as possible. Repeat 5 times. 5) Convergence exercise: Take a pencil and stretch your arm to place it in front of your eyes, as far as you can.

Focus it and slowly bring it closer to your eyes, without stopping to look at it, until it is as close as you can without losing focus. Repeat 5 times. 6) Reinforcement exercise: move your eyes in a circle, as if they were on a wheel. First in one direction and then in another, for a minute. 7) Eye massage: Close your eyes and, with your thumbs, gently massage the area from the eyelids to the eyebrows. 8) Change of focus: Place the thumb of the right hand about 30 centimeters from the eyes. Place the index of the left hand about 20 centimeters behind the thumb. Focus on the thumb for 2-3 seconds, then on the index finger. Repeat 10 times.

Segstar

Gui all good additions...I try to stay as far away from my monitors as I can be without straining my eyes...As it stand i believe I'm about 2.5 feet away.. Blinking regularly is also very helpful...When I'm outside I do a circuit between pull ups, squats, pushups and dips... Exercising in nature cannot be beat, even just walking and smelling the roses have tremendous health benefits... cheers..

dav5185

Myopic eyes did not "grow" into the wrong shape. They are being held in that shape (at significant effort). Myopia is caused not by near vision but by near vision under intensity. When the muscles focusing eyes on a near object get tired, and intensity says "don't look up", then the next set of muscles shifts forward to make it easier for the first set. Bates was right about the eye being held in the elongated shape (which is optimal for near vision). But the correction does not involve the eyes.

The eyes are doing what they are supposed to do. The correction involves everything else. The important takeaway is don't get Lasik. Once you put a lens in front of a myopic eye, the brain learns that it must hold that shape of the eye in order to see (=see through the lens with things in focus). So the brain learns that when the image starts to deteriorate, tighten the muscles that push the eye into that shape. So trying to learn to see without glasses is fighting what the brain has learned it must do: if the image isn't perfect, tighten up.

If I had to guess what part of Bates might lead to success, it would be working on accommodation with each eye by itself. But I don't see any way around the brain having learned to tighten when the image is less than perfect. I started with vision of 20/400, and after ten years, on the driver's license vision test machine I got 20/70 (daytime driving) in one eye and 20/40 (nighttime driving) in the other. But I knew I never had good vision at night, and I never did until I fixed the fundamentals later.

I think I will have it proven in a year or so; I have not been able to prove it because I had to figure out how to heal a supposedly incurable foot injury first. Brighter light outdoors gets you high contrast between the central image and the ghost images around it, but it doesn't fix the myopia. Bates told of a man who bought a ranch and spent every day for two years sitting on the porch looking in the distance; he remained myopic.

mjfdc

I have been nearsighted for 50 years, now 64 years old. I worked outside for 20 years, eat a very healthy diet, exercise 5x a week, limit exposure to computer/phone screens and TV. I have been a chiropractor for almost 30 years, which has kept me indoors more and at a computer screen a little bit each day. My nearsightedness actually improved a little bit in the past 10 years or so. Maybe it's diet, exercise and weekly adjustments to remedy the situation? I am the only one in my group of friends that doesn't have to pull out their "readers" to look at a menu or something similar. I thought that was a good thing!

Posted On 05/04/2023

bburns1955

Sounds like what you're doing is very wise. I think it's a great thing that you don't need glasses to read a menu! I was told by two different eye docs (one an opthamologist) over the years, that as we age, we become more farsighted. So nearshighted younger people see improvement over the years, as they grow more farsighted. Farsighted people get worse. Don't know if that's true or not, but I always believed it. My eyes are opposite one another - one nearsighted, the other farsighted.

Plus astimatism. I don't need glasses for most things, but reading & computer they're a must. But since I retired, I spend entirely too much time at the computer, researching things related to Covid & the scams, keeping up with the globalist agenda, etc. Which can be good, to know what's going on, but can also be depressing, to know what's going on, lol. Am going to make a concerted effort to take long breaks, go outside & such, & limit my screen time to shorter spurts.

dihirod

As a baby-boomer, am I the only one to notice that of my parents' generation very few wore glasses, but of my own, more than half of my class did so? My secondary school (ie teenage years) was divided into academic and non-academic streams. The academic kids mostly wore glasses while amongst the non-academics, few at all did so. I'm surprised never hearing mention of this. I suspect that more is at play than just screens - and has been for nearly a century.

Posted On 05/04/2023

otis101

I come from the "silent generation" being born in 1941. Growing up in West Virginia poverty was abundant. Glasses were a luxury. Plus boys wearing glasses were considered and called "sissies". Blue collar workers such as in, coal mines, steel factories, chemical factories, glass and toy factories as well as farming did not require perfect vision. And not so many cars so not so many drivers on the roads. I was diagnosed with myopia at 16 after years of studying by kerosine lamps but spending most days outside as we had no electricity or tv. All I can say is those were the good old days. Tell me about them grandpa. www.youtube.com/watch

Segstar

One of the many issues is today they are "pushing" glasses and other CRAP on the very young children who haven't yet had time to mature..They wanted my son to start wearing them as soon as he started School, i said no, for now he can sit closer up front in his class..Same with his speech he had a slight lisp so they wanted him to start speech therapy.. Again i said NO...Fast forward today he does not require glasses or any speech therapy as the slight list is all gone and he's in incredible shape..What it boils down to money and control..Just tell these swines to F-of and leave the kids alone, unless of course it is clearly warranted . https://youtu.be/fvPpAPIIZyo Otis tune..https://youtu.be/cmzd_Xa_2Cc

Posted On 05/04/2023

boardmem8

Interesting. I'm a baby boomer too, but we had very few in our very large classes who wore glasses, and we also were divided in some classes by college vs non-college bound. But, my dad and his brothers wore glasses. Mom did not.

Durango

I agree with Segstar. My mother grew up in a very small community in the mid west. She was the tail end of the depression era. She had me in glasses as soon as I entered 4th grade. It meant to her that she was not poor any more. As soon as I could (as an adult) I ditched my glasses and my eyesight has been quite good until recently. I am 81 year old. I have a sneaking suspicion that to go into any doctor's office is to come out with something that needs correcting. I just had an eye exam a few weeks ago and the doctor was horrified that I am 81 and have not had cataract surgery yet. He wanted me to make an appointment right then and there. I decided to wait but I won't wait too long because my driver's license is due to be renewed and I want to be able to pass the eye exam.

Posted On 05/04/2023

otis101

Sort of a continuation of the good old days. I was in grade school in west Virginia and during those hot humid summers the little country church community would gather at the river. The Ohio river. It was time to baptize all that had come forward during the almost non stop 2 week revival meetings with traveling preachers. I didn't like water much, had good reason, so would sit with my pals and watch as neighbors dressed in their Sunday best would wade out in the river and get dunked over backwards. I was so scared they would take me out there that I was actually shaking.

www.youtube.com/watch

srg03462

Education has evolved into screens......school work, homework, classwork. Keeping phones off kids has become impossible (mainly because rules are not enforced and parents complain that they need to be in touch with their child at all times). If parents are not helping to get their children outside and engaged in activities then the rest of the day is spent on phones, video games, tablets, etc. The poorest of children seem to have phones better than mine. When the Tech directors of the schools get endless grants to bring on more technology I just sigh. It is a battle at every turn and very few see the harm in all of it!

Qustodio has carried out a "Study on Digital Wellbeing: Hyperconnected Families; The new panorama of learners and digital natives", with the intention of discovering what coexistence with technology is like in Spanish families. The conclusions indicate that the youngest spend more than a thousand hours on average per year connected to the Internet, something that does not seem surprising if one takes into account that according to this study, a family has an average of 3 mobile devices at home. This implies that the average daily time that children spend online amounts to almost two and a half hours a day.

In the same way, Qustodio has also prepared an analysis with the 7 symptoms that a child experiences, keys to determine if he is making a pathological use of the Internet: 1) Family isolation 2) Changes in routine and hobbies 3) Sleep disturbance 4) School failure 5) Changes in mood and in social relationships 6) Stress due to the lack of technology 7) Anxiety and depression The expert psychologist of this application, Mara Guerrero, who warns of the dangers of the Internet and the excessive use of screens.

"The dangers are many. Children have not yet developed the necessary skills or education to use the Internet responsibly." The role of parents is essential for children to acquire healthy technological habits. "It is the obligation of parents to responsibly educate their children so that they make proper use of their mobile phones. It is important to set a good example with the use of their own smartphones because otherwise, with what kind of authority are we oing to ask a boy to make responsible use of his mobile phone, "says Guerrero.

Barbara Charis

I'm grateful that for the first 63 years of my life I did not have electronic gadgets in my life - and during my early years no TV. I did not get hooked on it. After I was married, my husband got a TV, but I never had much time to watch it. I totally gave up all TV 50 years ago. At 89 I wear glasses for reading, but can even read under a strong light without them. However, this slows me down, so I use off the rack glasses to read more rapidly. Reading has been my passion for over 80 years.

Posted On 05/04/2023

sarah826

Re the mention of diurnal rhythms affecting axial length, is there an optimum time to schedule an eye exam in order to have the best visual acuity (and the least invasive corrective lens prescription) for those with myopia?

Posted On 05/04/2023

NurseKaren45

Personally, I believe the damage STARTS with not exercising your eyes by looking at objects far away. Reading a book or staring at a screen too long will BOTH do this. Take a break, look far away and less far away and more far away...... The problem with screens is the light. We are not meant to stare at light (other than a camp fire maybe). So in addition to close proximity - screens are lit AND people spend ALL DAY staring at them INCLUDING when they are outside.

axkershaw

Lead can cause deterioration of vision and hearing. Thanks to John D. & his ilk, we have all been poisoned to some extent. Do what you can to constantly detox. No testing necessary. Always assume toxicity. Near focusing causing vision problems has been known for more than 60 years. Constant readers being known in folk lore to have vision problems (remember Ben Franklin invented bifocals). The Navy has done studies on submariners and how to prevent the myopia that is common among submariners. It is not easy to look long distance in a submarine. Office workers might have a screen prompt that tells them every ten minutes to take their eyes off the screen and focus on a distant good looking coworker, plant, scenery, picture or anything pleasant that is far away.

Yes, lead and cadmium accumulate in human ocular tissues, particularly in the retinal and choroidal pigment epithelium. The fact is that lead exposure can greatly affect vision, including eye development. Lead poisoning is known to have severe effects on the human nervous system and brain processing. Although the eye itself is not part of the nervous system, it is connected to the brain by the optic nerve, and all information received by the eye is transferred to the brain for processing. Therefore, a debilitating brain injury caused by lead poisoning can negatively impact your eye health, even leading to vision loss. Studies on lead exposure and eye health have revealed that when a person has lead poisoning, he or she may experience vision problems, including difficulty seeing in low light, blurred vision, and chronic eye irritation.

A study by Environmental Health Perspectives furthers the connection between lead and eye injuries, pointing to an increased risk of cataracts or optic neuritis, which can lead to blindness, and a report from the American Academy of Optometry also tracked the development of problems Of vision. many old children's toys were painted with lead and can cause long-term disabilities. www.sciencedirect.com/science/article/abs/pii/S0002939404014886 (2005) .-----www.wrshlaw.com/blog/lead-poisoning/how-does-lead-poisoning-affect-eye.. (2015)

Posted On 05/04/2023

Philip92

Really great that Dr. Mercola mentioned the Bates Method again :)! I hope her started practicing it as well, after seeing him with glasses in a couple of videos/interviews.

In the early decades of the twentieth century, American ophthalmologist, William H. Bates, invented his approach for protecting and perfecting eye health and visual function through natural means. In spite of vigorous attacks by medical forces (including optometry) that reject and ridicule Bates' practices as unethical, dangerous and lacking scientific support the Bates Method is growing in popularity worldwide. In 1972, I cured my myopia using Bates' approach. Bates determined that myopia, hyperopia, astigmatism, strabismus and ocular pathology result from chronic stress, anxiety and poor habits of use. His practices focus on developing inward awareness more like yoga, tai chi and meditation than on achieving strength and stamina through vigorous repetitive straining. The PDF files here explain Bates' basic practices such as palming, blinking and breathing, sunning, shifting and central fixation. Other articles will review recent cognitive and neuroscience research that provides a scientific rational and support for Bates' ideas and practices. raygottlieb.com/bates-method

Posted On 05/04/2023

Guillermou

"His research work showed that the refractive error was greatly influenced by emotions. For instance, it was much larger when the subject was lying. Basically any emotional state greatly affected the eyesight. Even when looking at a foreign object such as printed material in a foreign language his subjects always showed a refractive error. In layman terms, this means that there was a temporary blur even when people had perfect eyesight. Dr. Bates concluded what is now confirmed by neuroscientific research: Emotions and mental strain translate into body tension. And for a lot of people this body tension manifest as eye strain which in turn creates vision problems. Relaxation of the mind on the other hand, improves the eyesight. Traditional medicine is still not accepting this fact, and treat eyesight challenges as if the eyes were a separate entity from our brains and bodies." www.myholisticvision.com/bates-method .--- BATES METHOD INTERNATIONAL https://seeing.org/.----- seeing.org/.../articles

goo6050

Screen time for children boils down to one thing:LAZINESS. And lazy parents are to blame. When my kids were little, back in the 70s and 80s, we took lots of walks. We picked violets, we laid down in the grass and watched the clouds go by, we skipped rocks. And we did this together. Oh, and I read them lots and lots of books with them sitting in my lap. My daughter, soon to be 50, still has those books!

NurseKaren45

Well. Lucky for you, you did not have to FIGHT against technology. It is NOT lazy parents who are to blame. The TREND is everyone has a smart phone and this is our CULTURE now. In the 70s and 80s it was rather EASY to do what you did because the kids were bored and WANTED to go outside and DO something. I know because I WAS a kid at that time! As a 50yol have fought tooth and nail against technology and the internet. It is an EXHAUTING, pervasive fight. I am the only person I know with an "old school" flip phone. I know two people who still have landlines. Did you also have to worry about GMOs and fight against that to keep your children healthy?

Did you have to worry about an mRNA shot for them to attend school? Did you have to worry about chemtrails all over the sky while your kids were outside playing? Was high fructose corn syrup in EVERYTHING? If anything you should feel priviledged and have some compassion for the rest of us who were not lucky enough to raise our kids before technology became a GIANT in the world. Do you see ANY kids outside playing in the streets? And if you do, are they vaping or just riding bikes and collecting soda bottles for the money? You are comparing apples to oranges. I have a 25yo daughter and a 14yo son. The difference in the world when they were growing up is like night and day.

So for you to blame parents and call us lazy is QUITE OFFENSIVE when you are comparing the technological world in which you raised your children to the one in which I am raising mine. If ONLY 11 years is the difference in my children's ages and I can CLEARLY see the HUGE difference in TECHNOLOGY and it's impact in my own world with my two different children, I must say it is quite delusional for you to compare your perfect parenting in a world where NO ONE had internet and cell phones to MY world where my second child has grown up in a world where everyone (excluding us) is on their phone at restaurants. Walk in my shoes and then talk.

APhotoWizard

This article makes a point to demonize screen time as the cause of Myopia. Those of us old enough can remember similar articles about the reading process. Too much book reading was damaging children's eyes. Then it was close work was damaging worker's eyes. Looking at the commonality, we see a well-known underlying cause that seems to have been missed. This commonality is summed up in the old saying If you don't use it, you lose it. By spending time with your eyes focused on one position, close or far, the muscle in the eye adapts to operating best at that position to the detriment of other positions.

While I am not defending hours of mindless game-playing on electronic devices, I think a better approach is the foster eye exercises for everyone. Don't stare at one fixed distance for long periods of time. Get outside in the sun. The sunlight makes Vitamin D, Melatonin, and other helpful products. At the same time, it gives your eyes the need to focus on distant objects, and it will likely reduce eye strain and the possibility of damage to the eyes due to staying in a fixed focus position for long periods of time.

Posted On 05/04/2023

oxygen

Great advice to spend more time outdoors for overall health. But I wonder about the near-universal warning by eye docs that sunlight exposure is the primary factor in cataract formation; the theory apparently is that lens thickening is a way the body uses to protect from sun damage. As one newly-diagnosed with cataracts I'm puzzled about sun exposure.

bburns1955

My sis-in-law recently read that sunlight doesn't cause cataracts, but wearing sunglasses does. Something related to the rays that are blocked, & those getting through being harmful. I haven't yet researched this, but it would be interesting to know if it's true. I'm one who needs sunglasses in bright sunlight.

Posted On 05/04/2023

cup

What about eyeglasses-wearers? It seems that all of the eyewear labs are making the lenses with UVA/UVB protection material built in "for the health of your eyes", although I don't believe this is healthy. They do not give the option to get plain lenses without this feature anywhere I have been, including the online labs I've checked. I have been concerned about this for some time and wonder if all the sun's rays are blocked or if any can get through the glasses lenses to your eyes.

junieb

I was near sighted in elementary school in the 70's. We didn't have screens back then.

Posted On 05/05/2023

MarcyBruck

I read a lot as a child, and when I was 5, I was given glasses. I read up close with glasses (made for vision at 20 feet away), which caused my eyes to get progressively worse. Now in my 60's, I would love to get rid of my glasses, but even doing the exercises of the Bates methods, once I put my glasses back on, any good the exercises would do, will reverse. So Bates method is not an easy cure for myopia.

Posted On 05/04/2023

MarcyBruck

I'm in my 60's and have had terrible myopia since I was 5. I need glasses or contacts to see. Can the Bates method do anything for me if I must rely on glasses all of the time? I would be blind if I wore nothing at all.

Posted On 05/04/2023

Renee888

What about PRESBYOPIA. This is age related, usually around the age of 40 or so, when one needs to begin wearing 'reading' glasses, sigh. Does the Bates' method (or anything else) help with this?

MMaster

Better to say, they CAN destroy your eyes. I have been looking at computer screens for hours each day for decades. I am nearly 80 years old. I have very mild cataracts, use glasses only for night driving. No macular degeneration or glaucoma. I see well enough close up to see the pixels on my screen. I don't see quite as well at a distance as I used to, but I don't notice any significant problems there. There's more to the story than just condemning the use of screens. The only time I get dry eyes is when I get magnesium stearate in my system, and you already condemn that, rightly so.

Posted On 05/04/2023

Lollieme

Sitting here and thinking about my current eyesight. It has changed. I am wondering if these "wonderful" new light bulbs could have any effect on my eyes.

NurseKaren45

LED lights cause macular degeneration and photo aging of the skin. (Or so I have read). They definitely cause me to squint because they are so harsh. I hate them and fluorescent bulbs. Very harsh and I can barely see with them blaring. Remember when lighting was calm and warm? These new bulbs are awful and I can not relax when they are on. Reveal halogen bulbs are so much better! Good luck finding any light bulbs that are not awful. I am sooooooo over the twilight zone in which we now live. IF the powers that be really wanted to save the planet they would have insisted that incandescent bulbs be made that DO last for many, many years. BUT the light bulb execs got together a long time ago and agreed to make only bulbs that do not last more than 2 or 3 years. Check out this bulb: www.centennialbulb.org

Posted On 05/05/2023

VanTheMan88

Gui (and everyone else), what's your take on anti-blue ray glasses? I've not seen Dr Mercola discuss them. I've been using them for a year or so now.

I don't wear glasses. I have the computer in eye protection mode, night light This page was recommended by Dr. Mercola https://home.humanos.me/ Dr. Mercola advised for the computer, the 20-20-20 rule to care for the eyes to avoid dry eyes. It is estimated that on average the population spends more than 3 hours a day in front of a screen. It seems little but it is an average that includes children and older people who do not know how to turn on a computer or have a smartphone. It is advisable to rest 20 seconds looking at more than 6 meters (20 feet) every 20 minutes of computer work to avoid eyestrain and associated dryness.

Also good ventilation and humidification. Open windows, avoid fans and use humidifiers in cases of very dry air. Air quality is essential so as not to accelerate the evaporation of the tear film. In cases of evaporative dry eye due to lipid alterations, the aqueous part of the tears evaporates more easily. If, in addition, the humidity is low or there are constant flows of dry air, as happens in places with air conditioning or fans, the aqueous component evaporates even more quickly, significantly worsening the symptoms of dry eye.

Opening the windows in the morning and allowing the clean and humid air from outside to enter the house improves the health of the mucous membranes of the respiratory tract and the ocular surface. Obviously not worth it if you live in urban centers with a lot of pollution. Pollution contains small PM10 and PM2.5 particles that settle on the ocular surface and eventually also worsen dry eye symptoms. In highly polluted places it is better to look for hours of the day with less outdoor activity and use air purifiers / humidifiers.

Astaxanthin (AST). Hyperosmolarity is a proinflammatory stress of the ocular surface epithelium associated with dry eye disease (DED). Oral supplements containing AST can significantly increase tear production and improve tear film stability in ocular surface studies. The protective effects of AST against inflammatory responses induced by hyperosmotic stress are positive.

www.sciencedirect.com/science/article/abs/pii/S0014483520303729 (2020) www.frontiersin.org/.../full (2022)

VanTheMan88

Okay, thanks Gui. I replied to your [collapse][collapse][collapse]original message, but my message somehow ended up as a separate comment. I don't know if anyone else has had that happen before; I've had it happen a few times now. Still can't make paragraphs if I write here on a phone or a computer... I assume they are technical issues with the site (?) I've heard of the 20/20/20 rule before. I was told it was 20 seconds every minute at the most, which is why I haven't done it much. I'll have to start giving it a go, then if it's every 20 minutes. For what it's worth, I recommend anti-blue ray glasses, if anyone reading hasn't tried them. They certainly stop blue light, as the optometrist demonstrated it for me when I purchased them by shining a blue ray torch on them, and I can feel the affect when I wear them. I've never worn glasses for reading or sight generally, which is why I started using anti-blue rays - I want to keep it that way!

[/collapse]

Posted On 05/04/2023

AnnAnn

I'd love to see an article about how to reduce macular degeneration.

Posted On 05/04/2023

har1272

Is there any hope for improving "genetic" myopia of those born with it?

seedsaver37

I don't spend a lot of time outdoors in winter, or summer when it is excessively hot, just short bouts of gardening. But I do have large windows which let in lots of daylight. So I'm wondering if that has a beneficial effect? Only one lets in sunlight.

Posted On 05/03/2023

Piglet36

Dear Seedsaver It is great that you have large windows so that you can allow your eyes to look far and it is especially good if you can see green grass and trees. The green of nature is so healing. It is a difficult colour to replicate on a computer screen because it is so complex. Light is changed and compromised travelling through glass. Get out into the early morning sunlight if possible before it is too warm. Remember to breathe and blink to keep your eyes active and moist. There are lots of vision teachers online eg Meir Schneider who was born blind with cataracts and now drives a car in San Francisco, Danish Leo Angart, Prof A Fredirico Spanish and based at the University of Toulouse all promote being in the early morning sunshine. It is great for our total body health.

Of course, a house that is well lit inside and with large windows is a great source of health. In this review people living in inadequate housing are at greater risk of poor health. Adequate housing is assessed based on the quality of the housing encompassing a wide variety of factors including: overcrowding and home safety, mold and moisture; temperature and humidity; ventilation and insulation; sanitation; indoor air pollution and noise; exposure to radon, asbestos and lighting. Housing quality is associated with different health outcomes, including acute, chronic, and developmental conditions. Many factors of housing quality are extensively studied, for example, mold and humidity.

Light plays an important role in the functioning of the nervous and endocrine systems and in the secretion of hormones such as melatonin. Melatonin is released by the pineal gland in a 24-hour cycle based on the amount of light received, regulating the body's circadian rhythm. In regular sleep-wake cycles, the hormone is highest at night in the dark, promoting healthy sleep, and lowest during the day, promoting alertness. Disruption of these rhythms caused by lack of exposure to daylight during the day and exposure to bright lights at night constitutes inadequate light exposure that affects health.

The included studies showed positive associations of daylight exposure and better health in all health domains (physical, mental and sleep health). Adequate natural light in the home has been found to protect several health outcomes, including tuberculosis, leprosy, depression, mood, falls, and sleep. These findings are in line with previous studies conducted in settings other than home, including offices and hospitals. For example, in offices, evidence suggests that workers with less exposure to sunlight have poorer sleep quality and mood.

Three systematic reviews focusing on hospital settings identified positive effects on depression in people with diagnosed depressive illnesses attributable to increased exposure to sunlight. The findings also suggest that exposure to sunlight may improve sleep among all hospitalized patients. The results consistently showed that high indoor light levels at night were associated with negative health outcomes, including sleep and metabolic disorders such as obesity, diabetes, and dyslipidemia.

Bright light at night is intrusive, causing disruptive effects on the circadian rhythm through melatonin suppression and subsequently affecting sleep and other metabolic processes. The relationship between nighttime light exposure was also investigated in association with sleep onset latency using a longitudinal study. The study reported evidence of a significant positive relationship, exposure to higher intensity light at night was associated with sleep onset latency. www.ncbi.nlm.nih.gov/.../PMC7828303 (2021)

Posted On 05/04/2023

grulla

"Seedsaver", "Piglet", et al, "Light is changed and compromised traveling through glass." That problem can be minimized, if not totally eliminated, by using low iron glass, as we learned at a 6 week solar energy class back in 2010. The absence of a green edge in the glass is indicative of that. www.dillmeierglass.com/news/the-difference-between-clear-glass-and-low.. ~~~ en.wikipedia.org/.../Low-iron_glass

drb6345

Glass filters out most of the UVB so it's not like being outside. Try tanning behind glass, you won't.

Posted On 05/04/2023

junieb

I used to have a book that was written in the 60's on how to correct your eyesight. I wish I still had it. I don't think it was by Bates. Part of it included palming and another one was doing an elephant swing with your eyes closed, going in and out of the sunlight.