

Sunlight and Myopia

<https://www.naturaleyecare.com/blog/myopia-sunlight/>

Outdoors Activity and Sunlight May Protect Against Myopia

Myopia, or near-sightedness, is a common vision problem. Evidence is starting to show that sunlight has special properties beneficial to vision health. Specifically, exposure to sunshine reduces the risk of developing near-sightedness at all ages. The quality of artificial light and nutrition also play roles. The world's most natural remedy is sunlight. Find out how much you need to stay healthy.

Near-sightedness is a Long Eyeball or Cornea/Lens Curvature

People who are near-sighted see distant objects as blurry, but close-up vision is clear. This condition should not be self-diagnosed. An eye doctor will detect myopia in a vision test. Called a "refractive error," near-sightedness can occur at any age. Typical treatments include corrective lenses (glasses or contact lenses) or LASIK (laser) treatment.



What Causes Myopia?

Did you ever hear that excessive close-up work, like reading, causes short-sightedness? This is not necessarily true. Research doesn't necessarily find a relationship between myopia and the amount of close-up work. Schoolchildren in parts of Asia have an increasingly gruelling study schedule. Myopia rates among students have skyrocketed to 90% in some countries.

Lack of exposure to sunlight appears to be a cause. Several studies found that time spent outdoors had the strongest link to myopia, especially in families where the parents also had myopia. More time outside meant less myopia:

- Adding one more hour outside in a week decreased the risk of childhood myopia by 14%
- When Taiwanese students spent their 80-minute break each day outside, they had a myopia rate of 8%; another school had a rate of 18%.
- Children with a genetic tendency toward myopia were less likely to need glasses if they spent an average of 2 hours/day outside.
- Kids in Singapore are encouraged to "Keep myopia away, go outdoors and play!"

Fear of the Sun

We are told to avoid the dangerous rays of the sun. The ozone layer has thinned, allowing more of the sun's radiation through the atmosphere. We must walk a fine line between healthy sun exposure and damaging our health. Parents are encouraged to bundle their children up like mummies, slather on sunscreen every two hours, and avoid going outside between 10 AM and 2 PM. Sunburns, skin cancer, and cataracts are common fears as one ages.

Sensible Sunning

Your body is pre-programmed to need bright light. A hormone called melatonin regulates wake and sleep cycles. The hypothalamus in the brain uses sunlight as a cue for regulating hormones, temperature, thirst, hunger, and blood pressure. Therefore, bright light, especially in the morning, is important for good health.

Full-spectrum bulbs can be useful on cloudy days and for people who need a sunlight boost inside. The most natural and utterly cost-free solution is to go outside.

If you go outside in the sun for 10 minutes wearing shorts and a tee shirt at noon, your body will produce enough Vitamin D for the day. This nutrient is essential for eye and overall health; however, a study found that lack of Vitamin D was not associated with myopia.

Excessive exposure to sunlight causes eye damage. UVA and UVB radiation from sunlight is a suspect as a cause or contributor to onset of cataracts and macular degeneration. UV radiation and blue light cause oxidative stress, resulting in free radical damage. Good sunglasses are important for protecting the eyes outdoors.

Spend a Little Time Outdoors

However, you should spend a little time outdoors without sunglasses. Specifically, go outdoors without sunglasses for approximately 20 minutes per day. This is best done in the morning, but any time of the day will do. Exposing your eyes to sunlight activates cytochrome oxidase, a part of the mitochondria in the cells. The retina's cellular activity increases. This increases antioxidant properties. A deficiency of cytochrome oxidase appears to contribute to macular degeneration.

If you wear glasses, avoid photochromic, light-adaptive or variable tint lenses. They turn dark on exposure to light. They never give your eyes a chance to experience a short period of bright sun. Favour prescription sunglasses. Or, get wraparound sunglasses or clip-on sunshades that go over your prescription glasses. Exposure to 10,000 lux of light for 3 hours/day might protect children from myopia, according to Ian Morgan, Ph.D., of the Australian National University. Going outside on a sunny day would give you this much light. Indoors, a classroom usually has 500 lux.

Light Indoors

When you are indoors, avoid LED lights, especially at night. The blue light from LEDs trips up the biological clock. Better to use old-fashioned incandescent bulbs before bed. The "wasted" heat from incandescent bulbs is infrared radiation. This is helpful to the eyes. Infrared encourages the retina to self-repair from blue light damage.

LCD electronics screens — computers, TVs, phones, and tablets — emit excessive blue light. Instead of going outside to play, children are indoors, staring at one screen or another. Parents should set limits on total screen time for the day. Require children spend at least a couple of hours per day playing outdoors when the weather is fair.

Tips for counteracting blue light from electronics:

- If you wear glasses, ensure the lenses have a UV coating.
- Orange-amber lenses block 100% blue light.
- Install a blue light protecting screen over your monitor screen or wear computer glasses if you spend many hours per day on the computer.
- Many smartphones and tablets have a "block blue light" setting. Use this, especially at night. Adjust the brightness to prevent eye strain. Turn off the blue light filter if you can't see the screen properly.
- If your device does not have a blue light setting, download a blue light filter app from the Apple Store or Google Play.
- Avoid screens, including TVs, an hour or more before bedtime.

Nutrition Plays a Role in Vision Health

What you eat affects your vision. Blood sugar fluctuations may influence myopia.¹² Research is continuously finding links between nutrition and a wide variety of eye diseases.

Summary

All causes of myopia are not fully understood. However, all-natural sunlight appears to reduce myopia rates in children. Spending almost all time indoors is damaging to the physiology. Certain biological processes depend on UV light provided by the sun. Sensible exposure to sunlight is important for good health.

Portions of this article were summarized from the article: "How to Improve Your Failing Ability to Read Clearly as You Age, With the Help of Sunshine" <https://articles.mercola.com/sites/articles/archive/2017/02/01/improve-nearsightedness-with-the-help-of-sunshine.aspx>