

How to Help Safeguard Your Children's Vision

Analysis by [Dr. Joseph Mercola](#)

✓ Fact Checked

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STORY AT-A-GLANCE

- › A 2023 study has confirmed that supplementing premature infants with omega-3 and omega-6 fatty acids helps lower the risk of a sight-threatening disease by 50%, and influences vision as the children age
- › Supplementing premature infants with omega-3 and omega-6 fatty acids also reduced the percentage of children with myopia as they reached 2.5 adjusted-years. Myopia is growing in prevalence, which the World Health Organization estimates will reach 50% of the global population by 2050
- › According to recent research, it's not just a lack of sunlight, but also excessive staring at electronic screens that increases the risk of myopia as it changes the structure of the eyeball and leads to atrophy of the tear glands
- › Spending more time outdoors in the sunlight can benefit you and your children's health by helping to prevent myopia and naturally raising your vitamin D levels; consider making your time outdoors a game by setting a goal and rewarding yourselves when you meet it

We have a connection to our eyes and the eyes of those we encounter that goes deeper than sight and is reflected in the expression “The eyes are the windows to the soul.” Eyesight is important because it is one of the senses that allows us to connect with our surroundings, keeps us safe, and helps to maintain cognitive performance.

A 2023 study¹ published in The Lancet Regional Health reports that supplementing premature infants with omega-3 and omega-6 fatty acids helps lower the risk of a sight-threatening disease by 50%, and influences vision as the children age.

Many areas of the eye and brain work collaboratively so you can see. The major parts of sight rely on the lens, retina and optic nerve that together turn electrical signals and light into images your brain interprets, so you can see. Several conditions can affect vision, including age, diseases, infection and refractive errors.

A refractive error occurs when your eye is not shaped correctly or does not bend the light properly for the image to reach the retina. This makes it hard to see clearly. According to the National Eye Institute,² there are four types of refractive errors:

- **Nearsightedness (myopia)** – Makes far-away objects look blurry
- **Farsightedness (hyperopia)** – Makes nearby objects look blurry
- **Astigmatism** – Can make far-away and nearby objects look blurry or distorted
- **Presbyopia** – Makes it hard for middle-aged and older adults to see things up close

Omega Fats Lowered Risk of Blindness in Premature Infants

The team of researchers who published the featured study had previously found³ that the combination of omega-6 and omega-3 fatty acids led to a reduction in the risk of contracting retinopathy of prematurity (ROP). This is a disease in premature infants that can lead to blindness. Despite this finding, these supplements are not routinely given to preterm babies immediately after birth.

In the current study,⁴ researchers from the University of Gothenburg⁵ tracked 178 extremely preterm babies after they were given the combination supplement in the neonatal unit between 2016 and 2019. They defined extremely preterm as those children born before the 28th week of pregnancy.

The study followed these children until they were 2.5 years corrected age, or 2.5 years from their estimated date of birth. Only 75 of the 178 children had a viable visual examination, according to the study protocol at 2.5 years of corrected age. The researchers found a significant positive impact of the supplementation on visual acuity

during the unadjusted logistic regression testing, but the results were not consistent in the adjusted logistic regression.⁶

The factors that were responsible for this difference were determined to be the study center and the administration of docosahexaenoic acid (DHA) and arachidonic acid (AA) at birth. In the completed cases, the researchers found there was a 16.8% prevalence of hyperopia and 4% of myopia. However, in the untreated control group, the results were exclusively myopia.

The researchers hypothesized that the differences found in the study center's impact "may partly be because data from one center was derived from children exclusively examined by clinical indication and not by the study protocol."⁷ This led them to suggest that further study is warranted.

The researchers wrote⁸ that due to several limiting factors, they could not conclude if supplementation affected visual acuity in extremely premature infants, but it is important to remember that the previous study had shown that this "combination supplement led to the risk of contracting the sight-threatening eye disease ROP (retinopathy of prematurity) being halved."⁹

Increasing Number of Children Have Myopia

A second interesting note from this study is the association between the combined supplementation and the reduction in the percentage of extremely preterm infants who develop myopia. As reported in The Wall Street Journal in August 2023, nearly half the global population is expected to be myopic by 2050, which is a 20% increase in the current global estimation by the World Health Organization.¹⁰

According to the March of Dimes,¹¹ the number of preterm births in the U.S. has risen consistently from 2011 to 2021, representing 10.5% of all live births in 2021. There were 23 states that registered a higher percentage of preterm births, the highest of which was Mississippi at 15% of all live births.

Myopia, or nearsightedness, typically develops between ages 5 and 16, and researchers now know that it's closely linked to a lack of exposure to sunlight. While many parents have struggled with their children's choice of screenplay over outdoor fun, the damage in the past has been difficult to quantify.

A 2021 study¹² analyzed data from 9,171 primary school students in northern and southern China for the prevalence of myopia as compared to the hours of sunlight exposure. The overall prevalence in the different areas ranged from 7.5% to 50.6% for first and sixth graders respectively.

In this cohort, the percentage of children with myopia significantly increased as their grade in school increased. The analysis of the data revealed that longer average cumulative daylight hours were associated with a lower prevalence of myopia in primary school students. The Wall Street Journal article explains it this way:¹³

“When eyes don’t get enough natural light, they grow longer, say researchers. The longer shape makes it harder to focus, so objects in the distance appear blurry. “There’s something in the spectrum of visible light that prevents the eyeball from growing too much,” says Dr. Tommy Korn, an ophthalmologist in San Diego.”

A 2022 study¹⁴ demonstrated the impact that lockdowns during the COVID-19 pandemic had on children's eyesight, finding that children's increased use of electronic devices and lack of sunlight affected the progression of myopia. The researchers concluded, “During COVID-19, the decline in outdoor activities and increase of exposure time to digital screens accelerated the progression of myopia by 1/3.”

While myopia makes it difficult to see things clearly, uncorrected myopia can increase the risk for several eye conditions, including “cataract, open-angle glaucoma, myopic macular degeneration and retinal detachment, all of which have a personal and economic cost.”¹⁵

Screen Time Is Destroying Eyesight

According to recent research, it's not just a lack of sunlight, but also excessive staring at electronic screens that increases the risk of myopia. As reported by CBC News:¹⁶

"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 ...

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."

Catching Rays Can Help Reduce Your Child's Risk

Dr. Jennifer Haggart, clinical associate professor of pediatrics at the University of South Dakota Sanford School of Medicine, warns that "... when they're [kids] given the opportunity to have free time, they often choose inside activities like electronics."¹⁷ The Wall Street Journal recommends strategies you can use to influence your child's activities, such as breaking up the time that children spend outdoors.

For example, build in routine ways that children are expected to be outside each day. Kids are more likely to spend time outside when their parents do, and sunlight is just as important for you as it is for them. Another way to get more sunlight is to plant a garden.

This offers two benefits, the first is exposure to sunlight and being outdoors and the second is a ready supply of organically grown herbs and vegetables you can harvest

from your own backyard. As I've written before, some of the best nutrients you can eat to support your eyesight are [lutein and zeaxanthin](#).

While you can buy these in supplement form, there's nothing better than walking in the backyard and getting your dose straight from the garden. Vegetables that may meet your needs include kale, spinach, broccoli, and green, red and yellow peppers. When you eat these as close to raw as possible the lutein and other carotenoids are not damaged by heat.

Try tracking the amount of time you and the children spend outdoors and make it a game. You don't need a digital device, just a sheet of paper and a pen can get the job done.

Reward you and your children at the end of the week when you're able to meet your goal for outdoor time, which the International Myopia Institute recommends is between 80 to 120 minutes each day. You may not achieve your goal in the first week, or even two, but do not give up because the rewards include better eyesight, higher vitamin D levels, and more fun with the family.

Sources and References

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