

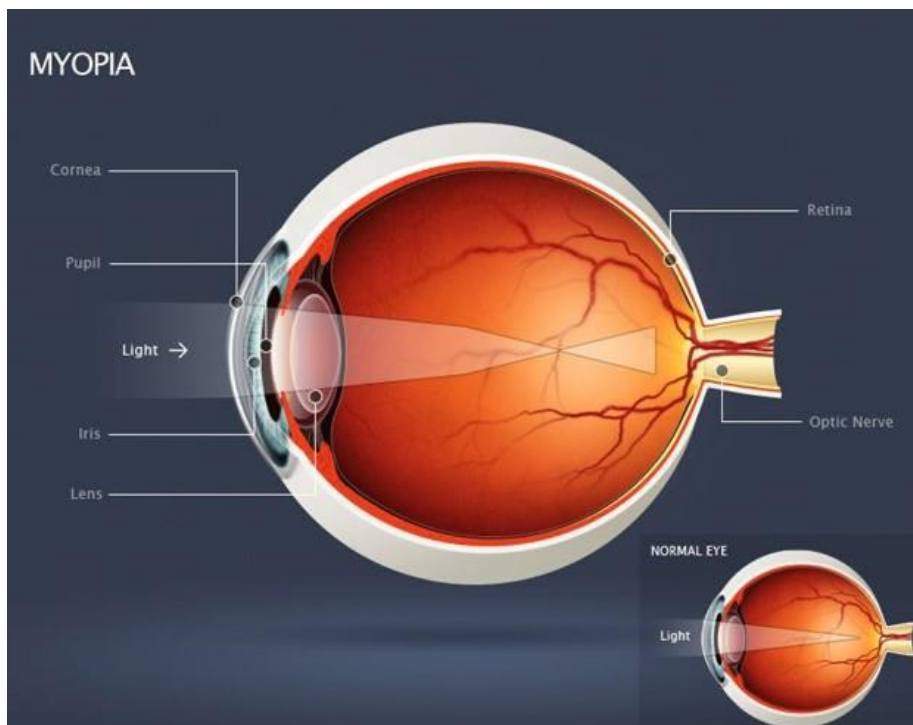
## MYOPIA AND TREATMENT OF MYOPIA IN CHILDREN

### What is Myopia?

**Myopia**, or “nearsightedness,” is when the eye focuses light in front of the retina instead of directly on it. This makes far away objects look blurry while close objects stay clear.

The eye works a lot like a camera. The front of the eye bends light to form an image on the retina, the light-sensitive tissue in the back of the eye (like film in a camera). Myopia happens when the cornea (the clear front part), the lens, or the length of the eye makes the focus land in front of the retina.

**See Figure 1:** An eye with myopia focuses light in front of the retina. A normal eye focuses light directly on the retina.



## Why does myopia get worse, and what can help slow it or stop it?

Children with myopia often become more nearsighted as they grow, especially between ages **7 and 12**, when the eye grows quickly. Myopia usually continues to get worse through the teenage years, and sometimes into the early 20s, before stopping.

Things in life that affect myopia include:

- **Family history:** children with one or both nearsighted parents are at higher risk
- **Near work:** long periods of reading or screen time can increase risk
- **Outdoor time:** more time outdoors protects against myopia and may slow its progression

Ways to help lower the risk or slow myopia from getting worse:

- Keep reading and screens at least 12 inches away
- Follow the 20-20-20 rule: every 20 minutes, look 20 feet away for 20 seconds
- Spend at least 1 hour outdoors daily (with sun protection)

## How do glasses and contact lenses help with myopia?

Glasses or contact lenses bend light so it focuses on the retina, making distance vision clear.

## Is refractive surgery a good option for children?

Refractive surgery (laser vision correction like LASIK) permanently changes how the eye bends light. But children's eyes are still growing, so the surgery would not last. It is typically not recommended for children except in special cases.

## What is high myopia and why is it a problem?

High myopia (sometimes called pathologic myopia) means a prescription of  $-6.00$  diopters or more, or an eye length longer than 26.5 mm. Children who get myopia at a young age or who have parents with high myopia are more likely to reach this level.

High myopia causes a higher risk of serious eye problems later in life, including:

- Retinal holes, tears, or detachment
- Abnormal blood vessel growth under the retina
- Glaucoma (high eye pressure)
- Changes in the eye's gel (vitreous)

These eye problems can lead to permanent vision loss.

## What are the chances a child will develop myopia?

- Myopia often runs in families. If one or both parents are nearsighted, their child has a higher chance too.
- **Myopia is on the rise worldwide. Today, about one in three children is nearsighted, and experts predict that nearly half of all people may have myopia by 2050.**
- Children who get myopia early in life tend to need stronger prescriptions later.

## Ways to slow down myopia in children

Two main treatments are available:

### 1. Special glasses and contact lenses

- These special lenses change how light focuses on the side of the retina. They lessen signals that drive eye growth.
- Options include MiSight lenses, bifocal contacts, and orthokeratology (nighttime lenses that reshape the cornea).
- Special glasses available in other countries just became available in the U.S, Essilor Stellest.
- Contact lenses must be used very carefully in children to avoid infections and vision loss.

### 2. Eye drops (low-dose atropine)

- Low-dose atropine can slow myopia changes without major side effects.
- Possible side effects can include slightly larger pupils (pupil dilation), allergy to the drop and mild blurry vision up close, though these are uncommon at the low dose used for myopia.
- It is not yet FDA-approved for myopia in the U.S. but can be made by a special (compounding) pharmacy.
- Treatment is usually given during the years when myopia worsens most and stopped when eye growth stops.
- Doctors are still studying the best dose, timing, and duration of treatment.

## How often should my child's myopia be checked?

Most children with myopia should have yearly eye exams. If using treatment to slow myopia, more frequent visits and testing may be needed.

**More Information:**

[American Academy of Ophthalmology](#)

[EyeWiki](#)

**Updated 9/2025**