

What is Myopia?

Myopia, also called nearsightedness or shortsightedness, is a disease in which a person experiences blurry distance vision, usually caused by the eyeball growing longer than expected.¹ Myopia rates are rapidly growing, with ~50% of the world's population expected to have myopia by 2050. North America will have a ~1.9x increase from 2000 to 2050 in the number of people with this disease (28.3% to 54.0%).²

Myopia can affect a child in several ways. Poor vision may hinder academic performance and reading abilities, making it difficult for them to excel in school. It can also limit the physical activities they can participate in, such as sports. Furthermore, myopia can negatively impact some children's emotional and social well-being. As the condition worsens, the need for vision correction tends to increase, which can add stress for the child.³

Myopia often worsens over time, increasing the risk of developing serious vision problems in adulthood.¹ Increasing levels of myopia directly correlate to an increased risk of retinal detachment, glaucoma, myopic degeneration, and cataracts (Table 1).^{2,4}

Condition	Risk Increase With Any Level of Myopia	Risk Increase With High Myopia
Glaucoma	1.6x	3x
Cataracts	2.1x	4x
Retina Detachment	3.5x	12x
Myopic Macular Degeneration	102x	845x

Table 1. Sight-threatening Condition Risks with Myopia and High Myopia⁴

While sight-threatening conditions are more common with high myopia (above -6.00D), they can also occur in patients with lower prescriptions. All levels of myopia carry an increased risk of serious eye conditions.⁴

Who is at risk for Myopia?

Risk factors for myopia increase the likelihood that your child will develop myopia. They include genetic and environmental factors. Although lifestyle changes cannot reduce genetic risk factors, they can help lower environmental risk factors.

Genetic Factors	Risk
Family History	One myopic parent = 2x risk Two myopic parents = 5x risk ⁵
Ethnicity	South Asian = 9x risk African Caribbean = 3x risk as compared to European children ⁶

Table 2. Genetic Risk Factors

Environmental Factors	Risk
Close-up activity time	Spending extended periods of time on close-up activities. ⁵
Screen time	Spending extended periods reading or using screens at a close distance. ⁵
Outdoor time	Not spending enough time outdoors. ⁵
Living in a city	Living in a highly populated area with reduced access to outdoor activities. ⁵
Light exposure	Working in low-light environments at home. ⁵

Table 3. Environmental Risk Factors

What steps can I take to help my child?

Options for slowing the worsening of myopia include:



Lifestyle Changes

You can make a few lifestyle changes with your child to help slow down the worsening of myopia. These changes include reducing the time spent on close-up activities and increasing outdoor time.⁷



Contact Lenses

Special contact lenses that slow the worsening of myopia come in both soft contact lenses and ortho-k contact lenses. Soft contact lenses are worn during the day and removed at night. Ortho-k contact lenses are worn overnight for lens-free days. Good hygiene is essential to minimize the risk of eye infection and help with healthy contact lens wear.⁷



Eyeglasses

There are special eyeglasses designed to slow the worsening of myopia. They are different from regular eyeglasses, which simply correct blurred vision. Some children may play sports or have active lifestyles that require alternative treatment options.⁷



Eye Drops

Atropine is a special eye drop that can be effective in slowing the worsening of myopia. It is typically applied daily before bedtime. Children will still require eyeglasses and/or contact lenses to see clearly, as atropine does not correct a child's vision. Temporary side effects include blurred vision at near and light sensitivity.⁷



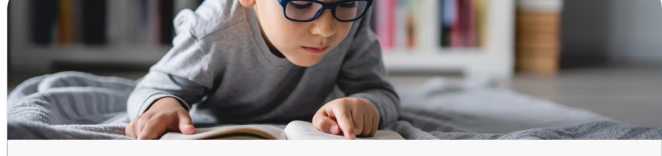
What is Myopia Management at Home?

Lifestyle changes can help lower the risk of developing myopia and slow its progression.



Increase time spent outdoors

- Aim to spend at least 2 hours daily outside.⁷ There are many activities you can do, including:
 - Enrolling in summer and winter outdoor sports like swimming, soccer, baseball, ice skating, and ice hockey
 - Hiking and nature walks
 - Visiting parks and playgrounds
 - Playing games in the backyard



Reduce the time spent on close-up activities

- Encourage your child to take breaks while doing classwork and homework. It is recommended that they take a break after 30 minutes of reading and increase the distance between them and their work.⁸ Practice the elbow rule by instructing them to place a palm on their head; the screen or paper should not be closer than their elbow.⁹
- Apple devices like iPhones and iPads have settings to help increase the distance between the user and the screen.¹⁰



Set screen time limits on phone and tablet apps

- For children older than 5, aim for no more than 2 hours of screen time a day.⁹
- For children 2-5 years old, aim for less than 1 hour.¹¹
- For children less than 2 years old, screen time is not recommended.¹¹



Use a daily log to track close-up screen and outdoor activities

- Goals you should set for your child include:
 - Monitor daily close-up activity time and take frequent breaks. Ensure that the distance between your child and the book, computer, or tablet is at least elbow distance away.⁵
 - Spending at least 2 hours of outdoor activities per day.⁵
- Included is a simple daily log template that you can use to help track time.

Why are Annual Exams Important?

It is important for all children to have regular eye exams to ensure their eyes are developing properly and to catch any vision issues, such as myopia, early on. Kids might not always notice or communicate if their vision is off, making it challenging for parents to detect problems. They might exhibit signs like squinting, sitting closer to screens, or closing one eye to see better, but these signs aren't always present.¹² Children should have exams annually or as often as their eye care provider recommends.⁷

What's Next?

Schedule a comprehensive eye exam for your child. Discuss any concerns with their eye care provider to determine the best treatment option. Use the tips in this guide to help decrease the risk of your child developing myopia or slow its worsening. Let their eye care provider know immediately if you notice any changes in your child, including symptoms like squinting or blurry distance vision complaints. Early treatment and regular assessment are ideal to get the best possible outcomes.

Frequently Asked Questions

Why have I never heard of this before?

You might have heard of it before—myopia is commonly referred to as nearsightedness or shortsightedness. In the past, individuals with myopia were given standard eyeglasses or contact lenses to correct their blurry vision. However, we now know that the abnormal lengthening of the eye can increase the risk of developing serious sight-threatening conditions in adulthood. As the disease of myopia becomes increasingly prevalent, eye care providers are working hard to prevent and manage this issue.⁷

How would I know if my child has myopia?

Your child may have difficulty seeing distant objects, squint, or experience eye strain and headaches.¹² Though children with myopia do not always exhibit these symptoms early on, a yearly comprehensive eye exam with their eye care provider is a great way to monitor their eye health.

What treatment plan will work best for my child?

Speak to your child's eye care provider about myopia management. After a comprehensive eye exam, they can help determine the appropriate treatment plan for your child.

Will employing tips from this guidebook stop my child from developing myopia or slow its worsening?

Changing your child's lifestyle may not be enough to prevent myopia from developing or getting worse. For best outcomes, it's important for your child to have eye exams every year (or more frequently if required) and to follow the treatment plans recommended by their eye care provider.⁷



What if my child has eye surgery like LASIK in the future? Won't it stop it from worsening?

Refractive surgeries like LASIK can correct blurry vision in adulthood but do not address the underlying cause of myopia or reverse its long-term effects. A person with myopia who has had LASIK is still at an increased risk for future vision health problems related to their myopia.¹³

Will my child go blind?

Myopia alone does not cause blindness, but complications resulting from or caused by myopia can cause sight-threatening complications later in life. It is important to have yearly eye examinations to assess your child's vision health and follow treatment recommendations for managing their myopia.⁷

Did my child get myopia from me and/or my partner?

There is an increased genetic risk of a child developing myopia when one or both of their parents also have myopia.⁵

Stay Informed and Engaged

Contact your eye care provider with questions and support to manage your child's myopia.

Our priority is your child's eye health. Together, we can effectively manage myopia and ensure a bright future.



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