

How to Take Control of Your Child's Myopia: *A Guide for Parents*

The purpose of this paper is to educate concerned parents about myopia, provide information about the increasing prevalence of myopia, and most importantly to help parents to take control of their child's vision so that they can stabilize the level of myopia and minimize the level of progression over time. Let's start with a simple definition of myopia:

Myopia, also called **nearsightedness**, is a vision condition in which objects close by are clear but things far away are blurry. It is typically caused by the eye itself being longer front to back than it should be. Myopia has historically been corrected with glasses, contact lenses, or refractive surgery.

Why do we care about myopia? While myopia can typically be corrected adequately with glasses or contacts to provide clear vision, higher amounts of myopia greatly increase a person's risk of certain ocular health conditions, such as retinal holes and detachments, cataracts, glaucoma, and myopic retinal degeneration. This increased risk is caused by the eye being longer than it should be, so even if a person has a refractive surgery like LASIK the increased risk of ocular disease persists.

Now for the **bad news** about myopia – **The prevalence of myopia is increasing worldwide at an alarming rate, and children who are nearsighted almost always become more nearsighted over time.** I prefer to state these facts as bluntly as possible because every day in my clinic I see young nearsighted children, and their parents are surprised that their glasses prescription is increasing from one year to the next. This should not be surprising to us. Nearsighted children between the age of 8-18 years old tend to get more nearsighted over time. Knowing that, it is appropriate for parents (especially parents who are nearsighted themselves) to monitor their child's vision with yearly eye exams so that if myopia does begin to develop it can be diagnosed early.

However there is also some **good news** about myopia – While myopia tends to get worse over time, that doesn't necessarily have to be the case. There are treatments available today that have been proven to slow down the progression of myopia. In more recent years a specialty has emerged within eye care called "**myopia control**". Myopia control is the process of slowing down the progression of myopia in order to keep the nearsightedness as low as possible. It is not possible to reverse myopia, but we can help to stabilize it so that eyes are healthier!

Some troubling statistics:

- The prevalence of myopia has increased 66% in the United States over the past 30 years, so that now 42% of people 12-54 are myopic
- The incidence is much higher in some other areas of the world, especially in Asia. In some countries in Asia over 80% of young adults are myopic.
- At the current rate of increase, half of the world's population will be myopic by the year 2050.

- The younger a child is when they become nearsighted, the faster they tend to progress and the more likely they are to reach high levels of myopia
- Even low amounts of myopia double a person's risk of cataract, glaucoma, and retinal detachment. For patient's with high myopia (greater than -6.00) there is a 22x higher risk of retinal detachment.

Risk factors for myopia:

- A child with one nearsighted parent is 3x more likely to be nearsighted. If both parents are myopic that risk increases to 6x.
- More screen time appears to significantly increase the risk of myopia.
- Studies show that kids who spend less time playing outside have a higher risk of myopia.
- Some research suggests a link between Asian ethnicity and faster myopic progression.
- Over **or Under**-corrected vision (having the wrong prescription in glasses or contacts) can accelerate progression of myopia (yes you read that correctly...intentionally under-correcting with glasses has been shown to be of **absolutely no benefit**).

What can you do to prevent myopia?

- Get an annual eye exam (not just a screening) to diagnose myopia as early as possible. If myopia is diagnosed do not ask your eye doctor to prescribe less than the true amount of prescription.
- Limit screen time, especially hand-held electronic devices, and avoid holding devices too close. The younger a child is, the less screen time they should have.
- Encourage your child to play outside as much as possible. Studies have shown that kids who spend more time outside are less likely to become myopic. Some of this effect may simply be the effect of less screen time but the natural outdoor light also appears to be beneficial.

What if your child is already nearsighted?

- Talk to your optometrist! Ask questions about your child's vision and ask about options to slow down the progressive worsening of their vision. If your eye doctor does not provide myopia control, ask for a referral to a myopia control specialist. If you need to find a specialist in myopia control, the best place to start is <https://www.orthokademy.com/for-patients/>. This is the website for the American Academy of Orthokeratology and Myopia Control. You can get more info on myopia and search for a specialist near you. The search feature also allows you to see if a specialist is a fellow of the academy, which is the highest level of expertise in the field of myopia control.
- **Overnight Sight**, also known as **Orthokeratology or CRT**, is currently the most effective option for slowing progressive myopia. In orthokeratology a doctor designs a corneal mold, similar to a rigid contact lens, to be worn at night. The mold gently reshapes the cornea (the front surface of the eye) so that when it is removed in the morning the patient can see clearly without glasses or contact lenses. Correcting vision this way is a very effective way of slowing myopic progression.
- While soft contact lenses generally do nothing to slow the progression of myopia, there are some newer **myopia control soft lenses** that can be effective at slowing progression. These lenses are specifically designed to help control myopia.

- **Bifocal glasses** can be effective at slowing progressive myopia, but only in certain cases depending on how a child's eyes focus on near objects. Your optometrist can test your child's near vision to determine if this is a reasonable option for myopia control.
- **Atropine** is an eye drop that has been shown to slow progression in nearsighted patients. It can be prescribed by your optometrist and is typically used one drop in each eye at bedtime.

Ask your myopia control specialist which options are most appropriate for your child!