



# All About **MYOPIA**

Taking care of your  
child's eyesight.



National Myopia  
Prevention Programme  
Prevent Myopia Early, Get Children and Family

*Johnson & Johnson* VISION



SINGAPORE OPTOMETRIC ASSOCIATION



# YOU CAN MAKE A DIFFERENCE TO YOUR CHILD'S EYESIGHT

Bringing your child **OUTDOORS** regularly is the first step

Spend at least 2 hours **OUTDOORS** every day<sup>1</sup>

**TOGETHER,**  
we can make  
an impact!

# IT'S TIME.

Year on year, more children and adults are diagnosed with myopia. Myopia can progress into serious eye conditions and vision loss.<sup>1</sup>

This is why we all need to prioritize eye health.



It's estimated that

**83%**

of what we learn is through our sense of

**SIGHT**

Telling Ain't Training, Chapter Three, The Human Learner, pages 19-22 by Dr. Harold D. Stolovitch



**65%**

of 12-year-old children are

**MYOPIC**

Singapore Medical Journal 2021; 62(2): 63-68



**77%**

of Singaporeans suffer from short-sightedness (myopia)

Seet, B. (2001). Myopia in Singapore: taking a public health approach. British Journal of Ophthalmology, 85(5), pp.521-526



**80%**

of vision impairment is treatable or preventable

(Web.archive.org. (2019). WHO | Visual impairment and blindness. [online] Available at: <https://web.archive.org/web/20150512062236/http://www.who.int/mediacentre/factsheets/fs282/en/> [Accessed 12 Nov. 2019].

# EYE MYTHS AND FACTS

Sometimes it's difficult to separate fact from fiction when it comes to eye health.  
Have you heard of the following myths and facts?

**Myth:** ?

**Fact:** !



Myopia is harmless.

Myopia can worsen to become high myopia. Any degree of myopia, and especially high myopia increases the risk of sight-threatening complications with some leading to blindness in adulthood.<sup>1</sup> One way to prevent high myopia is to delay the first onset of myopia, since myopia stabilizes in the individual around their 20s.<sup>2</sup>



If the parent has perfect (20:20) vision, their children will also have perfect vision.

Apart from genetics, risk factors for myopia include minimal time outdoors and near work for longer duration or at a shorter working distance. Myopia progresses more quickly in young children.<sup>3</sup>



Wearing glasses makes your myopia worse.

Wearing prescription glasses or contact lenses helps to correct refractive error and enable clear vision. This is an essential step in managing and controlling your child's myopia.



Clear vision means my eyes must be healthy.

Many eye conditions may not cause immediate or noticeable changes to vision. However, they may progress quickly and can even cause permanent vision loss.<sup>4</sup>

1. Kate L. Gifford et al. IMI - Clinical Management Guidelines Report. Invest. Ophthalmol. Vis. Sci. 2019;60(3):M184-M203.  
2. Pärssinen, O., et al. The progression of myopia from its onset at age 8-12 to adulthood and the influence of heredity and external factors on myopic progression. A 23-year follow-up study. Acta Ophthalmologica, 2014;92(8), 730-739.  
3. Lisa A., et al. for the CLEERE Study Group; Myopia Progression as a Function of Sex, Age, and Ethnicity. Invest. Ophthalmol. Vis. Sci. 2021;62(10):36.  
4. Haarman, A. E. G., et al. The complications of myopia: A review and meta-analysis. Investigative Ophthalmology and Visual Science, 2020;61(4), 1-3.

# WHAT'S DANGEROUS ABOUT MYOPIA?

The higher the myopia, the longer the length of the eyeball. A stretched eyeball means it is structurally weaker and at greater risk of degenerative conditions that cause blurred vision or even blindness.<sup>1</sup> Below are some of these conditions.



## Retinal Detachment

The retina is the inner layer of the eye. When the eyeball is elongated in myopia, it becomes weaker and more likely to detach from the eyeball. Sometimes it is associated with seeing flashes of light and/or several floaters (spots or lines in the vision), blurred or distorted vision. This is a medical emergency that needs urgent treatment at a hospital.



## Glaucoma

This is a disease of the optic nerve, the main nerve that connects the eye to the brain. Glaucoma can be a gradual, painless loss of vision, or an acute painful condition leading to blindness. Although glaucoma cannot be cured, early intervention can help to retain remaining vision.



## Macular Degeneration

This is where the central part of the retina, which gives the clearest vision, degenerates. If symptoms such as dark patches or other visual distortions occur, these could be signs of macular degeneration.



## Early Cataracts

Cataracts are the clouding of the lens in the eye, causing blurry vision. Whilst this typically occurs gradually in those above 60 years old, myopic eye tend to have it faster. Surgery can be done to restore vision, however, it is more complex if myopia is high.

# HOW DO WE REDUCE MYOPIA TOGETHER?

## The Importance of **Community Eye Care**



### Parents

Educate yourselves about preventive measures such as spending more time outdoors.

Know where to seek professional advice.



### Eye Clinics and Hospitals

Conduct specialised tests and medical intervention when required.



### Community Eye Care Optometrists

Leverage on their accessibility by providing the first line of advice and management of myopia for children and adults.



# SO MY CHILD HAS MYOPIA - WHAT NEXT?

**Note:** As there are many ongoing developments in this area, advice provided is accurate at the time of publishing.



## Benefits of Myopia Control

For every diopter a child's myopia can be reduced, their chance of retinal disease decreases by 40%.<sup>1</sup> Minimising myopia may also help with overall visual outcomes and quality of life.<sup>2</sup>



## Setting the Right Expectations

It is important that you discuss your child's myopia and lifestyle considerations to determine the right treatment.

Your eye care professional can share with you the latest treatment options proven to slow the progression of myopia, and the factors that may help determine treatment efficacy.



## Treatment Protocol

- Assess the individual's risk factors and myopia progression.
- Prescribe a tailored treatment plan.
- Assess the success of treatment and any side effects.
- Adjust the treatment plan accordingly, if needed.

1. Bullimore MA, Brennan NA Myopia Control: Why Each Diopter Matters. Optom Vis Sci. 2019 Jun;96(6):463-465. DOI: 10.1097/OPX.0000000000001367

2. Rose K, Harper R, Tromans C, et al. Quality of life in myopia. British Journal of Ophthalmology 2000;84:1031-1034.



# MYOPIA MANAGEMENT OPTIONS

Currently, there are 2 broad categories for slowing myopia progression.<sup>1</sup> Firstly, is an optical intervention - i.e. spectacles, contact lenses, and orthokeratology. Secondly is pharmaceutical i.e. prescriptive eye drops. Each option has its benefits, risks and rates of success. It is advised to discuss with your eye care practitioner the best option for the individual.



## Myopia Control Spectacles

Optics designs with 'defocus' technology to slow myopia progression.<sup>2</sup> Safe and easy option for a range of prescriptions; subject to non-compliant wear and loss/breakage.<sup>3</sup> Optical designs and myopia management efficacy vary greatly.



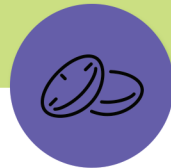
## Prescriptive Eye Drops

Please consult a board certified Ophthalmologist to find out more.<sup>1</sup>



## Soft Multifocal Contact Lenses

Myopia control soft contact lenses are worn during waking hours. They may come as daily disposable or reusable lenses. They are particularly beneficial for children who are active in sports (with the exception of water sports), are easy to use, and have a good safety record even when used by young children.<sup>4</sup>



## Ortho-Keratology

Contact lenses worn overnight to temporarily reshape the cornea, allowing clear vision during the day without correction. Preferred for athletics and water activities. Used overnight at home, allowing for parental oversight.

1. Christine F. Wildsoet, et al. IMI – Interventions for Controlling Myopia Onset and Progression Report. Invest. Ophthalmol. Vis. Sci. 2019;60(3):M106-M131.  
2. Bao J, et al. Spectacle Lenses With Aspherical Lenses for Myopia Control vs Single-Vision Spectacle Lenses: A Randomized Clinical Trial. JAMA Ophthalmol. 2022;140(5):472–478. doi:10.1001/jamaophthalmol.2022.0401

3. Hoskin AK, et al. Spectacle-Related Eye Injuries, Spectacle-Impact Performance and Eye Protection. Clin Exp Optom 2015;98:203-9.  
4. Bullimore, M. A., et al. The Risks and Benefits of Myopia Control. Ophthalmology, 2021;128(11), 1561–1579.

# S.I.G.H.T.

Help your children get into good Eye Habits early by asking them to remember the importance of **S.I.G.H.T.**

**S**ee your optometrist regularly

**I**nform your parents of vision problems

**G**o outdoors and play

**H**old reading material further away

**T**ime limits for digital devices



Spend  
**LESS TIME** on  
unnecessary  
work activities

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