

CHILDHOOD
MYOPIA

UNDERSTAND MORE ABOUT
**CHILDHOOD
MYOPIA**



Tomorrow's Eye Care, Today[®]



Singapore National
Eye Centre

SingHealth

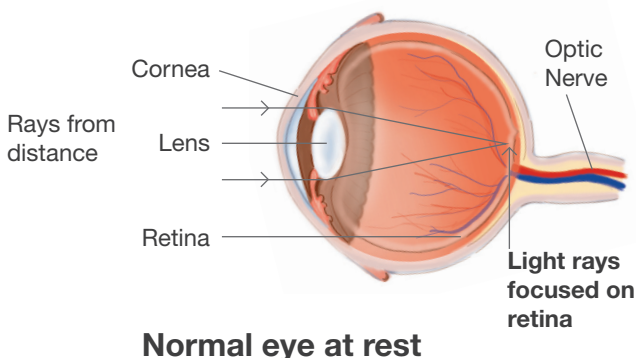
Childhood Myopia

What is childhood myopia?

Childhood myopia, also known as short-sightedness or near-sightedness, is the condition of the eye when distance vision is more blurred compared with near vision. The earlier a child gets myopia, the more likely he will get high myopia as an adult. Myopia tends to increase rapidly between 5 and 15 years old, and usually stabilises by the early twenties.

What causes childhood myopia?

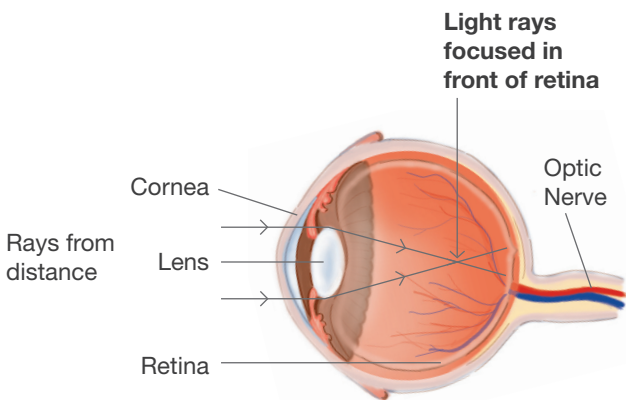
Childhood myopia arises from excessive growth and elongation of the eyeball. This results in light rays from distant objects focusing in front of the retina instead of on the retina. Distant objects are thus seen to be blurred but near objects remain clear.



What are the risk factors?

The exact cause of myopia is not known, but certain risk factors increase the likelihood of myopia, such as:

- **Genetic.** Myopia tends to run in families. If one of the parents is myopic, the risk of the child developing the condition is two times more. The risk is eight times higher if both parents are myopic. In addition, increasing severity of parental myopia leads to a greater risk of myopia.
- **Environmental.** Lack of outdoor activities and excessive near work like reading, playing games on handheld electronic devices or computers exposes one to the risk of developing myopia.



Myopic eye at rest

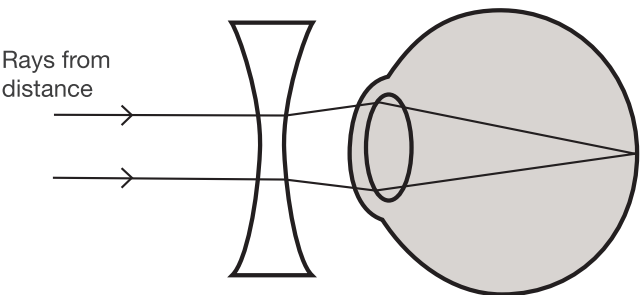
What are the possible complications?

Other than the inconvenience of having to wear spectacles, myopia may be associated with complications such as:

- **Retinal tear and detachment.** The eye with high myopia is excessively elongated resulting in thinner retina. This puts the eye at greater risk of developing a retinal tear, hole or detachment. Retinal detachment requires urgent treatment as unless the detached retina is promptly reattached, there can be permanent loss of vision in the affected eye.
- **Macular degeneration.** Severe myopia of more than 10 dioptres (1,000 degrees) may be associated with macular degeneration. The macula is the central part of the retina that gives the clearest vision. Macular degeneration causes difficulties in reading, watching TV and recognising people's faces.

- **Cataract.** High myopia is associated with earlier onset of cataract, which is opacity or clouding of the lens that causes blurring of vision.
- **Glaucoma.** Glaucoma is associated with increased fluid pressure within the eyeball. Severe myopia increases the risk of developing glaucoma, which if left untreated over time can cause blindness. Glaucoma is often symptomless, causing poor vision gradually and therefore is called a '*silent thief of sight*'.

What are the treatment options?



Concave or 'minus' lens focus distance images onto the retina

Putting on spectacles or contact lens helps to bring distant objects into focus. Depending on the degree of myopia, you may need to wear spectacles all the time or only when you need very clear distance vision, e.g. looking at whiteboard, watching a movie, etc.

LASIK is a surgical procedure that thins the cornea (the transparent front layer of the eye). This is rather like creating a permanent contact lens on the cornea to bring distant images into focus. However, LASIK is a *cosmetic* and not a curative treatment, as the eye is still elongated retaining the same risk of retinal detachment, macular degeneration, etc. even after LASIK.

Once the eyeball elongates, the change is irreversible. Therefore, prevention of myopia and delaying its progression early in life are important steps in management of myopia and its consequences.

Childhood Myopia

To ensure that your child does not become myopic, encourage him/her to adopt good eye care habits from a young age, even before he/she develops myopia. There have also been extensive studies on eye drops (e.g. atropine), spectacles and contact lens and other interventions to slow down the progression of myopia in children. Ask your doctor about the latest advances in the field.

How can I help treat or prevent childhood myopia?

There is no cure for myopia but you can adopt the following measures to help prevent myopia or slow its progression in your child:

- **Start young.** Even from early childhood, ensure your child learns good eye care habits.
- **Encourage outdoor sports daily** e.g. cycling, rollerblading, badminton, basketball, etc. Playing ball games outdoors allow your child to focus his/her eyes on a wide range of objects that are both far and near.



Illustration: Children who spend plenty of time outdoors are less likely to be myopic.

- **Avoid or minimise the exposure of young children to handheld devices, computer games or TV**, as these activities not only increase the risk of myopia, but they can quickly become addictive, reduce attention span, learning and creativity, and may also lead to frequent tantrums.
- **Switch to audio books** for the avid readers. Listening and even making audio books improve listening skills, pronunciation and expression.

- **Take frequent eye breaks** from near work or computer screen and look out the window into the far distance every 20-30 minutes. This breaks any accommodative (focusing for near vision) spasm and helps relax the eyes.
- **Read with good or natural lighting** which may be protective against myopia.
- **Do not lie down to read or read in moving vehicles.**
- **Plan a daily home schedule or timetable** for your child so that there is time (1-2 hours) allocated for outdoor activities.
- **Spend time exploring and discovering the wonders of nature**, e.g. bird watching, picnic by the seaside, going on nature walks, etc.

Keep myopia at bay, go outdoors and play!

LOCATION MAP



Legend

- MRT Station
- Taxi Stand
- East West Line
- North East Line
- Shuttle Bus Service
Mon to Fri (8.00am - 7.00pm)
Sat (8.00am - 2.00pm)
- Opp Outram Park Stn
Bus No. 33, 63, 75, 121,
122, 174, 174e, 851, 970
- Outram Park Stn/Outram Rd
Bus No. 33, 63, 75, 121, 122, 174,
174e, 534, 535, 549, 761, 851, 970
- Outram Park Stn Exit F
Bus No. 61, 124, 143, 147,
147e, 166, 197, 961, 961C

This patient information leaflet is a general guide to help patients understand specific eye conditions, treatment or tests. The information does not replace the need for individual advice from an ophthalmologist. Please consult with your ophthalmologist about your specific eye condition and/or concerns.

The contents of this leaflet are not to be produced in any form without the prior permission of the Singapore National Eye Centre.

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