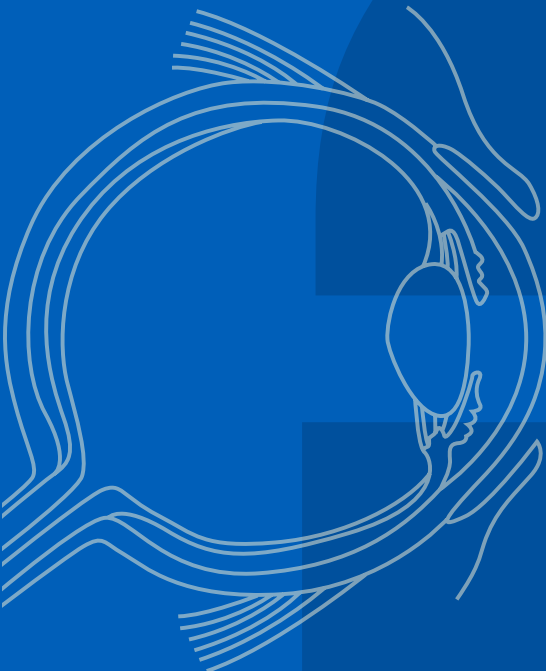


**HIGH  
MYOPIA**

**UNDERSTAND MORE ABOUT  
HIGH MYOPIA**



**MYOPIA CENTRE**

By Singapore National Eye Centre



**Singapore National  
Eye Centre**

SingHealth

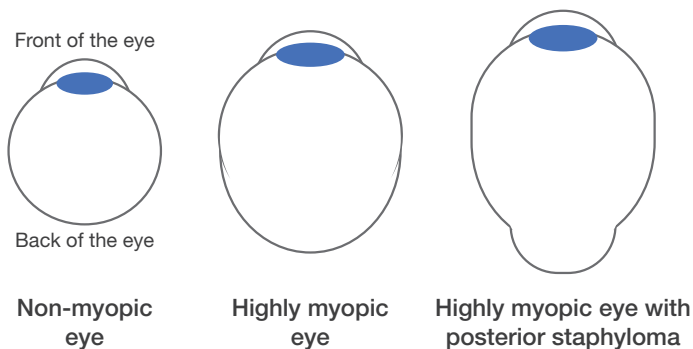
# High Myopia

## What is high myopia and how does it affect my eyes?

High myopia is typically defined as myopia, also known as short-sightedness, of over -5D (500 degrees). In patients with high myopia, the eyeball is longer than usual and some may develop outpouching of the eye wall (posterior staphyloma). High myopia increases the risks of certain sight threatening eye diseases exponentially. The table below shows the risk of eye diseases with increasing severity of short-sightedness.

	Glaucoma	Cataract	Retinal Detachment	Myopic Maculopathy
-1 to -3	2.3	2.1	3.1	2.2
-3 to -5	3.3	3.1	9.0	9.7
-5 to -7	3.3	5.5	21.5	40.6
<-7	-	-	44.2	126.8

Flitcroft DL. The complex interactions of retinal, optical and environmental factors in myopia aetiology. *Prog Retin Eye Res.* 2012;31(6):622-60.



## Am I at risk of these eye diseases if I already had my high myopia corrected by LASIK, glasses or cataract surgery?

Yes, you are still at risk. The eye complications of high myopia are related to the changes in the structure of the eyeball and cannot be corrected by glasses and/or refractive surgery such as LASIK or cataract surgery.

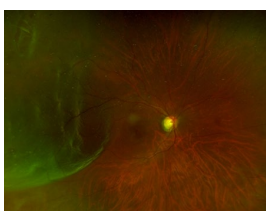
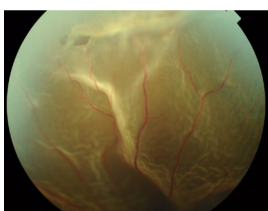
## What symptoms should I look out for?

Because of the increased risk of certain eye diseases, people with high myopia should go for an eye examination should they experience a sudden increase of floaters, onset of flashes, distortion of central vision (metamorphopsia), decrease in vision or worsening myopia in adulthood.

## What are the sight-threatening complications of high myopia?

- **Rhegmatogenous Retinal Detachment (RRD).** In RRD, the retina (innermost layer of the eye), separates from the outer layers when fluid seeps underneath through a retinal tear or hole.

Early symptoms include floaters, flashes and a curtain-like blurring of peripheral vision. This can rapidly progress to involve central vision. This condition is considered an emergency, and urgent treatment is needed to prevent irreversible loss of vision.



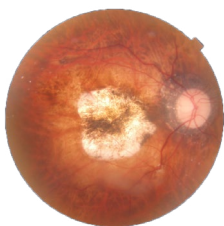
Retinal tear with retinal detachment



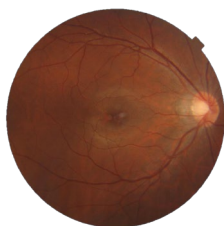
Patients with RRD may see a curtain-like blurring like this.

- **Myopic Macular Degeneration (MMD) and Myopic Choroidal Neovascularisation (mCNV).** Patients with MMD have thinning of the retinal layers in the central part of the retina (macula) and its underlying blood supply (choroid). In severe cases, these layers of the retina or choroid are completely lost and can result in irreversible loss of vision. mCNV occurs when abnormal blood vessels grow beneath the retina and leak fluid or blood, causing a sudden

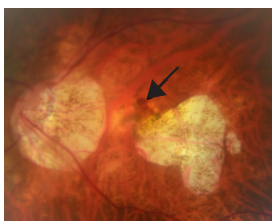
decrease in central vision and/or distortion of vision. This condition is potentially blinding if not treated early or adequately. Multiple eye injections may be required in the treatment of this condition.



Severe myopic macular degeneration



Normal

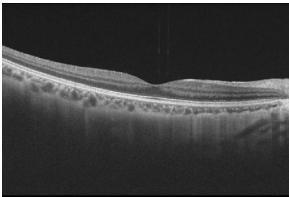


Myopic choroidal neovascularisation. Blood (black arrow) can be seen underneath the retina.

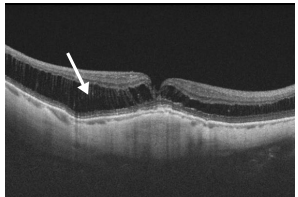
- **Myopic Tractional Maculopathy.** As the length of the eye increases, the layers of the retina may no longer be elastic enough to follow the contour of the eye wall. This leads to stretching and splitting of the retinal layers in the macula (central part of the retina that is most important for good vision). In severe cases, the central macula may detach (foveal detachment). This condition requires regular monitoring as it may progress in severity and result in

# High Myopia

irreversible loss of vision. Surgery is required for patients with worsening vision or foveal detachment.

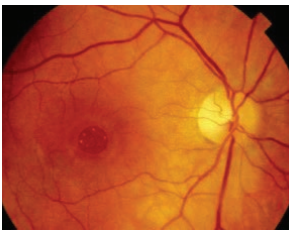


Normal retina

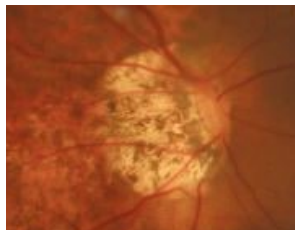


Myopic tractional maculopathy with splitting of retinal layers (white arrow)

- **Macular Hole.** When a hole forms at the macula, vision is significantly affected and may lead to irreversible visual loss if left untreated. Common complaints include sudden blurring and/or distorted vision. Early surgery is often required.



Macular hole



Tilted and cupped optic nerve head in a high myope with glaucoma

- **Glaucoma.** Glaucoma is known as the silent thief of sight as it has none or few symptoms until later stages of the disease. The risk of glaucoma is higher in myopic individuals and detection of glaucoma is

more difficult in these patients as well. Treatment aims to preserve vision but any prior damage to the optic nerve is irreversible which is why early detection is crucial in this disease. Eye drops are usually used as first line treatment for this condition.

- **Cataracts.** Cataracts form when there is clouding of the crystalline lens in the eye. Cataract is a condition that will naturally happen with age but tends to develop earlier in myopic individuals. Early signs of cataracts include blurring of vision, increased glare at night, decrease in night vision as well as increasing myopia. Cataracts can be removed through surgery.

## How often should I get my eyes checked if I have high myopia?

There are currently no official guidelines for eye screening in people with high myopia. Highly myopic individuals should consider eye screening for complications related to myopia, even if they experience no symptoms. It is especially important to be aware of the potentially sight-threatening complications of myopia and seek early treatment should these symptoms occur.

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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.

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**MYOPIA CENTRE**

By Singapore National Eye Centre



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