CELEBRATING 40 YEARS IN EYE CARE

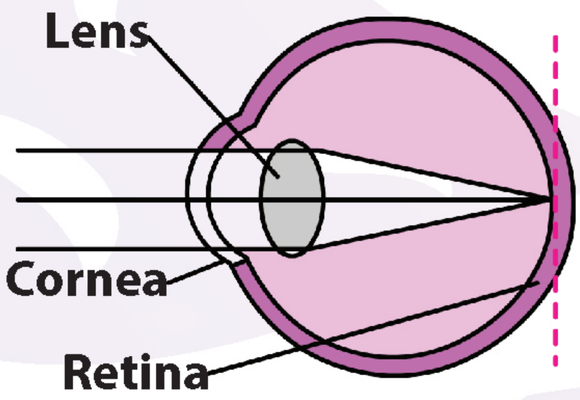
NARAYANA NETHRALAYA
your faith shall heal you

REFRACTIVE ERRORS

THE BEST EYE HOSPITAL IN KARNATAKA
RANKED #1 FOR MORE THAN A DECADE

Normal Eye

Light rays enter the eye through the cornea where they are refracted (bent) and pass through the pupil to finally form a sharp focus or image on the innermost sensitive layer of the eye, the retina, just like in the camera. The retina then sends this information to the brain via the optic nerve and the brain perceives the final image. When the image is exactly formed on the retina and there is no power in the eyes, it is called Emmetropia.



Normal Vision

Refractive errors are eye disorders in which the light is not properly refracted to a point focus on the retina and instead a blurred image is perceived.

How to diagnose?

The common method of measuring vision and detecting impairement in vision is by using the vision chart. Refraction and retinoscopy can help detect the actual error and the spectacle power.

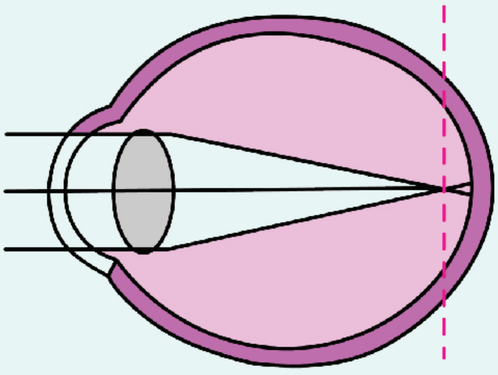
Which are the various types of Refractive Errors?

Refractive errors are eye disorders and not diseases. The various types of refractive errors include:

- Myopia or nearsightedness
- Hyperopia or farsightedness and
- Astigmatism or cylindrical power

What is Myopia (Nearsightedness)?

Nearsightedness or myopia is a condition in which near objects are seen clearly, but distant objects are not clear. This occurs due to light rays focus in front of the retina due to either longer eye ball or increased corneal curvature of a steep cornea. Myopia occurs in different degrees from minimal to extreme. The more myopic you are, the blurrier your vision is for distance and objects will have to be closer to you, so you can see them clearly.



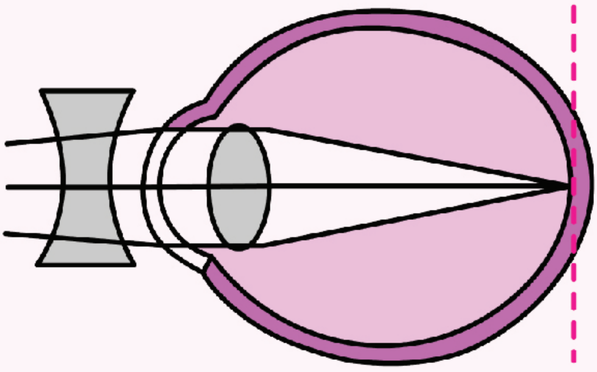
Uncorrected Myopia

Nearsightedness is a common vision condition affecting nearly 20% of the Indian population. Commonly it starts in school-age children. Because the eye continues to grow during childhood, nearsightedness may increase up to the age of 18 to 21, which generally stabilizes by then. Recent studies have shown that nearsightedness could be due to various reasons. **Parental myopia (hereditary), excessive near work, excessive screentime (usage of mobile, tablets, TV watching etc) and lack of outdoor activities are the most important causes for development of myopia in children.**

A sign of nearsightedness is difficulty in seeing distant objects like TV screen or blackboard and the child may want to watch it from very near or difficulty in seeing blackboard in the school, for which the child may want to copy from the student sitting next instead of looking at the blackboard. A comprehensive eye examination is required in such cases to rule out nearsightedness. It can be corrected by prescribing spectacles or contact lenses which helps to focus the image on the retina and in turn see clearly. The glasses prescribed should usually be worn on a constant basis. Rarely, when the spectacle power is very small, child may be allowed to take off glases for intense sports activities.

Myopia is a progressive condition, minus number increases as the child grows older. High myopia may increase the risk of other eye problems like retinal degenerations, retinal detachment, glaucoma etc. Hence a regular visit to the eye doctor to monitor progression and evaluate the status of the eye including retina is mandatory.

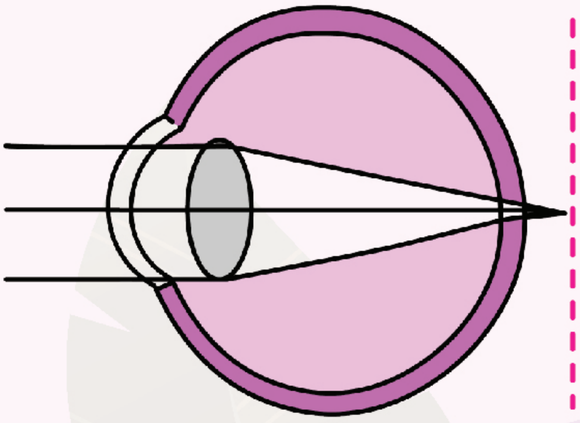
Various control measures like specialized glasses (DIMS/ Stellest), specialised CL (Ortho-K), atropine eyedrops are available to control progression of myopia.



Corrected With Concave lens

What is Hyperopia (Farsightedness)?

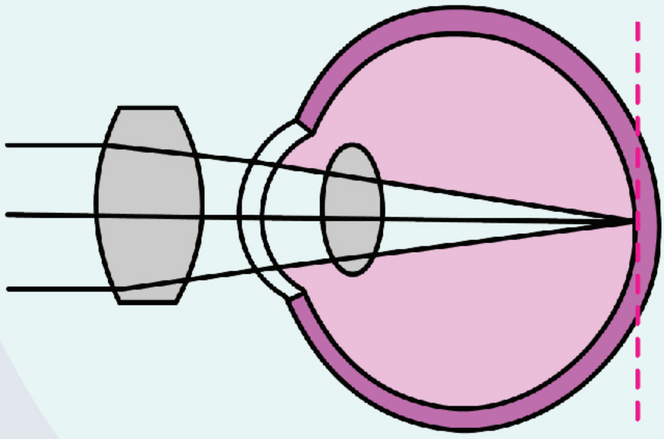
Farsightedness, or hyperopia is a condition in which distant objects are usually seen clearly, but close ones are not clear. Farsightedness occurs if your eyeball is shorter than the normal or the cornea is less curved than normal or flat, so light entering your eye is focused behind the retina. It is usually inherited. A child is usually born with hyperopia and it is naturally compensated for, by using certain muscles in the eye (muscles of accommodation). This hyperopia reduces as the eye grows.



Uncorrected Hyperopia

But when the amount of hyperopia is too much for the child to compensate for or when there is inward squinting of eyes, then child needs glasses.

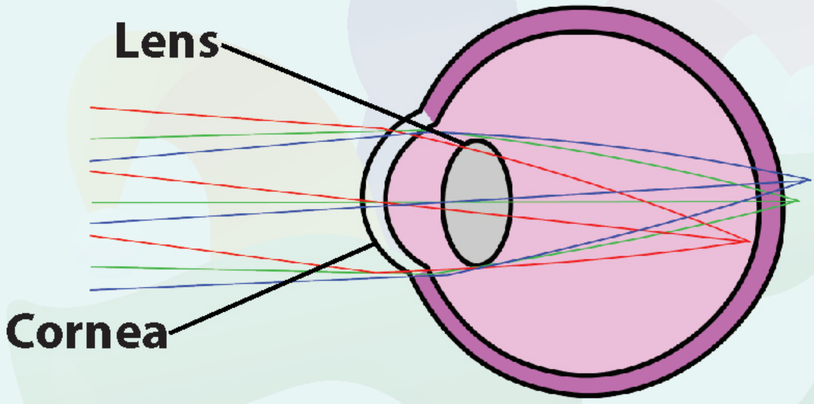
Common signs of farsightedness include difficulty in clearly seeing near objects, headache, eye strain, and/or fatigue after close work. Although the hyperopia is not as common as myopia the common vision screening, often done in schools, are generally ineffective in detecting this condition. A comprehensive ophthalmological examination is required in all those with above mention complaints.



Corrected With
Convex lens

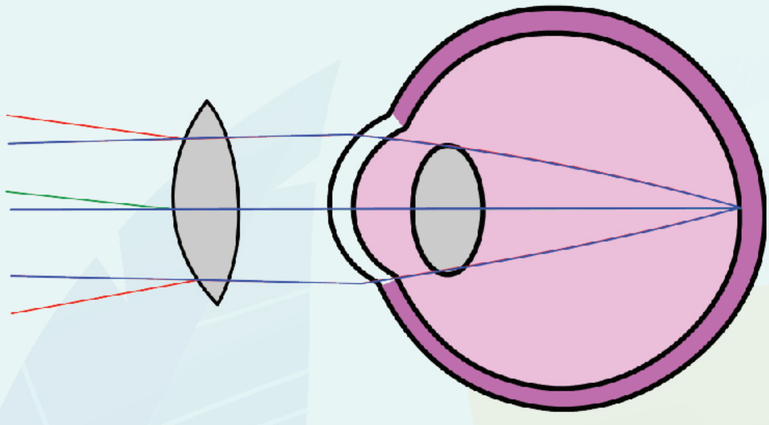
What is Astigmatism (Distorted Vision)?

Astigmatism is a condition where the shape of front surface of your eye, the cornea, is not perfectly round resulting in the light being focussed at different points either in front or behind the retina. As a result, the vision would be blurred at all distances. Astigmatism rarely occurs alone. It may accompany myopia or hyperopia.



Uncorrected Astigmatism

Astigmatism can be corrected with properly prescribed and fitted spectacles and/or contact lenses.



Corrected With
Cylindrical lens

Cylindrical lens helps focus the multiple rays of light on the retina.

Pediatric
Contact: 91-80-66121496

Scan the QR code to visit our website

Scan the QR code to access our educational videos

NN - 1: No. 121/C, Chord Road, Rajaji Nagar, 1st 'R' Block
Bangalore - 560010, INDIA
Tel: +91-80-6121643
Email - infonn1@narayananethralaya.com

NN - 2: Narayana Health City, No. 258/A, Bommasadra
Hosur Road, Bangalore - 560099, INDIA
Tel: +91-80-66660655-0658
Email - infonn2@narayananethralaya.com

NN - 3: No. 1/1, 1st Main Road, Defence colony, 100 Feet Road
Indiranagar, Bangalore - 560038, INDIA
Tel: +91-80-66974000/01/02
Email - infonn3@narayananethralaya.com

NN - 4: No. 63, Next to Royal Meenakshi Mall,
Bannerghatta Road, Hulimavu,
Bangalore - 560076, INDIA
Tel: 080-66121618-1619,+91 9513522400,
+91 9538822400
Email - infonn4@narayananethralaya.com

Nnethralaya

www.narayananethralaya.org