

Astigmatism distorts or blurs vision for both near and far objects. It is possible to have astigmatism in combination with myopia or hyperopia.

Presbyopia (aging eyes)

When you are young, the lens in your eye is soft and flexible. The lens of the eye changes its shape easily, allowing you to focus on objects both close and far away.

After the age of 40, the lens becomes more rigid. Because the lens can't change shape as easily as it once did, it is more difficult to read at close range. This normal condition is called presbyopia.

You also can have presbyopia in combination with myopia, hyperopia or astigmatism.

How are refractive errors corrected?

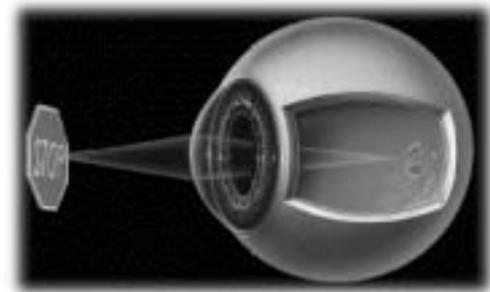
Eyeglasses or contact lenses are the most common methods of correcting refractive errors. They work by refocusing light rays on the retina, compensating for the shape of your eye. Refractive surgery is also an option to correct or improve your vision. These surgical procedures are used to adjust your eye's focusing ability by reshaping the cornea, or front surface of your eye.

There is not adequate scientific evidence to suggest that eye exercises, vitamins or pills can prevent or cure refractive errors.

What is the best method of correcting refractive errors?

There is no best method for correcting refractive errors. The most appropriate correction for you depends on your eyes and your lifestyle. You should discuss your refractive errors and your lifestyle with your ophthalmologist to decide which correction will be most effective for you.

Patient Information



Refractive Errors



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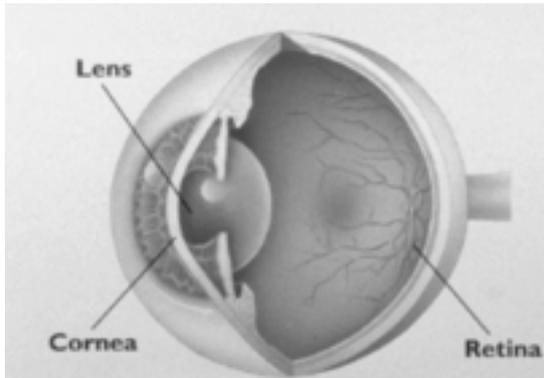
Refractive Errors

What are refractive errors?

In order for our eyes to be able to see, light rays must be bent or refracted by the cornea and the lens so they can focus on the retina, the nerve layer that lines the back of the eye.

The retina receives the picture formed by these light rays and sends the image to the brain through the optic nerve.

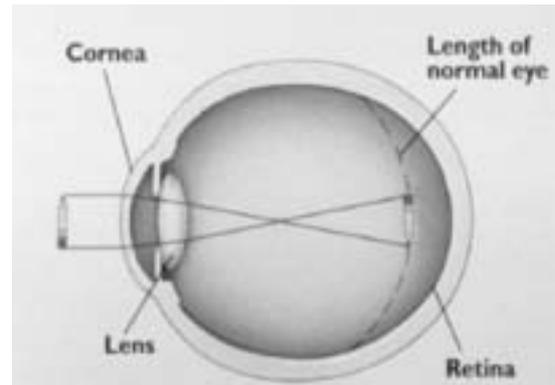
A refractive error means that the shape of your eye doesn't refract the light properly, so that the image you see is blurred. Although refractive errors are called eye disorders, they are not diseases.



a normal eye, the cornea and lens focus light rays on the retina

What are the different types of refractive errors? Myopia (nearsightedness)

A myopic eye is longer than normal or has a cornea that is too steep, so that the light rays focus in front of the retina. Close objects look clear, but distant objects appear blurred.

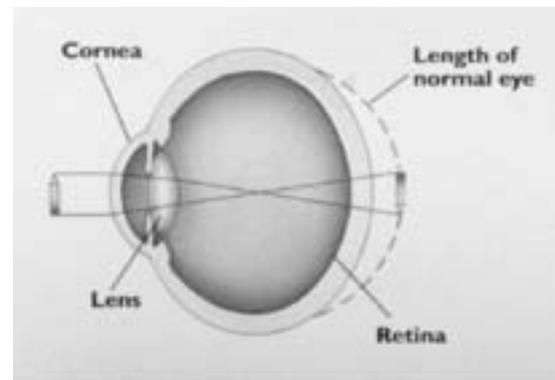


In myopia, distant objects appear blurry because the eye is too long, and images focus in front of the retina instead of on it.

It is important to have regular eye examinations by an ophthalmologist to watch for changes in the retina.

Hyperopia (farsightedness)

A hyperopic eye is shorter than normal. Light from close objects, such as the page of a book, cannot focus clearly on the retina.



In hyperopia, close objects appear blurry because the eye is too short, and images are not in focus when they reach the retina.

Astigmatism (distorted vision)

The cornea is the clear front window of the eye. A normal cornea is round and smooth, like a basketball. When you have astigmatism, the cornea curves more in one direction than in the other, like a baseball.