

ASTIGMATISM (828) 665-1577

What is Astigmatism ?

Astigmatism is a visual disorder that causes blurred vision because a portion of the eye is not properly shaped. Normally, the optical structures of the eye are shaped spherically, like that of a ball. If your eye has astigmatism, it means that your eye is oval shaped, similar to the shape of an egg.

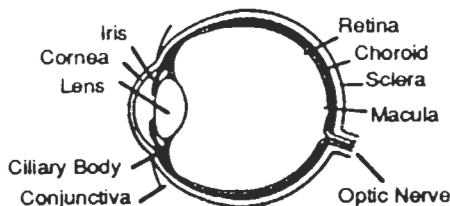
Usually it is the cornea, the front surface of the eye, that is misshaped. Another structure, the lens inside of the eye, can also be oval shaped. For this discussion, we will assume that it is the cornea that is misshaped.

How does Astigmatism cause blurry vision ?

When a cornea is spherical, light rays will be brought into sharp focus on the retina of the eye, much the same as how a magnifying lens focuses sunlight into a sharp, single point of light. If a magnifying lens becomes warped, or bent, as if someone had squeezed the opposite edges of the lens toward each other, the magnifying lens would no longer be able to focus light rays into a single point. Instead, the magnifying lens would form a distorted image of the light rays. An otherwise healthy cornea can be shaped like this bent magnifying lens. When it is, we call this condition Astigmatism.

What are the symptoms of Astigmatism ?

Symptoms associated with astigmatism may include any of the following: blurry vision, distorted vision, headaches, eye strain, squinting to see better, difficulty with reading, and shadowy, or even double vision.



The Human Eye

If a three dimensional view of an astigmatic eye could be drawn, the outline of the cornea may resemble the image drawn below:



In this case, the vertical curve, which represents the shape of the cornea "up and down" is much flatter than the horizontal curve going "side to side." The curvature of an astigmatic cornea is uneven, or not spherical, the same as the curves in this drawing

You may understand an "astigmatic shape" by looking at a spoon. The backside (convex side) of a spoon is shaped similar to an astigmatic cornea.

Astigmatism can occur in combination with myopia (near sighted) and hyperopia (far sighted). The condition may be in both eyes, or just one eye.

What causes an eye to have Astigmatism ?

Most astigmatism results because of normal variations in the growth and shape of your eyes. There are strong heredity factors in high amounts of astigmatism. If astigmatism develops in the late teens or early adult years, the cause may be from continued strain on the lens of your eyes. Prolonged close work and reading can sometimes cause the lens to gradually become uneven or astigmatic.

What is the treatment for Astigmatism ?

To obtain clear vision when you have astigmatism, glasses with specially made lenses must be worn. These lenses, called cylindrical or toric lenses, have a shape that matches the curvature of your eye.

Can patients with Astigmatism wear soft contact lenses ?

Yes they can! With the new contact lens designs and materials available today, many patients with astigmatism are now able to wear soft contact lenses. If you have been told in the past that you could not wear soft contact lenses because of your astigmatism, now it may be possible for you to obtain clear, comfortable vision with specially designed soft contact lenses.

Can the amount of Astigmatism change ?

Yes. Because your eyes can grow or change shape throughout your life, the astigmatism can also change. Therefore, you should have regular eye examinations to keep your correction for astigmatism precise.