If you need to wear eyeglasses to see clearly you have a refractive error. There are four types of refractive error: myopia (near sightedness), hyperopia (far sightedness), astigmatism and presbyopia (age related inability to focus up close).

As rays of light pass through the eye they are "refracted" so they will land on the retina and produce a sharp image (like a camera being in focus). If the rays of light are not bent properly, blurry vision may result and then you have a "refractive error". The ideal condition of sharp vision is emmetropia, and occurs only with a perfectly matched bending of light and length of the eyeball. Unfortunately, the coordination between the power of the eye and shape of the eye are not perfect and most people have refractive errors. Whether or not we prescribe glasses depends on how bothersome the condition is for any given person.

Astigmatism may be one of the most misunderstood words in the English language. It means "not point like". This is from the blurred vision of astigmatism, in which all points of light do not focus evenly on the retina in the back of the eye.

When light enters the eye it is focused by two structures, the clear outer window of the eye called the cornea and by the lens, which resides just behind the colored part of the eye (the iris) and the black spot in the eye, the pupil. If one or both of these surfaces are not perfectly spherical or round, astigmatism is present.

As an analogy, compare an egg to a ping-pong ball, or a football to a basketball. The egg and the football are astigmatic, whereas the ping-pong ball and basketball are not. The usual site of this irregularity is the cornea. In fact, just about everyone has some astigmatism and it may be considered one of nature's imperfections. Rarely, it may be caused by lid swellings such as chalazia, corneal scars, improper contact lens wear, or by keratoconus.

Astigmatism may cause blurred vision, eye strain or even headaches. Small amounts of astigmatism may be ignored, but if any of its symptoms are present, astigmatism may be corrected by glasses or contact lenses. Astigmatism may increase slowly with time. Regular optometric care can insure proper vision is maintained, and in some cases slow the progression of astigmatism.