



FOCUSING ON REFRACTIVE ERRORS

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Did you know that more than 150 million people in the United States alone wear some form of corrective eyewear to correct refractive errors? Whether you are nearsighted, farsighted, have astigmatism or presbyopia, by wearing eyeglasses or putting in contacts, you can bring a blurry world into focus. Furthermore, with all the advances in optical technology that are available today, many refractive errors can be permanently corrected with LASIK as well as other surgical procedures.

WHAT IS A REFRACTIVE ERROR?

Your eye operates in much the same way as a camera. Just as the lens of a camera focuses entering light on a piece of film to produce a sharp image, the lens of your eye focuses light on the retina to form a picture that is then sent to the brain. When a refractive error is present, it means that your eye cannot focus light correctly on the retina. A refractive error is a common eye disorder that can occur for a number of reasons. It may be due to an irregularly shaped cornea (the clear front surface of the eye), the length of the eyeball itself or can develop as the lens of your eye ages. There are a number of symptoms that can be associated with a refractive error. While the most common one is blurred vision, you may also experience other symptoms such as headaches, double vision, eye strain or glare and halos around light.

THE FOUR MAIN TYPES OF REFRACTIVE ERRORS ARE:

- Myopia (nearsightedness) – Myopia is the most common refractive error. Most cases of myopia occur because the eyeball is too long and light is focused before it reaches the retina. It can also be the result of the cornea or the lens being too curved relative to the length of the eyeball.
- Hyperopia (farsightedness) – Hyperopia is a refractive error that is due to the eyeball being too short and/or a cornea that is flatter than normal. In cases of hyperopia, it is more difficult to see up-close objects clearly.
- Astigmatism – Astigmatism is due to an irregularly shaped cornea or lens. In cases of astigmatism, the eye is unable to evenly focus light on the retina to produce a clear image. Astigmatism may occur in conjunction with myopia or hyperopia.





- Presbyopia – Presbyopia is a refractive error that affects the majority of individuals over the age of 40. It occurs with advancing age as the lens of the eye loses its elasticity and its ability to focus. With presbyopia, it is more difficult to see up close.

DIAGNOSIS & TREATMENT

Refractive errors can be readily detected during the course of a routine eye exam. To do this, your optometrist will have you read a vision chart as well as perform tests to assess how the light bends as it travels through the cornea and the lens of your eye. Once it is determined that a refractive error is present, your optometrist will use a special machine to go through a series of lenses to pinpoint the exact prescription needed to correct your vision.

In the old days, the only way to correct refractive errors was by wearing eyeglasses. While wearing a pair of eyeglasses remains an excellent and fashionable way to enjoy clear, crisp vision; using contact lenses or having a refractive surgery to permanently change the shape of the cornea also provide highly effective and increasingly popular methods of vision correction.

Based on your specific needs and lifestyle, your optometrist will guide you in choosing the safest and most appropriate treatment to maintain the health of your eyes and the quality of your vision.