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Pharmacology

PHS 212

**TYPE OF EYE DEFECTS**

1. MYOPIA or NEARSHIGHTED

**Causes of myopia**

Myopia occurs when the eyeball is to long, relative to the focusing power of the cornea and lens of the eye. This causes light rays to focus at a point in front of the retina, rather than directly on its surface if you’re nearsighted.

Myopia typically begins in childhood, and you may have a higher risk if your parents are nearsighted. In most cases, nearsightedness stabilizes in early adulthood but sometimes it continues to progress with age.

## **Myopia symptoms**

If you are nearsighted, you will have difficulty reading road signs and seeing distant objects clearly, but will be able to see well for close-up tasks such as reading and computer use.

Other signs and [symptoms of myopia](https://www.allaboutvision.com/conditions/myopia-faq/myopia-symptoms.htm) include squinting, [eye strain](https://www.allaboutvision.com/cvs/irritated.htm) and [headaches](https://www.allaboutvision.com/conditions/myopia-faq/nearsighted-headaches.htm). Feeling fatigued when driving or playing [sports](https://www.allaboutvision.com/sports/) also can be a symptom of uncorrected nearsightedness.

If you experience these signs or symptoms while wearing your glasses or contact lenses, schedule an eye exam with your [optometrist](https://www.allaboutvision.com/eye-doctor/choose.htm) or [ophthalmologist](https://www.allaboutvision.com/eye-exam/what-is-an-ophthalmologist/) to see if you need a stronger prescription. Most forms of myopia can be managed with corrective lenses. Surgery is available to permanently correct some forms of myopia, although long-term effectiveness and safety has not been fully determined.

**Myopia** **treatment**

Nearsightedness can be corrected with [eyeglasses](https://www.allaboutvision.com/eyeglasses/), [contact lenses](https://www.allaboutvision.com/contacts/) or [refractive surgery](https://www.allaboutvision.com/visionsurgery/).

Depending on the degree of your myopia, you may need to wear your glasses or contact lenses all the time or only when you need very clear distance vision, like when driving, seeing a chalkboard or watching a movie.

Good choices for eyeglass lenses for nearsightedness include [high-index lenses](https://www.allaboutvision.com/lenses/highindx.htm) (for thinner, lighter glasses) and lenses with [anti-reflective coating](https://www.allaboutvision.com/lenses/anti-reflective.htm). Also, consider [photochromic lenses](https://www.allaboutvision.com/lenses/photochromic.htm) to protect your eyes from UV rays and high-energy blue light and to reduce the need for a separate pair of prescription sunglasses outdoors.

**ASTIGMATISM**

Astigmatism is a type of [refractive error](https://www.allaboutvision.com/eye-exam/refraction.htm) caused by the irregularities in the shape of a person’s cornea. The condition is not an eye disease or eye health issue. In this condition, the eye fails to focus the light equally on the retina leading to blurred or distorted vision. It can be present at the time of birth, or can develop gradually in life.

**Causes of astigmatism**

Astigmatism is usually caused by an irregularly shaped cornea. Instead of the cornea having a symmetrically rounded ball shape, it is shaped more like an egg, with one side (meridians) being significantly more curved than the side perpendicular to . In some cases, the problem is caused by the distortion of shape of the lens inside the eye. This is called lenticular astigmatism, to differentiate it from the more common corneal astigmatism.

There are three primary types of astigmatism:

* **Myopic astigmatism.**

 One or both principal meridians of the eye are nearsighted. (If both meridians are nearsighted, they are myopic in differing degree.)

* **Hyperopic astigmatism.**

 One or both principal meridians are farsighted. (If both are farsighted, they are hyperopic in differing degree.)

* **Mixed astigmatism.**

 One prinicipal meridian is nearsighted, and the other is farsighted.

**Astigmatism treatment**

Options to correct astigmatism can usually be corrected with [eyeglasses](https://www.allaboutvision.com/eyeglasses/), [contact lenses](https://www.allaboutvision.com/contacts/) or [refractive surgery](https://www.allaboutvision.com/visionsurgery/).

Refractive surgery is one of the less common astigmatism treatment options, however, since it is a laser procedure that changes the shape of your eyes, it comes with risks associated with most laser surgeries.

Astigmatism should be treated as soon as possible. Once diagnosed, regular visits to an eye doctor are required as astigmatism can fluctuate over time, making it necessary for prescriptions to be modified.