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DEPARTMENT: NURSING

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ASSIGNMENT

Write short note on any 2 eye defects

- **ASTIGMATISM**

Astigmatism is a type of refractive error caused by the irregularities in the shape of a person's cornea. The two main types of astigmatism are corneal and lenticular. A corneal astigmatism happens when THE cornea is misshaped. A lenticular astigmatism happens when the lens is misshaped. Other types of astigmatism are:

- **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 principal meridian is nearsighted, and the other is farsighted.

It's not known what causes astigmatism, but genetics is a big factor. It's often present at birth, but it may develop later in life. It may also occur as a result of an

injury to the eye or after eye surgery. Rarely, a condition called keratoconus can cause astigmatism by making the clear front part of the eye (your cornea) thinner and more cone-shaped. Astigmatism often occurs with nearsightedness or farsightedness.

➤ SYMPTOMS

Symptoms of astigmatism may include:

- Blurry or distorted vision
- Eyestrain
- Headaches
- Trouble seeing at night
- Squinting
- Eye irritations

➤ TREATMENT

There are two treatments for the common levels of astigmatism:

- **Corrective lenses.** That means glasses or contacts. The doctor prescribes a special type of soft contact lenses called toric lenses. They can bend light more in one direction than the other. If the case is more severe, the doctor might prescribe a gas-permeable rigid contact lenses for a procedure called orthokeratology. The lenses are worn while sleeping, and they reshape your cornea. You'll need to keep wearing the lenses to hold this new shape, but you won't have to wear them as often.
- **Refractive surgery.** Laser surgery also changes the shape of the cornea. Types of refractive surgery include LASIK and PRK.

Irregular astigmatism is far less common and Keratoconus is linked to problems with the cornea, the front part of the eye. is one example.

- MYOPIA

Near-sightedness, also known as short-sightedness and myopia, is an eye disorder where light focuses in front of, instead of on, the retina. This causes distant objects to be blurry while close objects appear normal. The underlying cause is believed to be a combination of genetic and environmental factors. Risk factors include doing work that involves focusing on close objects, greater time spent indoors, and a family history of the condition.

➤ Types of myopia

Various forms of myopia have been described by their clinical appearance

- Simple myopia: Myopia in an otherwise normal eye, typically less than 4.00 to 6.00 diopters. This is the most common form of myopia.
- Degenerative myopia, also known as malignant, pathological, or progressive myopia, is characterized by marked fundus changes, such as posterior staphyloma, and associated with a high refractive error and subnormal visual acuity after correction. This form of myopia gets progressively worse over time. Degenerative myopia has been reported as one of the main causes of visual impairment.
- Pseudomyopia is the blurring of distance vision brought about by spasm of the accommodation system.
- Nocturnal myopia: Without adequate stimulus for accurate accommodation, the accommodation system partially engages, pushing distance objects out of focus.
- Nearwork-induced transient myopia (NITM): short-term myopic far point shift immediately following a sustained near visual task. Some authors argue for a link between NITM and the development of permanent myopia.
- Instrument myopia: over-accommodation when looking into an instrument such as a microscope.

- Induced myopia, also known as acquired myopia, results from various medications, increases in glucose levels, nuclear sclerosis, oxygen toxicity (e.g., from diving or from oxygen and hyperbaric therapy) or other anomalous conditions. Sulphonamide therapy can cause ciliary body edema, resulting in anterior displacement of the lens, pushing the eye out of focus. Elevation of blood-glucose levels can also cause edema (swelling) of the crystalline lens as a result of sorbitol accumulating in the lens. This edema often causes temporary myopia. Scleral buckles, used in the repair of retinal detachments may induce myopia by increasing the axial length of the eye.
- Index myopia is attributed to variation in the index of refraction of one or more of the ocular media. Cataracts may lead to index myopia.
- Form deprivation myopia occurs when the eyesight is deprived by limited illumination and vision range,¹ or the eye is modified with artificial lenses or deprived of clear form vision. In lower vertebrates, this kind of myopia seems to be reversible within short periods of time. Myopia is often induced this way in various animal models to study the pathogenesis and mechanism of myopia development.

➤ SYMPTOMS OF MYOPIA

Nearsightedness symptoms may include:

- Blurry vision when looking at distant objects
- The need to squint or partially close the eyelids to see clearly
- Headaches caused by eyestrain
- Difficulty seeing while driving a vehicle, especially at night (night myopia)

➤ TREATMENT

Glasses and contact lenses

Glasses and contact lenses are the most common treatment options for myopia. An optometrist will order custom lenses that have the right prescription for that person. These will fit into the frame of the glasses and correct any nearsightedness.

Contact lenses are clear discs that sit on the surface of the eye. Like glasses, contact lenses are also customizable for different prescriptions.

Orthokeratologys

People with mild forms of myopia may benefit from a nonsurgical process called orthokeratology, or corneal refractive therapy. This treatment involves wearing a series of rigid contact lenses to reshape the cornea. These lenses put pressure on the cornea to flatten it. This, in turn, changes how light focuses as it enters the eye. People tend to wear these contact lenses while sleeping. This process can help people experience clear vision temporarily. However, it also carries a risk of eye infections.

Surgery

There are a couple of different types of surgery available to people who would rather not wear glasses, who want a more permanent solution, or who have severe forms of myopia.

One form of surgery is laser surgery, wherein an eye doctor will use a powerful beam of light to change the shape of the cornea. Laser surgery adjusts how the eye focuses light, meaning that images that were once blurry should now be clear. The surgery takes around 10 minutes per eye. This option can be expensive, but it is usually painless. Vision should return to normal within a day or so of the surgery.

However, it is normal to have occasional blurred vision or dry eyes for weeks or months afterward. Attending follow-up appointments after this procedure is important to make sure that the eyes are healing properly.

Other forms of surgery can involve placing a corrective lens inside the eye, either in front of the person's lens or in place of it. Eye doctors tend to recommend this form of surgery for more severe forms of myopia.