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COURSE PHS 212

QUESTION

Write short notes on any two eye defects

ANSWER

Myopia

The defect of an eye in which it cannot see the distant objects clearly is called myopia. A person with myopia can see nearby objects clearly. Myopia is caused due to:

* High converging power of lens

* Eye-ball being too long

Due to high converging of the eye-lens the image is formed in front of the retina and a person cannot see clearly the distant objects. In another case, if the eye- ball is too long than the retina is at larger distance from the eye-lens. In this case also the image is formed in front of the retina even though the eye-lens has correct converging power.

Myopia or short-sightedness can be corrected by wearing spectacles containing concave lens. This is because when a concave lens of suitable power is used for the myopic eye then the concave lens first diverge the parallel rays of light coming from distant object. Therefore, first a virtual image is formed at the far point of the myopic eye. Now since the rays of light appear to be coming from eye's far point, they are easily focussed by the eye-lens and image is formed on retina. Concave lens is used for myopic eye so as to decrease the converging power of the eye-lens. Generally, nearsightedness first occurs in school-age children. There is some evidence that myopia is inherited. If one or both of your parents need glasses, there is an increased chance that you will too. Individuals who spend a lot of time reading, working or playing at a computer, or doing other close visual work may also be more likely to develop nearsightedness. Because the eye continues to grow during childhood, myopia typically progresses until about age 20. However, nearsightedness may also develop in adults due to visual stress or health conditions such as diabetes. A common sign of nearsightedness is difficulty seeing distant objects like a movie screen or the TV, or the whiteboard or chalkboard in school. Eyeglasses or contact lenses can easily help with myopia. Depending on the amount of myopia, you may only need to wear glasses or contact lenses for certain activities, like watching a movie or driving a car. Or, if you are very nearsighted, they may need to be worn all the time.

Farsightedness

Farsightedness is also known as hyperopia. It affects about one fourth of people. People with hyperopia can see distant objects clearly, but nearby objects appear blurry. In hyperopia, the eye is too short. This results in images being focused in back of the retina. Hyperopia is corrected with a convex lens, which curves outward like the outside of a bowl. The lens changes the focus so that images fall on the retina as they should. Common signs of farsightedness include difficulty in concentrating and maintaining a clear focus on close objects, eye strain, fatigue and headaches after close work, and aching or burning eyes, especially after intense concentration on close work. In addition to lenses, many cases of myopia and hyperopia can be corrected with surgery. For example, a procedure called LASIK (Laser-Assisted in situ Keratomileusis) uses a laser to permanently

change the shape of the cornea so light is correctly focused on the retina.