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DEPARTMENT OF NURSING

PHS 212

SPECIAL SENSES

EYE DEFECTS

MYOPIA OR SHORT SIGHTEDNESS

Myopia is the eye defect characterized by the inability to see the distant object. It is otherwise called short sightedness because the person can see near objects clearly but not the distant objects.

Cause

In myopia, the refractive power of lens is usually normal. But, the anteroposterior diameter of the eyeball is abnormally long. Therefore, the image is brought to focus a little in front of retina. Light rays, after coming to a focus, disperse again so, a blurred image is formed upon retina.

Correction

In myopic eye, in order to form a clear image on the retina, the light rays entering the eye must be divergent and not parallel. Thus, the myopic eye is corrected by using a biconcave lens. Light rays are diverged by the concave lens before entering the eye.

HYPERMETROPIA OR LONG SIGHTEDNESS

Hypermetropia is the eye defect characterized by the inability to see near object. It is otherwise known as long sightedness because the person can see the distant objects clearly but not the near objects. It is also called hyperopia. In this defect, distant vision is normal but, near vision is affected (metras = measure).

Cause

Hypermetropia is due to decreased anteroposterior diameter of the eyeball. So, even though the refractive power of lens is normal, the light rays are not converged enough to form a clear image on retina, i.e. the light rays are brought to a focus behind retina. It causes a blurred image of near objects. Hypermetropia occurs in childhood, if the eyeballs fail to develop the correct size. It is common in old age also.

Correction

Hypermetropia is corrected by using biconvex lens. Light rays are converged by convex lens before entering the eye