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**SHORT NOTES ON TWO EYE DEFECTS:**

**MYOPIA:**

It is a defect due to which the eye is unable to see the distant objects clearly although it can see the nearby objects. It is when the eye is not able to focus properly on objects in the distance. This condition is very common and it often occurs with many members of the same family. It happens when the lens becomes a different shape (too curved) from usual, or when the eye is longer than normal, so light entering the eye focuses on a point *in front of* the retina, rather than right on it. This makes distant objects look blurry. People with myopia often squint while watching television or trying to see distant objects. Sudden myopia can often be the first symptom of Type II Diabetes.

**Causes**:

1). The eye lens become so more convergent that is decrease in the focal length of lens.

2). Elongation of eye ball.

People who are nearsighted have what is called a refractive error. This means that the light rays bend incorrectly into the eye to transmit images to the brain. In people with myopia, the eyeball is too long or the cornea has too much curvature, so the light entering the eye is not focused correctly. Light rays of images focus in front of the retina, the light-sensitive part of the eye, rather than directly on the retina, causing blurred vision.

Correction:

It can be corrected by making the eye lens more convergent, which can be done by placing a concave lens of suitable focal length

**HYPERMETROPIA:**

It is the defect due to which the eye is unable to see clearly the nearby objects although it can see distant objects clearly. a condition of the eye in which light is focused behind, instead of on, the retina. This results in close objects appearing blurry, while far objects may appear normal. As the condition worsens, objects at all distances may be blurry. Other symptoms may include headaches and eye strain. People may also experience accommodative dysfunction, binocular dysfunction, amblyopia, and strabismus.

**Causes**:

1). Increase of the focal length of the eye lens.

2). Shortening of the eye ball.

The cause is an imperfection of the eyes. Often it occurs when the eyeball is too short, or the lens or cornea is misshapen. Risk factors include a family history of the condition, diabetes, certain medications, and tumors around the eye. It is a type of refractive error. Diagnosis is based on an eye exam.

**Correction**:

It can be corrected by using convex lens of suitable focal length. Management can occur with eyeglasses, contact lenses, or surgery. Glasses are easiest while contact lenses can provide a wider field of vision. Surgery works by changing the shape of the cornea. Far-sightedness primarily affects young children, with rates of 8% at 6 years and 1% at 15 years. It then becomes more common again after the age of 40, affecting about half of people.