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QUESTION

Write Short Notes on Any Two Eye Defects

What Is Myopia (Nearsightedness)?

Myopia: (nearsightedness) this is a defect of vision in which far objects appear blurred but near objects are seen clearly. The image is focused in front of the retina rather than on it usually because the eyeball is too long or the refractive power of the eye's lens too strong. Myopia can be corrected by wearing glasses/contacts with concave lenses these help to focus the image on the retina.

What Causes Myopia?

The structure of your eye is to myopia vision vs. normal vision blame. When your eyeball is too long or the cornea the protective outer layer of your eye is too curved, the light that enters your eye won't focus correctly. Images focus in front of the retina, the light-sensitive part of your eye, instead of directly on the retina. This causes blurred vision. Doctors call this a refractive error.

High myopia: It's a more serious form of the condition, where the eyeball grows more than it is supposed to and becomes very long front to back. Besides making it hard to see things at a distance, it can also raise your chance of having other conditions like a detached retina, cataracts, and glaucoma.

Degenerative myopia: Also called pathological or malignant myopia, it is a rare type you usually inherit from your parents. Your eyeball gets longer very quickly and causes severe myopia, usually by the teenage or early adult years. This type of myopia can get worse far into adulthood. Besides making it hard to see things at a distance, you may have a higher chance of having a detached retina, abnormal blood vessel growth in the eye (choroid neovascularization), and glaucoma.

Symptoms

Chances are the only symptom is that more distant objects are blurred. You may also notice:

Headaches

Squinting

Eye strain

Eye fatigue when you try to see objects more than a few feet away

Children with myopia often have trouble reading the blackboard at school.

Diagnosis and Treatment

An eye exam can show you if you're myopic. Glasses, contacts, or refractive surgery can usually correct the problem. When you have myopia, your prescription for glasses or contact lenses will be a negative number. The more negative the number, the stronger your lenses will be. For example, -3.00 is stronger than -2.50. Your prescription helps the eye focus light on your retina. That clears up your vision. Eye surgery can improve your vision so much you may no longer need to wear glasses or contacts. The most common procedures for myopia are:

Photorefractive keratectomy: Also called PRK, this surgery uses a laser to sculpt the middle layer of your cornea. That flattens the cornea's curve and lets light rays focus closer to or on your retina.

LASIK: This is the most common surgery for myopia. The surgeon uses a laser or another tool to create a thin flap on the top layer of your cornea. He sculpts the cornea with another laser and moves the flap back into place. In the case of high myopia, special contacts or atropine eye drops have been found to be effective in slowing the progression. In some cases, your doctor may suggest cataract or clear lens replacement surgery.

Does It Get Better Over Time?

Myopia runs in families and will probably start in childhood. Multifocal lens (glasses or contacts) and eye drops such as atropine, pirenzepine gel, or cyclopentolate can help slow the progression. Your eyes usually stop changing after your teenage years, but not always. The incidents of myopia have been rising at an alarming rate in recent years. If you notice changes in your vision, get your eyes checked. See your eye doctor every year.

2. Hyperopia: (farsightedness) this is a defect of vision in which there is difficulty with near vision but far objects can be seen easily. The image is focused behind the retina rather than upon it. This occurs when the eyeball is too short or the refractive power of the lens is too weak. Hyperopia can be corrected by wearing glasses/contacts that contain convex lenses. Hyperopia, or farsightedness, is a common vision problem, affecting about a fourth of the population. People with hyperopia can see distant objects very well, but have difficulty focusing on objects that are up close. The condition is sometimes referred to as "hypermetropia" rather than hyperopia.

Hyperopia symptoms

Farsighted people sometimes have headaches or eye strain and may squint or feel fatigued when performing work at close range. If you get these symptoms while wearing your eyeglasses or contact lenses, you may need an eye exam and a new prescription.

What causes hyperopia/hypermetropia?

This vision problem occurs when light rays entering the eye focus behind the retina, rather than directly on it. The eyeball of a farsighted person is shorter than normal. Many children are born farsighted, and some of them "outgrow" it as the eyeball lengthens with normal growth. Sometimes people confuse hyperopia with presbyopia, which also causes near vision problems but for different reasons.

Hyperopia treatment

Farsightedness can be corrected with glasses or contact lenses to change the way light rays bend into the eyes. If your glasses or contact lens prescription begins with plus numbers, like +2.50, you are farsighted. You may need to wear your glasses or contacts all the time or only when reading, working on a computer or doing other close-up work. When selecting eyeglasses for the correction of farsightedness, choose aspheric high-index lenses especially for stronger prescriptions.

These lenses are thinner, lighter, and have a slimmer, more attractive profile. Aspheric lenses also reduce the magnified "bug-eye" appearance eyeglasses for hyperopia often cause. Be aware, though, that high-index aspheric lenses reflect more light than standard plastic lenses. For the best comfort and appearance, make sure the lenses include anti-reflective coating, which eliminates distracting lens reflections. High-index aspheric lenses for children should be made of lightweight polycarbonate lens material for superior comfort and impact resistance. Also, photochromic lenses that automatically darken in response to sunlight are highly recommended for kids and anyone who spends a significant amount of time outdoors.

Refractive surgery, such as LASIK or CK, is another option for correcting hyperopia. Surgery may reduce or eliminate your need to wear glasses or contact lenses.

Investigational procedures involving corneal implants may be a future option for correcting hyperopia.