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MYOPIA

Myopia(also called near sightedness) is a vision condition in which people can see close objects clearly, but objects farther away appear blurred. People with myopia can have difficulty clearly seeing a movie or TV screen, a whiteboard in school or while driving. It is the most common cause of impaired vision in people under age 40. Myopia occurs if the eyeball is too long or the cornea (the clear front cover of the eye) is too curved. As a result, the light entering the eye isn’t focused correctly and distant objects look blurred. It is an eye disorder where light focuses in front of, instead of on, the retina. Other symptoms may include headaches and eye strain. Severe near sightedness is associated with an increased risk of retinal detachment, cataracts, and glaucoma. The underlying cause is believed to be a combination of genetic and environmental factors.

SYMPTOMS

Near sightedness symptoms may include:

* Blurry vision when looking at distant objects
* The need to squint or partially close eyelids to see clearly
* Headaches caused by eyestrain
* Difficulty seeing while driving a vehicle, especially at night (night myopia)
* Need to sit closer to the television, movie screen or front of the classroom
* Seem to be unaware of distant objects
* Blink excessively
* Rub eyes frequently

CAUSES

Myopia occurs when the eyeball is too long, relative to the focusing power of the cornea and lens of the eye. This causes light rays to focus at a point in front of the retina, rather than directly on its surface. Myopia can be inherited or developed. If one or both parents are near sighted, there is an increased chance their children will be near sighted. Some people may experience blurred vision only at night. With night myopia, low light makes it difficult for the eyes to focus properly or the increased pupil size during dark conditions allows more peripheral, unfocused light rays to enter the eye. People who do an excessive amount of near vision work may experience a false or pseudo myopia. Their blurred distance vision is caused by an overuse of the eyes focusing mechanism. After long periods of work, their eyes are unable to refocus to see clearly in the distance. Clear distance vision usually returns after resting the eyes. However, constant visual stress may lead to a permanent reduction in distance over time. Symptoms of myopia may also be a sign of variations in blood sugar levels in people with diabetes or may be an early indication of developing cataract.

In degenerative myopia, near sightedness is simply a minor inconvenience and poses little or no risk to the health of the eye. But sometimes myopia can be so progressive and when severe it is considered to be degenerative condition. Degenerative myopia (also called malignant or pathological myopia) is a relatively rare condition that is believed to be hereditary and usually begins in early childhood. Degenerative myopia is also a leading cause of legal blindness. In malignant myopia, the elongation of the eyeball can occur rapidly, leading to a quick and severe progression of myopia and loss of vision. People with this condition have a significantly increased risk of retinal detachment and other degenerative changes in the back of the eye (such as bleeding in the eye from abnormal blood vessel growth).

COMPLICATIONS

Near sightedness is associated with a variety of complications from mild to severe, such as:

* Reduced quality of life: Uncorrected near sightedness can affect one’s quality of life. One may not be able to perform a task very well and limited vision may detract.
* Eyestrain: Uncorrected near sightedness may cause one to squint or strain the eyes which will be hard to maintain focus. This can lead to eyestrain and headaches.
* Impaired safety: One’s safety and that of others may be jeopardized if there is an uncorrected vision problem. This could be more serious especially when driving a car or operating a heavy equipment.
* Financial burden: The cost of corrective lenses, eye exams and medical treatments can add up, especially with a chronic condition as near sightedness. Vision reduction and vision loss also can affect income potential in some cases.
* Other eye problems: Severe near sightedness puts one at risk of retinal detachment, glaucoma, cataracts and myopic maculopathy which causes damage in the central retinal area. The tissues in long eyeballs are stretched and thinned, causing tears, inflammation, new blood vessels that are weak and bleed easily, scarring.

Testing for myopia may use several procedures to measure how the eyes focus light and to determine the power of any optical lenses needed to correct reduced vision. As part of the testing, the person will be given a set of letters to identify on a distance chart. The test measures visual acuity, which is written as a fraction, such as 20/40. The top number of the fraction is the standard distance at which testing is performed (20 feet). The bottom number is the smallest letter size read. A person with 20/40 visual acuity would have to get within 20 feet to identify a letter that could be seen clearly at 40 feet in a normal eye. Normal distance visual acuity is 20/20.

ASTIMAGTISM

Astigmatism is a common vision problem caused by an errpor in the shape of the cornea. With astigmatism, the lens of the eye or the cornea, which is the front surface of the eye, has an irregular curve. This can change the way light passes, or refracts to your retina. This causes blurry, fuzzy or distorted vision. Ideally, an eyeball is shaped like a perfectly round ball. Light comes into it and bends evenly, which gives you a clear view. Astigmatism is fairly easy for an eye doctor to fix with glasses, contacts or surgery.

ASTIGMATISM SYMPTOMS

Symptoms of astigmatism may include:

* Blurry or distorted or fuzzy vision at all distances (up, close and far away)
* Eyestrain
* Headaches
* Trouble seeing at night
* Squinting
* Eye irritation

ASTIMAGTISM CAUSES

Most people with astigmatism are born with it. Astigmatism can also occur after an eye injury, eye disease or surgery. Rarely, a condition called Keratoconus can cause astigmatism by making the clear front part of your eye (your cornea) thinner and more cone-shaped. One can’t get astigmatism from reading in low light or sitting too close to the TV. Astigmatism often occurs with near sightedness or far sightedness. The two main types of astigmatism are corneal and lenticular. A corneal astigmatism happens when the cornea misshapen. A lenticular astigmatism happens when the lens misshapen.

ASTIGMATISM DIAGNOSIS

* Phoropter: One will look through a series of lenses to find the ones that give the clearest vision.
* Keratometer/topographer: This machine uses a circle of light to measure the curve of the cornea.
* Autorefractor: This device shines light into the eye and measures how it changes as it bounces off the back.

Astigmatism can occur in children and adults. The risk of developing astigmatism may be higher in any of the following:

* A family history of astigmatism or other eye disorders, such as keratoconus (degeneration of the cornea).
* Scarring or thinning of the cornea.
* Excessive near sightedness, which creates blurry vision at a distance.
* Excessive far sightedness, which creates blurry close up vision.
* A history of certain types of eye surgery, such as cataract surgery (surgical removal of a clouded lens).