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**18/MHS07/006**

**PHARMACOLOGY**

**PHS 212**

1. MYOPIA: Myopia (also called nearsightedness) is the most common cause of impaired vision in people under age 40. In recent years, its prevalence is growing at an alarming rate.

MYOPIA SYMPTOMS

If you are nearsighted, you will have difficulty reading road signs and seeing distant objects clearly, but will be able to see well for close-up tasks such as reading and computer use.

Other signs and symptoms of myopia include squinting, eye strain and headaches. Feeling fatigued when driving or playing sports also can be a symptom of uncorrected nearsightedness.

If you experience these signs or symptoms while wearing your glasses or contact lenses, schedule an eye exam with your optometrist or ophthalmologist to see if you need a stronger prescription.

WHAT CAUSES MYOPIA?

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.

Nearsightedness can also be caused by the cornea and/or lens being too curved for the length of the eyeball. In some cases, myopia occurs due to a combination of these factors.

Myopia typically begins in childhood, and you may have a higher risk if your parents are nearsighted. In most cases, nearsightedness stabilizes in early adulthood but sometimes it continues to progress with age.

MYOPIA TREATMENT

Nearsightedness can be corrected with eyeglasses, contact lenses or refractive surgery.

Depending on the degree of your myopia, you may need to wear your glasses or contact lenses all the time or only when you need very clear distance vision, like when driving, seeing a chalkboard or watching a movie.

Good choices for eyeglass lenses for nearsightedness include high-index lenses (for thinner, lighter glasses) and lenses with anti-reflective coating. Also, consider photochromic lenses to protect your eyes from UV rays and high-energy blue light and to reduce the need for a separate pair of prescription sunglasses outdoors.

If you're nearsighted, the first number ("sphere") on your eyeglasses prescription or contact lens prescription will be preceded by a minus sign (–). The higher the number, the more nearsighted you are.

Refractive surgery can reduce or even eliminate your need for glasses or contacts. The most common procedures are performed with an excimer laser.

2. HYPEROPIA: 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

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 causesBe 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.

3. ASTIGMATISM

What Is Astigmatism?

[Astigmatism](https://www.webmd.com/eye-health/astigmatism-eyes) is a condition in which your [eye](https://www.webmd.com/eye-health/picture-of-the-eyes) isn’t completely round. Almost all of us have it to some degree.

Ideally, an eyeball is shaped like a perfectly round ball. Light comes into it and bends evenly, which gives you a clear view. But if your [eye](https://www.webmd.com/eye-health/ss/slideshow-eye-conditions-overview) is shaped more like a football, light gets bent more in one direction than another. That means only part of an object is in focus. Things at a distance may look blurry and wavy.

It’s common to have astigmatism along with [nearsightedness](https://www.webmd.com/eye-health/nearsightedness-myopia) (myopia) or [farsightedness](https://www.webmd.com/eye-health/farsightedness) (hyperopia). These three conditions are called refractive errors because they involve how your eyes bend (refract) light.

[Astigmatism is fairly easy for an eye doctor to fix with glasses](https://www.webmd.com/eye-health/astigmatism-eyes?print=true), contacts, or surgery.

Astigmatism Symptoms

[Symptoms of astigmatism](https://www.webmd.com/eye-health/understanding-astigmatism-symptoms) may include:

Blurry or distorted [vision](https://www.webmd.com/eye-health/default.htm)

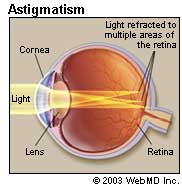
Eyestrain

[Headaches](https://www.webmd.com/migraines-headaches/migraines-headaches-basics)

[Trouble seeing](https://www.webmd.com/eye-health/vision-basics) at night

ASTIGMATISM CAUSES

Most people are born with it, but experts don’t know why. You can also get it after an [eye](https://www.webmd.com/eye-health/eye-assessment/default.htm) injury, an eye disease, or surgery.



Rarely, a condition called [keratoconus](https://www.webmd.com/eye-health/eye-health-keratoconus) can cause astigmatism by making the clear front part of your eye (your cornea) thinner and more cone-shaped. You’ll probably need contacts (but not glasses) to see clearly. You can’t get astigmatism from reading in low light or sitting too close to the TV.

ASTIGMATISM TREATMENT

Glasses or contacts can correct almost all cases of astigmatism. But if you have only a slight astigmatism and no other vision problems, you may not need them

Astigmatism Treatment

Glasses or contacts can correct almost all cases of astigmatism. But if you have only a slight astigmatism and no other vision problems, you may not need them.

There are two treatments for the common levels of astigmatism:

Corrective lenses. That means glasses or contacts. If you have astigmatism, your doctor will probably prescribe a special type of soft [contact lenses](https://www.webmd.com/eye-health/contact-lenses-colored-soft-hard-toric-bifocal) called toric lenses. They can bend light more in one direction than the other. If your case is more severe, you might get gas-permeable rigid contact lenses for a procedure called orthokeratology. You wear the lenses while you sleep, and they reshape your cornea. You’ll need to keep wearing the lenses to hold this new shape, but you won’t have to wear them as often.

Refractive surgery. Laser surgery also changes the shape of your cornea. Types of refractive surgery include [LASIK](https://www.webmd.com/eye-health/lasik-laser-eye-surgery) and PRK. You’ll need to have otherwise healthy eyes with no retina problems or corneal scars