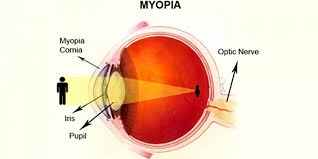
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**MAT NO: 18/MHS02/071**

**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.

Globally, research suggests that in the year 2000, roughly 25 percent of the world's population was nearsighted but by the year 2050, it's expected that roughly half the people on the planet will be myopic.



**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](https://www.allaboutvision.com/conditions/myopia-faq/myopia-symptoms.htm" \o ") include squinting, [eye strain](https://www.allaboutvision.com/cvs/irritated.htm" \o ") and [headaches](https://www.allaboutvision.com/conditions/myopia-faq/nearsighted-headaches.htm" \o "). Feeling fatigued when driving or playing [sports](https://www.allaboutvision.com/sports/" \o ") 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](https://www.allaboutvision.com/eye-doctor/choose.htm" \o ") or [ophthalmologist](https://www.allaboutvision.com/eye-exam/what-is-an-ophthalmologist/" \o ") 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](https://www.allaboutvision.com/resources/retina.htm" \o "), rather than directly on its surface.

Nearsightedness can also be caused by the [cornea](https://www.allaboutvision.com/resources/cornea.htm" \o ") 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](https://www.allaboutvision.com/eyeglasses/" \o "), [contact lenses](https://www.allaboutvision.com/contacts/" \o ") or [refractive surgery](https://www.allaboutvision.com/visionsurgery/" \o ").

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](https://www.allaboutvision.com/lenses/highindx.htm" \o ") (for thinner, lighter glasses) and lenses with [anti-reflective coating](https://www.allaboutvision.com/lenses/anti-reflective.htm" \o "). Also, consider [photochromic lenses](https://www.allaboutvision.com/lenses/photochromic.htm" \o ") 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](https://www.allaboutvision.com/eyeglasses/eyeglass-prescription.htm" \o ") or [contact lens prescription](https://www.allaboutvision.com/contacts/contact-lens-rx.htm" \o ") 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.

* In [PRK](https://www.allaboutvision.com/visionsurgery/prk.htm" \o ") the laser removes a layer of corneal tissue, which flattens the cornea and allows light rays to focus more accurately on the retina.
* In LASIK — the most common refractive procedure — a thin flap is created on the surface of the cornea, a laser removes some corneal tissue, and then the flap is returned to its original position.

Then there’s [orthokeratology](https://www.allaboutvision.com/contacts/orthok.htm" \o ")a non-surgical procedure where you wear special rigid gas permeable ([RGP or GP](https://www.allaboutvision.com/contacts/rgps.htm" \o ")) contact lenses at night that reshape your cornea while you sleep. When you remove the lenses in the morning, your cornea temporarily retains the new shape, so you can see clearly during the day without glasses or contact lenses.

Orthokeratology and a related GP contact lens procedure called corneal refractive therapy (CRT) have been proven effective at temporarily correcting mild to moderate amounts of myopia. Both procedures are good alternatives to surgery for individuals who are too young for LASIK or are not good candidates for refractive surgery for other reasons.

Implantable lenses known as [phakic IOLs](https://www.allaboutvision.com/visionsurgery/implantable-lenses.htm" \o ") another surgical option for correcting nearsightedness, particularly for individuals with high amounts of myopia or thinner-than-normal corneas that could increase their risk of [complications from LASIK](https://www.allaboutvision.com/visionsurgery/lasik_complication_1.htm" \o ") or other laser vision correction procedures.

Phakic IOLs work like contact lenses, except they are surgically placed within the eye and typically are permanent, which means no maintenance is needed. Unlike IOLs used in [cataract surgery](https://www.allaboutvision.com/conditions/cataract-surgery.htm" \o "), phakic IOLs do not replace the eye’s natural lens, which is left intact.

**Controlling myopia**

With more people becoming nearsighted, there is a lot of interest in finding ways to control the progression of myopia in childhood.

A number of different techniques have been tried — including fitting children with [bifocals](https://www.allaboutvision.com/lenses/multifocal.htm" \o "), [progressive lenses](https://www.allaboutvision.com/lenses/progressives.htm" \o ") and gas permeable contact lenses. All of these have delivered mixed results.

Recent clinical trials showed that low-dose atropine eye drops could slow myopia progression in school-age children, with significantly fewer side effects compared with higher concentrations.

Some kids, though, don't respond well to atropine drops.

A dual-focus daily disposable contact lens decreased the progression rate of myopia in children between 8 and 12 years old when compared to a single vision lens, according to a study presented in 2017 at the American Academy of Optometry meeting.

The specially designed multifocal lenses reduced [myopia progression](https://www.allaboutvision.com/parents/myopia-progression.htm" \o ") by 59 percent at one year, 54 percent at two years and 52 at three years, compared with the myopia progression experienced by children who wore conventional contact lenses.

“There were good correlations between change in refractive error and change in eyeball growth,” said Paul Chamberlain, who presented the research and is senior manager of clinical research at CooperVision.

**Degenerative myopia**

In most cases, nearsightedness 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 severe it is considered a 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. About 2 percent of Americans are afflicted, and degenerative myopia is a leading cause of [legal blindness](https://www.allaboutvision.com/lowvision/legally-blind.htm" \o ").

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).

See your doctor: If you are having trouble seeing near objects or find you are holding books (or your smartphone) farther away to better make out the words, you should [see your eye doctor](https://www.allaboutvision.com/locator/" \l "/?geo=true" \o "). Nearsightedness can be treated and in some cases slowed in children.

**ASTIGMATISM**

Astigmatism is a condition in which the e[ye](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.

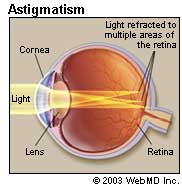
**Astigmatism Symptoms**

[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 Diagnosis**

Astigmatism symptoms come on slowly. Go to an [eye doctor](https://www.webmd.com/eye-health/eye-doctors-optometrists-ophthalmologists) if you notice changes in your vision. [You’ll need a complete eye exam](https://www.webmd.com/eye-health/understanding-astigmatism-treatment). Your doctor will test the sharpness of your eyesight by asking you to read an eye chart. They’ll also use tools to measure your vision, including:

* **Phoropter.** You look through a series of lenses to find the ones that give you the clearest vision.
* **Keratometer/topographer.** This machine uses a circle of light to measure the curve of your cornea.
* **Autorefractor.** This device shines light into your eye and measures how it changes as it bounces off the back. This gives your doctor an idea of which lenses you need.