CONDITION

Blindness and vision loss

Learn about blindness and vision loss, including common symptoms, causes, eye tests, treatments, vision rehabilitation, and signs that need urgent care.

WHAT IT IS
Reduced sight affecting daily life

BODY SYSTEM
Eyes and vision

MAIN SYMPTOMS
Blurred vision, missing visual areas, loss of side vision, difficulty seeing at night

WHAT CAUSES IT
Multiple eye, optic nerve, or brain conditions

HOW IT IS DIAGNOSED
Visual acuity testing and comprehensive eye examination

MAIN TREATMENT
Cause-specific treatment and vision rehabilitation

CAN IT BE CURED?
Sometimes - some causes are treatable

IS IT AN EMERGENCY?
Sometimes - sudden vision loss or severe eye pain

LONG-TERM OUTLOOK
May be temporary, stable, progressive, or permanent

Overview

Blindness and vision loss describe reduced sight that affects daily life. Vision loss may be mild or severe, temporary or permanent, and present in one or both eyes. It can affect central vision, side vision, color vision, depth perception, or the ability to see in dim light.

Some people have low vision, meaning that glasses, contact lenses, medicine, or standard surgery cannot fully correct their sight. Low vision is not the same as having no sight. Many people who are considered blind can still detect light, shapes, movement, or objects in part of their visual field.

"Legal blindness" is an administrative definition used for certain services and benefits. In the United States, it usually means that vision in the better eye is 20/200 or worse with the best correction, or that the field of vision in the better eye is limited to 20 degrees or less. This

definition does not describe how a person functions in every situation.

Vision loss matters because it can affect reading, driving, work, education, mobility, medication use, and the ability to recognize faces. Some causes are treatable, especially when found early. Even when sight cannot be restored, vision rehabilitation and accessible technology can help people remain active and independent.

Symptoms

Vision loss does not always feel like a sudden darkening of sight. Symptoms depend on which part of the eye or visual pathway is affected.

Possible symptoms include:

Some eye diseases develop slowly and may not cause noticeable symptoms at first. Glaucoma, for example, can damage side vision before a person realizes that anything has changed. Regular eye examinations can detect some problems before they interfere with daily activities.

Sudden vision loss is different from gradual change. A rapid loss of sight in one or both eyes, even without pain, requires immediate medical assessment. It can result from a retinal problem, blocked blood flow to the eye, stroke, inflammation, or another time-sensitive condition.

Call emergency services if sudden vision trouble occurs with facial drooping, arm weakness, difficulty speaking, severe imbalance, confusion, or an intense new headache. These may be signs of a stroke.

Seek emergency eye care for:

After a chemical exposure, begin rinsing the eye immediately with clean, lukewarm water. Do not delay rinsing while arranging medical care.

- Blurred, cloudy, dim, or distorted vision
- A dark, blank, or missing area in the center of vision
- Loss of side, or peripheral, vision
- Difficulty seeing at night or adjusting between light and dark
- Colors appearing faded or less bright
- Straight lines appearing bent or wavy
- Double vision
- Increased glare or halos around lights

- Trouble reading, recognizing faces, or judging steps and distances
- New flashes of light, floaters, or a shadow across part of the visual field
- A sudden curtain, shadow, or veil over vision
- A rapid increase in flashes or floaters
- Sudden severe eye pain, redness, headache, nausea, or halos around lights
- Vision loss after an eye injury
- A chemical splash in the eye
- Sudden vision symptoms with a new headache, scalp tenderness, or pain in the jaw while chewing, especially after age 50

Causes and risk factors

Vision loss can begin in the eye, the optic nerve that carries signals from the eye, or the parts of the brain that process sight. More than one condition may be present.

Common causes include cataracts, which cloud the eye's natural lens; age-related macular degeneration, which damages central vision; glaucoma, which injures the optic nerve; and diabetic retinopathy, which affects blood vessels in the retina. The retina is the light-sensitive tissue at the back of the eye.

Other causes include retinal detachment, blocked retinal blood vessels, infection, inflammation, eye injuries, inherited retinal disorders, and diseases of the cornea, the clear front surface of the eye. Optic neuritis and other optic nerve conditions can also reduce vision.

A stroke or brain injury may cause loss of part of the visual field even when the eyes are healthy. Some medicines can affect vision, although this is uncommon and depends on the medicine and the person's health. Do not stop a prescribed medicine because of a vision concern without speaking with a clinician, unless emergency services advise otherwise.

Uncorrected nearsightedness, farsightedness, or astigmatism can cause substantial visual impairment. These focusing problems can often be improved with glasses or contact lenses, but an eye examination is needed to separate them from eye disease.

Risk factors vary by condition. They may include:

Risk does not mean that vision loss is certain. An eye care professional can consider personal and family history when recommending monitoring.

- Older age

- Diabetes, high blood pressure, or cardiovascular disease
- Smoking
- A family history of glaucoma, macular degeneration, or inherited eye disease
- Previous eye injury, inflammation, or surgery
- Long-term exposure to ultraviolet light without eye protection
- Premature birth
- Medicines known to affect the eyes
- Limited access to eye examinations or treatment

Diagnosis

An optometrist or ophthalmologist may evaluate vision loss. An optometrist provides eye examinations and manages many vision and eye health problems. An ophthalmologist is a medical doctor who specializes in eye disease and eye surgery. Other specialists may become involved when symptoms suggest a neurological or general medical cause.

The evaluation begins with questions about when the change started, whether it affects one or both eyes, and whether it is constant or comes and goes. The clinician may ask about pain, flashes, floaters, headaches, injuries, medicines, medical conditions, and family history.

Testing may include visual acuity, which measures the ability to identify letters or symbols at a set distance. Refraction checks whether lenses improve the vision. Side vision may be measured with a visual field test.

A comprehensive eye examination may also include:

Optical coherence tomography, often called OCT, uses light waves to create detailed images of the retina and optic nerve. Retinal photographs, ultrasound, dye-based blood vessel imaging, or electrical tests of the retina may be useful in selected cases.

If the problem may come from the brain, optic nerve, blood vessels, infection, or inflammation, the evaluation can include blood tests or imaging such as MRI or CT. Testing is chosen according to the symptoms rather than performed routinely for every person.

- Testing how the pupils respond to light
- Checking eye movement and alignment
- Measuring pressure inside the eye
- Examining the cornea, lens, retina, and optic nerve

- Dilating the pupils with drops to provide a wider view inside the eye

Treatment and management

Treatment depends on the cause, how quickly it developed, and whether damage can be prevented or reversed. The goal may be to restore vision, preserve remaining sight, slow further loss, or improve daily function.

Glasses or contact lenses may correct focusing problems. Cataract surgery replaces a cloudy lens with an artificial lens and can improve vision when cataracts are responsible for the impairment.

Medicines, laser procedures, injections, or surgery may be used for certain retinal and optic nerve diseases. For example, medicines injected into the eye can slow leakage or abnormal blood vessel growth in some forms of macular degeneration and diabetic eye disease. Glaucoma treatment lowers pressure in the eye through drops, laser treatment, surgery, or a combination of approaches. These treatments aim to protect remaining vision; they usually cannot restore optic nerve tissue already lost.

Retinal tears may be sealed with laser treatment or freezing therapy. A detached retina generally requires a procedure or surgery. Infection and inflammation need treatment directed at the specific cause. Managing diabetes, blood pressure, and other medical conditions can also help protect the eyes and overall health.

Treatment decisions should be made with an eye specialist. Benefits and risks depend on the diagnosis and the condition of each eye. Products promoted as cures, including unapproved stem-cell treatments or supplements, may lack evidence and can cause harm. Ask a qualified clinician before using them.

Vision rehabilitation is important when ordinary treatment cannot fully restore sight. It is not a single treatment. It is a coordinated approach that teaches practical ways to use remaining vision and complete daily tasks.

Services may include:

Rehabilitation can begin before vision loss becomes severe. Early referral gives a person more time to learn tools and adapt the home or workplace.

- A low-vision examination and training with magnifiers or special lenses
- Better lighting, glare control, contrast markings, and large-print materials
- Screen readers, text enlargement, voice controls, and audio labels

- Occupational therapy for cooking, personal care, work, and home safety
- Orientation and mobility training, including use of a white cane when appropriate
- Support for school, employment, transportation, and community services

Complications

Vision loss can increase the risk of falls, injuries, medication mistakes, social isolation, and difficulty managing other health conditions. It may affect employment, education, driving, and financial independence.

Emotional effects are also common. A person may experience grief, frustration, anxiety, or depression while adjusting to changes in sight. These concerns deserve the same attention as physical symptoms. Counseling, peer support, rehabilitation, and treatment for a mental health condition can help.

Some people with significant vision loss see shapes, patterns, animals, or people that are not present. This is called Charles Bonnet syndrome. The images are related to reduced visual input and do not by themselves mean that a person has dementia or a psychiatric illness. A clinician should still assess new visual experiences, particularly when they occur with confusion, weakness, speech difficulty, fever, or other neurological symptoms.

Follow up

Follow-up depends on the cause and whether vision is stable. A clinician may repeat visual acuity, eye pressure, retinal imaging, or visual field testing. Keep scheduled visits even when there are no new symptoms, because some eye diseases progress quietly.

Bring an up-to-date medicine list and report any changes in sight, treatment side effects, falls, or difficulty completing daily tasks. If home monitoring has been recommended, ask what change should prompt a call. Do not wait for the next routine appointment if vision worsens rapidly.

Routine follow-up is appropriate for stable, gradual problems being monitored by an eye care professional. Contact the eye clinic promptly for a new but gradual change, increasing trouble with daily activities, or new treatment side effects.

Sudden vision loss, a curtain-like shadow, many new flashes or floaters, severe eye pain, or vision symptoms with signs of stroke require emergency assessment rather than a routine appointment.

Sources

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