

Low Vision

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Low vision is a visual impairment, not total vision blindness, which results in a permanent decrease in the acuity of an individual's vision field. Unlike normal vision impairments such as nearsightedness and farsightedness, low vision can't be fully corrected by using standard vision aids such as eyeglasses or contacts. According to the Association for the Blind and Visually Impaired (ABVI), an individual has low vision when "the better-seeing eye will not reach visual acuity of 20/70 or greater after the strongest correction aid is applied". This guide will help you understand and be able to identify the early warning signs of low vision, along with the resources available to help individuals with low vision accomplish a variety of everyday tasks.

Common conditions that result in low vision include **cataracts, stroke, glaucoma, macular degeneration, diabetic retinopathy and retinal detachment**. The five most common types of low vision, as defined by the American Optometric Association¹, are as follows:

- **Loss of Central Vision** – The loss of central vision creates a blur or blindspot, but side (peripheral) vision remains intact. This makes it difficult to read, recognize faces, and distinguish most details in the distance. Mobility, however, is usually unaffected because side vision remains intact.
- **Loss of Peripheral (Side) Vision** – This vision loss is often referred to as "tunnel vision" and is the result of the inability to distinguish anything to the one side or both sides of a vision field, or anything directly above and/or below the eye level. Central vision will remain acute, making it possible to see directly ahead.
- **Extreme Light Sensitivity** – This vision impairment exists when standard levels of illumination overwhelm the visual system, producing a washed out image and/or glare disability. People with extreme light sensitivity may actually suffer pain or discomfort from relatively normal levels of illumination.
- **Night Blindness** – This results in the inability to see outside at night under natural illumination such as moonlight, or in dimly lighted interior areas such as movie theaters or restaurants.
- **Blurred Vision** – A general blurriness across the entire vision field causes objects, both near and far, to appear out of focus, even when the best correctional device is applied.

Early warning signs of low vision include difficulty recognizing objects up close or at a distance, differentiating between colors, and overall blurry vision. Individuals, through their primary eye care provider, should contact a Low Vision Eye Care Specialist who can perform a unique eye examination called a low vision evaluation. This type of examination involves a multitude of tests that assess the range of the vision field, ocular perception and sensitivity, assessment of any ocular injury or disease, and overall mobility of the eye. After this series of tests, the low vision specialist



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will perform tests with various telescopic and magnification aids to determine which low vision aid will provide the best visual field enhancement.

There are a large number of vision aids available to individuals with low vision and based on the ocular evaluation, a low vision specialist may prescribe a single low vision device or a combination of visual devices. Some low-vision adaptation devices include magnifying glasses, large print objects (i.e. books, phones), and talking devices that speak simple information such as the time, date and directions. The most common low-vision aid is absorptive lenses that are worn over prescription eyeglasses to eliminate harmful sunlight. Absorptive lenses increase the contrast of objects and help individuals when transitioning between light and dark surroundings.

Other devices such as closed circuit magnifiers, lens-mounted magnifiers, and reading machines, are used in rare occasions when low-vision severely impairs an individual's vision field. A closed-circuit magnifier is a specialized video camera that magnifies an object more intensely than standardized magnifiers, and projects the image onto a screen such as a television or computer screen. Lens-mounted magnifiers are a small tool that combines the magnification powers of a microscope and telescope, and allow the ability to magnify objects up close and improve distance vision.

Speaking with a low vision specialist about rehabilitation services and useful tips to overcome everyday challenges will greatly increase the success of living with low-vision. Family and friends are also valuable resources and can provide assistance when facing challenging tasks. By using available resources and with the help of low vision aids, individuals with low vision continue to lead independent and fulfilling lifestyles.

^{1/} American Optometric Association; "Common Types of Low Vision"; <http://www.aoa.org/x5244.xml>; accessed 01/03/2011