

Vision Problems in Ohio

Prevalence of Adult Vision Impairment and
Age-Related Eye Disease in Ohio



Published by:



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Source: Vision Problems in the U.S., a publication of Prevent Blindness America in cooperation with the National Eye Institute, National Institutes of Health, U.S. Dept. of Health and Human Services. Published 2002.

Vision Problems in Ohio Introduction

Vision impairment is one of the most feared disabilities. Although it is believed that half of all blindness can be prevented, the number of people in America who suffer vision loss continues to increase. The leading causes of vision impairment and blindness in the United States are primarily age-related eye diseases. The number of Americans at risk for age-related eye diseases is increasing as the baby-boomer generation ages. These conditions, including age-related macular degeneration, cataract, diabetic retinopathy and glaucoma, affect more Americans than ever before.

Awareness of vision impairment and its causes is important to all of us. We must be aware of our own personal risk of vision loss and take steps to preserve and protect our precious eyesight. Our communities must be informed so that they may prepare the treatment and rehabilitation services that will be needed. Most important, our state's leaders must comprehend the scope of eye problems in our state so that adequate government resources can be devoted to research, treatment and prevention.

Blindness and Visual Impairment

The term "blindness" can have many connotations and is difficult to define. To many people, blindness refers to the complete loss of vision with no remaining perception of light. However, this ultimate form of complete blindness is rare. Far more people have a permanent loss of some, but not all, of their eyesight.

"Legal blindness" represents an artificial distinction, but it is significant in that it determines eligibility for certain disability benefits from the Federal Government. In the United States, it is typically defined as visual acuity with best correction in the better eye worse than or equal to 20/200 or a visual field extent of less than 20 degrees in diameter.

Vision impairment is defined as having 20/40 or worse vision in the better eye even with eyeglasses.

Almost everyone with blindness or vision impairment can benefit from vision rehabilitation that can help make the most of whatever vision remains. Unfortunately, blindness and vision

impairment represent a significant burden. It is estimated that blindness and vision impairment cost the federal government more than \$4 billion annually in benefits and lost taxable income.

Myopia

Refractive errors are the most frequent eye problems in the United States. They are optical defects that result in light not being properly focused on the eye's retina.

Nearsightedness (myopia) is the most common refractive error. People with myopia see near objects clearly, while distant ones are blurred. Fortunately, eyeglasses or contact lenses can correct almost all refractive errors.

Age-Related Macular Degeneration

Age-related macular degeneration (AMD) is a condition that primarily affects the part of the retina responsible for sharp central vision. There are two forms:

Dry AMD (non-exudative) is the most common form of the disease. Vision loss in early dry AMD is usually moderate and only slowly progressive. Atrophy in late cases of dry AMD can result in more significant vision loss.

Wet AMD (exudative) is less common, but is more threatening to vision. It's called wet AMD because of the growth of tiny new blood vessels under the retina that leak fluid or break open. This distorts vision and causes scar tissue to form. All cases of the wet form are considered late AMD.

The exact cause of AMD is unknown, but risk factors for the disease include age (rarely affecting those under age 50), White race and cigarette smoking.

Research also suggests that long-term diets low in certain antioxidant nutrients may increase the risk of AMD. Because AMD often damages central vision, it is likely the most common cause of legal blindness and vision impairment in older Americans.

Unfortunately, there is no generally accepted treatment for dry AMD. Laser therapies to destroy leaking blood vessels can help reduce the risk of advancing vision loss in many cases of wet AMD. Research has recently shown that certain doses of

zinc, vitamins A and C, and beta-carotene can help control the advance of late AMD, but appear to have no effect in preventing the disease in otherwise healthy individuals.

Cataract

Cataract is a clouding of the eye's naturally clear lens. Most cataracts appear with advancing age. The exact cause of cataract is unclear, but it may be the result of a lifetime of exposure to ultraviolet radiation contained in sunlight, or may be related to other lifestyle factors such as cigarette smoking, diet, and alcohol consumption. Cataract can also occur at any age as a result of other causes such as eye injury, exposure to toxic substances or radiation, or as a result of other diseases such as diabetes.

In the United States, cataract is sometimes considered a conquered disease because treatment is widely available. However, cataract still accounts for a significant amount of vision impairment in the U.S., particularly in older people who may have difficulty accessing appropriate eye care due to cost, availability, or other barriers.

Treatment of cataract involves removal of the clouded natural lens. The lens is usually replaced with an artificial intraocular lens (IOL) implant.

Surgery is not truly a cure for cataract, however, and its success in controlling vision loss comes with a price. It is estimated that the federal government spends more than \$3.4 billion each year treating cataract through the Medicare program.

Ongoing research into the normal healthy functioning of the eye's lens may help us better understand the causes of cataract and how they might be prevented.

Diabetic Retinopathy

Diabetic retinopathy is a common complication of diabetes. It affects the tiny blood vessels of the retina. Retinal blood vessels can break down, leak, or become blocked— affecting and impairing vision over time. In some people with diabetic retinopathy, serious damage to the eye can occur when abnormal new blood vessels grow on the surface of the retina.

In general, the longer someone has diabetes, the greater the risk of developing diabetic

retinopathy. Eventually, almost everyone with juvenile-onset diabetes will develop some signs of diabetic retinopathy. Those who acquire diabetes later in life are also at risk of diabetic retinopathy, although they are somewhat less likely to develop advanced diabetic retinopathy.

Diabetes also increases the risk of other eye diseases such as cataract and glaucoma. Because of its dangers to good vision, people with diabetes are urged to seek annual dilated eye exams.

Research suggests that the risk of diabetic retinopathy can be reduced through careful control of blood sugar. People with diabetes are also encouraged to control their blood pressure. Laser treatment, called photocoagulation, has been shown to reduce the risk of sight loss in advanced cases of diabetic retinopathy.

Glaucoma

Glaucoma is a disease that causes a gradual degeneration

of cells that make up the optic nerve that carries visual information from the eye to the brain. As the nerve cells die, vision is slowly lost, usually beginning in the periphery. Often, the loss of vision is unnoticeable until a significant amount of nerve damage has occurred. For this reason, as many as half of all people with glaucoma may be unaware of their disease.

Most cases of glaucoma can be controlled and vision loss slowed or halted by treatment. Medications, laser treatments and surgery can be used to lower

intraocular pressure. However, any vision lost to glaucoma cannot be restored.

Unfortunately, glaucoma cannot be prevented. Factors that increase the risk of glaucoma include age, race, diabetes, eye trauma, and long-term use of steroid medications.

Glaucoma is traditionally defined by a triad of signs, including the presence of at least two of the following: elevated intraocular pressure, optic disc cupping, and visual field loss.



Prevalence of Adult Vision Impairment and Age-Related Eye Disease in Ohio (pop. 11,353,140)

Vision Loss Among Older Ohioans Is Increasing

More Americans than ever are facing the threat of blindness from age-related eye disease. Over 187,000 Ohioans age 40 and older are currently legally blind or visually impaired, largely resulting from the eye diseases of diabetic retinopathy, cataract, glaucoma, and age-macular degeneration (AMD). The number of older Americans affected by these diseases is expected to double over the next 30 years as the Baby Boomer generation ages. **More than 2.5 million Ohioans will be affected.** Unfortunately blindness and vision impairment represent a significant burden, not only to those affected by sight loss, but to our Ohio economy as well. It is estimated that blindness and vision impairment cost Ohio \$160,000,000 annually in benefits and lost taxable income.

Below are statistics for adult vision impairment and age-related eye disease, including:

- **Visual Impairment** is defined as having 20/40 or worse in the better eye, even with eyeglasses.
- **Blindness** is defined as visual acuity with best correction in the better eye worse than or equal to 20/200 or a visual field extent of less than 20 degrees in diameter.
- **Myopia** is the same as nearsightedness.
- **Age-Related Macular Degeneration** creates a loss of sharp, central vision. No successful treatment is currently available.
- **Cataract** is a clouding of the eye's naturally clear lens. This is usually treatable.
- **Diabetic Retinopathy** involves abnormal growth of blood vessels in the back of the eye which can leak. Management of diabetes and regular preventative eye exams are the best defense against developing diabetic retinopathy.
- **Glaucoma** causes the loss of peripheral or side vision. Once vision is lost, it cannot be restored; however, further loss of remaining vision can usually be prevented with treatment.

	Total	Male	Female	White	Black	Hispanic	Other
Visual Impairment, including Blindness (est. cases): Age 40+	142,655	46,422	96,213	129,032	11,157	971	1,495
Blindness (est. cases): Age 40+	44,702	13,780	30,922	39,521	4,658	133	390
Myopia: Age 40+	1,329,444	594,674	734,770	1,231,209	69,168	9,873	19,193
Age-related Macular Degeneration: Age 50+	71,113	25,301	45,812	66,273	3,398	335	567
Cataract: Age 40+	879,217	327,723	551,494	799,314	63,783	6,012	10,108
Diabetic Retinopathy: Age 18+	216,861	100,384	116,477	187,381	21,836	3,236	4,408
Glaucoma: Age 40+	91,884	32,813	59,072	72,711	16,706	756	1,712

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