

Falls and Vision Loss Part 1

Prepared by Bernard A. Steinman, M.S.



Diabetic retinopathy is a secondary condition of persons with diabetes. It affects the blood vessels that provide nourishment to the retina. Blood vessels in the retina may become malformed and weakened resulting in vision that is splotchy and inconsistent. Diabetic retinopathy may become progressively worse and eventually lead to blindness, if diabetes is not controlled.



Glaucoma (open angle) occurs when ducts that regulate fluid in the eye become blocked, resulting in pressure on the optic nerve. Primary open angle glaucoma is gradual and cumulative. Symptoms may include halo effects around bright lights, decreased peripheral vision, and changes in contrast sensitivity.

Visual Impairment as a Risk Factor for Falls

The heightened risk of falls that is associated with aging may be discussed with respect to intrinsic and extrinsic factors. Intrinsic factors are characteristics of the individual that increase the likelihood of falling, such as visual or health conditions. Extrinsic factors are environmental, and include things such as poor lighting or slippery surfaces. Older individuals with visual impairments have a unique set of intrinsic and extrinsic factors that increase their risk of falling.

Vision-Related Intrinsic Factors

- Reduced contrast sensitivity— Older adults who have visual impairments may have difficulty seeing edges that mark important changes in surfaces. Reduced contrast sensitivity can make curbs nearly invisible, and may make some clutter or obstacles very difficult to detect.
- Reduced depth perception— Older people who have poor vision in one eye may have more difficulty judging distances. Reduced depth perception may make the world seem 2-dimensional, resulting in greater difficulty judging one's distance from hazardous obstacles.
- Reduced visual field— Whereas some eye diseases such as Glaucoma may result in poorer peripheral vision, other eye diseases like Diabetic Retinopathy or Age-related Macular Degeneration (AMD) may cause blind spots (scotomas) in the central field, or throughout the visual field. Of course, objects that are not seen cannot be avoided, so reduced visual fields are a common cause of falls, especially when coupled with environmental hazards.



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Although people may fall at any time during their lives, falling is of greater concern to older people because of age-associated changes in the body that make them more likely to experience a serious injury as a result of a fall. Aging is associated with some forms of vision loss that further compound the risk of falling and being injured. People with visual impairments are more than twice as likely to fall as people without visual impairments. In addition to risk factors that are experienced by the aged in general, older people with visual impairments have a unique set of factors that place them at greater risk of falling.

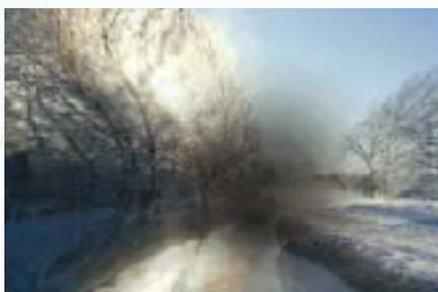
Age Related Vision Loss—Aging is often accompanied by normal changes in the eyes that can increase the risk of falls. In contrast, some age-related vision losses are associated with diseases that are not a normal part of aging, but are more likely to affect older adults. The most common pathological eye conditions include cataracts, age-related macular degeneration, diabetic retinopathy, and glaucoma.



Normal Vision—Normal vision is clear and undistorted. However, some normal age-related changes in the eye occur after the age of 40 that make it difficult to change the focus of the eye between near and far objects. Normal age-related changes in the eye are called presbyopia.



Cataracts often develop slowly and occur when the normally clear lens becomes cloudy. Cataracts often result in blurred vision, sensitivity to bright lights and glare, and difficulty seeing at night.



Age-Related Macular Degeneration, or AMD, is a degeneration of part of the retina that perceives fine details. Persons with AMD experience a progressive decrease and/or distortion of vision in the central part of their visual field and may be forced to utilize their peripheral vision to move around.

