

Visual Impairment

Driving-Related Fact Sheet

For Medical Professionals



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Visual Impairment

Visual Acuity/Field of Vision

- Visual acuity refers to the smallest size detail a person can see. The condition is measured by the ability to read a letter chart from a certain pre-specified distance. Impairments in visual function can result from an injury to the eye, or from cataracts, diabetic retinopathy, macular degeneration or glaucoma. The visual field is the entire area that can be seen by the eye when it is directed forward, including what is seen to the side with peripheral vision. In a visual field test, the person is asked to press a button as lights flash. Common eye diseases related to visual field loss include glaucoma, macular degeneration, and diabetes. Cataracts commonly affect visual acuity and contrast sensitivity.

Effects on Driving

- Visual acuity is associated with the ability to read highway signs. Drivers with the impairment are more likely to make errors in identifying signs at a distance. Other aspects of the roadway environment such as lane markings may also be difficult to see. Visual field impairment appears to elevate crash risk when it is serious (covers a great deal of the visual field with severe light sensitivity loss) and when it occurs in both eyes. Drivers with loss of peripheral vision due to glaucoma may have trouble noticing traffic signs, cars, and pedestrians that are about to cross their path. There is more correlation with motor vehicle crashes and driving impairment with visual field loss, contrast sensitivity, and visual processing speed than with static visual acuity per se.

The Clinician's Role

- Ensure all drivers follow State statutory requirements.
- Recognize that any visual condition that leads to a lowering of visual acuity or visual field may render the driver unfit for driving without restrictions (driving to familiar surroundings, non-rush hour traffic, low-speed areas, daytime, and good weather) depending on State laws.
- People with conditions that cause visual impairment, including those with cataracts, can drive without restrictions. People who have trouble with glare recovery should limit driving at night and under low-light conditions, such as adverse weather.
- In the case of cataracts, surgical treatment can help drivers remain behind the wheel safely.
- Changes following stroke or traumatic head injury can result in cognitive changes, which may require an evaluation of visual processing speed.
- Consider recommending that patients with decreased far visual acuity limit their driving to low-risk areas and conditions such as familiar surroundings, non-rush hour traffic, low-speed areas, daytime, and good weather.
- Recommend patient see an eye specialist if vision is the only issue (below the standard 20/40, or your State-specific guidelines).
- Recommend an on-road assessment performed by a driver rehabilitation specialist, for people with visual acuity below the standard along with other conditions such as cognitive problems or reduced hearing. The sudden loss of one eye may require a period of adaptation to monocular vision before resuming driving.

For more information go to www.medscape.com

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