How can vision loss be treated?

If you are experiencing vision loss after stroke, talk to your doctor and identify a neuro-ophthalmologist or neuro-optometrist that can diagnose your condition and recommend a vision rehabilitation plan for you. Vision rehabilitation includes compensatory and restorative therapies.

Compensatory vision rehabilitation

This therapy compensates for vision loss by shifting images from the non-seeing to the seeing visual field thereby warning the patient of a potential obstacle. It includes prisms, visual field awareness systems and scanning. Prism therapy involves the application of a prism to enhance the visual field. Prisms can shift images from one side of the visual field to the other side. There are different types of prism and visual field awareness systems. Patients can be fitted for and trained on a visual field awareness system.

Scanning training is another compensatory therapy, which helps improve use of the remaining visual field by training the eyes to scan more efficiently toward and away from the field loss.

Restorative vision therapy

Vision restoration therapy (VRT) was developed to increase the brain's ability to restore vision. It is a non-invasive therapy program customized specifically for the type of vision loss. Light dots are presented in a specific pattern while a patient fixates on a central point, targeting undamaged areas of the brain to take over visual function.

Everyday activities to improve visual skills

- Blinking and eyelid closure problems may require lubrication and adequate lid coverage to protect the surface of the eye. Discuss treatment options with your doctor.
- Blurry and/or double vision may be tied to dizziness. Discuss treatment options with your doctor.
- Place mealtime utensils, hygiene items and furniture along the total visual field and cue when needed.
- Sort objects such as silverware or nuts as a method of enhancing form identification. Use touch or verbal cues to avoid discouragement.

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National Stroke Association™
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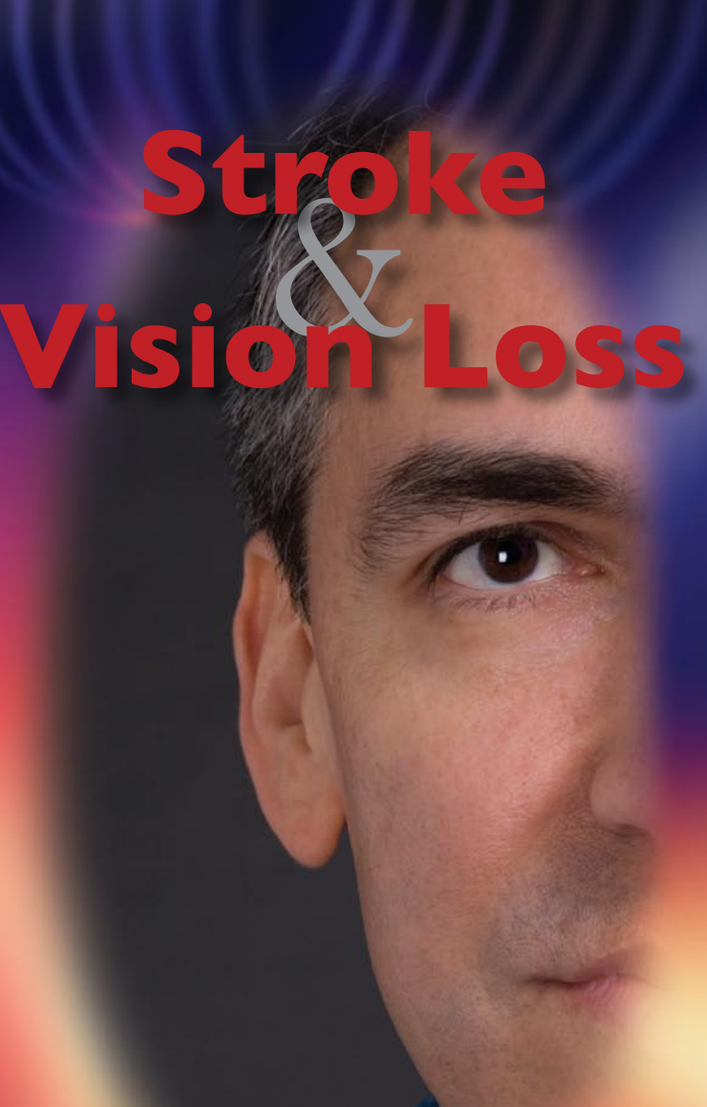
Stroke & Vision Loss



How a stroke may affect your vision and what you can do about it.

National Stroke Association™
www.stroke.org

What is stroke?

Stroke is a "brain attack" that occurs when the blood, which brings oxygen to your brain, stops flowing and brain cells die. Nearly 795,000 people in the United States will have a stroke each year.

How does vision relate to the brain?

Eyes receive signals from the outside, sending information to the brain where the process of "seeing" occurs. The brain identifies visual images and coordinates eye movement, ensuring eye alignment when the person or target is moving or not moving.

How does vision loss relate to stroke?

Vision loss can be both a symptom and result of stroke. Temporary vision loss can be a sign of impending stroke, and requires immediate attention to determine if any blood vessels that supply the retina, optic nerve or the brain are blocked. Call 911 immediately if you develop sudden vision loss. A doctor or medical tests can determine whether your symptoms are life threatening.

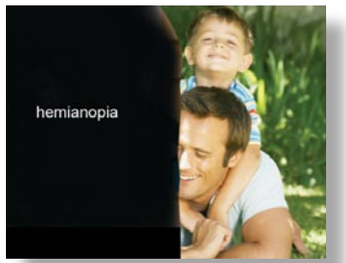
Injury such as stroke can disturb the entire visual system. Vision complications depend on where the stroke occurs. The majority of visual processing occurs in the occipital lobe, which is located in the back of the brain. Most strokes affect one side of the brain. If the right occipital lobe is injured, the left vision field in each eye may be affected. A stroke of the left occipital lobe may disturb the right vision field in each eye. It is rare for both sides of the brain to be affected, but it can result in blindness.

Up to a quarter of stroke survivors may have vision loss, influencing quality of life and rehabilitation outcomes if not properly treated. While most stroke patients with vision loss do not fully recover their vision, partial recovery or natural vision improvement is possible. Improvement usually takes place in the first months after a stroke. Proper diagnosis and a vision rehabilitation plan could help improve most daily activities, self-esteem and feelings of independence.

What are the types of vision loss?

Many types of vision loss can occur, but the most common is loss of half of each eye's visual field (hemianopia). Other common types of vision loss include quadrantanopia (or quarter loss of the vision field) and scotoma (an island-like area of blindness). A visual field test will provide proper diagnosis.

scotoma vision loss



hemianopia vision loss

quadrantanopia vision loss

What are other possible vision problems following a stroke?

The brain stem is the originating point for three pairs of nerves that control eye movements. A stroke in this area can lead to one eye moving correctly, while the other will not. This can result in either double vision or the inability for both eyes to look in a particular direction.

The sensation that objects are moving originates in the brain stem or cerebellum. A stroke in this area may lead to reading difficulties.

Loss of feeling may occur on the eye's surface, making blinking difficult, not allowing an eye-lid to properly close or causing a droopy lid or blurry vision.

Stroke may also interfere with comprehending, understanding or recognizing objects or faces visually. Such a condition, called visual agnosia, can be potentially hazardous.

What are the symptoms of vision loss?

- Bumping, tripping or falling over objects
- Difficulty reading, such as missing words in a sentence
- Seeing only part of a television or movie screen
- Feeling unbalanced, startled or uncomfortable in a normal environment