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Information/Education Page

Visual Impairment After a Stroke

What is stroke-related visual impairment?

Stroke is a leading cause of disability worldwide, and difficulty with your eyes is one of the most common problems seen after stroke. When a stroke occurs there is a temporary loss of oxygen to the brain, and this can result in visual impairments such as a change in eye motor function (the ability to move the eye around) and/or in the quality of your vision.

The type of vision problem (blurry vision, double vision, or loss of visual field) depends on where the stroke occurred in your brain. The back of your brain is responsible for most visual function, but a stroke in other areas can also affect your vision. For instance, some areas of the brain control eye movement and focus whereas other areas interpret what we see.

How often does visual impairment occur after stroke?

About 30% of stroke survivors experience some form of vision problem, but the rate of vision loss can depend on a number of factors. For instance, up to 70% of those whose stroke occurs in the occipital lobe (the area of the brain most involved in vision) may have visual problems.

Symptoms vary from person to person. The most common visual problems after stroke are as follows:

- Eye motor problems
- Decrease in visual fields (the amount of area that you can see)
- Difficulty in visual perception (the way your brain interprets what you see)

A high percentage of stroke survivors experience problems with eye function and/or vision problem, but the type of impairment can vary widely. The specific problem depends on where in the brain the stroke occurred.

What are specific examples of eye disorders after stroke?

Homonymous hemianopia is the most common type of stroke-related vision problem. Individuals with this condition can see only half of their normal visual field. They see either to the right or left out of both eyes. In other words, they may see one side of an object but not the other side, as if it were cut in half.

Other visual problems that a stroke survivor might experience are *scotoma* (a dark or blind spot within the visual field) and *diplopia* (double vision). Some people may have trouble activating the muscles controlling their eyes appropriately. As a result, these deficits make it difficult to follow objects with one's eyes and can affect everyday tasks such as reading, driving, and cooking.

Conjugate eye deviations can also result from a stroke. This eye muscle disorder causes the person to look toward one side, usually the side of the brain in which the stroke occurred.

Family members of stroke survivors should note that those who have experienced a stroke may not always be aware of their vision loss and/or eye motor problems. Clinicians and family members may need to remind patients of their eye difficulties to ensure that they are safe.

How can visual impairment affect day-to-day life?

Vision is part of almost every area of our daily lives. Being able to move around your home, get dressed, prepare meals, be effective in school or work, drive, be involved with family and friends, and many more activities are affected when there is a loss in vision. Overall quality of life may also be affected when a person's ability to complete tasks independently and efficiently changes. It is important to recognize and address visual problems after a stroke so that the appropriate health care professional can be contacted and a treatment plan can be created.

What professionals can I see? How is stroke-related visual impairment treated?

Health care specialists that work with vision loss after a stroke can include the following:

- *Neuro-ophthalmologists:* Eye doctors who can diagnose vision problems that result from injuries to the brain
- *Orthoptists:* Eye care specialists who work specifically with eye movement problems
- *Occupational therapists:* Clinicians who train patients to compensate for visual and eye motor impairments through functional tasks and exercises (some described below)

The type of treatment that is provided by health care specialists depends on the patient's diagnosis. In some cases, partial eye

function may be restored. In other cases, clinicians may have to work with the patient to develop strategies to compensate for their visual deficits.

For instance, one treatment works to retrain the eye muscles to move through their full range. It teaches the patient to look all the way to the side with the blind spot to widen the patient's visual field.

Another treatment, vision restoration therapy, strengthens weakened cells in the eye using a spot on a computer monitor that flashes progressively brighter, stimulating the damaged cells.

Some types of vision problems will improve naturally over time as the brain recovers from the stroke. But very rarely does injury to the eye muscles or vision impairment caused by a stroke heal without treatment. This is known as *spontaneous recovery*. Although studies have shown that spontaneous recovery occurs only for up to 6 months after a stroke, many treatments may be effective even years after the stroke occurs.

Resources for people with stroke-related vision loss

- The National Stroke Association (www.stroke.org) provides information about vision loss after a stroke.
- The North American Neuro-Ophthalmology Society (www.nanosweb.org) gives readers details on this area of vision care and on what to expect at a neuro-ophthalmology evaluation.
- The American Association of Certified Orthoptists (www.orthoptics.org) provides information about the types of disorders that these health care specialists treat.

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Source

The information provided is based on research evidence whenever available.

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Disclaimer

This information is not meant to replace the advice of a medical professional. You should consult your health care provider regarding specific medical concerns and treatments.