

## **Aging and Vision Loss: Stroke**



The news is often sprinkled with articles about the importance of responding immediately to the first signs of stroke as the American Heart Association (AHA) continues its campaign to get people to think of a stroke as a brain attack. As with a heart attack, a stroke, or brain attack as it is now called, is considered a medical emergency. However, a new, clot-dissolving medication can in many cases dramatically reduce the impact of a stroke if administered within three hours of the attack.

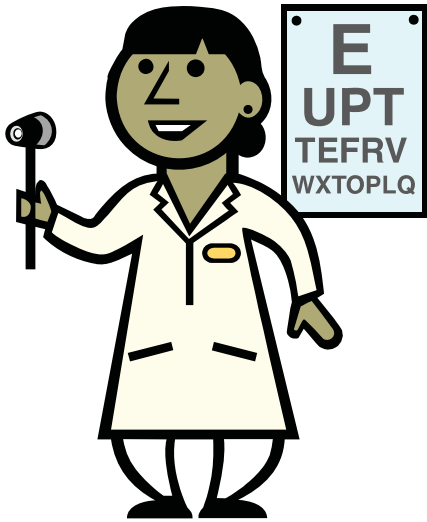
Each year nearly a million Americans suffer a stroke. The AHA recommends immediately calling your doctor or 9-1-1 if any of these symptoms occur:

- Sudden numbness or weakness of the face, arm or leg, especially on one side of the body
- Sudden confusion, trouble speaking or understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden severe headache with no known cause

Now that we've stressed the importance of responding quickly to these initial symptoms, we'll take a closer look at the longer term vision loss that might follow a stroke, how to recognize it and what can be done to better live with such vision loss.

A stroke occurs when there is a sudden disturbance in the blood supply to the brain; in most cases, this is caused by a blocked blood vessel. The other major cause of stroke is a leaking blood vessel. Sometimes warning signs, such as changes in vision, last only briefly. These episodes are often

called **TIAs (Transient Ischemic Attacks)**, or mini-strokes.



Experts encourage people not to ignore these, but to contact their physician. In some cases, a more severe stroke may be prevented if **TIAs** are identified and the person subsequently makes certain lifestyle changes and works with their provider to establish an appropriate health care regimen.

Most stroke-related vision loss takes the form of **hemianopia**, sometimes called hemianopsia, or blindness **in one half of the visual field**. Depending on where the stroke occurs within the brain, other forms of vision loss may result, but here we'll focus on hemianopia. While hemianopia can be caused by a variety of medical conditions, stroke is among the most common.

Hemianopia is a functional defect that can affect the right or left side. For example, stroke patients with weakness of the right arm and leg may also have poor vision on the right side. Some people lose sight mostly in the upper or lower part of the affected side, although others lose sight on the affected side completely. Hemianopia will affect both eyes and vision loss can be severe or so slight that many people do not really notice. Most stroke-related hemianopia is **homonymous**, which means vision loss in the nasal (inner) half of one eye and the temporal (outer) half of the other. In other words, if you draw a vertical line through the visual field, either each eye can't see right or each eye can't see left of that line depending on the area of the brain impacted by the stroke.

Such vision loss is commonly referred to as **visual field cuts**. Again, the challenge is that people often don't notice these cuts because it's not completely black on the impacted side, but may fill in with gray.

Even though there is no specific medical or surgical treatment for stroke-related vision loss, some patients may show improvement over time. However, it is still very important to diagnose the loss in order to help patients adjust to how they use their remaining sight.

Careful assessment of the vision following a stroke is key to maximizing the success of rehabilitation and long-term adaptation. For example, following low vision evaluation, some people find that field-expanding prism scan be quite helpful. Low vision rehabilitation specialists can also teach patients how to maximize the use of remaining sight.

If a patient realizes they see to one side only, they often learn to turn to the other side to see everything in a room or on a table. If it is too difficult for the patient to understand or remember to turn, living areas can be rearranged to help the person see important details. Another example, in the bedroom of a person with a left-hemispheric stroke and right vision loss, the bed can be moved to the left. Similar accommodations can be made in serving a meal; food can be put on the side of the plate where vision remains.

With reading, materials can be marked to help the reader know where to stop or start. For example, if the patient has right vision loss, a red line drawn down along the right margin would be the signal that the reader has completed the line. If the vision loss is on the left, a red line drawn down along the left margin would help the reader find where to start reading. Another option that works for some patients is to turn a book on its side and read from top to bottom using the visual field that remains.



There are many ways to adapt to stroke-related vision loss. The patient will be most successful if that loss is fully identified and if family, friends and caregivers also understand the parameters of the loss so adjustments can be made accordingly. For more information about how to respond to stroke and stroke-related vision loss, contact the American Heart Association's Stroke Association hotline at **(888) 4-STROKE** or **(888) 478 -7653**.



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### **Community Services for the Blind and Partially Sighted**

9709 Third Ave NE #100, Seattle, WA 98115-2027

(206) 525-5556 (v/tdd)

(800) 458-4888 (v/tdd)

(206) 525-0422 (fax)

Email: [csbps@csbps.com](mailto:csbps@csbps.com)

Website: [www.csbps.com](http://www.csbps.com)

Adaptive Aids Store: [www.SightConnection.com](http://www.SightConnection.com)

Agency hours: 8 AM – 5 PM, M-F

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