Your Vision After Stroke

Visual Field Loss

Introduction

A stroke can cause changes to your vision. You may have trouble seeing part of what's around you. This is called visual field loss. These changes can be temporary or permanent. This handout explains what visual field loss is and shares tips to help you manage it.

It is important to see an eye doctor within 1 month after your stroke to examine your eyes. To see an optometrist, you can book an appointment yourself or be referred. If you do not have an ophthalmologist (a medical eye doctor), your doctor can refer you.

Visual field loss

The term "visual field" describes the area you can see when your eyes are looking in one direction. It includes both your peripheral (side vision) and central vision. Each eye has its own visual field. The visual field of each eye overlaps, so most objects are seen by both eyes. When you are unable to see an area of your visual field, the term "visual field loss" is used.

Left visual field loss

No visual field loss

Right visual field loss

A stroke can result in full or partial loss of your visual field.

Visual field loss from a stroke usually affects 1 side of both of your eyes. If you have left visual field loss this means that you can not see on your left side with either eye.

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Alberta Health Services

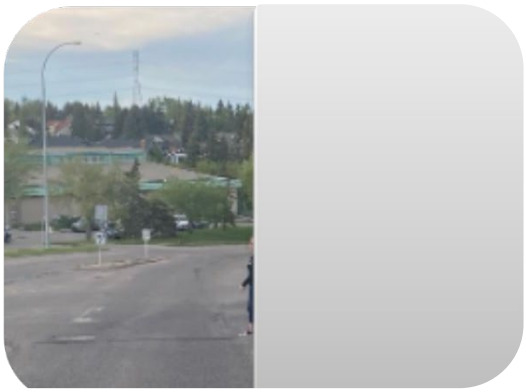
Often, visual field loss is on the same side as any weakness in your face, arms or legs. Strokes that only affect the visual area of the brain may cause visual field loss without any other weakness or problems.

Visual field loss is not the result of damage to the eyes. It is a result of damage to the visual pathway in the brain. One eye may be more impacted than the other.

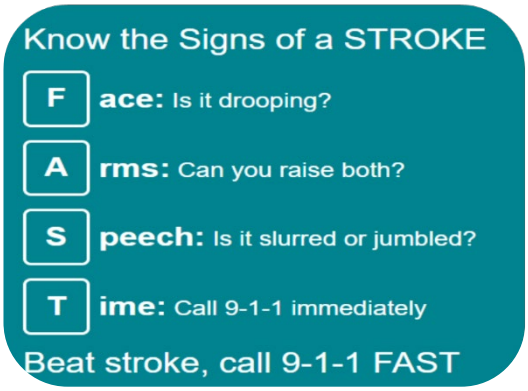
There are various types of visual field loss. The most common type after a stroke is called a homonymous hemianopia. Hemianopia means loss of half of your visual field and homonymous means the same side is affected for both eyes.

For example, a full loss of visual field to the right (right homonymous hemianopia) means that a person cannot see things on their right side. A person may have to move their head and eyes to compensate.

View of road



View with right visual field loss (right hemianopia)



View with no visual field loss

View with left visual field loss (left hemianopia)

Another example of visual field loss may be a loss of a quarter of the visual field. In the example below, the left lower visual field loss causes the person to miss a boiling pot of water.

View with no visual field loss

View with left lower field loss

Visual field loss symptoms

If you have visual field loss you may:

- Notice that you cannot see objects on one side.
- Feel like you have lost the vision in 1 eye, even though it is both eyes that have visual field loss on the same side.
- Bump into objects and people on the side of your visual field loss.
- Easily trip and fall over objects.
- Find crowded areas more difficult. People and objects may appear suddenly in front of you from your affected visual field.
- Have a tough time finding objects (for example, items on a shelf or table).
- Experience difficulties with reading and writing. If you have a left-sided visual field loss, it may be difficult to find the start of the line. In right-sided visual field loss, it may be difficult to follow to the end of the text. This makes it easy to lose your place. You may read slower and have more difficulty understanding what you read.

Impact on daily life

- Visual field loss and stroke can impact your mobility and independence. White canes can help you judge distances like steps. You can get one from Vision Loss Rehabilitation Canada.
- You might feel confused or anxious if things suddenly appear from the side you can't see well.
- Stroke survivors have a higher risk of falling. To stay safe:
    - Remove clutter.
    - Use good lighting when walking around.
    - Make sure carpets don't slip.
    - Use railings on stairs. Adding different coloured tape on steps can improve contrast.

Vision loss and hallucinations

Some people have visual hallucinations after a sudden loss of vision or visual field loss. This is called Charles Bonnet Syndrome (CBS).

Some people may see patterns, flowers, animals, or people that aren't real. These hallucinations usually go away. Speak to your doctor if you think you have this.

Strategies for visual hallucinations

There are no specific treatments for visual hallucinations, but there are various strategies which can help you cope. These include:

- If you are sitting, try standing up and moving around.
- Close and open your eyes.
- Switch a light on and off.
- Look at the hallucination or walk away from it.
- Understand the images are not real.

Talk to others, including your healthcare provider, about your experiences. Early recognition and support will reduce any concerns. For most people, the condition improves over time.

Assessing visual field loss

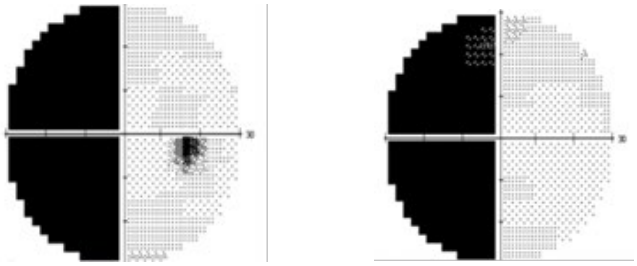
Your healthcare provider can do a bedside screening test to detect visual field loss. They will move an object or finger into your peripheral vision and ask you to say when you see it.

You may have a visual field loss if:

- There are areas where it is more difficult for you to see the target.
- You cannot always see the target.

A more formal visual field test at your eye doctor's office can confirm the specific areas and extent of your visual field loss (like if you have full or partial visual field loss). It can also confirm if one eye is affected more than the other.

Below is an example of left visual field loss from a stroke as measured by formal visual field testing. These test results are showing a left homonymous hemianopia, as the left visual field is lost (shown as black) in each eye.



Left eye Right eye

Left homonymous hemianopia

Some people will have visual inattention along with visual field loss. To learn more, see the Alberta Health Services patient information: **Vision Loss After a Stroke - Visual Inattention**.

Recovery and visual field loss

Recovery of visual field loss depends on many factors, including the area of the brain affected, severity of the damage, and type of damage. If recovery is going to happen, full or partial recovery is typically seen within the first 3 to 6 months. Any visual field loss present after 6 months may be permanent. However, you may feel that your sight improves as you adapt to the visual field loss over time.

You may learn to scan and compensate over time. While rehabilitation may help you to cope with visual field loss, there is currently no treatment to restore visual field loss. Visual field tests should be repeated to monitor for any recovery.

Adaptations

There are some adaptations that may help with your adjustment to visual field loss:

- Visual search or scanning strategies use a combination of head and eye movements to help create awareness of your missing visual field. They also improve your ability to scan. Your rehabilitation specialist can suggest exercises to help you practice scanning. These might include a computer program. One example is called Eye-Search (eye-search.co.uk) free web-based therapy. This involves scanning therapy like following an object as it rolls from side to side.

- There are several strategies to help with reading. Line guides, rulers and coloured markers can help. Put a coloured line down the right or left hand side of books and newspapers. This helps you know where the line begins or ends.

Some everyday changes can make you more aware of your affected side and others are designed to make the best use of your seeing side. For example:

- Relatives and caregivers should approach from your seeing side.
- Encourage visitors to sit on your seeing side.
- Move furniture to your seeing side.
- Put important things, like a hot drink, on your seeing side so you can easily see them.
- Get out of bed on your seeing side.
- Scan or look around as much as possible.
- When walking together, family and friends can walk on your affected side to prevent you from walking into obstacles.

Driving after a stroke

In Alberta, it is your legal responsibility to tell Alberta Transportation, Driver Fitness and Monitoring about any health issue that may affect your ability to drive safely, including that you had a stroke.

It is important to get guidance with the reporting process by discussing it with your rehabilitation team, nurse practitioner, or medical doctor. You can find more information about the process on the website: alberta.ca/report-a-medical-condition.aspx

You should ask your medical team, or healthcare providers, whether you are safe to return to driving. If you have ongoing vision problems, you may not be able to return to driving.

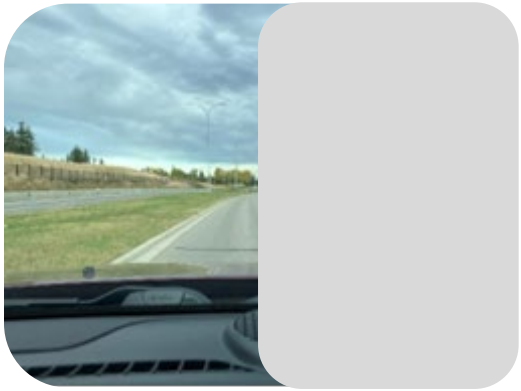
Your doctor or vision specialist will be able to assess and offer advice on whether you meet vision requirements for driving.

Even if you feel that your vision is better, it is important you do not return to driving until you have been told by a medical professional that you are safe to do so and you get confirmation from Driver Fitness and Monitoring.

Your rehabilitation team or medical doctor may contact Alberta Transportation to advise them if you are ready to return to driving. You may need a special driving assessment before you return to driving.

You should ask your rehabilitation team to review your visual fields, so you can understand your type of visual field loss.

Divided, 2-lane road



Divided 2-lane road with right visual field loss

Additional resources

Alberta Health Services Stroke Care in Alberta
ahs.ca/stroke

MyHealth.Alberta.ca - Driving After a Stroke
myhealth.alberta.ca/health/AfterCareInformation/pages/conditions.aspx?HwId=custom.ab_stroke_driving_inst

Government of Alberta Driver Medical Fitness
alberta.ca/driver-medical-fitness

Canadian Stroke Best Practices
strokebestpractices.ca/recommendations/stroke-rehabilitation-delivery/8-visual-and-visual-perceptual-impairment

Heart and Stroke - Changes in Perception
heartandstroke.ca/stroke/recovery-and-support/emotions/changes-in-perception

Vision Loss Rehabilitation Canada (search for **Concentrated Programs > Stroke**)
visionlossrehab.ca

Eye-Search
eye-search.co.uk

Charles Bonnet Syndrome
aao.org/eye-health/diseases/what-is-charles-bonnet-syndrome

Alberta Sports and Recreation Association for the Blind (or visually impaired)
asrab.ab.ca

This patient education material was reviewed in November 2024 by an interdisciplinary team of stroke, vision and rehabilitation specialists from across Alberta.

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