

SECTION 6

Perception



Section overview

This section looks at:

- Explaining perception
- Perceptual problems after stroke
- Strategies for helping the survivor with perceptual problems

Your role as health care provider

You can help the stroke survivor with perceptual problems to stay safe. You can encourage the survivor to use aids and strategies to deal with perceptual problems. Your patience and support can help the survivor be more independent and aware of their environment.

Perception

Perception refers to the way we understand our environment. Perception is how we process and interpret information from our senses: vision, hearing, touch, taste, and smell.



Practice and repeating activities can improve perceptual abilities.

Stroke may cause different perceptual problems, including:

- **Time awareness:** How we see time passing
- **Spatial relations:** How objects relate to each other and how we relate to objects in the environment
- **Visual neglect:** Less awareness of the body and environment on the side of the body affected by the stroke
- **Unilateral body neglect:** Less awareness or failure to attend to the affected side of the body
- **Apraxia:** Difficulty making purposeful movements even though the survivor has the physical ability and the understanding to perform the task
- **Perseveration:** Repeating a word, phrase, or action and not being able to stop
- **Vision problems:** Double vision, partial loss of vision in one or both eyes, and visual field loss

Like cognition problems, perceptual problems are **invisible barriers**. They are not as easily seen as physical problems. A survivor with perceptual problems may not appear to have any impairment. Perceptual problems change how the survivor interprets what they see and how they make sense of the world.

Family and friends may sometimes expect too much of the survivor. They may become frustrated and angry, believing the survivor is acting this way on purpose or is not motivated enough.



We need to see perceptual problems as effects of the stroke. You can help by identifying the problems and using strategies to help the survivor function. This may also reduce frustration among family, friends, and caregivers.

Time awareness

Time awareness is the recognition of time passing. After stroke, the survivor's understanding of how time passes may change. For example, the survivor may want dinner soon after finishing lunch, not realizing that only 20 minutes have passed.



How you can help

- Link events to other events, not to specific times. For example, *Bingo will start after lunch*, rather than *Bingo is in an hour*
- Review the daily schedule with the survivor
- Maintain a consistent schedule to limit confusion
- Reassure the survivor who is anxious about an appointment or meeting. Tell them you know about the appointment and will let them know at the right time.
- Listen to the survivor, but let the person know the reality: *I know it seems like I left you for hours, but I have only been gone for 15 minutes*
- Use a digital clock or talking clock

Case example:

Mr. Barton asks his support worker to find out if it is time to go for lunch. The support worker explains to him that it is only 10:00 a.m. and that lunch isn't until 12:00 noon. He then positions Mr. Barton's digital clock so that he can see it.

Spatial relations

Spatial relations refer to how objects relate to each other and how we relate to objects in the environment. Problems with spatial relations can include:

- Misjudging the height of steps
- Pushing towards the affected side during transfers
- Knocking items over
- Missing the chair when sitting down
- Tripping over rugs, steps, and uneven pavement

How you can help

- Talk with your team about the best strategy or assistive devices to use. Some examples are: a non-spill cup, fluorescent tape at the edge of steps and on the lip of the bathtub.
- Encourage the survivor to practise and repeat actions. This may help the survivor become familiar with the activity and retrain the brain.
- Make the environment as safe as possible. For example, get rid of clutter to prevent the risk of falling.

Visual neglect

Visual neglect causes decreased awareness of the body and environment on the side affected by the stroke. The survivor may pay attention to only part of an object or part of a view. They may bump into things on the affected side. They may not see food in front of them on the affected side.

How you can help

- Arrange the environment to provide stimulation on the stroke-affected side. This helps the survivor become more aware of the whole environment.
- Approach the survivor from the unaffected side to avoid startling them. Then, move to the affected side to speak. This provides stimulation on the affected side.
- Use visual cues to assist the survivor. For example, place a line of red tape at the edge of a table on the affected side.
- Encourage the survivor to scan the environment. One strategy is called the **Lighthouse Strategy***: Ask the survivor to imagine their eyes as beams of light sweeping from side to side. Remind the survivor to use the Lighthouse Strategy during activities.



Case example:

Mr. Wong has left neglect. When a support worker approaches him, she goes to his right side first. Once he is aware that the support worker is there, she crosses over to his left side to provide stimulation on that side. In this way, she encourages Mr. Wong to attend to that side of the environment.

Unilateral body neglect

Unilateral body neglect is a decreased awareness or failure to attend to the affected side of the body. The survivor of a right brain stroke may ignore the left half of their body. The survivor may forget to dress the affected side or may leave the affected arm hanging over the side of the wheelchair.

How you can help

- Talk with the team about using the affected arm or leg in daily activities
- Position the affected arm so the survivor can see it
- Gently rub the affected arm to stimulate sensation and awareness
- Encourage the survivor to help position the affected limb
- Use cues to draw attention to the affected side. For instance, ask the survivor “Where is your arm?”

Case example:

Mrs. Brown initially had a problem with leaving her affected left arm hanging over the side of her wheelchair. She was provided with a lap tray. Support workers reinforced the importance of positioning her left arm on the lap tray so that it would not get injured. Over time, Mrs. Brown became better able to place her affected arm on the tray without cueing.

* Niemeier, J.P., Cifu, D.X., Kishore, R.; “The Lighthouse Strategy: Improving the Functional Status of Patients with Unilateral Neglect After Stroke and Brain Injury Using a Visual Imagery Intervention”; Topics in Stroke Rehabilitation. 2001 Summer; 8(2):10-8.

Apraxia

Apraxia is difficulty in making purposeful movements, even though the survivor has the physical ability and understanding to perform the task. This happens because messages from the brain to the muscles are not being processed properly.

Apraxia can affect how the movement is planned for both sides of the body, not just the affected side. For example, the survivor may still have trouble performing simple, everyday tasks like hair brushing or getting dressed. Apraxia can also affect the survivor's ability to speak.

How you can help

- Talk with the team about the best strategy or assistive devices to use. These may include physical cues, verbal cues, and demonstration
- Use short and simple instructions to limit confusion
- Break the task into simple steps. Use these steps every time the task is performed
- Encourage repetition and practice of activities
- Provide hand-over-hand guidance if necessary. Guide the survivor but do not perform the task

Case example:

Initially, Mr. Black would try to use his toothbrush to comb his hair. Each day, support workers guided Mr. Black's hand as he used his toothbrush to brush his teeth. A few weeks later, Mr. Black was able to pick up his toothbrush and use it correctly without assistance.

Perseveration

Perseveration is the uncontrollable repetition of a word, phrase, or action. When this happens, the person cannot move on to the next activity or thought. The survivor may seem to get "stuck". For example, they may keep washing their face over and over, or keep repeating the same word.

How you can help

- Plan the task with the survivor. This will help the survivor understand the steps involved.
- Provide clear, step-by-step instructions. Give the survivor time to practise the sequences.
- Help the survivor stop if they get "stuck" and assist them to start the next step.
- Provide hand-over-hand and visual cues. For example, showing the survivor a cup during teeth brushing to cue the person to stop brushing and begin rinsing.



"HAND OVER HAND" GUIDANCE

Vision problems

Problems with vision are fairly common after a stroke. Problems include:

- double vision
- partial loss of vision in one or both eyes
- blurred vision
- visual field loss



Double vision



Blurred vision



Visual field loss

Sometimes, vision problems improve in the weeks after a stroke. However, many survivors must learn to adapt to their vision problems using techniques taught to them by their therapists.

How you can help

Talk with the team about the best strategies for dealing with a specific vision problem – for example, from which side to approach the survivor.

Encourage the survivor to use the techniques the team recommends to deal with vision problems during activities. These techniques might include:

- The **Lighthouse Strategy** (imagining the eyes as beams of light sweeping from side to side)
- Visual cues such as a sign on the door saying “bathroom” to help the survivor find the way
- Reference points or anchors – for example, red tape on the edge of a table

For visual field loss:

- Encourage the survivor to turn their head to the affected side
- Place items on the affected side to increase the survivor’s awareness of that visual space
- Encourage the use of an eye patch or prism glasses, if prescribed

Upon reflection

What are three strategies you can use for someone who has unilateral body neglect?

Think of someone you have cared for who had problems with spatial relations. How did you help that person stay safe?