



BIOS | **BRITISH AND IRISH
ORTHOPTIC SOCIETY**

**Visual Perception Defects following
Stroke or Brain Injury**



What is a visual perception defect?

When we look at something, our eyes receive visual information about the object. This information must then be processed by our brain to find out what it means. This enables us to recognise colours, someone we know, or familiar objects. This process can be affected by a stroke or brain injury.

Following a stroke or brain injury, a person may also experience a change in their awareness and perception of the world around them. Both these effects are visual perception defects.

The most common visual processing or perception problem is called visual neglect or visual inattention. Visual inattention is a disorder which can reduce your ability to look, listen or make movements towards one half of your environment (please see separate leaflet on 'visual inattention following stroke or brain injury').

There are many other types of visual perception defect that can be seen following a stroke or brain injury, some of which will be described in this leaflet.

Types of visual perception problems:

Visual hallucinations - are quite common after a sudden loss of vision and are sometimes referred to as Charles Bonnet Syndrome (CBS). The visual hallucinations experienced in CBS may be relatively simple e.g. patterns or lines which can form in to more complicated patterns such as brickwork, netting, mosaic or tiles. Some people experience more complex hallucinations such as seeing people, animals and places. Sometimes whole scenes will appear, like landscapes or groups of people, some of which are life size or others reduced or enlarged in size.

We do not fully understand what causes this condition, but it is often described as the brain 'filling in the missing parts of vision'. This condition is often described as being similar to 'phantom limb' where people who have had a limb amputated may still feel their fingers or toes or experience itching of an arm or leg that is no longer there.

Hallucinations tend to happen when there is not much going on, in low lighting, when people are sitting quietly alone or when a person is lying in bed at night.

Hallucinations are often noticed after stroke or head injury if there has been a loss of vision to one side, hemianopia (please see separate leaflet on 'visual field loss following stroke or brain injury'). The hallucinations appear on the side of the vision loss but in most cases resolve completely.



An example of the visual hallucinations a person with hemianopia may experience

Treatment for visual hallucinations - There are no specific treatments for CBS however there are various strategies which can help you cope with these episodes. These include:

- change your activity i.e. if sitting, stand up and move around
- blinking
- closing and opening your eyes

- switching a light on and off
- looking at, or walking away from the hallucination
- talking to, or shouting at the hallucination
- talking to others about your experiences

A small number of people, who find this condition seriously disturbing, may benefit from medical treatment. If you are having problems, talking to your GP / hospital doctor may be a good way to help.

Identifying visual hallucinations and understanding their cause can be reassuring for people suffering from them. Early recognition and reassurance will reduce any distress or suffering experienced by most people, helping them come to terms with it. For many people, the problem improves in time.

Visual Agnosia - is a perceptual problem where a previously familiar object is seen, but not recognised. A person can no longer work out what an object is or what it is used for.

Achromatopsia / Colour agnosia - Difficulty in recognising colours, when this was not previously a problem.

Akinetopsia / motion blindness - this is a problem where a person cannot detect motion or movement, despite being able to see stationary or still objects easily.

Alexia / pure word blindness - an inability to read, despite being able to see the text. People suffering from alexia are unable to make sense of the text, but still have the ability to write.

Orientation Agnosia - An inability to judge or determine orientation / position of objects.

Prosopagnosia – this is an inability to recognise human faces. Individuals with prosopagnosia know that they are looking at faces, but cannot recognise people by the sight of their face, even people who they know well.

Metamorphopsia – this is a distortion or change in the shape or size of an object and can occur after a stroke or brain injury. Objects can appear to be bigger or smaller than they really are, or can look distorted in shape.



Palinopsia (visual perseveration) – this is where an object stays in view, even when a person has looked away from the object. It may stay in view for seconds or minutes later, despite no longer being visible and can cause significant confusion.

Treatment of visual perception defects

If you have problems such as difficulty recognising colours, faces, objects, complex scenes or text, it is important to use adaptive strategies. These involve using your other senses (for example touch or hearing) to process the information in a different way and to help you to relearn how to recognise things or adapt to your difficulties

Driving and visual perception defects

Initially following a stroke, you are not permitted to drive for at least one month. This may be longer if you have had surgery or other complications.

If you have a persistent visual problem such as visual perception difficulties the DVLA states that you are not normally accepted as safe for driving. Your orthoptist and / or therapy team will be able to offer advice on whether you are eligible to return to driving.

A specialist driving assessment may be undertaken if there is any doubt around your driving ability.

If in doubt consult the DVLA website for the latest information:
www.dft.gov.uk

Where can I find more information about visual perception defects?

Additional help and advice is available from:

Esme's Umbrella

Website: www.charlesbonnetsyndrome.uk

British and Irish Orthoptic Society

Website: www.orthoptics.org.uk

The Stroke Association

Website: www.stroke.org.uk

Headway

Website: www.headway.org.uk

Royal National Institute for the Blind (RNIB)

Website: www.rnib.org.uk



This leaflet was made by the Stroke and Neurological Rehabilitation Clinical Advisory Group steering committee in October 2018.

See www.orthoptics.org.uk for more information