

References

Jacquin-Courtois S, Bays PM, Salemme R, Leff AP, Husain M (2013) Rapid compensation of visual search strategy in patients with chronic visual field defects. *Cortex*, 49(4), 994–1000.

Ong Y, Brown MM, Robinson P, Plant GT, Husain M, Leff AP. (2012) Read-Right: a “web app” that improves reading speeds in patients with hemianopia. *Neurol*, 259, 2611.

Parton A, Malhotra P, and Husain M. (2004) Hemispatial neglect. *J Neurol Neurosurg Psychiatry*, 75(1), 13–21.

Further information

The Stroke Association

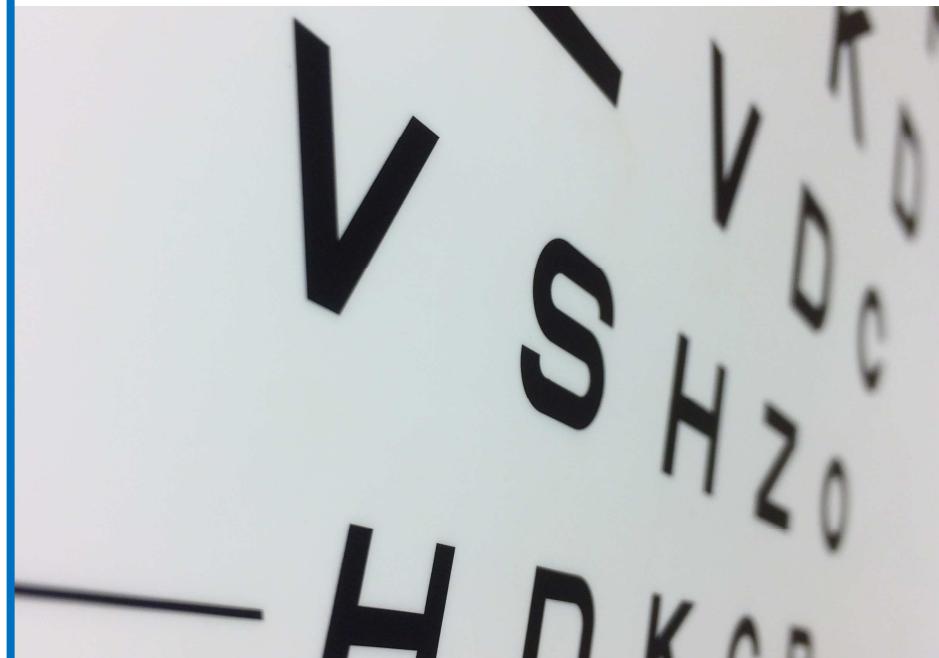
British and Irish Orthoptic Society

Royal National Institute for the Blind (RNIB)

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Homonymous Hemianopia, Visual Neglect and Hemianopic Alexia

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It is estimated that visual problems can occur in up to 60% of patients following Stroke. These may present as reduced vision, double vision and visual neglect. This leaflet is designed for people suffering with homonymous hemianopia, visual neglect and hemianopic alexia following brain injury. Inside you will find a range of therapies available which aim to improve vision related quality-of-life in these conditions.

What is homonymous hemianopia?

A homonymous hemianopia is a loss of one half of the visual field on the same side in both eyes. It frequently occurs in stroke and traumatic brain injuries due to the way vision is represented in the brain.

A homonymous hemianopia can affect your independence. You may experience bumping into objects, tripping, falling, knocking over drinks and being startled by objects or people that suddenly appear out of nowhere.

What is visual neglect?

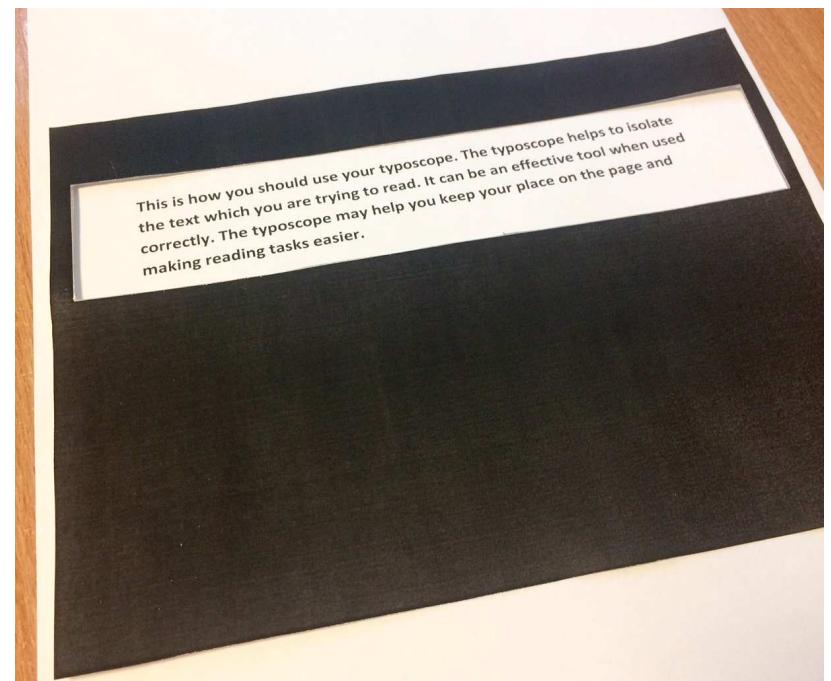
Visual neglect is common following stroke and is most frequently associated with damage to the right side of the brain. This causes you to be unaware of objects or people to your left.

Instructions: Cut out the inside of the box to make your own typoscope.

NB: It is best if this is transferred to a piece of dark or brightly-coloured card.



An example of a typoscope in use



Reading strategies

There are several strategies that you can use to improve your reading ability, particularly if you are struggling with missing out the beginning or end of words and sentences.

You can use brightly-coloured bands at the start and end of sentences as an aid to find or keep your place on the page.

Another effective method to try is by keeping your eyes fixed in a straight ahead position and moving your reading material from left-to-right (and back again) to mimic normal eye tracking movements.

You could also try orientating the page so that the text reads vertically. This utilises your vertical eye movements and helps to avoid the defective horizontal field. This technique will require a period of adaptation as you will need to learn how to read vertically but can be very effective.

A typoscope is a piece of card with a cut-out template which can be used to isolate words and sentences. This helps minimise the crowding effects of over-information and selects the text that you want to concentrate on. You can use the template across the page as a guide for your own typoscope.

For example, when searching through a visual scene, someone with left-sided neglect will tend to look at elements on the right-side only.

If you have visual neglect you can see all the items in a scene but have difficulty recognising all of the objects, especially as the scene becomes crowded.

What is hemianopic alexia?

Hemianopic alexia is a condition that usually affects individuals with a right-sided hemianopia. This is particularly problematic when reading from left-to-right. In order to read efficiently, you move your eyes along a line of text several times per second to make use of the visual information to the right.

With hemianopic alexia you are unable to effectively make use of the information on the right which makes your eye movements less accurate. Consequently, you may find reading more difficult and slower.

Visual search therapies

There are now therapies available online to help improve visual search problems following brain injury. These strategies do not improve your visual field but aim to improve the way you move your eyes to see the world around you. This is called a compensatory strategy.

The therapies available are discussed below and can be used as part of visual rehabilitation following brain injury.

Read-Right

Read-Right is a therapy and research application accessed over the internet. It has been developed by UCL Institute of Neurology and UCL Multimedia. The project is funded by The Stroke Association. Read-Right has been clinically proven to improve reading speeds in patients with hemianopic alexia. There was on average a 39% improvement in reading speeds following 15 hours of cumulative practice using Read-Right.

For more information please have a look at the website below.

www.readright.ucl.ac.uk

Eye Search

Eye-Search is a clinically proven, behavioural therapy designed to improve your speed and accuracy when finding objects. The therapy may also improve your ability to navigate safely and have fewer collisions with objects or other people when walking around.

Additionally, there are also four simple tests which allow you to check your progress during the course of the therapy. There is good evidence that with lots of practice this exercise will carry-over and affect performance on tasks relevant to you, such as finding objects on a crowded desk and navigating more safely.

The therapy can be accessed by any web browser and thus you can do the therapy from anywhere and at anytime at your own pace.

For more information please have a look at the website below.

www.eyesearch.ucl.ac.uk