Homonymous Hemianopia

What is homonymous hemianopia?

Homonymous hemianopia is referred to as a neurological vision impairment. While we may be familiar with ocular based vision impairments such as cataracts, retinal deterioration or glaucoma, neurological based vision issues occur frequently and can be significantly debilitating.

Neurological vision impairment is much more complex. It occurs when the visual processing areas of the brain or the visual pathways to these processing areas are damaged, often through stroke or head trauma. While the eyes are still functioning correctly the information gathered is not sent through the brain in its entirety or the brain is not able to process the information appropriately.

Each eye picks up and transmits a right and left visual field. The optic nerves transfer information from the left visual field from each eye to the right side of the brain and the right visual fields to the left side of the brain. This leads to a situation where the right hemisphere of the brain processes visual information from the left visual field and the left hemisphere processes the information from the right. Because of the physical structure of the brain strokes generally occur in one of the two hemispheres leaving the other intact, thus leaving half the visual field unaffected.

The Visual Pathway
With a homonymous hemianopia half of the visual field in both eyes is lost. Depending on the exact location of the damage to the visual pathways, different amounts of vision may be affected with different names (relative hemianopia, quadrantinopia, incongruent hemianopia), however functional changes still occur.

Those experiencing homonymous hemianopia may not be aware that their vision has been altered. Without being aware of a problem they cannot correct for it. Going into crowded stores may become difficult, because people seem to suddenly appear in front of them. Anxiety leaving the home can occur and some people may even experience panic attacks. They may frequently bump into stationary objects on one side. Additionally, the loss of visual field can also cause reading difficulties when words are missed.

They are likely to lose confidence in their abilities and find situations confusing. Relatives may attribute this to the stroke or injury. It is crucial for people with neurological vision impairment and their relatives and carers to understand the nature of their situation before they have any chance of adapting to their circumstances.

**Assistance**

Guide Dogs SA, through its Neurological Vision Service, provides a specialised program for people who have neurological vision impairment.

A key element in this service is the use of the Neurological Vision Technology scanning system (NVT). This is a mobile device which can be used to define a visual field loss and screen for additional associated conditions such as visual inattention.

The NVT is used as the basis of a training programme to establish a scanning technique to assist in compensating for the reduced visual field. This technique is then practiced in many different environments to increase independence and safety in daily life.

Guide Dogs SA Neurological Vision Service includes:

- Comprehensive assessment of functional vision loss using a range of assessment tools
- If appropriate, assessment and training by Low Vision Specialist to provide appropriate ocular rehabilitation strategies
- Assessment for specialized low vision adaptive devices
- Individually designed visual scanning programs
- Graduated training from simple to complex tasks within a variety of environments
- Orientation and mobility programs transitioning clients return to work, study, vocation or recreation, including road crossing strategies and use of public transport
- Therapy and rehabilitation provided in hospital, at home and in the community
- Follow up after programming to minimise any difficulties encountered.

Referrals can be made by any health professional, family member or friend on the person’s behalf. Permission must be given by the person being referred.

Enquiries and referrals to:
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