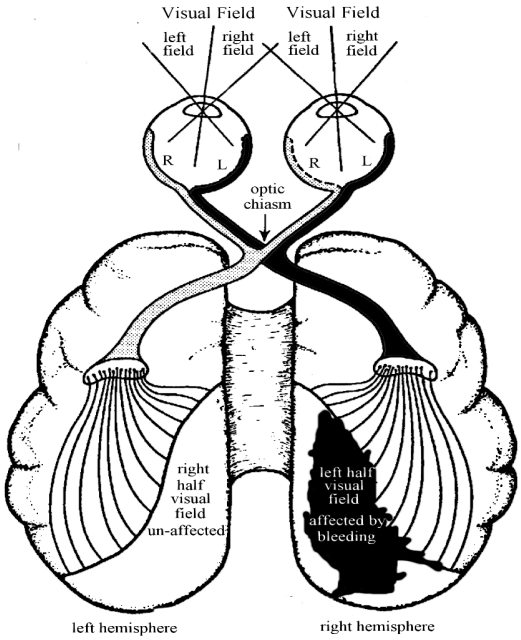
Neurological Vision Impairment

NVT SYSTEMS
A NEW DIRECTION IN NEURO VISION REHABILITATION

Neurological vision impairment can occur when the visual processing areas of the brain are damaged. The most common cause of neurological vision impairment is stroke or head trauma.

Most people's concept of vision impairment relates to ocular disease such as Cataracts, Glaucoma or even loss of the eye, where the problem exists in the eye itself. Neurological vision impairment is much more complex and difficult to understand. This difficulty is in part due to the way that our brain receives and processes visual information.



This diagram of the visual pathways of the brain shows that each eye picks up and transmits visual information from a right and left visual field.

The optic nerves are arranged in such a way that the image from the left visual field from each eye is transmitted to the right side of the brain and the right visual field to the left side of the brain.

This arrangement is similar to the way movement and sensation from one side of the body is controlled by the opposite side of the brain.

With vision this leads to a situation where damage to one hemisphere of the brain can lead to a vision loss of the same half of the visual field as seen by both eyes.
This condition is called ***a homonymous hemianopsia.***

In the case of a stroke affecting the right hemisphere the loss of vision will affect only the left half of the visual field. The other hemisphere is usually unaffected leaving the person with the right visual field intact.

Despite these significant changes to how much someone is seeing, these losses may not be obvious to the person. The person can express surprise and annoyance that people keep bumping into them on their left or they fail to notice that there is still food on the left side of their plate. They may be at risk of serious injury when attempting to cross roads as they are not aware of cars moving towards them from their left. In addition, people affected by homonymous hemianopsia can also have problems with everyday activities such as finding objects, dressing themselves and reading. This can lead to confusion and a loss of confidence in their ability.
Without an awareness or understanding of the vision problem patients are unlikely to correct for it. The strategies, such as corrective glasses that improve clarity of vision, used for conditions within the eye, are also ineffectual, as they do not alter how much is seen.

NVT SYSTEMS Pty Ltd

NVT SYSTEMS draws upon the expertise of vision therapists that have worked in the area of neurological vision impairment for over 20 years. We have developed procedures for assessment and training for visual perceptual deficits, such as homonymous hemianopsia. The assessment process initially uses the NVT scanning device to determine the extent of visual field loss and to demonstrate to the patient, and their carers, the nature of the vision impairment. The NVT scanning device is then used as the basis of a training programme to teach the patient to compensate for the lost visual field utilising the intact areas of their vision. The scanning skills learnt using the NVT scanning device are then transferred to activities of daily living, with a particular emphasis on the person being able to move with safety around their environment. The aim is to enable the person to become as independent as possible.

For more information on this unique program contact:

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