

# Visual inattention and visual field loss

## VISUAL INATTENTION

Visual inattention is a common condition associated with stroke. Also known as '**unilateral spatial neglect**', or more simply as '**neglect**', it presents as a difficulty in detecting or acting upon information on one side of space.

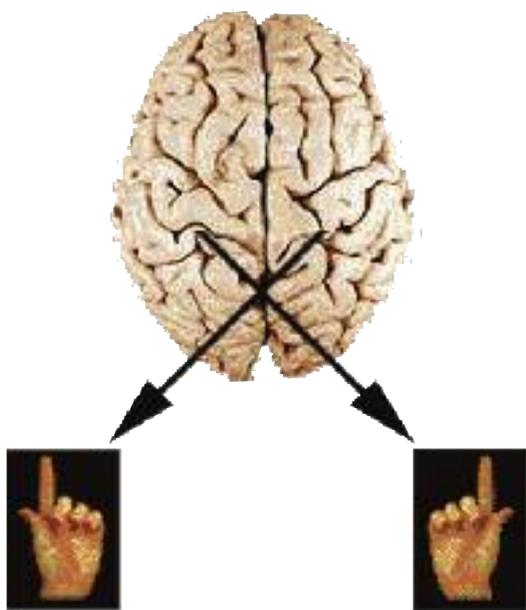
People with visual inattention behave as if they do not notice or are **no longer interested in events that occur on one side**. They may appear to ignore others who stand on their affected side and/ or fail to carry out basic self-care tasks, such as washing and shaving on one side of their body.

Although **visual inattention** is a particularly common consequence of stroke, it can also occur following other forms of acquired brain injury (such as traumatic brain injury).

## Hemispheres of the brain

The brain is divided into two halves, known as 'hemispheres'. The right side (hemisphere) of the brain controls muscles on the left side of the body and vice versa. It is for this reason that damage to one side of the brain affects the **opposite side of the body**.

The side that is affected by visual inattention is usually **opposite** the brain hemisphere that has been damaged by the stroke (i.e. a patient with a right hemisphere stroke will, in most cases, present with left-sided inattention).



## Visual Inattention and the right side of the brain

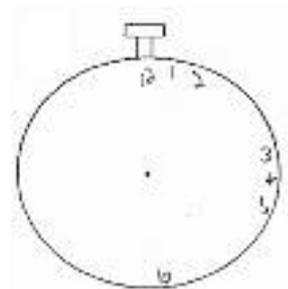
Visual inattention is more common following right hemisphere strokes: if tested within the first three days of their recovery, 85% of people who have had a stroke in the **right hemisphere** of their brain will show signs of the disorder, compared to 65% who have had a stroke in their left hemisphere.



## How does someone behave if they have visual inattention?

People with inattention may display a range of behavioural symptoms, such as:

- Missing food on one side of their plate.
- Failing to attend to one side of their body whilst washing and dressing (e.g. shaving only one side of their face).
- Not noticing people approaching from their affected side.
- Finding it difficult or impossible to read.



*Drawings by patients with inattention*

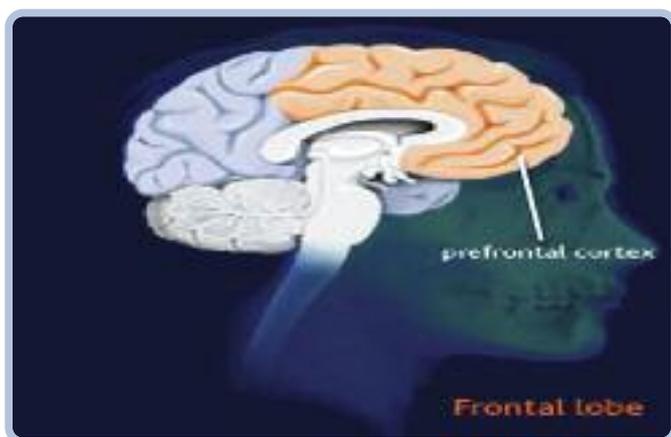
## Prolonged visual inattention is associated with right hemisphere brain damage

Visual inattention usually **resolves within 10 days**. However, in approximately 10% of cases, the syndrome **persists** for weeks or even months. For some, the condition can be permanent. People with persisting inattention are nearly always those who have had right hemisphere brain damage.

## The link between visual inattention and alertness

Many of the brain regions that are involved in helping us to pay attention to both sides of space (**visual attention**) are also involved in helping us to concentrate and stay alert (**sustained attention**).

When these brain regions (such as the front part of the brain - see below) are damaged, **both visual *and* sustained attention** can be affected. It is for this reason that people with **persisting visual inattention** also frequently present as drowsy and distractible.



## Visual inattention and fatigue

When a person has visual inattention, their awareness of the affected side is likely to **fluctuate** in line with their fatigue; i.e. their inattention will be worse when they are tired and will improve when they are alert.

## Visual inattention and awareness

The right frontal lobe of the brain plays an important role in awareness and empathy (being able to see yourself from another person's perspective). People with inattention often have limited awareness of their difficulties. This can serve to hamper their recovery and limit their independence because it prevents them from recognising the need for rehabilitation.

## Risks associated with visual inattention

People with inattention may fail to notice people or objects approaching from the left. As a consequence, they may bump into people and objects on their 'neglected' side.



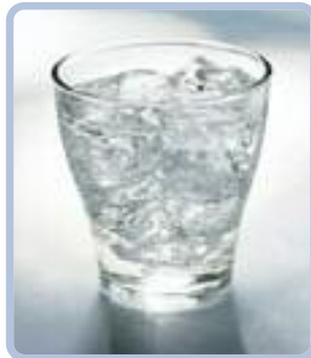
People with visual inattention will often need **close observation** when engaged in high risk activities, such as cooking. It is also important to note that inattention can **re-emerge** at times when the person is particularly fatigued, often many months after it has apparently resolved.

# REHABILITATION STRATEGIES THAT MAY BE HELPFUL FOR PEOPLE WITH VISUAL INATTENTION

## General Strategies

People with visual inattention should be encouraged to engage in activities, such as reading, shaving and therapy (such as physiotherapy) when they are **most alert**.

Others can help to improve their alertness by, for instance, asking them to drink a cold drink before starting a task or by placing a cold flannel on the back of their affected ('neglected') hand.



People with visual inattention should avoid particularly important or risky activities when they are fatigued as their inattention is likely to be **at its worst at this time**.

Individuals with visual inattention should be encouraged to move **their affected arm before and during important tasks**; in some cases, this can improve awareness of the 'neglected' side. Even if movement is very limited, this technique may still be helpful.



## Managing Distractions

People with visual inattention are often **highly distractible** and find it difficult to sustain their attention. Before embarking on any



important tasks, such as physiotherapy exercises, others should **try to reduce environmental distractions and prompt the person to avoid talking**.

## On the Move

Prompting individuals with visual inattention to look towards their affected side will have only a momentary effect and might, over time, cause them to feel irritated and frustrated. Instead, they should be encouraged to try listening to a tape recording of their **own voice**, reminding them to scan, whilst carrying out activities that are affected by their inattention (i.e. shaving and/ or eating).



## Reading

In the case of **left inattention**, place a thick red vertical line on the left edge of a laminated sheet. Place the sheet over books and magazines so that the line lies on the inside margin: prompt the individual to find the line before beginning to read. This should help them to **attend** to the **start** of sentences.

# THE DIFFERENCE BETWEEN VISUAL FIELD LOSS AND VISUAL INATTENTION

## The Visual Fields

A person's '**visual field**' is the total area in which they can see objects on one side, whilst focusing on a central point (see below).

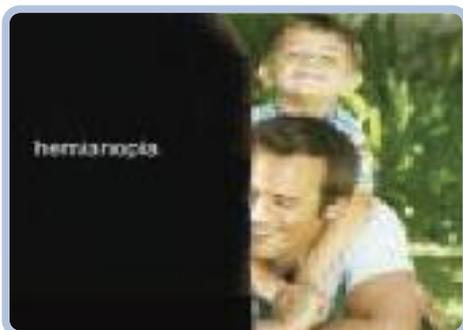


## Visual Field Loss

The most common forms of **visual field loss** following stroke and brain injury are '**homonymous hemianopia**' and '**quadrantanopia**.'

### Homonymous hemianopia

(Also known as hemianopsia) is decreased vision or blindness in half the visual field of one or both eyes. The picture below illustrates what someone with left homonymous hemianopia might see.



*What someone with left homonymous hemianopia might see*

## Quadrantanopia

(Also referred to as **quadrantanopsia**/ **quadrantic hemianopia**) is decreased vision or blindness in **one quarter** of the visual field of one or both eyes.

Fortunately, most people learn to **compensate** for visual field loss by moving their head and using **their intact visual field** to scan their environment.



*What someone with a right upper quadrantanopia might see*

## Can people have visual field loss and visual inattention?

Although people with **visual inattention** may appear to be experiencing visual difficulties, they can often 'see' perfectly well. In contrast to someone with visual field loss, their problems stem from an inability to **self-direct their attention to one side**; they can often become **aware** of information in their 'neglected' field when their **attention** is drawn to it.

Visual inattention often co-occurs with visual field loss. As previously stated, when people have visual field loss, they usually learn to **compensate by moving their head and using their intact visual field to scan**.

However, when people have visual field loss *and* visual inattention, their accompanying **impaired awareness and poor sustained attention** undermines their ability to use compensatory strategies, such as scanning. Inattention can therefore **worsen** the impact of a visual impairment.

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Kent Clinical Neuropsychology Service

## PATIENT ADVICE AND LIAISON SERVICE (PALS)

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**0800 587 6757**

(West Kent and Medway)

**0800 783 9972** (East Kent)

You can also e-mail:  
[pals@kmpt.nhs.uk](mailto:pals@kmpt.nhs.uk)

## Comments on this leaflet

If you wish to comment on this leaflet call 01732 520441 or e-mail [communications@kmpt.nhs.uk](mailto:communications@kmpt.nhs.uk)

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Bengali

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Chinese

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Turkish

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