Wrightington, Wigan and Leigh Teaching Hospitals
NHS Foundation Trust

Cerebral Visual Impairment

Version number: **2**
Last modified date: **12th November 2026**

Cerebral Visual Impairment (CVI)

Information for Parents and Carers

Orthoptic Service

- Author ID: JB
- Leaflet Ref: Orth 023
- Version: 2
- Leaflet title: Cerebral Visual Impairment (CVI)
- Date Produced: January 2026
- Expiry Date: January 2028

What is CVI?

Cerebral Visual Impairment (CVI) is a form of visual impairment caused by the brain being unable to process the information it is receiving from the eyes.

CVI is caused by damage to the brain by several conditions, such as epilepsy, hypoxia (lack of oxygen), traumatic brain injury.

You may also see the term ‘cortical visual impairment’ – this is an older term when the condition was thought to be related to just the cortex in the brain. Now it is known that CVI involves much more of the brain, so is now more widely called ‘cerebral visual impairment’.

What might someone with CVI struggle with?

Some people have good vision on a vision chart but struggle to use their vision for everyday tasks. Others can have reduced vision alongside CVI.

Struggling to use your vision or process the information from your eyes is called having poor visual function.

Examples of tasks someone with CVI may have difficulty with:

- seeing fast moving objects

- seeing while walking or moving in a wheelchair
- finding objects in a cluttered environment
- picking a familiar face out of a crowd
- struggling with changes to surfaces on floor, e.g. moving from hard floor to carpet
- finding the way around a new place
- finding the start of a line when reading
- seeing objects in the lower visual field, that is, objects presented below the line of sight
- seeing objects when there is a lot of background noise

See the table below for strategies for helping your child.

Can CVI be treated/cured?

CVI cannot be cured; however, there are strategies that can be put in place to help people with CVI use their vision in the best way.

Everyone with CVI experiences vision differently. The orthoptist can provide a report to explain which aspects are most difficult. The sensory support team can carry out an assessment to aid in putting strategies in place.

Examples of helpful strategies are listed below.

What can I do to help?

Visual Problem	Effect	Helpful Hints
Colour and Contrast Issues	Struggle to differentiate soft colours.	Have bright and bold colourful toys with clear colour boundaries.
Poor Peripheral Vision (seeing what's around you)	Missing some of the visual area e.g. the lower area or upper area or everything to one side.	Encourage head movements to check missing area like looking down. Training and guidance to navigate new areas and for crossing roads.
Problems with busy visual scenes/clutter	Difficulty with: Finding a toy in a box.	Separate storage for favourite items and always store in the same place.

Finding an object on a patterned background. Finding an item of clothing in a pile of clothes.	Avoid busy patterns, carpets, wallpapers, duvets.	
Concentrating on work when a lot of background clutter.	Use black background/black storage box on desk with the open end facing the child. Place work/toys in box to minimise background clutter.	
Poor control of eye movements	Difficulty tracking a line of text when reading. Difficulty following friends when running around the playground.	Track with a finger when reading. Mask off other lines of text.

Finding someone in a group	Difficulty finding a parent in a group of adults.	Parents could wear an obvious identifier e.g. aways wear a red hat. Parents could stand in the same place every day in the playground for school pickup.
Impaired Recognition	Difficulty recognising known person in a group/photograph.	Known person could use their voice / obvious identifier eg aways wear a red hat.
	Difficulty recognising shapes/animals.	Training and practice.
	Difficulty interpreting facial expression.	Learn tone of voice cues.

Depth Perception Issues	Problems with floor boundaries, uneven surfaces, steps/stairs.	Mark edge of stairs / steps / boundaries clearly. Avoid patterned flooring. Give reminders to look down. Push pram or other push toy ahead while walking.
Impaired Attention	Difficulty with more than one visual task at a time.	Limit distractions.
	Distraction by other stimuli e.g. noise.	Ensure work area is free of other stimuli.
	Difficulty ‘seeing’ when talking or listening.	Use black background/black storage box on desk with the open end facing the child. Place work/toys in box to minimise background clutter.
Impaired Orientation	Getting lost in known locations.	Use landmarks as reminders.
	Difficulty in an unfamiliar environment.	Mobility and orientation training.

Visual Fatigue	Vision gets worse after prolonged visual work.	Minimise clutter. Take regular breaks. Reduce amount of detail and complexity.

Helpful resources

- CVI Society

https://cvisociety.org.uk/index.php

- CVI Scotland

https://cviscotland.org/

- SeeAbility

https://www.seeability.org/eye-care/eye-conditions/cerebral-visual-impairment?gclid=CjwKCAjwrNmWBhA4EiwAHbjEQHcapCzXJxGSahhdi5NmhWXC

Useful Contacts

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Specialist Sensory Education Team
www.wigan.gov.uk/Business/Professionals/Educational-support/Specialist-Sensory-Education-Team-(SSET).aspx

Information for parents: www.wigan.gov.uk/Resident/Education/Educational-support/Hearing-and-vision-support.aspx

References

Visual Diagnosis and Care of the Patient with Special Needs. (2012) Marc B Taub, Mary Bartuccio, Dominick M Maino.

CVI Society https://cvisociety.org.uk/index.php

CVI Scotland https://cviscotland.org/

SeeAbility

https://www.seeability.org/eye-care/eye-conditions/cerebral-visual-impairment?gclid=CjwKCAjwrNmWBhA4EiwAHbjEQHcapCzXJxGSahhdi5NmhWXO7Pam



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