



**Wrightington, Wigan and
Leigh Teaching Hospitals**
NHS Foundation Trust

Cerebral Visual Impairment

Cerebral Visual Impairment (CVI)

Information for Parents and Carers

Orthoptic Service

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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.

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

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

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

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