

# Cortical Visual Impairment



Cortical Visual Impairment (CVI) is a visual impairment caused by damage in the visual areas of the brain. A child with CVI will usually have no abnormality of their eyes however their visual responses will be poor.

CVI is caused by a number of problems related to the brain, including head injury, lack of oxygen to the brain, developmental defects of the brain and infections of the central nervous system.

CVI is characterised by a range of features. These features influence what a child sees and how they use their vision. Not all children demonstrate all features.

## Common characteristics are:

1. **Detection of movement:** the child, or the object being viewed, needs to be moving to maximise the child's ability to locate the object.
2. **Delayed response time:** a child may have a delayed response in detecting or locating objects. Response time may increase when a child is unwell, tired or when attempting to use more than one sense at a time. Some children will need time to organise and adjust their eye, head and/or body movements in order to look towards the object.
3. **Visual field loss:** Visual field (VF) is the full extent of the area of vision that is seen when looking straight ahead. A child may have a loss of vision within their VF. They child may not be able to look directly at an object, may miss objects presented in a particular area of their field, for example, on their right side, or may appear to have 'pockets' of seeing and non-seeing.
4. **Eye movement difficulties:** Some children may find it difficult to initiate eye movement, maintain visual fixation and/or to follow moving objects, or may even need their eyes to be positioned in a particular direction for optimal viewing.
5. **Impaired tracking:** Some children may have difficulty visually following moving objects, and difficulty coordinating their eye movements. This will make it difficult for them to see detail in moving objects.
6. **Issues with visual clutter:** Some children may have difficulty locating or looking at an object that is visually complex, or an object that is on a "busy" background, e.g. locating a toy on a patterned rug.
7. **Close viewing distance:** Some children may position their face very close to an object and have great difficulty recognising familiar or large objects when they are presented beyond this close distance.
8. **Use of touch to supplement vision:** Some children may initially supplement their vision with touch (hands/mouthing) when exploring new objects.
9. **Difficulty using more than one sense at a time:** Some children may have difficulty looking at an object at the same time that another sensory input is competing for attention, e.g. they may be unable to look and touch an object at the same time.
10. **Preference for familiar objects, people and/or places:** Some children may be more visually interested in familiar objects, people and/or places than unfamiliar ones.
11. **Supportive and comfortable seating:** A child's visual responses may increase when they are in a well - supported and comfortable position, as they are better able to visually attend. This is particularly important if the child has a physical impairment.
12. **Fluctuation of visual abilities:** Some children may perform visually better from one day to the next, or even from moment to moment. The impact of tiredness and ill health can be quite significant on visual performance. A child may become quite tired after performing visual activities for an extended period.
13. **Colour preference:** Some children may respond better or quicker, to objects of a particular colour, especially red and/or yellow.

