

Cortical Vision Impairment

What is Cortical Vision Impairment?

Cortical vision impairment (CVI) can be either a temporary or a permanent vision impairment caused by the disturbance of the visual cortex or posterior visual pathways of the brain. The degree of neurological impairment depends upon the time of onset and the location and intensity of the damage. The eyes may function normally but the visual systems of the brain do not consistently understand or interpret what the eyes see.

What causes CVI?

Causes of CVI include lack or insufficiency of oxygen (anoxia, hypoxia, ischaemia, and asphyxia), developmental brain anomalies, head injury, hydrocephalus, and infections of the central nervous system such as encephalitis and meningitis.

What are the common characteristics of children with CVI?

Certain characteristics are common to children with CVI. A significant characteristic is fluctuation in visual functioning. That is, the child may be more visually aware on one day or in one hour than the next. This often coincides with fluctuations in level of attention.

Another characteristic is that children with CVI may appear to look at an object of interest and then look away from it when reaching for it. Children with CVI often perform better visually when activities have minimal clutter and external distractions such as noise, are eliminated. They may also benefit from prior instruction of what to look for.

Visual self-stimulation such as eye-pressing and flicking of fingers in front of a light source is rare. Gazing at light sources is reported and seems to occur mostly among children with very low vision.

Does vision ever improve?

Improvement in vision often occurs with time. Temporary CVI, which seems to occur mostly after meningitis or minor head injuries, may begin to recover a few days or months after the illness. Recovery may not always be complete and may be partial.

Permanent CVI may recover gradually over months to years after the onset. Partial return of vision has been documented in many cases. The pattern of recovery stereotypically follows the return of perception of light, the perception of colour, the perception of form, and an improvement in visual acuity, although this often remains poor.

What can I do to maximise the visual performance of a child with CVI?

Visual activities are performed better by the child if they contain simple, constant and predictable information. The child may benefit by complementing their visual input with something that they can feel. The child will learn more if the activities are enjoyable and they are having fun. The child will also be more responsive if they are positioned comfortably and are stable.