

What is CVI?¹

Cerebral/Cortical Visual Impairment (CVI) is a neurological visual disorder. Vision loss or impairment due to brain injury or disease can occur at any point in the lifespan.

CVI can be found in children who function at levels equivalent to typical peers as well as in children with mild to severe disability. The degree of neurological damage and CVI depends upon the time of onset, as well as the location and intensity of the damage. It is a condition that indicates the visual systems of the brain do not consistently interpret or understand what the eyes see.

CVI is suspected by:

- a normal or close to normal eye examination that does not explain visual performance
- a medical history which typically includes neurological problems
- the presence of unique visual/behavioral characteristics

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

Unique visual behaviors of CVI (child may demonstrate 1 or more of the behaviors):

- Normal or minimally abnormal eye exam (CVI **may** co-exist with ocular visual impairments) that does not explain visual performance
- Difficulty with visual novelty (prefers to look at familiar objects, may lack visual curiosity)
- May visually attend in near space only
- Difficulties with visual complexity (performs best when one sensory input is presented at a time, when the surrounding environment lacks visual clutter, or when the object being presented is simple)
- Difficulties with visual crowding (moves eyes closer to materials to try to eliminate excess visual input)
- Non-purposeful gaze/light gazing behaviors

¹ https://cvi.aphtech.org/?page_id=1345

- Photophobic or light sensitive
 - Color preference (red and yellow, but could be any color)
 - Visual field preferences
 - May be able to use peripheral vision more effectively than central vision
 - May use peripheral vision when presented with a visual stimulus, appearing as if they are looking away from the target
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- Visual latency (visual responses are slow, often delayed)
 - Attraction to movement (movement of object motivates visual attention and enhances understanding of the object as a whole)
 - Absent or atypical visual reflexive responses (may fail to blink to a touch on the nose, or to an object moving quickly toward him)
 - Atypical visual motor behaviors (look and touch occur as separate functions...child looks, turns head away from item, then reaches for the object)
 - May exhibit poor depth perception, influencing their ability to accurately reach for a target
 - Overstimulation can result in fatigue, or in short visual attention span
 - May be able to navigate through cluttered environments without bumping into things (uses “blindsight” a brain stem visual system)

The degree of CVI can range from mild (typically developing child with limited atypical visual behaviors) to severe (multiple disabilities with many atypical visual behaviors). The degree of neurological damage and CVI depends upon the time of onset, as well as the location and intensity of the damage. It is a condition that indicates that the visual systems of the brain do not consistently interpret or understand what the eyes see. The presence of CVI is *not* an indicator of the child’s cognitive ability. Some visual behaviors can be resolved, while others may need environmental accommodations for the child to be successful in school and at home.