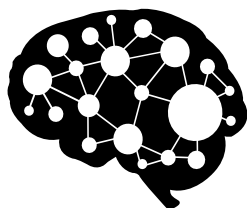




Cortical Visual Impairment (CVI) in Children

A practical guide for Teachers of Students with Visual Impairments in supporting this brain-based visual impairment.



PCVIS
Pediatric Cortical Visual
Impairment Society



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What is Cortical Visual Impairment?

Cortical Visual Impairment (CVI) is a brain-based visual impairment. The eyes can see, but the brain has difficulty interpreting the visual world.

A Child Has CVI When

- An eye exam cannot fully explain their vision loss.
- They have a history of a neurological condition or brain injury, even if brain scans appear normal.
- They show specific visual and behavioral patterns identified in medical and educational research^{1,2}

Common Causes of CVI

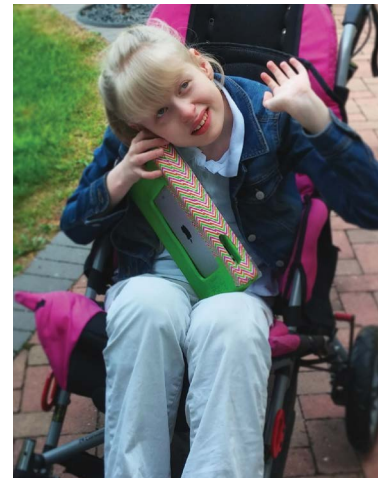
CVI can occur when visual pathways in the brain are affected. Causes include but are not limited to:

- Hypoxic-ischemic encephalopathy
- Prematurity with periventricular leukomalacia
- Traumatic brain injury
- Hydrocephalus
- Seizures
- Genetic or metabolic conditions

Children with CVI may also have coexisting ocular condition(s), but these conditions will not fully explain their functional visual difficulties.

Behaviors Associated with CVI

- Little interest in new objects, toys, or places.
- Needs extra light, movement, or bright color to draw attention to an object.
- Trouble coordinating eyes and hands—looking and reaching may not happen together.
- Responds to sound before sight.
- Difficulty focusing or finding objects in busy places (grocery store, playground), or locating objects on a cluttered surface or from a distance (classroom board).
- Trouble recognizing faces or expressions.
- Difficulty navigating a crowded or new space (may freeze or move too fast).
- Needs extra time to look at or process visual information.
- May tilt head to look at items in a specific visual field and may miss drop-offs, curbs, stairs, and other objects in the lower field.



Know CVI's 10 Characteristics^{1,2}

1

Color Preference

Red, yellow, or bright colors often attract attention and can help maintain focus.

2

Need for Movement

Drawn to moving or shiny objects.

3

Visual Latency

Responses to visual stimuli may be slow or frequently delayed, requiring extended periods of time to notice and attend to a target.

4

Visual Field Preference

Certain areas of vision are stronger, leading to head turns or tilts to maintain visual attention.

5

Visual Complexity

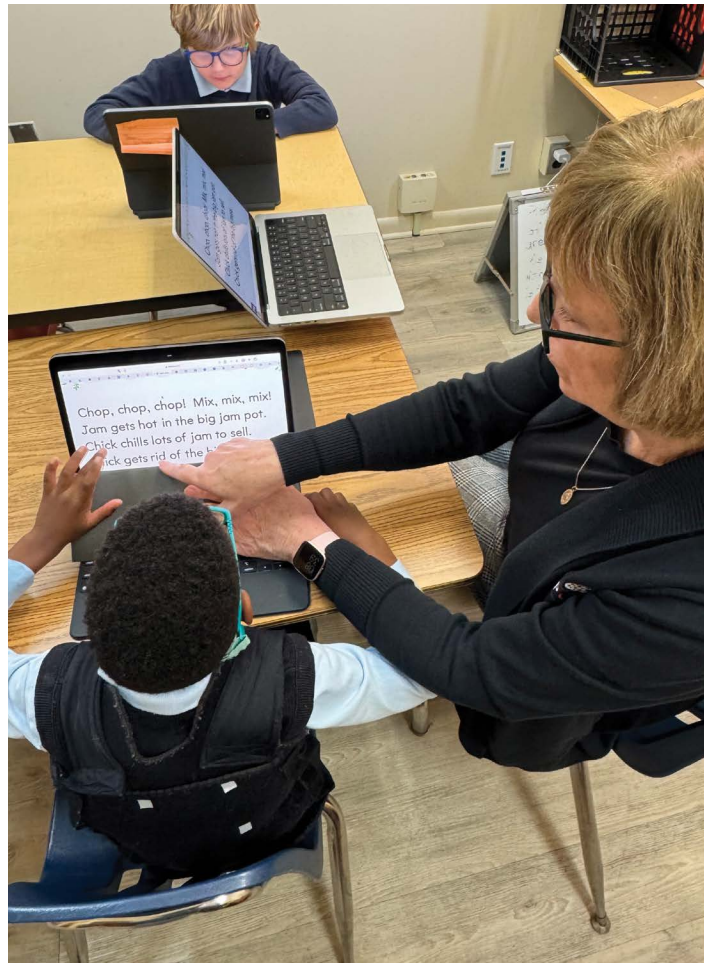
Visual complexity impacts children with CVI in four main ways:

- Responding best to simple patterns or solid colors.
- Finding it difficult to sort, interpret, or understand multiple items.
- Having trouble maintaining visual attention.
- Not recognizing faces/facial expressions or making eye contact.

6

Need for Light

May spend prolonged periods gazing at primary sources of natural or artificial light.



7

Difficulty With Distance Viewing

Targets farther away may be more challenging to see or identify.

8

Atypical Visual Reflex Responses

Reactions to visual threat or startle may differ from children without CVI and should be considered in assessments.

9

Difficulty With Visual Novelty

Children with CVI tend to prefer familiar objects and often overlook new ones.

10

Absence of Visually Guided Reach

Looking and reaching at different times.

Your Role as a TVI^{1,2}

- Know CVI risk factors, diagnostic criteria, and the three CVI Phases.
- Conduct the CVI Range® and write IEP goals based on the results.
- Plan interventions for each unresolved CVI characteristic.
- Work with families and team members to explain the child's CVI Range® score and its impact on functional vision.
- Plan for visual access throughout the child's day, providing the appropriate level of support and adhering to the CVI Schedule.

What To Do if You Suspect CVI

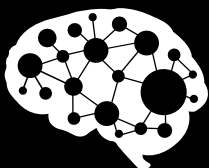
- Refer the child to an ophthalmologist, neurologist, neuro-ophthalmologist, or optometrist.
- Communicate with the physician and/or give families specific language to discuss at appointments.



References

¹ Roman-Lantzy, C. (2018). Cortical Visual Impairment: An Approach to Assessment and Intervention. 2nd ed., New York, NY: AFB Press.

² Roman-Lantzy, C. (2019). Cortical Visual Impairment: Advanced Principles. Louisville, KY: APH Press.



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PCVIS is a 501(c)(3) nonprofit organization transforming outcomes for children with CVI by advocating for research, policy, education, practice, heightened awareness, and understanding of this brain-based visual impairment.

Visit [PCVIS.vision](https://www.pcvis.vision) for more information and resources.



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