Cortical Visual Impairment (CVI) Symptoms: How to Recognize CVI

Cortical visual impairment looks different from other vision problems — and that difference is exactly what makes it so often missed. The symptoms of CVI do not show up on a standard eye chart. They show up in daily life: in how your child reaches for a toy, responds to your face, navigates a room, or behaves in a busy classroom.

The key insight is this: CVI affects how the brain processes vision, not how the eyes function. The eyes may be perfectly healthy. The breakdown happens in the visual cortex and processing pathways of the brain — the parts that interpret what the eyes see. This is why standard eye exams frequently come back normal for children with CVI, and why the condition is so commonly missed or misidentified as an attention, learning, or behavioral issue.

The symptoms can be subtle, variable, and confusing. This guide gives you the framework to recognize them.

The 10 Characteristics of CVI: What to Look For in Daily Life
The definitive framework for identifying CVI symptoms comes from Dr. Christine Roman-Lantzy, a specialist in cortical visual impairment whose decades of research and clinical work established the ten characteristics that define the condition. This framework — known as the CVI Range — is the standard used by Teachers of the Visually Impaired (TVIs), pediatric ophthalmologists, and early intervention specialists worldwide.

Not every child with CVI will show all ten characteristics. Presentation varies based on the severity of brain involvement, the specific visual pathways affected, and the child's age and intervention history. But if your child shows several of these behaviors — particularly consistently — it warrants a CVI-specific evaluation.

1. Color Preference
What it is: Children with CVI are often drawn to specific colors, most commonly red or yellow. Their visual system responds more reliably to these colors than to others.

What it looks like in daily life: Your child consistently picks up the red cup but ignores the blue one placed right beside it. They notice the yellow rubber duck in the toy bin but overlook everything else. In some children, objects that are not in their preferred color may be functionally invisible — present in the visual field but not "seen" by the brain.

2. Need for Movement
What it is: Moving objects attract visual attention more reliably than still ones. The visual system responds to motion when it may not respond to a stationary object.

What it looks like in daily life: Your child tracks a rolling ball across the floor but seems not to notice the same ball sitting still at the edge of the room. They look at a moving mobile but not at a stationary picture. Gently shaking a toy in their visual field can trigger visual attention where holding it still does not.

3. Visual Latency
What it is: There is a delay between when a visual stimulus is presented and when the child responds to it. The brain processes visual information — it simply takes longer than typical.

What it looks like in daily life: You hold up a toy. Nothing happens. Ten seconds pass. Then your child's eyes move to it. Parents often miss this because they pull the object away before the brain has finished processing. Visual latency is one of the most commonly misunderstood characteristics of CVI — and one of the most actionable once you understand it. The intervention is simple: wait longer.

4. Visual Field Preferences
What it is: Children with CVI often see better in their peripheral (side) vision than in their central vision, or have a reliable preference for one side over the other.

What it looks like in daily life: Your child consistently turns their head to look at objects using a sideways glance rather than looking directly at them. They may ignore an object placed directly in front of them but notice it immediately when it's moved to their left or right side. This is not evasion — it is the visual system using its best available pathway.

5. Difficulty with Visual Complexity
What it is: The brain has limited capacity to process complex visual scenes. Busy environments, patterned surfaces, crowded rooms, and cluttered backgrounds overload the visual processing system.

What it looks like in daily life: Your child sees their favorite toy clearly at home on a solid-color blanket, but cannot find it in their toy bin. They become distressed or shut down at the grocery store, playground, or birthday party. They cannot find a specific item on a cluttered shelf even when it's clearly visible to you. This is not a behavior problem. It is the brain reaching the limits of its visual processing capacity.

6. Light-Gazing or Light Aversion

What it is: Some children with CVI are powerfully drawn to light sources. Others are extremely sensitive to bright light and will avoid or be distressed by it. In some children, both responses appear at different times or in different contexts.

What it looks like in daily life: Your child fixates on windows, overhead lights, or bright screens — sometimes to the exclusion of social engagement with faces or objects. Alternatively, they squint intensely, turn away, or become agitated in brightly lit environments. Light-gazing and light aversion are both meaningful signals about how the visual processing system is functioning.

7. Difficulty with Distance Viewing

What it is: Visual function may be significantly better at close range than at a distance — or, less commonly, the reverse. This is distinct from standard near- or far-sightedness and will not be corrected by glasses alone.

What it looks like in daily life: Your child responds well to objects held close to their face but does not appear to see the same object from across the room. In school, they may not see what is written on the board, even from the front row. Or they may notice large objects at a distance (a bus, a large ball) but not smaller objects up close — depending on the specific visual pathway involvement.

8. Absent or Atypical Visual Reflexes

What it is: The automatic visual reflexes that most people have — blinking when an object approaches the eye, flinching at sudden visual input — may be absent or inconsistent in children with CVI.

What it looks like in daily life: You move your hand quickly toward your child's face, and they do not blink. An object falls near them, and they do not startle visually. These absent reflexes are often among the first things a pediatric ophthalmologist notices — and they are a significant clinical indicator warranting further CVI evaluation.

9. Difficulty with Visual Novelty

What it is: Familiar objects that the brain has had time to learn and recognize are much more likely to be "seen" than new objects. Novel stimuli require additional processing resources that the CVI visual system may not reliably have available.

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What it looks like in daily life: You give your child an exciting new toy and they completely ignore it. The same child has no difficulty seeing a beloved familiar stuffed animal or their usual cup. Teachers may report that a student does not respond to new classroom materials. Introducing a new face may elicit no visual attention, even if familiar faces are recognized. The implication for intervention: allow many repeated exposures to new objects before expecting visual recognition.

10. Absence of Visually Guided Reach
What it is: Typically developing children look at an object and reach for it simultaneously — vision guides the hand. In children with CVI, this visual-motor coordination is disrupted. The reach may happen without looking, or looking and reaching may occur sequentially rather than at the same time.

What it looks like in daily life: Your child looks at a cup, then looks away, then reaches for it — or reaches in the right direction without ever looking at the cup at all. They may pick up objects by feel, locating them with their hands without using their eyes to guide the movement. This is one of the most practically significant characteristics because it affects how children interact with objects, tools, and eventually written materials.

How CVI Symptoms Differ from Other Vision Problems and Attention Issues
Because CVI symptoms appear in behavior rather than in eye exam results, they are frequently misattributed to attention deficits, learning disabilities, autism spectrum features, or behavioral issues. Understanding how CVI differs from these other conditions is essential — both for accurate diagnosis and for appropriate intervention.

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Behavior	CVI	Eye-Based Condition	Attention/Learning Issue
Vision fluctuates day to day	Yes — defining feature	No — stable limitation	No
Better vision in simple environments	Yes	No	Sometimes
Standard eye exam returns normal	Often yes	No — abnormal findings	Yes
Responds to preferred colors and movement	Yes — reliably	Variable	Variable
Improves with targeted intervention	Yes — brain neuroplasticity	Sometimes — surgery/glasses	Yes — behavioral support
Vision worse when tired or ill	Yes — significantly	No	Behavior often worse but not vision

Why CVI is often missed: Standard eye exams measure the health and function of the eye structures — lens, retina, cornea, optic nerve. In CVI, these structures are often completely normal. The visual processing failure happens in the brain, which is not assessed by a standard eye exam. A child can fail a visual task not because their eyes cannot see, but because their brain cannot reliably interpret what the eyes report. Without a CVI-informed specialist and a functional vision assessment, this distinction goes undetected.

For age-specific signs across infancy, toddlerhood, and school age, see our guide: CVI in Children: Signs, Support and What Parents Need to Know.

CVI Symptom Variability: Why "Good Days and Bad Days" Happen

"But they saw it yesterday!" is one of the most common — and most frustrating — experiences CVI parents describe. Your child clearly responds to a toy one morning. The

next afternoon, the same toy in the same position draws no response at all. Is it imagination? Inconsistency in your observations?

No. CVI vision variability is real, it is documented, and it is one of the most diagnostically significant features of the condition.

CVI vision fluctuates based on several interacting factors:

- **Fatigue:** Visual processing is cognitively demanding for a child with CVI. As the day progresses and cognitive resources are depleted, visual function often declines noticeably. Many children see best in the morning, after a full night's sleep.
- **Visual complexity of the environment:** The same child will see significantly better in a quiet, simplified room than in a busy, visually cluttered one. Visual performance is not a fixed capacity — it varies with the processing demands of the environment.
- **Illness:** When a child with CVI is sick, visual function often deteriorates noticeably. High fever in particular can cause significant temporary reduction in visual capability. This typically resolves as the child recovers.
- **Emotional state and stress:** Anxiety, overstimulation, or emotional distress all compete for the brain's processing resources — leaving less capacity available for visual processing.
- **Time of day and activity history:** A child who has spent the morning in a visually demanding classroom environment may have noticeably reduced visual function by afternoon, compared to their performance in a quiet home setting.

Understanding this variability reframes everything. Your observations are accurate. Your child's vision really is inconsistent — because that is what CVI vision is. Documenting the conditions under which your child sees better (time of day, environment, energy level) is valuable information for the CVI Range assessment and for building effective intervention strategies.

This variability is also what most clearly distinguishes CVI from stable eye conditions. A child with a cataract sees equally poorly at all times. A child with CVI may see quite well in optimal conditions and very poorly in demanding ones. The gap between best and worst performance is itself diagnostic.

When to Seek a CVI Evaluation

If your child shows three or more of the characteristics described in this guide — especially if those behaviors are consistent across different situations and days — a

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CVI-specific evaluation is warranted. You do not need to wait for a definitive diagnosis before advocating for evaluation. The process of evaluation is itself valuable.

Seek evaluation if:

- Your child's standard eye exam came back normal, but you still see clear vision concerns in daily life
- Your child's vision seems inconsistent — better some days than others, better in some environments than others
- Your child has a neurological history (premature birth, HIE, TBI, seizures, cerebral palsy) and any visual concerns
- Teachers are reporting attention, learning, or behavioral concerns that may have a visual component
- Your child shows three or more of the Roman-Lantzy characteristics described above

Where to start: Begin with your pediatrician. Request referrals to a pediatric ophthalmologist, a pediatric neurologist, and — critically — a functional vision assessment by a Teacher of the Visually Impaired with CVI training. The CVI Range assessment is the specific tool designed to evaluate these characteristics systematically.

For a step-by-step walkthrough of the complete CVI diagnostic process, see our guide: How CVI Is Diagnosed: A Step-by-Step Guide for Families. For practical guidance on supporting your child at home once you recognize these symptoms, see: CVI in Children: Signs, Support and What Parents Need to Know. For what to do after a diagnosis, see: CVI Treatment and Intervention.

Take the Next Step: Expert Guidance from NELVB

Recognizing CVI symptoms is the first step. Getting the right evaluation and building an effective support plan is the next one — and you don't have to figure it out alone.
At New England Low Vision and Blindness, our specialists work with children with CVI and their families across New England. We can help you understand evaluation results, identify the right assistive technology for your child's phase of visual function, and connect you with CVI-qualified TVIs and early intervention services in your area.
Schedule Your Free Consultation.

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About This Document

This white paper was created by New England Low Vision and Blindness. Portions of the content were generated using AI technology and reviewed for accuracy. However, the information is provided “as is” and is not intended as a substitute for professional advice or a comprehensive product assessment.

About New England Low Vision and Blindness

New England Low Vision and Blindness is a leading provider of assistive technology, training, and support for people who are blind or visually impaired. We serve individuals, schools, and organizations across the Northeast with personalized solutions that empower independence and improve quality of life. To learn more or schedule a no-obligation consultation, visit NELowVision.com or call 888-211-6933. You can also email us at info@NELowVision.com.