# Cortical Visual Impairment (CVI): Early Signs & What Parents Should Know

If you're reading this, you may have noticed something different about how your child sees the world. Maybe they don't track your face the way other babies do. Maybe they seem overwhelmed in busy places. Maybe they reach for toys without looking at them, or respond inconsistently to the same object from one day to the next.

What you're observing may be cortical visual impairment — CVI — the most common cause of visual impairment in children in developed countries. You are not alone. Hundreds of thousands of families are navigating exactly what you are right now, and there is a growing community of specialists, researchers, and parents who understand this condition deeply.

This guide is written for parents, not doctors. You won't find clinical detachment here. What you will find is practical, compassionate, actionable information: what CVI looks like at different ages, how to get your child properly evaluated, concrete ways to support their visual development at home, and honest answers to the questions every CVI parent asks.

For a complete overview of what CVI is, its causes, and the full range of treatment and school support options, see our comprehensive guide: Cortical Visual Impairment: Complete Guide for Families.

## What Does CVI Look Like in Children?

One of the most challenging aspects of CVI is that it looks different at every age — and it can look like many other things. The signs in a three-month-old infant are not the same as the signs in a four-year-old preparing for kindergarten. Understanding age-specific presentations is what no other resource currently provides — and it is exactly what parents need most.

### Infant Signs of CVI (0-12 Months)

In the first year of life, vision is still developing rapidly in all children. CVI-related visual differences in infants can be subtle and easy to dismiss — or to attribute to typical developmental variation. Here is what to watch for:

- **Does not track faces or moving objects consistently.** Most infants begin tracking faces by 6-8 weeks. A baby with CVI may look at your face inconsistently — engaging sometimes, seeming to look right through you at other times.
- **Appears to "look through" people.** Parents often describe this as their baby having a faraway gaze, staring past them rather than at them, even during direct interaction.

- **Reaches for toys without looking at them.** Rather than looking at an object and then reaching for it, a baby with CVI may reach in the right direction using spatial memory or touch, without visually orienting to the toy first.
- **Prefers looking at lights.** Many infants with CVI are drawn to light sources — windows, overhead lights, bright screens — and will fixate on them rather than on faces or toys.
- **Inconsistent visual responses.** This is the hallmark that most confuses parents: your baby visually responds to something clearly one day, and seems not to notice it the next. CVI vision fluctuates — this is not imagination, and it is not inconsistency in your observations.

### Toddler Signs of CVI (1-3 Years)

As children become mobile and more interactive, CVI signs shift. In the toddler years, the impact on daily function becomes more visible — though it is still frequently misattributed to attention, behavior, or developmental delays.

- **Difficulty navigating around furniture, obstacles, or uneven surfaces.** A toddler with CVI may bump into things that seem obviously present to everyone else, particularly in busy or unfamiliar environments.
- **Overwhelmed in visually busy environments.** Grocery stores, playgrounds, birthday parties — places with high visual complexity — may cause your child to shut down, become distressed, or stop using their vision altogether. This is not a behavioral issue. It is the visual system being overwhelmed.
- **Prefers familiar objects over new ones.** New toys introduced with great excitement may be completely ignored. Familiar objects, which the brain has had time to learn and recognize, are much more likely to be “seen.”
- **Uses touch more than sight to explore.** A toddler with CVI may use their hands as their primary source of information about the world, exploring objects through touch and texture rather than visual examination.
- **Better vision in quiet, simple environments.** You may notice your child sees better when the room is calm and uncluttered — when there’s less competing for the brain’s processing resources.

### School-Age Signs of CVI (3 Years and Older)

When children enter preschool or kindergarten, CVI often surfaces in the learning environment — and is frequently misidentified as an attention deficit, learning disability, or behavioral issue. This misidentification is one of the most common — and most damaging — mistakes in the CVI journey.

- **Difficulty with crowded pages or busy worksheets.** The visual complexity of typical school materials — colorful worksheets, illustrated storybooks with busy backgrounds, classroom walls covered in displays — can overwhelm a child with CVI and make learning genuinely inaccessible.
- **Trouble recognizing faces in a group.** A child with CVI may know their teacher in a one-on-one setting but not recognize them in the hallway among other children and adults. Face recognition in complex visual scenes is extremely demanding for the CVI visual system.
- **Problems with stairs, curbs, and uneven surfaces.** Changes in depth and surface texture are processed visually. A child with CVI may approach stairs hesitantly, trip on curbs, or struggle with playground equipment — not because of balance problems, but because their visual system isn't processing the environmental information reliably.
- **Visual fatigue after short periods of visual work.** The cognitive effort required to process visual information with CVI is significantly greater than for a typically sighted child. Your child may be exhausted after a relatively short period of "looking work" — reading, worksheets, screen time.
- **May be labeled as having attention or learning issues.** Because CVI interferes with the visual processing needed for learning, children with undiagnosed CVI are frequently identified as having ADHD, learning disabilities, or behavioral problems. The visual root cause is missed entirely.

**CVI vs. Other Vision Problems: How It's Different**

Here is the critical fact that every parent of a child with CVI needs to know: a standard pediatric eye exam will often not detect CVI. This is not a failure of your eye doctor. It is a fundamental mismatch between what standard eye exams measure and what CVI affects.

Standard eye exams measure the health and function of the eyes — the lens, the retina, eye movement, and visual acuity. In children with CVI, the eyes are often structurally normal and can produce a clear image. The breakdown happens in the brain, in the pathways and processing centers that interpret that image. An eye exam cannot see inside the brain.

CVI can also co-occur with eye conditions, which makes diagnosis even more complex. A child may have both a refractive error (needing glasses) and CVI — and correcting the refractive error, while important, will not resolve the CVI. Both conditions need to be identified and addressed separately.

The most defining characteristic of CVI — and the one that most distinguishes it from eye-based conditions — is visual fluctuation. Children with CVI have good days and bad days. Their vision can be meaningfully better in a quiet, simple environment and significantly worse when they are tired, ill, or in a complex setting. This variability is a hallmark of the condition, not inconsistency in your observations.

| **Behavior** | **CVI** | **Eye-Based Condition** |
|---|---|---|
| Vision fluctuates day to day | Yes | No (stable) |
| Better vision in simple environments | Yes | No |
| Standard eye exam often normal | Often yes | No |
| Responds to color and movement | Yes | Variable |
| Can improve with targeted intervention | Yes (brain) | Sometimes (surgery/glasses) |

For a comprehensive breakdown of the 10 characteristics that distinguish CVI, see our detailed guide: CVI Symptoms: How to Recognize Cortical Visual Impairment.

**Getting Your Child Evaluated for CVI**

If you recognize the signs described in this guide, taking action promptly matters. Brain neuroplasticity — the brain's ability to form new visual pathways — is greatest in the early years of life. The sooner CVI-specific intervention begins, the greater the opportunity for meaningful visual development.

**Step 1: Start with your pediatrician.** Schedule an appointment and express your specific concerns. Rather than saying "I'm worried about his vision," say: "I've been reading about cortical visual impairment, and I believe my child may show several of the defining characteristics. I'd like referrals to a pediatric ophthalmologist and a pediatric neurologist, and I'd like to request a functional vision assessment by a TVI trained in CVI."

**Step 2: See a pediatric ophthalmologist.** This specialist will assess the health of the eyes, check for co-occurring eye conditions, and measure visual acuity. Ask explicitly whether this doctor has experience with CVI — not all pediatric ophthalmologists do.

**Step 3: See a pediatric neurologist.** Brain imaging — typically an MRI — can reveal damage to or atypical development of the visual cortex and visual pathways that underlies CVI. This is an essential piece of the diagnostic picture.

**Step 4: Request a CVI Range assessment from a trained TVI.** This is the most CVI-specific piece of the evaluation. The CVI Range, developed by Dr. Christine Roman-Lantzy, assesses your child's functional vision across the ten defining characteristics of CVI. It tells you where your child is functioning today and guides every intervention decision. Your school district's special education department, your state's early intervention program, or a low vision specialist can help you access a CVI-trained TVI. The full evaluation process typically takes several weeks to complete as appointments are scheduled and coordinated. Don't wait for everything to fall into place perfectly — begin with your pediatrician referral today, and build from there.

For a detailed walkthrough of the diagnostic process, see our guide: How CVI Is Diagnosed: A Step-by-Step Guide for Families.

### How to Support Your Child with CVI

#### At Home

You are your child's most important intervention agent — because you are with them far more than any therapist can be. These modifications cost little and can begin immediately:

- **Simplify visual environments.** Use solid-color backgrounds. Reduce clutter on play surfaces and in learning spaces. Present objects against simple, unadorned backgrounds — a single toy on a solid cloth rather than a tray full of items.
- **Use your child's preferred colors.** Most children with CVI respond best to red or yellow. Use these colors on objects, boundaries, and items you want your child to visually notice.
- **Present objects one at a time.** A single item in the visual field is exponentially easier for a CVI brain to process than a group of items. When introducing something new, present it alone.
- **Allow extra time for looking.** Visual latency — the delayed visual response — is real. After presenting an object, wait. Count silently to ten before assuming your child hasn't seen it. Then wait more.
- **Use movement to attract visual attention.** Gently moving an object within your child's visual field can trigger visual attention where stillness does not.

- **Maintain consistent routines and familiar layouts.** Predictability in the visual environment reduces the cognitive load of processing familiar spaces and lets your child's brain spend more capacity on new learning.

### During Play

- **Choose high-contrast toys on solid backgrounds.** A bright red ball on a dark cloth, a yellow rubber duck against a navy surface. The contrast helps the visual system distinguish the object from its background.
- **Use light-up toys and backlit surfaces.** Light boxes are excellent visual play tools for children with CVI. Many children in Phases I and II respond more reliably to backlit objects than to toys in ambient room light.
- **Introduce new items gradually.** Present a new toy repeatedly over several days before expecting a visual response. Novelty is genuinely harder to see for children with CVI — familiarity builds visual recognition over time.
- **Reduce auditory and visual competition.** Turn off background TV or music during visual play. Every sensory demand competes for processing resources. Quieter environments free up more capacity for vision.

### With Technology

- **iPad or tablet with dark mode and simplified screens.** Remove unnecessary apps, use a solid-color wallpaper, and enlarge icons. The goal is a simple, high-contrast visual environment on the screen that mirrors what you're creating in the physical world.
- **Apps designed for CVI learners.** CVI Connect and Little Bear Sees are apps specifically built for children with CVI, offering visual activities calibrated to different phases of CVI visual function.
- **Screen time as visual therapy.** When used intentionally — structured, brief, with clear visual targets — screen time is not passive entertainment for a child with CVI. It is active visual practice. The distinction matters.

### Will My Child's CVI Improve?

This is the question every parent asks first, and it deserves an honest answer: it depends, but improvement is possible and common.

Because CVI is brain-based, the brain's neuroplasticity — its ability to form and reorganize neural pathways — means the visual system can genuinely develop over time. This is fundamentally different from many eye-based conditions, where damaged tissue cannot regenerate. The brain can learn new ways to process visual information.

The factors that most strongly influence improvement are: the severity of underlying brain involvement, the age at which CVI-specific intervention begins, and the consistency and quality of that intervention over time.

Dr. Roman-Lantzy’s framework describes three phases of CVI progression. Children begin in Phase I — basic visual responses, reacting to preferred colors and lights but not consistently recognizing objects. With consistent intervention, children can move to Phase II, where vision becomes more functional in simple environments. Progress to Phase III — near-typical functional vision in structured conditions — is achievable for some children, though timelines vary considerably.

Moving from Phase I to Phase II typically takes six to eighteen months of consistent, targeted intervention. Phase II to Phase III may take several additional years. Some children make dramatic gains. Others progress more gradually. Every step forward is genuinely meaningful — not a consolation prize, but real expansion of your child’s access to the visual world.

For more on treatment options and what to expect from the intervention process, see our guides on CVI Treatment and Intervention and CVI Early Intervention.

**Emotional Support for Parents: Your Feelings Are Valid**
No other resource on CVI in children makes room for this — but we believe it belongs here.

The process of recognizing that something is different about your child’s vision, pursuing a diagnosis, and learning what CVI means for your child’s future is genuinely hard. It is normal — and right — to feel overwhelmed. Many parents describe a period of grief after a CVI diagnosis, even when the prognosis is relatively hopeful. Grief for the experience you imagined, for the uncertainty ahead, for the advocacy work that is now yours to take on.

CVI does not define your child’s future. The children we work with — and the adults they become — lead meaningful, connected, capable lives. But acknowledging the difficulty of the journey does not contradict that hope. Both things are true at once.

Connect with other CVI families whenever you can. The Perkins School for the Blind, Facebook groups dedicated to CVI parents, and local family support networks provide something clinical resources cannot: the voice of a parent who has been exactly where you are and found their footing. Seek those connections out.

Caregiver burnout is real. Build in support for yourself — whether that means respite care, therapy, honest conversations with your partner, or simply asking for help when you need it. You cannot be the consistent, present advocate your child needs if you are running on empty.

Celebrate small wins. When your child visually responds to a new object for the first time, or tracks a face they have never tracked before, or navigates a space more confidently — those moments matter. Write them down. They are evidence of the work you are doing together.
For additional school-based support information, see our guide on CVI Classroom Accommodations.

**Take the Next Step with New England Low Vision and Blindness**
You've taken a meaningful first step by learning about CVI. The next step is connecting with specialists who understand this condition and can help you build a support plan tailored to your child's specific needs and visual profile.
At New England Low Vision and Blindness, we work with families navigating CVI throughout New England. We can help you understand your child's evaluation results, identify appropriate assistive technology for home and school, connect you with CVI-trained TVIs in your area, and guide next steps with confidence.

**Schedule a Free Consultation with New England Low Vision and Blindness**
Our low vision specialists work with children and families affected by CVI throughout New England. A free consultation includes a review of your child's current evaluations, recommendations for environmental modifications and assistive technology, and a clear roadmap for next steps. No pressure — just expert, compassionate guidance.
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.