CVI Treatment: Therapies & Interventions That Help

If your child has just been diagnosed with cortical visual impairment treatment options may feel overwhelming — or even uncertain. Here is the most important thing to understand right away: CVI can improve. The brain has a remarkable ability to form new visual pathways, and targeted interventions are designed to support exactly that process. Your child's diagnosis is not the end of the story. For most children with CVI, it is the beginning of a journey toward greater visual function and independence.

No single treatment works in isolation. The most effective approach combines environmental modifications, specialized therapies, and assistive technology tailored to your child's specific phase on the CVI Range. This guide walks through every component of a comprehensive CVI treatment plan — what each intervention involves, who delivers it, and how it builds on the others.

If you are still in the process of getting your child evaluated, read our companion guide on how CVI is diagnosed first. If you are looking for strategies to start today while awaiting formal services, the section on home-based environmental modifications below is a good place to begin.

Why CVI Can Improve

The reason CVI responds to treatment is neuroplasticity — the brain's ability to reorganize itself by forming new neural connections. Unlike many eye conditions where damage to the retina or optic nerve is permanent, CVI involves the visual cortex and visual processing pathways. These areas of the brain retain some capacity to adapt and grow, particularly in childhood when the brain is developing most rapidly.

This is why timing matters so much. A young brain is more flexible and more responsive to intervention than an adult brain. That said, improvement is possible at any age — the window never fully closes. Parents of older children with CVI should not feel that an earlier opportunity has been permanently lost.

The Roman-Lantzy CVI Range framework describes visual development across three phases, and understanding these phases helps set honest, meaningful expectations:

- **Phase I (Range 1-3):** The child has minimal visual response. Interventions focus on building basic visual awareness — attracting visual attention to preferred colors and movement in controlled environments.
- **Phase II (Range 4-7):** Vision is becoming functional. The child begins to integrate visual information with other senses. Interventions focus on expanding the contexts in which the child can use vision reliably.

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- **Phase III (Range 8-10):** Visual behaviors approach typical, with some residual difficulties in complex environments. Interventions address the remaining CVI characteristics and support academic and social participation.

Not every child will reach Phase III, and that is important to acknowledge honestly. Factors like the underlying cause of CVI, severity of brain involvement, co-occurring conditions, and the consistency of intervention all influence the trajectory. But most children with CVI who receive appropriate treatment do make meaningful gains — and those gains change their daily lives in concrete ways.

Environmental Modifications: The Foundation of CVI Treatment
Before considering any therapy or technology, environmental modification is the single most impactful intervention for children with CVI. The visual environment most children navigate every day is overwhelming for a brain that struggles to process complexity. Reducing that complexity is not a workaround — it is the primary treatment mechanism. Every other intervention will be more effective when the environment is right. Start here.

Reducing Visual Complexity
Children with CVI are not ignoring things around them — they genuinely cannot process a cluttered visual field. Visual complexity means too many items competing for attention, too many patterns, too many colors, too much background noise in the visual sense.

- Use solid-color backgrounds for all play and learning activities. A solid black or dark blue surface eliminates competing visual information and helps the target object “pop.”
- Present one object at a time. Even two items side by side can overwhelm a child in Phase I or early Phase II.
- Simplify visual layouts in books and materials. Dense illustrations or patterned backgrounds compete with the content the child is meant to focus on.
- Declutter the spaces where your child works and plays. A tidy, predictable environment reduces the cognitive load on an already working brain.

Using Color and Contrast
Most children with CVI have a preferred color — typically a bright, saturated primary color — that their visual system responds to more readily than others. Identifying this preference and using it strategically can significantly increase the number of visual interactions your child has each day.

- Work with your child’s Teacher of the Visually Impaired (TVI) to identify the preferred color through structured observation.

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- Wrap familiar objects in the preferred color to encourage looking.
- Use high-contrast combinations: the preferred color against black is often the most effective pairing for Phase I and II children.
- Apply preferred color to the edges or handles of utensils, cups, and learning materials to help your child locate and reach for them.

Lighting Adjustments

Lighting affects what children with CVI can and cannot see in significant ways. Many children with CVI are attracted to light sources and may visually "fix" on windows or overhead lights instead of attending to items presented to them.

- Reduce glare from overhead fluorescent lighting, which can be visually disorganizing.
- Use backlighting for visual activities. A light box, backlit tablet, or positioning near a window so that light comes from behind the object (not from behind the child) can make objects significantly more visible.
- Keep lighting consistent across activities to reduce the adjustment period when environments change.

Positioning and Distance

Children with CVI often have a preferred visual field — typically peripheral rather than central. Objects presented directly in front of the face may be less visible than objects presented slightly to the side. Optimal viewing distance also varies by child and should be determined through functional assessment.

- Learn your child's preferred visual field and present materials there consistently.
- Place familiar objects in consistent locations so your child can develop visual memory for where things are.
- Avoid the instinct to move objects closer or further when a child does not look. Work with your TVI to determine the optimal distance first.

Therapeutic Interventions

Environmental modification creates the conditions for vision to develop. Specialized therapies build the skills. A comprehensive CVI treatment team typically includes multiple disciplines working in coordination, with the TVI at the center of the visual program.

Teacher of the Visually Impaired (TVI)

The TVI is the primary specialist for CVI intervention. This is not a therapist you will see for a single evaluation — a TVI who works in CVI is an ongoing partner in your child's visual development. Their role includes:

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- Conducting and monitoring the CVI Range assessment to track progress through the phases.
- Designing individualized visual programs matched to your child's current phase and specific CVI characteristics.
- Training parents, caregivers, and school staff on how to implement the visual program consistently across all environments.
- Recommending and adapting materials, lighting, and technology as your child progresses.

Finding a TVI with specific CVI expertise is important. CVI is distinct from other visual impairments, and not all TVIs have deep experience with it. Ask directly about their training with the CVI Range assessment when seeking a specialist.

Occupational Therapy (OT)
An occupational therapist addresses how your child uses vision to accomplish daily activities. For children with CVI, this includes visual-motor integration — the connection between what the brain sees and what the hands do. Areas of focus include:

- Fine motor skills supported by visual guidance (picking up objects, stacking, writing).
- Self-care tasks like eating, dressing, and grooming with CVI-adapted approaches.
- Sensory integration, since many children with CVI also have sensory processing differences that affect visual attention.

Speech-Language Therapy
Visual processing and language development are more closely connected than many parents realize. Children with CVI may have difficulty with the visual aspects of communication — reading facial expressions, attending to picture-based communication boards, or processing the visual complexity of illustrated books. Speech-language therapists working with children with CVI can provide:

- Adapted augmentative and alternative communication (AAC) tools designed for CVI visual needs.
- CVI-friendly visual supports for language development and early literacy.
- Strategies for building vocabulary and comprehension when standard picture-based materials are not accessible.

Physical Therapy
Many children with CVI have co-occurring motor challenges — cerebral palsy is a common underlying cause of CVI, and motor and visual development are deeply

intertwined. Physical therapy addresses gross motor skills in the context of visual impairment:

- Safe mobility and navigation of physical spaces with limited or unreliable vision.
- Postural support and positioning that optimizes visual access.
- Gross motor development with visual guidance strategies integrated throughout.

Orientation and Mobility (O&M)

An Orientation and Mobility specialist teaches children to move safely and independently through their environments. For children with CVI, this is particularly important because the visual complexity of busy environments — hallways, playgrounds, unfamiliar places — can be disorienting and even dangerous. O&M services typically include:

- Building awareness of body position and the layout of familiar spaces.
- Safe travel skills appropriate to the child's CVI phase and mobility level.
- Pre-cane skills and, when appropriate, cane instruction for children who need additional environmental feedback.

Assistive Technology for CVI

Assistive technology for children with CVI is not one-size-fits-all. The right tools depend heavily on where your child is on the CVI Range. Technology that helps a child in Phase III may be completely inaccessible to a child in Phase I. Introduce technology in consultation with your TVI to make sure timing and selection match your child's current visual function.

Low-Tech Tools

- Slant boards and reading stands bring materials into the child's optimal visual field and reduce the visual-motor effort of looking down at a flat surface.
- Color overlays and filters reduce visual complexity on printed materials and can enhance contrast for specific children.
- Tactile markers and raised-line drawings supplement visual information with touch, which is especially useful during Phase I and II when vision alone is not reliable.

High-Tech Options

- iPad and tablet with accessibility settings can be highly effective for Phase II and III children. The ability to control contrast, color filters, text size, and background color makes tablets uniquely adaptable. Apps can be selected for simplicity, and the bright backlit screen provides natural visual clarity.

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- CVI-specific apps such as CVI Connect and Little Bear Sees are designed with the CVI Range in mind, offering activities calibrated to different phases.
- Screen magnification and contrast settings on computers and tablets help children who are transitioning to academic work.
- Text-to-speech tools reduce the visual demand of reading when visual fatigue is limiting participation. These are often appropriate for Phase II and III children during longer academic tasks.

Building Your Child's Treatment Team

A comprehensive CVI treatment team typically includes a pediatric ophthalmologist or neuro-ophthalmologist, a TVI, an occupational therapist, a speech-language therapist, and when applicable, a physical therapist and O&M specialist. The child's family is always a core part of the team — not as passive recipients of services, but as the most consistent implementers of the visual program across all daily routines.

Coordinating care across multiple providers at different organizations can be challenging. A few practical suggestions:

- Ask each provider to share their notes and goals with the others. A TVI and an OT who know what each other is working on can reinforce the same skills from different angles.
- Request a joint meeting — even a brief phone call — when starting services to align on the child's CVI Range phase and priority goals.
- As a parent, you are the connective tissue. Keep notes, share what works and what does not, and bring information from home into every appointment.

If your area lacks CVI-experienced specialists, telehealth has expanded access significantly. TVIs with CVI expertise can provide consulting services remotely, reviewing assessment results and advising local providers on program development. Do not let geography prevent your child from receiving expert guidance.

Typical service frequency varies by phase and age. Children in Phase I often benefit from more intensive intervention — sometimes two to three sessions per week with each provider. As children progress to Phase III, sessions may become less frequent as skills generalize. Follow your TVI's guidance on scheduling and adjust as your child's needs evolve.

Measuring Progress in CVI Treatment

Progress in CVI treatment is measured through two primary means: CVI Range reassessment and functional vision observations in daily life.

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Formal CVI Range reassessment is typically scheduled every six to twelve months, depending on the child's age and rate of progress. A move upward in the Range score — even a fraction of a point — represents real, meaningful change in how the brain is processing visual information.

But functional progress matters just as much as test scores. Notice and record these milestones:

- The first time your child visually guides their hand to reach for a toy.
- Looking at a familiar face without needing movement or vocalization to attract attention.
- Locating a preferred object in a slightly more complex environment.
- Sustaining visual attention for longer periods.

These incremental gains are not small. For a child with CVI, each one represents the brain building new visual capacity. Document them, share them with your treatment team, and celebrate them. Treatment plans should be adjusted as your child progresses through the phases — what worked at Phase I will need to evolve as your child reaches Phase II and beyond.

For more on what early intervention looks like before age three, read our guide on CVI early intervention. For school-age children, see our CVI classroom accommodations guide.

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
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