Supporting Children with CVI: Key Considerations

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Introduction & Objectives

• Describe how to use the CVI Companion Guide in practice.
• Become familiar with the CVI Profile Categories in the Companion Guide
• Identify visual behaviors and possible manifestation areas using the Companion Guide.
• Begin to understand the potential impact of CVI on developmental domains.
Overview of the CVI Companion Guide
CVI Companion Guide

• Is an outgrowth of the Developmental Guidelines for Infants with Visual Impairments: A Guidebook for Early Intervention
Purpose of the CVI Companion Guide

- Document, monitor, and address potential effects of CVI
- Within the domain framework established in the Developmental Guidelines
- Provides guidance regarding the types of interventions to consider
The CVI Companion Guide

*Not* an assessment tool

- No age expectations or developmental levels are given because children with CVI are so varied in the expression of the condition
- Provides guidance regarding the types of interventions to consider

Monitor progress

- Provide intervention suggestions
- Based on achievement of curricular items which can be recorded and included in reports
Evidence-Base: Merges Research & Practice

• Relevant research
• Professional and family wisdom and experiences/promising practices
• Drawn from
  o visual impairment
  o developmental psychology
  o early childhood special education
  o hearing loss
Key Concepts of the CVI Companion Guide

• Development - Consequences of VI and CVI can affect all developmental and functional outcomes
• Routines - Effective and meaningful learning experiences occur within daily routines
• Optimize - Learning opportunities in the environment, with play materials, or with technology need to be optimized
How to Use the CVI Companion Guide

1. Developmental Guidelines for Infants with Visual Impairment

2. Resources for Learning
   • Manifestations of CVI in Children (today!)
   • CVI Companion Guide Narrative Chapters
   • Tips for Practice

3. Forms for Ongoing Data Collection Analysis
   • CVI Profile Form and Interview Questions (today!)
   • Functional Vision Development Progress Logs
   • Intervention Planning & Monitoring Form
Potential Manifestations of CVI: Creating a CVI Profile
CVI Profile Categories

- Clarity of Vision
- Area of Vision
- Following People or Objects Visually Due to Eye Movement Limitations or Visual Field Restrictions
- Locating People or Objects Visually/Visual Search Capabilities
- Response to Faces
- Recognition of Objects or Symbols
- Response to Movement
- Accuracy of Visual Motor Planning & Control
- Imitation & Copying
- Color
- Depth Perception
- Illumination
- Response to Sounds
- Response to Environment
- Effects of Visual Novelty
- Response Time
Clarity of Vision

• Visual Acuity
• Contrast Sensitivity
• Accommodation Issues

Questions/behavioral indicators:
• How does the child pay attention to things up close using vision?
• How does the child pay attention to things using vision that are far away? –How far away?
• Does the child prefer to see things in any specific direction or at any specific distance?
Area of Vision

• Visual Field
• Usual Viewing Distance
• Usual Area of Visual Attention
• Field of View Size
• Visual Neglect
• Blindsight

Questions/behavioral indicators:
• How does the child follow something that is moving from one side to the other (such as a spoon when being fed?)
• How does the child pay attention to things that are moving? From the sides? Above? Below?
• Does the child visually find things that he/she wants that are located: left, right, above, below?
Following People or Objects Visually Due to Eye Movement Limitations or Visual Field Restrictions

- Smooth pursuit
- Inattention
- Cannot follow objects as they move across midline of the head
- Cannot follow objects as they move across midline of the body
- Lack of spontaneous saccades

**Questions/behavioral indicators:**
- Does the child hold head in any specific way to see better?
- How does the child use vision to follow people as they move around the room? At what distance?
Locating People or Objects Visually/Visual Search Capabilities

• Cannot locate and attend to an object or person entering the intact field of view
• Shift of gaze
• Simultanagnosia

Questions/behavioral indicators:
• How does the child find objects located on surface with busy background?
• How does the child find objects that are spaced apart on plain/uncluttered background?
• How does the child find familiar person using vision when in a group of people?
• How does the child find favorite toy in a toy box or next to many other toys?
Response to Faces

• Cannot recognize faces or facial expressions, faces out of context, or specific features
• Cannot follow fast moving facial expressions
• Cannot look at a face and listen at the same time

Questions/behavioral indicators:
• Does the child use vision to respond to your face when you haven’t spoken? At what distance?
• Does the child use vision to respond to your facial expressions, such as smile, frown, or wide-open mouth? At what distance?
Recognition of Objects or Symbols

• Recognizing objects and pictures

• *For children ≥ 2 years old:
  ➢ Cannot perceive specific pictures, shapes, symbols, or letters/words/numbers.

Questions/behavioral indicators:

• Describe how the child recognizes: familiar objects, pictures, shapes, letters, numbers, words
Responses to Movement

- Responds better to moving objects
- Responds better to stationary objects
- Cannot follow fast movement

Questions/behavioral indicators

- How does the child follow something that is moving from one side to the other (such as a spoon when being fed?)
- How does the child pay attention to things that are moving? From the sides? Above? Below?
- Does the child visually find things that he/she wants that are located: left, right, above, below?
Accuracy of Visual Motor Planning & Control

• Cannot coordinate visually guided eye-hand movements
• Improvement of visually-guided eye-hand movements with tactile supplementation
• Walks or moves into objects when engaged in conversation
• *For children ≥ 2 years old:
  • Cannot make visually guided eye-hand judgments about object size

Questions/behavioral indicators:
(Eye-Hand or Eye-Food Coordination)
• Please describe how the child reaches with hands or feet to touch objects.
• *Please describe how the child reaches and grasps for objects he or she likes
Imitation and Copying

- Cannot imitate specific movements
- *For children ≥ 2 years old:
  - Cannot imitate drawing motions
  - Cannot trace symbols
  - Cannot copy shapes or forms freehand
  - Cannot trace or copy lines in specific orientations

Questions/behavioral indicators
- Describe how child copies your gestures or motions you make with toys/objects
- How does your child
  - Imitate drawing motions, trace symbols, copy shapes, trace or draw lines going in different directions?
Color

• Requires contrasting background color in order to distinguish primary colors
• Shows preference for specific color(s)
• Cannot distinguish less saturated colors
• *For children ≥ 2 years old: ➢ Color anomia

Questions/behavioral indicators
• What colors does the child see?
• Does the child prefer a specific color or colors? Which ones?
• Does the child recognize colors that you name?
• Does the child name colors?
Depth Perception

• Looming
• *For children ≥ 2 years old:
  ➢ Stereopsis can be compromised
  ➢ Cannot process motoric depth perception cues despite intact stereopsis

Questions/behavioral indicators
• How does the child go up and down stairs?
• How does the child move from one type of surface texture to another?
• Does the child hold onto your arm/clothing on uneven surfaces?
• How does the child react to fast-moving objects as they come closer?
Illumination

• Use of vision improves in bright light
• Use of vision improves in dim light
• Difficulty adapting to changes in lighting
• Aversion to light
• Light gazing
• Responds to “pop-out” effect

Questions/behavioral indicators:
• Please describe the type of lighting where the child sees best.
• How does the child respond to an object that has a built-in light?
• Does the child look toward strong lights? Look away from strong lights?
• Does the child like to look at objects when they are placed on a light box or other strong background light?
Response to Sounds

• Difficulty with sound localization
• Shows preference for slow-paced speech (font size)

Questions/behavioral indicators:
• How does the child respond to familiar sounds such as name, family member’s voice, or family pet?
• Does the child turn in the direction of a source of sound or indicate in some way the direction of a source of sound?
• What differences have you noticed in the child’s responses when you speak slowly/with rhythmic intonation rather than faster/typical speech pattern?
Response to Environment

- Crowding affects performance
- Familiarity improves performance
- Difficulty navigating

Questions/behavioral indicators:
- How does the child respond to a quiet place vs. busy/crowded place? (i.e. park vs. busy store)
- How does the child use vision to follow people or objects that are spaced apart vs. crowded together?
- Does the child find their way when walking around: room to room? Outside?
- Does the child know where to find things they put away around the room/house?
Effects of Visual Novelty

• Pays little attention to novel items
• Requires novelty due to stimulus habituation effects

Questions/behavioral indicators:
• What happens when the child tires of an activity with a toy or person?
• How does the child respond when an activity that no longer holds interest is changed?
• How does the child interact with familiar objects/people/places vs. unfamiliar?
Response Time

• Requires additional time
• Visual and/or auditory input may need to be slowed

Questions/behavioral indicators:
• Does the child respond quickly or need more time to respond to: Sights? Sounds? Touch?
• How much time does the child need to respond?
CVI Companion Guide Resources

• Parent Interview Questions

• Table 1 (overview and explanation of 16 categories)

• CVI Profile Form (describe and record evidence for each category)

• Sidebar 1 (for specific brain information/review)
Questions?

See you next time:

• Part 2 of 3:
  • February 7: Supporting the Assessment Process

• Part 3 of 3
  • February 28: Intervention Planning & Monitoring