

Intervention Strategies for Infants & Toddlers with CVI and their Families

Western Regional Early Intervention Conference 2019

Broomfield, CO

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8:30 am	Purpose and organization of the <i>CVI Companion Guide to the Developmental Guidelines for Infants with Visual Impairments</i> • Contents and resources • CVI Manifestations • CVI Profile • Questions to Gather Information • Narrative Chapters on Selected Developmental Domains • Tips for Practice Video observations and small group activity • CVI Profile • Questions to Gather Information
9:15 am	Possible effects of CVI and interventions to support: • Social-emotional Development • Communication Development
10:00-10:15am	Break
10:15 am	Possible effects of CVI and interventions to support: • Cognitive development • Fine Motor Development • Gross Motor Development
11:15-11:45am	➤ Application to practice • Embedding Functional Vision Interventions within Daily Routines • Objectives-Within-Routines Matrix Small Group Activity and share back • Close

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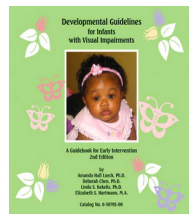
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Outgrowth of the *Developmental Guidelines*

- Areas:
 - Social-Emotional,
 - Communication,
 - Cognitive,
 - Fine Motor,
 - Gross Motor,
 - Functional Vision
- Narrative review of critical issues
- Developmental charts
- Intervention strategies



1st Edition 1997
2nd Edition 2008

Evidence-Base

- Relevant research
- Professional craft knowledge
- Family wisdom and experiences
(Buysee & Snyder, 2006)
- Drawn from the fields of:
 - Autism
 - Deafblindness
 - Developmental psychology
 - Early childhood special education
 - Hearing loss
 - Speech & language
 - Visual impairment

Purpose of the Companion Guide

- Document, monitor, and address potential effects of CVI
- Within the domain framework established in the *Developmental Guidelines*
- Show dynamic relationship across developmental domains

Key Concept: Development

- Developmental differences for children with ocular and cerebral visual impairments
- Consequences of VI & CVI may affect developmental and functional outcomes
- Interventions address inter-relationships among domains and visual impairments

Key Concept: Routines

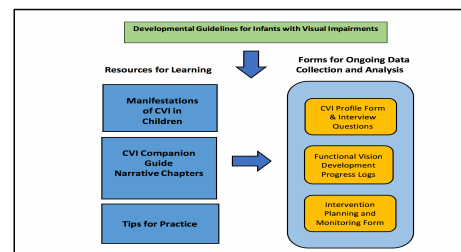
- Effective and meaningful learning experiences occur within daily routines
 - Example: Mealtime coordinates
 - vision
 - social interaction
 - cognition
 - communication
 - fine motor

Key Concept: Optimize

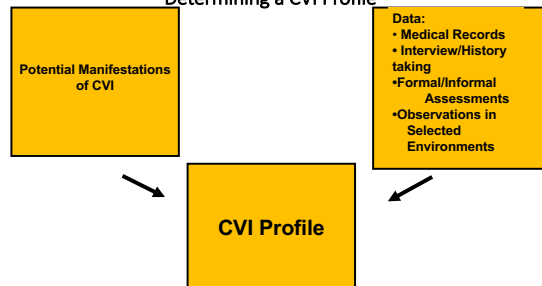
- Learning opportunities:
 - Repetitive
 - Fit abilities
 - Enjoyable
- Attention:
 - Eliminate distractions
 - Build on interests and preferences
- Sensory stimuli:
 - Perceptible
 - Meaningful
 - Just right

Content & Resources

Use of the CVI Companion Guide



Determining a CVI Profile



CVI Profile Summary and Intervention Guide

CVI Manifestations <i>How does CVI affect the child's function?</i>	CVI Profile Areas to Monitor and/or Target for Intervention <i>How do we design appropriate interventions within daily routines or activities? Consider: Instruction (if possible) or Accommodations</i>
	☐ Monitor Target for: ☐ Instruction ☐ Accommodation
	☐ Monitor Target for: ☐ Instruction ☐ Accommodation
	☐ Monitor Target for: ☐ Instruction ☐ Accommodation

Functional Vision Development Logs

sample: Vision Examining Behaviors

Indicator	Notes Concerning Children who have CVI	Record Any Significant Observations with Corresponding Dates of Child's Behaviors (optional)	Date Indicator Achieved INC= Inconsistent or C = consistent
Cluster 1			
1. Regards person momentarily	Visual responses can be affected by movement, distracting background, distracting sights, sounds, or touch	Observation Date	Date INC C _____ _____ _____ _____ _____
2. Inspects surroundings	Visual responses can be affected by movement, distracting background, overwhelming, simultaneous visual input, sounds, or touch	Observation Date	Date INC C _____ _____ _____ _____ _____

Observation Activity

1. Quickly review the handouts on CVI Manifestations, Questions to Gather information for the CVI Profile and Questions about a Child's Use of Sensory Information
2. View three short video clips of 17-month-old Freya
3. Reflect and discuss:
 - What do you notice about how Freya responds?
 - What do you notice about Freya's use of vision?
 - What are possible manifestations of CVI?
 - What questions would you ask her mother?

Possible Effects of OVI & CVI on Early Development

- Eye contact
- Smiling
- Atypical responses
- Hospitalization & medical treatments
- Visual joint attention
- Visual imitation
- Awareness in portions of field of vision
- Visual attention
- Visual search

- Visual recognition of:
 - people/objects
 - familiar faces
 - facial expressions
- Extracting details from complex visual scenes
- Visual motor coordination
- Head and body rotation
- Forward movement
- Concepts of objects

Possible Effects of CVI on Early Development

- Looming
- Visual and auditory input
- Looking & listening at the same time
- Fast rate speech
- Fast pace gestures and actions
- Seeing fast moving or stationary targets

- Inefficient grasp
- Difficulty orienting hand/arm movements to position object
- Copying or imitation of gestures
- Route finding
- Spatial organization
- Sound localization

Selected Tips to Support Early Learning

- Environment that supports early learning
- Positions of caregiver, child and materials
- Preferred and engaging items
- Slow paced speech and actions

Developmental Domains

Developmental Domains

- Social-Emotional
- Communication
- Cognition
- Fine Motor
- Gross Motor

Social-Emotional Development

- Ability to create and maintain social relationships
- Regulate range of emotions

Strategies to Support Social-Emotional Development

Self Regulation

- Recognize and interpret
- Structured, nurturing environments
- Predictable routines
- Self regulation skills

Relationship-based Interventions

- Interpret and respond
- Identify likes and dislikes
- Encourage visual attention
- Provide anticipatory cues
- Play turn-taking games

More Strategies to Support Social-Emotional Development

Emotional Literacy

- Amplify emotional expressions
- Talk about feelings
- Books and songs

Positive Behavior Support

- Attention
- Escape
- Access
- Sensory stimulation

Communication Development

- Ability to exchange information

>Input

- Nonverbal
- Verbal

>Output

- Nonverbal
- Verbal

Auditory Input Strategies

4 Ss

- Say less, Stress, Go Slow, Show (Weitzman, 2017)

Auditory Sandwich

- Auditory-visual-auditory

Voice-Action Synchrony

- Voice and action

(Martin-Prudent, Lartz, Borders, & Meehan, 2016)

Acoustic Highlighting

- Emphasize and lengthen initial sound
- Whisper word
- Vary pitch, duration or intensity
- Use "auditory space"

(Martin-Prudent, Lartz, Borders, & Meehan, 2016).

Visual & Tactile Input Strategies

Motionese (modifying gestures, actions and signs with infants and toddlers):

- Attention getting
- Physical contact
- Positive affect
- Pace of signs and gestures
- Range of motion
- Object actions
- Repetition
- Simplification

(Dunst, Gorman, & Hamby, 2012)

24 month old Ryan & Mother

- What is Ryan learning?
- What strategies is his mother using?
- Suggestions for next steps?

30-month old Adam & Mother

- What is Adam learning?
- What strategies is his mother using?
- Suggestions for next steps?

Communication Output Strategies

Choice-Making

- One item
- Two items

Interrupted routine/ Pause & wait

- Preferred activity
- Interrupt
- Interpret behaviors
- Resume activity

Augmentative & Alternative Communication (AAC)

- Manual signs for key words
- Visual communication
- Voice output communication devices

BREAK

10:00-10:15 am

Cognitive Development

➤ Attention, Memory, and Executive Functioning

➤ Development of concepts and categories

Strategies: What **WE** can do

- Slow and simple pacing
- Focus on what child can and wants to do
- Provide activities that respond to child's actions

Strategies: Creating a Supportive **Environment**

- Responsive and nurturing
- Uncluttered
- Perceptible objects
- Joint attention
- Predictable daily activities

Strategies: **BUILDING** Cognitive Capabilities

- Routines and repetition
- Activities to build understanding, memory and generalization
- Challenge to use cognitive skills:
 - Attention
 - Memory
 - Inhibition/planning

2nd Look: 24 month-old Ryan & Mother

- What does his mother do?
- How does she create a supportive environment?
- What cognitive skills is Ryan developing?

Concepts & Categories

- Concrete concepts
(e.g., bottle, mama)
- Semi-concrete concepts
(e.g., action, color, position)
- Abstract concepts
(e.g., feelings)

(SPARKLE Ski-Hi Institute)

17-Month-Old Reyna Making a Choice

- What concept (s) does Reyna demonstrate?
- How did she develop these concepts?
- Suggestions for next steps?

Concrete Concepts

- Existence
- Permanence
- Differences
- Names or labels
- Characteristics
- Functions and use

What is this?

- What concepts does this child demonstrate?
- How did this child learn these concepts?

Fine Motor Development

- ❖ Ability to explore and learn by touching, reaching and grasping
- ❖ Affects development of perceptual, social, language, and cognitive skills

Strategies to Support Fine Motor Development

Provide Tactile Kinesthetic Feedback

- While the child completes an activity associated with a supporting object
- Provides a physical reference base

12-month-old Gabriel

- What do you observe about Gabriel's responses?
- What do you observe about his fine motor development?
- Suggestions for next steps?

More Strategies to Support Fine Motor Development

• Encourage focused attention

- Present objects in a quiet space (tent or variation of Little Room)
- Reduce visual and auditory clutter

• Facilitate stable mental maps

- Keep objects consistently in key places until child learns where they are (move to encourage problem solving skills)
- Use a vivid visual object as a central focus and guide with surrounding objects in regular pattern
- If visual crowding is a problem, space objects apart so child can see them

Gross Motor Development

- **Use of large muscle groups that promote exploration**
 - arms, legs, feet, torso for activities such as crawling, sitting up, & walking.
- **Associated with development in other domains**
 - receptive and expressive language
 - social and cognitive accomplishments
- **As gross motor skills improve and become automatic, a child can attend to other learning activities**

Gross Motor Development and Orientation & Mobility

- **Skills include:**
 - Locating and recognizing objects
 - Forming a mental map of environment
 - Moving about safely and efficiently in it
- **Integrated instruction of O&M skills in early intervention supports:**
 - Fine motor
 - Gross motor
 - Communication
 - Cognition

Strategies to Support Highly Perceptible Mobility Goals

- Bold color to make goal "pop out"
- Simplify background
- Add other vivid sensory features to goal or along route
- Identify landmarks at child's eye level
- Use a song that includes landmarks along travel route

Fast Moving Objects Can Be Difficult to See

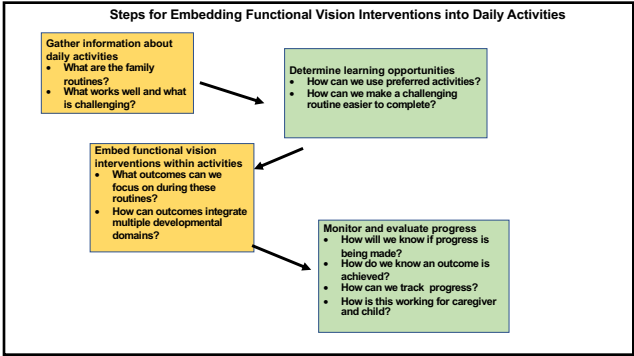
- Reduce number of fast-moving objects in play spaces
- Keep play spaces and routes free of extraneous objects (balance with opportunities to learn how to maneuver more objects)
- Adjust speed of gross motor tasks to fit child's abilities
- Obtain O&M assessment to determine need for pre-cane skills, pre-canes, and non-canes

Application to Practice

Embedding Functional Vision Interventions Within Daily Activities

Advantages

- Real life contexts
- Fits family lifestyle
- Multiple opportunities
- Predictable, meaningful, and functional
- Natural reinforcers
- Build's caregiver competence and confidence



Questions to Facilitate Brainstorming

- How can preferences be used?
- What will make a difficult activity easier?
- What support and motivation will help?

Small Group Activity

Objectives Within Activities Matrix

Outcomes/ Objectives	Lunch	Bath	Play
Will look at caregiver's face			
Will reach and grasp offered object			