

O&M for Individuals with CVI/Additional Disabilities

Dr. Bronwen Scott
O&M Specialist (COMS)
Developed for RIDBC Renwick Centre

Cortical Vision Impairment

- CVI is now the leading cause of vision loss in children in Western countries.

– Lueck, A. (2010). Cortical or cerebral visual impairment in children: A brief overview. *Journal of Visual Impairment & Blindness*, October(10), 585-592.

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Defining CVI

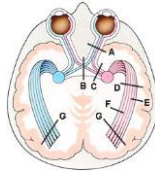
- Diagnosis indicated by three factors:
 - A typical (“normal”) eye exam, or an ocular condition that cannot account for the significant loss of vision.
 - The presence of an atypical neurological condition.
 - The presence of a unique combination of visual and behavioural characteristics.

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What causes CVI?

- Disruption in the function of the visual systems in the brain which deal with the processing and integration of visual information.
- Caused by damage to the posterior visual pathways including the visual cortex.



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Causes of CVI

- Asphyxia
- Cerebral hypoxic-ischemia
- CVA (infant stroke)
- Intraventricular hemorrhage
- Periventricular leukomalacia
- Trauma and head injuries
- Developmental brain defects
- Infections of the CNS such as encephalitis and meningitis
- Structural abnormalities: hydrocephalus, microcephaly

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Associated Diagnosis

- Intellectual disability
- Cerebral palsy
- Epilepsy
- Various spinal and cranial defects

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Visual Characteristics and Behaviours

- Colour preference
- Difficulty with visual novelty
- Visual latency
- Visual field preferences
- Visual complexity

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Visual Characteristics and Behaviours

- Light gazing and non-purposeful gaze
- Difficulty with distance viewing
- Atypical visual reflexes
- Need for movement
- Absence of visually guided reach

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Intervention Strategies

- Careful assessment of **FUNCTIONAL** vision.
- Base strategies on unique visual and behavioural characteristics associated with CVI.



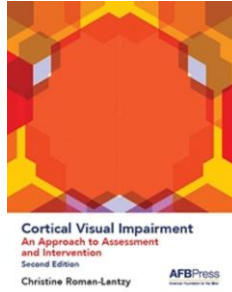
■ <http://tech.aph.org/cvi/>

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The CVI Range

- Assessment tool developed by Christine Roman-Lantzy (2007, 2018).
- Can be used by teachers and O&M specialists.

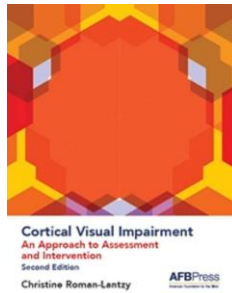


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The CVI Range

- **Phase I** – Building visual behaviour.
- **Phase II** – Integrating vision and function.
- **Phase III** – Refinement of CVI characteristics.



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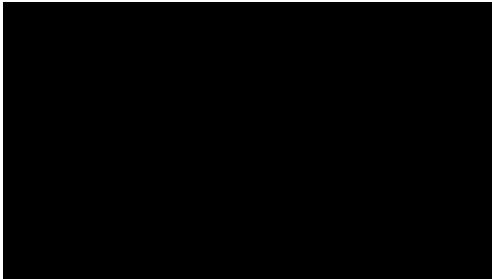
O&M Interventions



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O&M Interventions



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Further CVI Resources

- American Printing House for the Blind – CVI page:
- <http://tech.aph.org/cvi/>
- Perkins CVI Hub:
- <http://www.perkinselearning.org/cvi/educators>
- Strategy to See:
- <https://strategytosee.com>

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Working with Individuals with Additional Disabilities

- About 50% of young children with vision impairments have additional disabilities.



• <http://www.nfb.org>

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Additional Disabilities

- Many children with multiple disabilities will only work with familiar people they know and trust.
- Spend time with the child building trust and rapport prior an assessment, OR
- Assess the child along with somebody else with whom they already have a trusting relationship.

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Strategies

- Engaging materials
- Repetition
- Consistency/Routines
- Guided and independent experiences
- Immediate positive reinforcement

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Remember

- **All** children with vision impairment can benefit from O&M input.
- Students with additional disabilities require consistent team work and collaboration for programs to be successful.
- Some skills will take months or years to develop.

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Common Question/Concern

- “My student is not mobile - what can O&M training provide for them?”

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Possible Solution

- O&M skills can be developed in all students, no matter how small the skill may seem.
- **Body awareness** and **sensory development** can be included in the student’s program.

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Concept Development

It is important to reinforce the use of correct language - for example, **pairing words with actions** to help develop **body** and **spatial** concepts

- up
- down
- over
- under
- behind
- in front

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Body Awareness & Body Image

- Help the child establish body and spatial awareness:
 - Defined play spaces
 - Contrasting tape on the floor to delineate spatial limits
 - Keep visual distractions to a minimum
 - Use touch to help establish spatial limits
 - Use walls and furniture so that the child has something to contact

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In the Classroom

- Maintain a consistent furniture arrangement - don't make sudden changes
- Establish clear traffic patterns
- Clearly delineate activity areas
- Limit furniture to what is needed
- Tactually and verbally aid the child during activities, using the appropriate conceptual language

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Common Question/Concern

- "My student pulls heavily on their guide's arm when we are walking around the school, so no-one wants to walk with them"

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Possible Solution

- Teach the correct guiding techniques unless there is a physical reason why the student cannot use it. Expect the student to use the correct technique **AT ALL TIMES**.
- Pulling on the guide’s arm tends to occur when the correct grip is not being reinforced.

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Example

Michael: Totally blind. Balance difficulties – used a wheelchair for much of the day. Physio goal was to progress to walking. Intellectual disability.

O&M program worked purely on developing the correct grip. Despite his balance difficulties, over several months he was able to develop the correct skill and the problem of him pulling on the guide’s arm was solved

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Common Question/Concern

- “Students with additional disabilities can’t learn to use long canes”

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Mobility Skills

- Students with additional disabilities **can** learn to use mobility aids with adaptive techniques. There are a number of adaptive devices available, as well as the traditional long cane.
- The long cane is preferable because:
 - It leaves **one hand free** for the student to be guided, use trailing, or to tactually explore their environment.
 - It is a **recognisable symbol** which is particularly useful if the student is accessing the community with their school and/or family.

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Example

Chloe: It took 5 years to develop Chloe’s long cane skills to a point where she can use a modified diagonal technique in her local community.

She can travel with some degree of independence.

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Wheelchair Mobility

• <http://www.wonderbaby.org>



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Movement & Greeting Cues

- Greeting
 - "Hi, _____, it's _____".
Rub back of hand with yours gently, then a smooth movement to show rings, bracelet, watch, etc.
- About to move
 - Give verbal cue and tap twice on handle of wheelchair before moving.

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Movement & Greeting Cues

- We're stopping
 - Verbal cue and firm hand on front of collarbone from in front or behind.
- Wait
 - Verbal cue and firm hand on top of shoulder, once

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Movement & Greeting Cues

- I'll be back soon
 - Verbal cue and 2 squeezes on upper arm.
- Goodbye
 - Verbal cue and painting movement on hand (greet again if you return later)

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Basic Principles

- Have **high expectations** of success.
- Be **functional** in assessment and instruction.
- Be **creative** and **flexible** and design the program for the individual.
- Encourage **participation** in the community, even if it cannot be done independently.

• [Sauerberger, D, Sifferman, E. & Rosen, S. (2006) *Orientation & Mobility for Visually Impaired Persons with Multiple Disabilities including Deaf-Blindness*. Proceedings from the 12th International Mobility Conference, Hong Kong, China, December 2006

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Further Reading

- Roman-Lantzy, C. (2010) Teaching orientation and mobility to students with cortical visual impairment. In W. R. Wiener, R. L. Welsh, & B. Blasch (Eds.), *Foundations of orientation and mobility* (3rd ed., Vol. II, pp. 667-711). New York: American Foundation for the Blind.
- Roman-Lantzy, C. (2018). *Cortical visual impairment: An approach to assessment and intervention* (2nd ed.). New York: AFB Press.
