



SERVING STUDENTS WITH CORTICAL/CEREBRAL VI

Amy Campbell & Crystal Patrick
Education Consultants for Visual Impairment



Historical information

Medical

- Prior to 1980 (rarely studied, cortical blindness, limited understanding, little hope)
- 1987 (functional behaviors studied, possibility of rehabilitation)
- 1992 (ventral and dorsal stream of brain functioning)

Historical information

Educational

- **1990's** (Morse, Roman, Lueck published research)
- **2003** (APH criteria: Functions at Definition of Blindness)
- **2005-2006** (Summit on CVI, Cerebral/Cortical, Dutton research, Roman 1st edition book)
- **2008-2010** (APH CVI Advisory group, JVIB statement on CVI)
- **2015** (Vision and the Brain book)
- **2016** (2nd Summit on CVI, JVIB Call to Action)
- **2017** (AER new Division)
- **2018** (Roman 2nd edition book, AER preconference)

Current CVI trends and misconceptions

- **Students with CVI previously did not receive services from a TVI**
- **Students with CVI should never receive braille instruction**
- **There is only one assessment and instructional approach**
- **TVIs don't receive training on working with students who have CVI in teacher preparation programs**
- **Cortical and Cerebral Visual Impairment are interchangeable terms**

Exceptional Children's response

North Carolina Guidance Document for Students who have a Neurological Visual Impairment

Exceptional Children Division, North Carolina Department of Public Instruction. (2018).
North Carolina Guidance Document for Students who have a Neurological Visual
Impairment. Retrieved from: [https://ec.ncpublicschools.gov/disability-
resources/visual-impairments](https://ec.ncpublicschools.gov/disability-resources/visual-impairments)

Guidance document

- Terminology
- Background information
- Evaluation
- Eligibility
- IEP team collaboration
- Intervention, Specially Designed Instruction, and Progress Monitoring
- Resources

Question 1

Why is the term “neurological visual impairment” used in the guidance document?

Answer

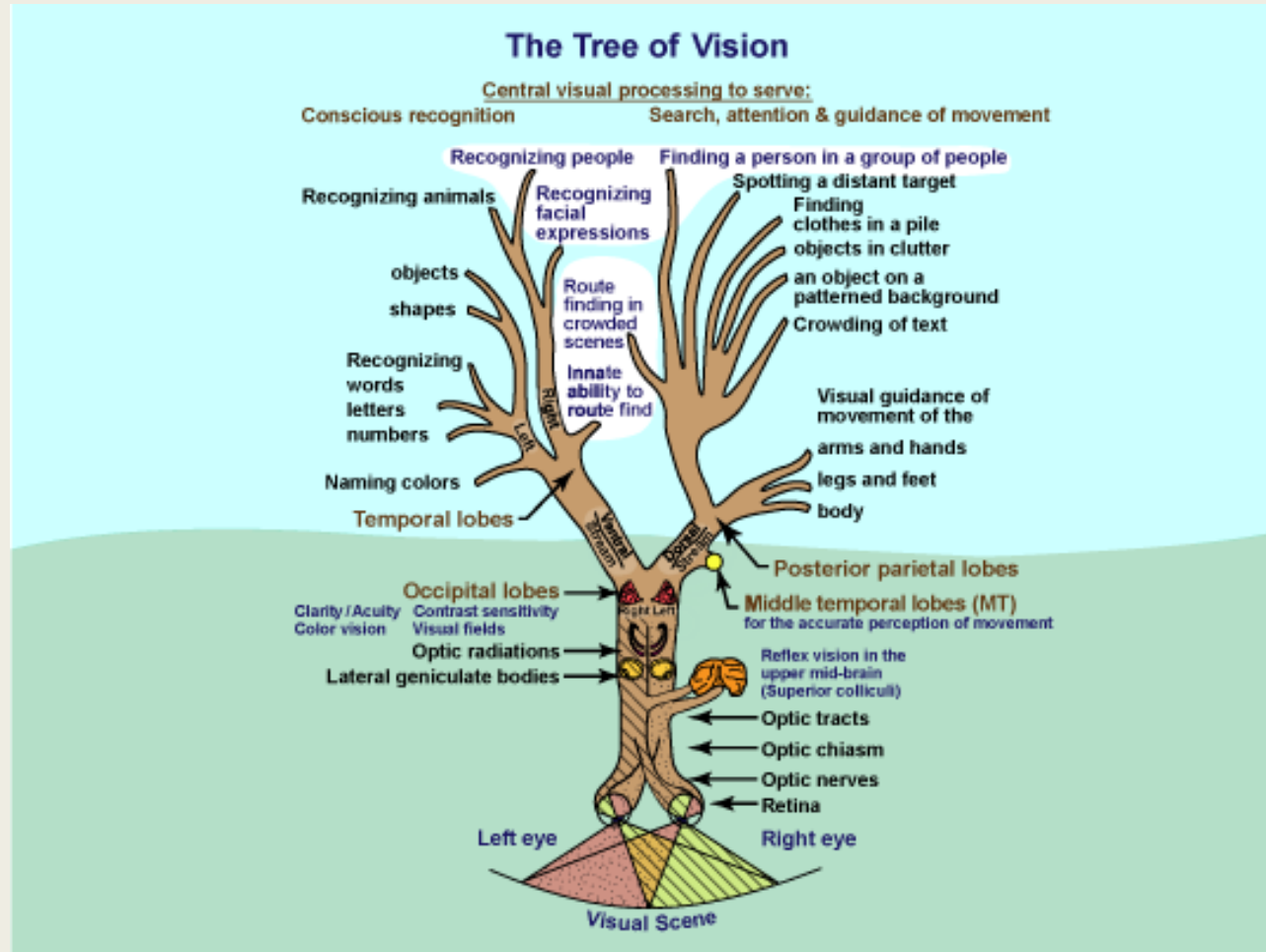
The term neurological encompasses any type of brain-based visual impairment, whether it's Cortical, Cerebral, or a traumatic brain injury.

This term is also used in the new division of the Association of Education and Rehabilitation of the Blind and Visually Impaired called Neurological Visual Impairment.

Question 2

What is the difference between the terminology Cortical and Cerebral Visual Impairment?

Answer



Question 3

Are the information and resources shared for Cerebral Visual Impairment new to the field?

Answer

Information about Cerebral Visual Impairment is not new and has been published in educational literature for almost twenty years. The book *Vision and Brain* was published in 2015, which encompasses the authorship of 30 professionals in the field of visual impairment. Up until this point in time, the research on Cerebral Visual Impairment hasn't been accessed or referenced as much in the United States.

The guidance document shares that medical and educational research continues to evolve for Cortical and Cerebral Visual Impairment.

Question 4

Do TVIs need to be endorsed to use the
CVI Range?

Answer

The guidance document shares that IDEA requires that professionals conducting assessments should be “*trained and knowledgeable.*”

Professionals can receive training through teacher preparation programs, via online courses, by participating in trainings and workshops, and by attending conferences. While a professional with an endorsement has demonstrated completion of focused skill work, achieving endorsement prior to conducting the *CVI Range* is not required.

Question 5

Can you offer clarification on when Parent Permission is needed when using the *CVI Range* for evaluation and progress monitoring?

Answer

Depending on the purpose of how the *CVI Range* is used, Parent Permission may or may not be needed. Parent Permission is needed whenever a Functional Visual Assessment (FVA) and Learning Media Assessment is recommended by the IEP team. Because the FVA is a process rather than a stand alone tool, and measures a variety of visual functioning factors, the IEP team may decide to include the *CVI Range* as part of the evaluation. If this tool is used as part of the FVA, Parent Permission is required. If the *CVI Range* is being conducted several times throughout the years as it is recommended for measuring progress on goals, then Parent Permission is not required.

Question 6

Can the CVI Range exclusively serve the purpose of the Functional Vision Assessment (FVA)?

Answer

According to IDEA when an evaluation is conducted *a variety of assessment tools and strategies* should be used when gathering information. In addition, the evaluation process should not be limited to *any single measure or assessment as the sole criterion for determining... eligibility*. The guidance document shares that the FVA is not a specific diagnostic tool or instrument, but rather an evaluation process that measures the extent to which the visual impairment adversely impacts student learning. The FVA process includes, but is not limited to, observations across settings, interviews, and formal assessment. While the *CVI Range* can be included within the FVA, if an IEP team requests an FVA, then a comprehensive assessment should be completed.

Question 7

If the *CVI Range* is used for Progress Monitoring, how is it documented on the IEP?

Answer

If the student has a measurable annual goal relating to improving visual function as a result of Cortical/Cerebral Visual Impairment, the *CVI Range* may be listed under the section “Describe how progress toward the annual goal will be measured”.



IEP DEC 4 (4 of 10)
Complete Pages 3-4 for Each Annual Goal

INDIVIDUALIZED EDUCATION PROGRAM (IEP)

Duration of Special Education and Related Services: From: To:

Student: DOB:

School: Grade:

Competency Goal

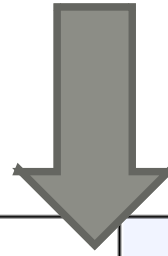
Required for areas (if any) where student participates in state assessments using modified achievement standards.
Select Subject Area: Language Arts Mathematics Science

List Competency Goal from the *NC Standard Course of Study*:
(Standard must match the student's assigned grade.)

Note: Selected Grade Standard Competency Goals listed are those identified for specially designed instruction. In addition to those listed, the student has access to grade level content standards through general education requirements.

Benchmarks or Short Term Objectives (if applicable)
(Required for students participating in state alternate assessments aligned to alternate achievement standards)

Describe how progress toward the annual goal will be measured



Individualized Education Program

Specific Area of Need				
Observable Skills/Behavior	Criteria for Mastery	Method of Measuring Progress	Assistive Technology (y/n)	Related to Transition Goals (y/n)

Question 8

How can I find more professional development for learning about assessment tools for Cortical/Cerebral Visual Impairment?

Answer

Cerebral

- Vision and the Brain, Edited by Lueck & Dutton
- <http://cviscotland.org>
- <http://www.teachcvi.net>
- Perkins: Cerebral Visual Impairment: The Basics
- Perkins: Cerebral Visual Impairment: Tutorial

Cortical

- Cortical Visual Impairment, by Roman
 - Perkins: Assessment of Students with CVI: Reliable Scoring of the CVI Range
 - Perkins: Cortical Visual Impairment
 - Perkins: What's the Complexity Framework
 - Perkins: CVI Endorsement
-
- Perkins: Cortical/Cerebral Visual Impairment, Session 1
 - Perkins: Cortical/Cerebral Visual Impairment, Session 2

(including, but not limited to)

Question 9

The Resources section of the guidance document refers to a lot of references.

Are TVIs able to use any and all of these resources?

Answer

Each item referenced on the Resources page of the guidance document can be used to help gather comprehensive information about a student who has a neurological visual impairment, providing that you have access to the cited books and articles. The resources are copyrighted. The purpose of listing the resources was to illustrate the variety of tools (for both approaches) available to educational teams when meeting the unique assessment needs of students.

Question 10

How long do you continue to administer CVI accommodations to a student if there is no improvement in their visual capacity?

Answer

Prior to making changes to instructional accommodations, the IEP team should discuss if current accommodations are being offered with fidelity throughout the school day. Team members should also discuss if competing sensory stimuli is preventing the student from achieving goals related to visual function. While there is no timeframe given for proving or disproving educational strategies, it's a team decision if changes are made to an IEP. As stated in the guidance document, no one team member is more important than another, because equal collaboration gives strength to decision making and instructional planning.

Question 11

Do you consider a student's feedback when administering CVI accommodations? Such as "I can't read it" or "or I can't look without touching". Do you continue to incorporate CVI accommodations regardless of student's feedback?

Answer

Student feedback should always be regarded and discussed throughout the assessment process and instruction. Students are members of the IEP team. Accommodations should meet student unique needs and should be modified as needed.

“It is important to remember that the student’s own behavior will provide cues regarding changing in how to approach the CVI characteristics.” Roman, 2018, pg. 191

Question 12

If a student has CVI and above average cognitive abilities, why is it recommended that they not learn braille?

Answer

According to IDEA: "in the case of a child who is blind or visually impaired, [the Individualized Education Program (IEP) Team must] provide for instruction in Braille and the use of Braille unless the IEP Team determines, after an evaluation of the child's reading and writing skills, needs, and appropriate reading and writing media (including an evaluation of the child's future needs for instruction in Braille or the use of Braille), that instruction in Braille or the use of Braille is not appropriate for the child." This is addressed under Special Considerations of the IEP. As a result, the need for Braille must be evaluated through the Learning Media Assessment process.

The guidance document shares that it's important to collect not only traditional information gathered during the LMA process (e.g., posture, sensory preferences, reading stamina, visual fatigue) but additional information that is unique to the CVI (e.g., crowding effect, ability to recognize letters/numbers, preferred angles of reading...).

Question 13

What is the theory behind not learning braille in addition to receiving CVI accommodations? And how would the student keep up with grade level literacy, otherwise?

Answer

Under the Cortical Visual Impairment approach (Roman), the overall goal is to help students move through the three phases of CVI (i.e., the *CVI Range*), so that they gain visual access to the environment and understand the surrounding world. This approach emphasizes an “expectation of change” through building visual behavior by teaching students to look.

When addressing literacy, the Cortical approach suggests eliminating senses (tactile, auditory) in order to have a more controlled environment. In contrast the Cerebral approach suggests allowing students the opportunity to integrate senses so that all senses contribute to understanding information.

IEP teams must address the Special Considerations question about Braille by addressing all sensory preferences and abilities when selecting learning media for students with Visual Impairment.

Question 14

It seems there are a few CVI experts, but among them they each have some differing views on CVI accommodations and methodology. What is the nationally recognized standard for CVI accommodations? Is there a standard?

Answer

While there are currently two well known assessment and instructional approaches for students with neurological visual impairment, one is predominantly used in the United States (Cortical) and the other is more recognized worldwide (Cerebral). Each approach evaluates a variety of behaviors associated with CVI, depending on the location in the brain of the impairment. Although there are some overlap of behaviors associated with CVI between the two approaches, there are also differences. There currently is not a nationally recognized standard. Instead educators should be aware of the two assessment and instructional approaches and then tailor the educational strategies to meet the unique needs of the student.

Question 15

How do the CVI strategies align with the Standard Course of Study Curriculum?

Answer

NC Standard Course of Study (SCS) defines appropriate content standards for each grade level and high school courses, so that public schools in the state have uniform standards for how students acquire content knowledge. Instructional strategies are techniques teachers use that allow students to access the curriculum. While there isn't an alignment of CVI strategies with the SCS, goals included in the IEP are written to align with the SCS. CVI strategies are then used to assist the student in making progress on the goals. CVI strategies, just like any other strategies, can and should be incorporated into the content and also IEP goals throughout the academic day.

Question 16

How do you keep a child on standard course of study literacy without teaching braille?

Answer

Literacy media decisions are made based on data reported from the Learning Media Assessment. IDEA assumes that if a student has a visual impairment instruction in Braille will be provided, unless evaluation determines otherwise. For this reason the Special Considerations question about Braille is a part of the IEP.

The guidance document shares a six-year longitudinal study of four students with CVI resulted in two students reading print, one student utilizing a combination of braille and print, and one student preferring to solely use braille. A comprehensive Learning Media Assessment should gather information on sensory preferences, technology needs in order to access literacy and communication, as well as reading stamina and visual fatigue. Students may benefit from having access to a variety of materials and resources.

Question 17

Current CVI methodology addresses only students with multiple disabilities. Could you give reference to support materials for CVI accommodations for students who are in regular education?

Answer

The book entitled *Vision and Brain: Understanding Cerebral Visual Impairment in Children* addresses the needs of 3 groups of children with CVI: children with profound visual impairment due to CVI, many of whom have additional disabilities; children with CVI who have functionally useful vision and cognitive challenges; and children with CVI who have functionally useful vision and who work at or near the expected academic level for their age group. Content within the book addresses assessment and instruction of literacy, math, independent living skills, Orientation & Mobility, and Assistive Technology. Information is shared as to how assessment and instruction can be modified to address visual functioning affected by CVI.

Question 18

Do other senses interfere with CVI accommodations and improving CVI range? Is tactile learning more detrimental than auditory learning?

Answer

Because a student's use of vision is greatly impacted by the environment, the student may need to be seated in a specialized and controlled sensory environment, if the purpose of an activity is to use vision. However, all sensory preferences of the student must be taken into account for instructional purposes, since a student doesn't depend on any one single learning modality throughout the school day. Sensory preferences should be paired with activities so that the student can balance visual fatigue by compensating learning with using other sensory channels. This is especially important since, the "degree of control can be difficult to maintain in a classroom or home setting" (Roman, 2018, pg. 194).

Contacts

Amy Campbell

Education Consultant for VI (Regions 1, 2, 3, 4) **east**

amy.campbell@dpi.nc.gov

919-807-3988

Crystal Patrick

Education Consultant for VI (Regions 5, 6, 7, 8) **west**

crystal.patrick@dpi.nc.gov

704-614-3185