

A young child with blonde hair is shown in profile, blowing bubbles. The child is smiling and looking upwards. In the background, the head of another child is visible, also blowing bubbles. The entire image has a warm, yellowish-green tint.

Do You See What I See? Helping Young Children with Cortical Visual Impairment in Natural Environments

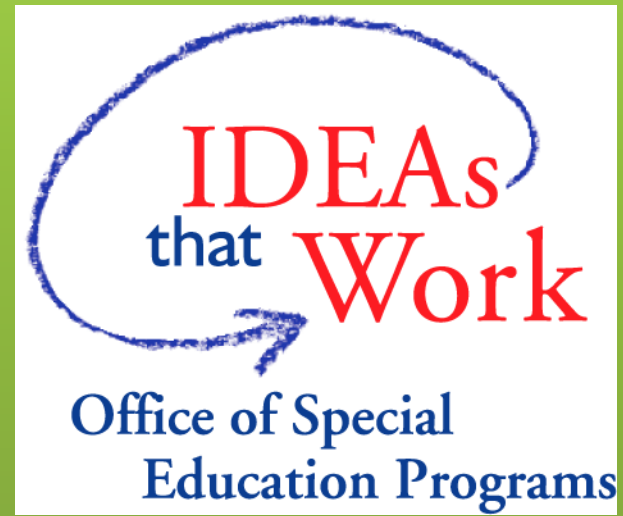
Michelle Clyne, M. S. Ed.

Project Reach: Illinois Deaf-Blind Services

Brought to you by...



National Consortium
on Deaf-Blindness



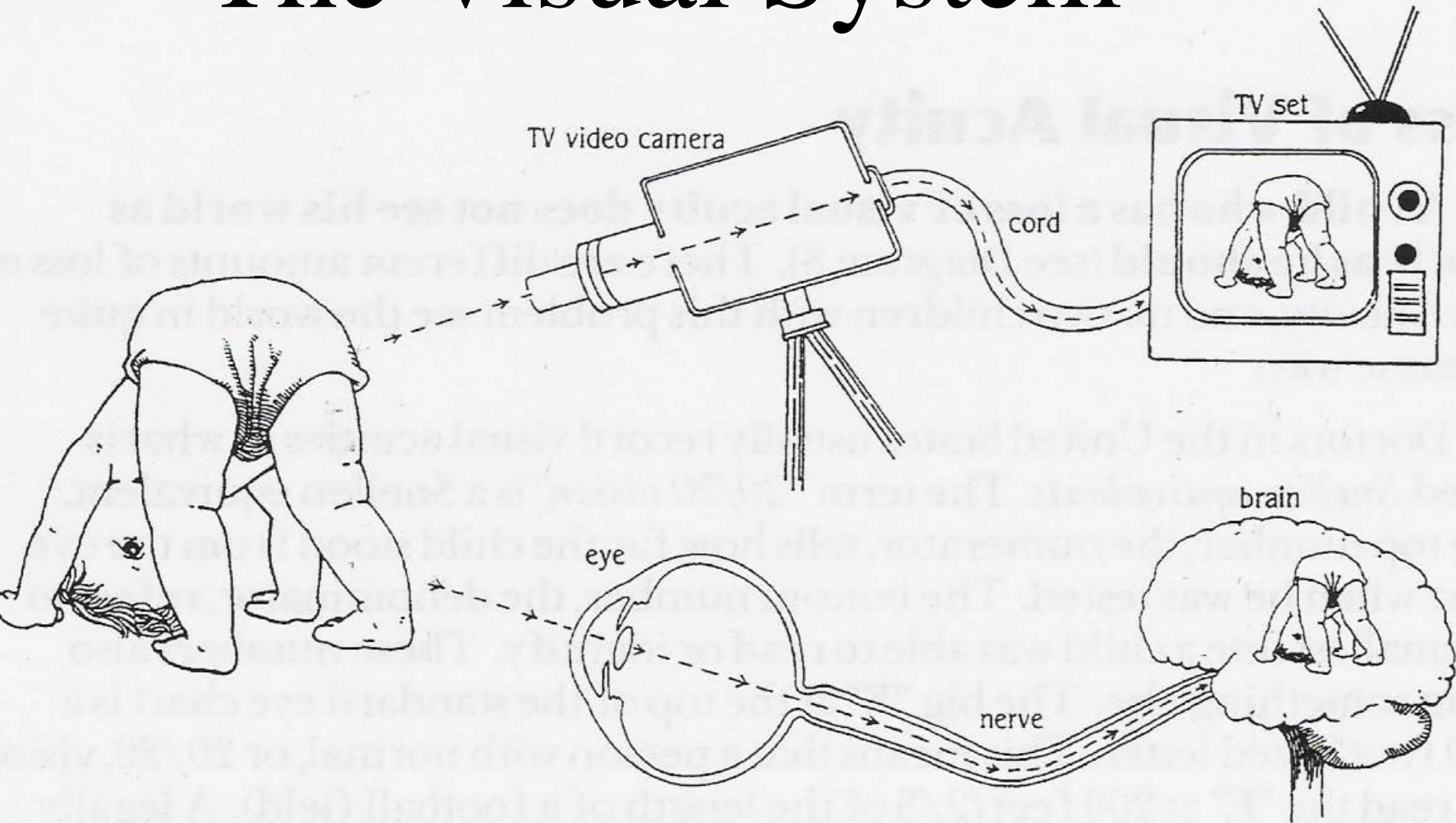
What will we do together?

- ◉ Share information about the challenges caused by cortical visual impairment in early learning environments
- ◉ Share accommodations for cortical visual impairment
- ◉ Discuss incorporating accommodations into routines and a variety of environments

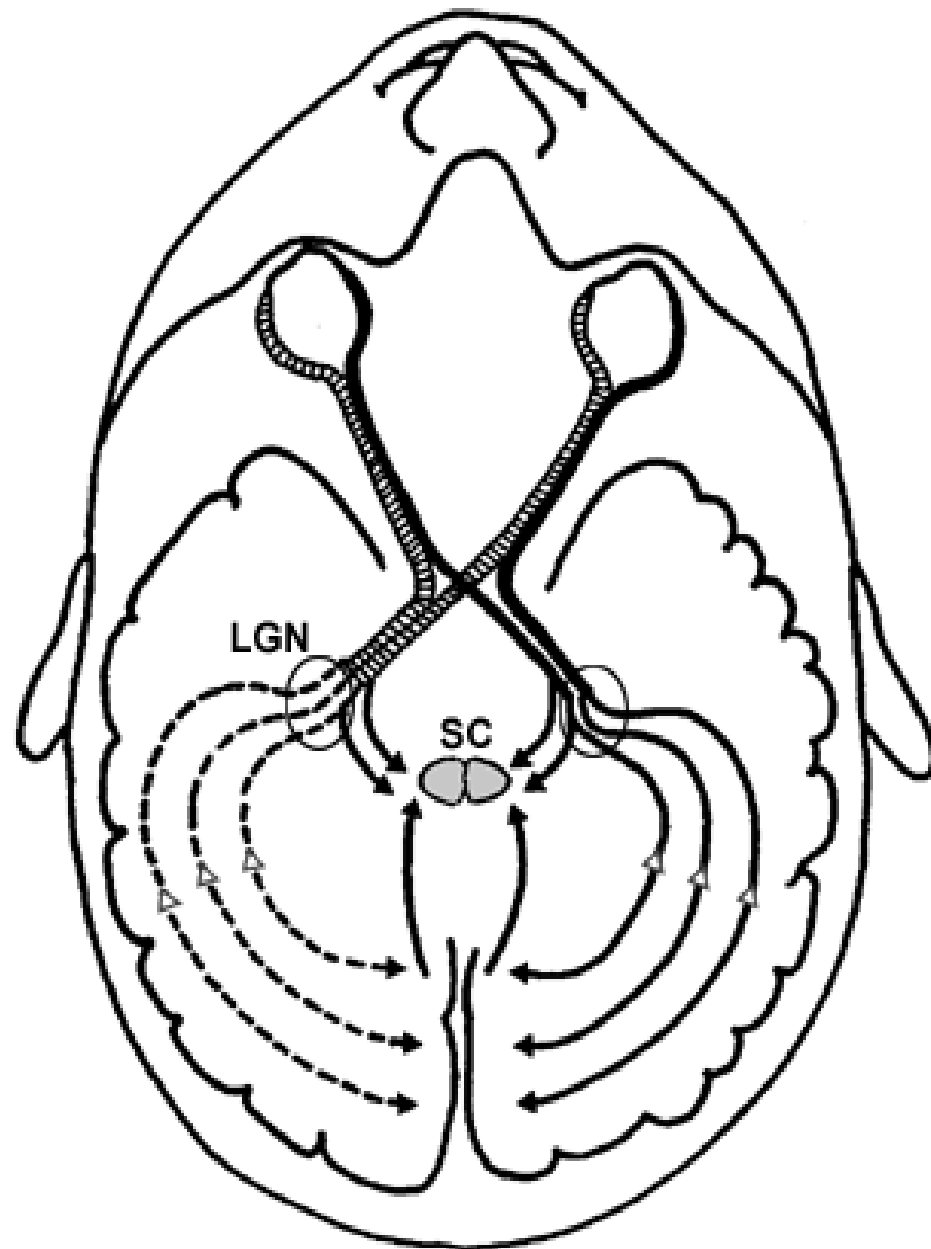
What is Cortical Visual Impairment (aka CVI)?

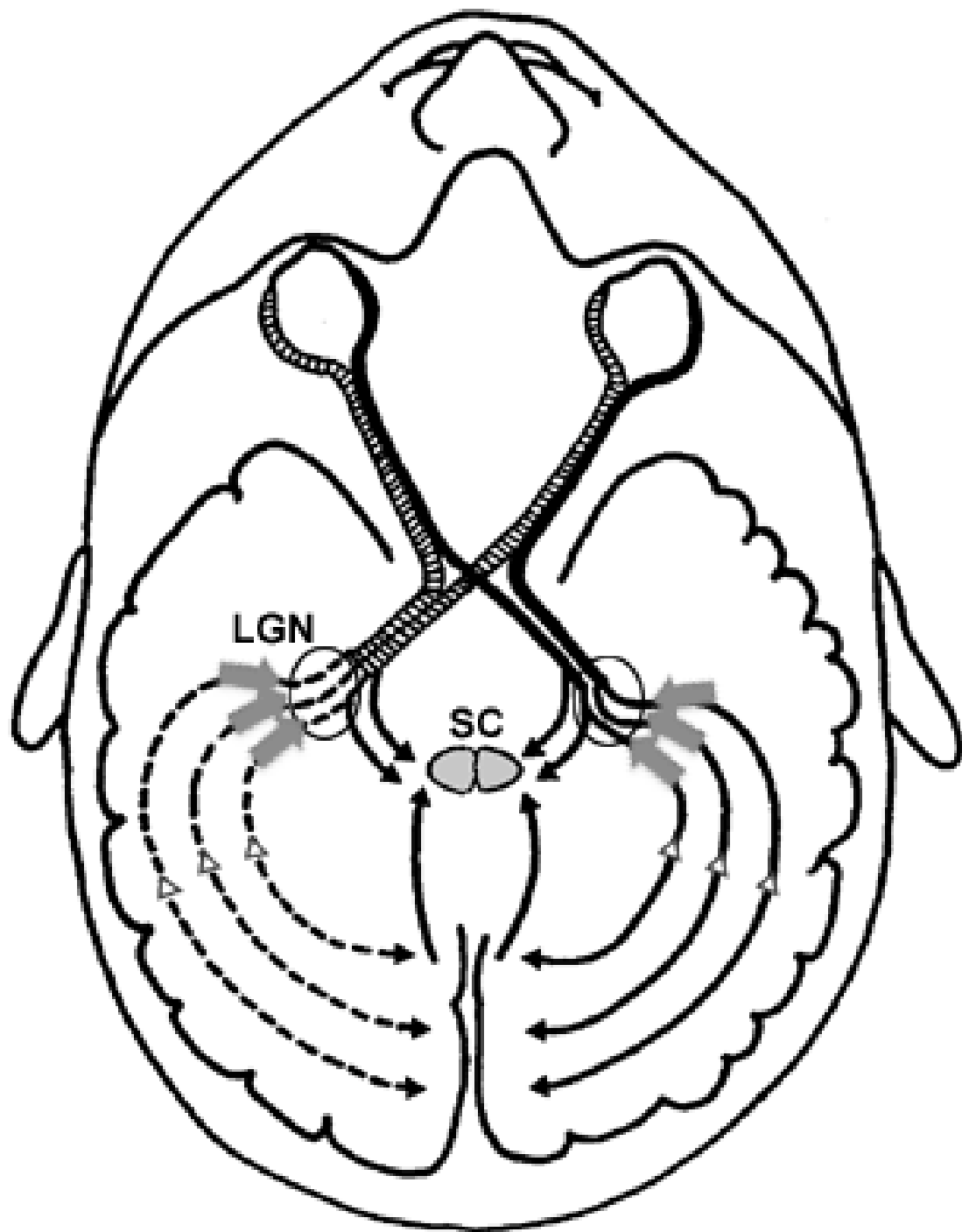
- Brain based visual impairment which occurs before, at, or shortly after birth
- Can occur along with ocular visual conditions
- Fastest growing reason for visual impairment among young children

The Visual System



VISUAL PATHWAYS





Common Causes of CVI before birth

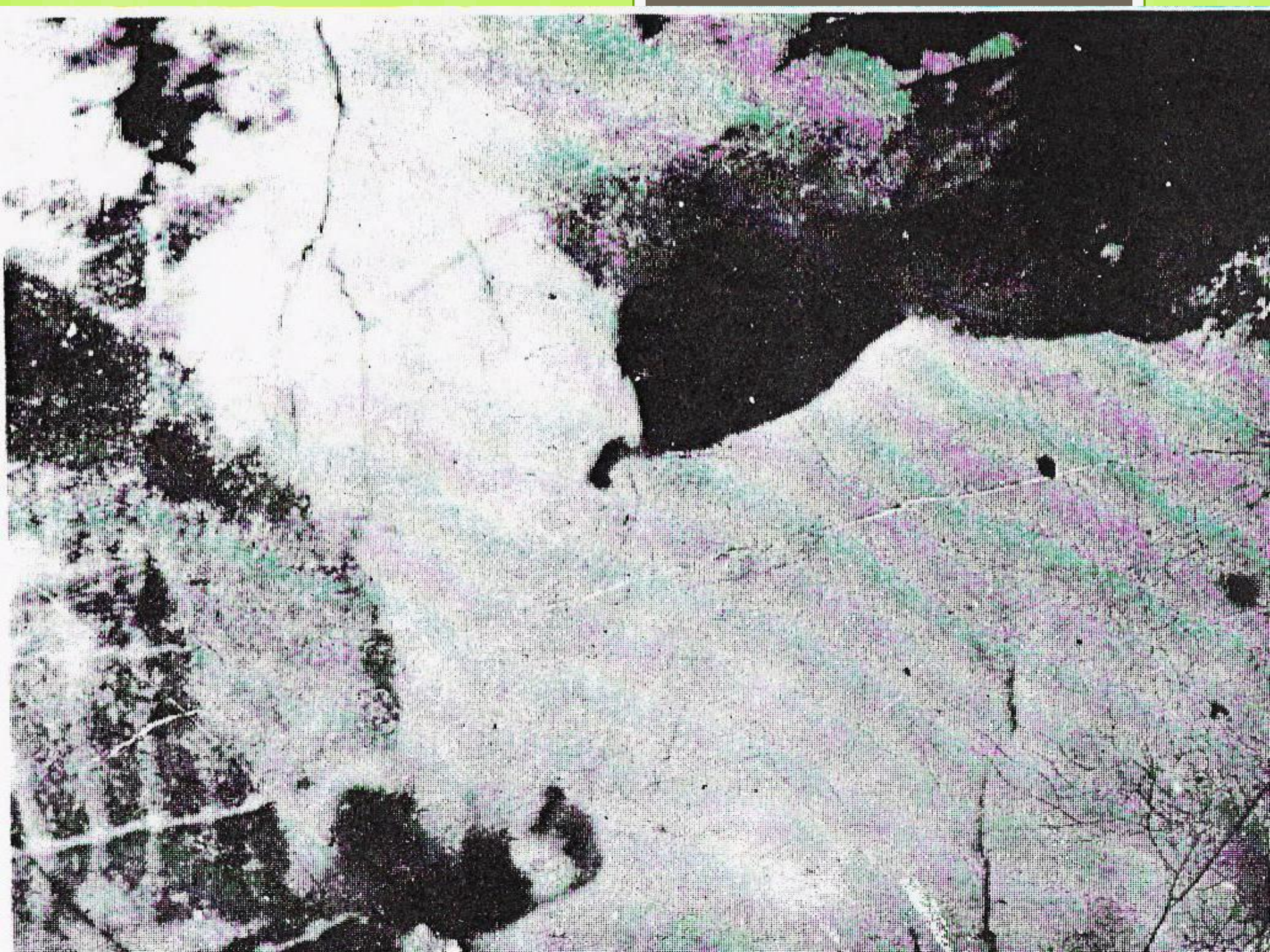
Anything that might impact the structure and functioning of the brain, Including:

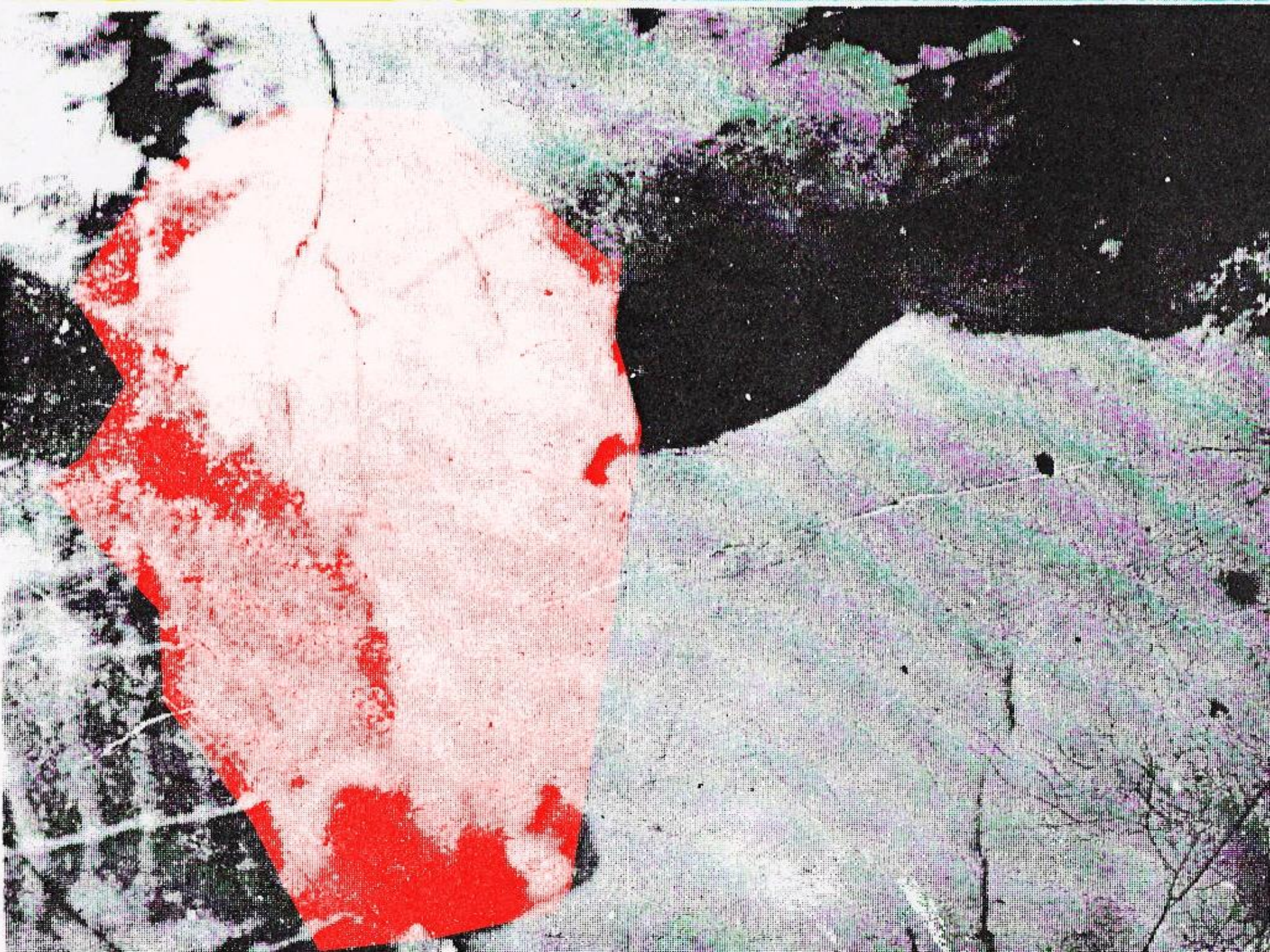
- Anoxia or Hypoxia
- Periventricular leukomalacia (PVL)
- A variety of syndromes
- Accidents after birth
- Intraventricular hemorrhage

Common Causes of CVI after birth

- Anoxia or Hypoxia
- Meningitis or encephalitis
- Accidents after birth
- Metabolic conditions

**OPINIONS DIFFER ON WHEN IT IS NOT
LONGER CVI but CEREBRAL VISUAL
IMPAIRMENT**





There is new research....

- Previous research by Dr. Jan et al (1980s – 1990's) creates “cortical visual impairment”
- 1990s, Mary Morse notes specific dysfunctions in vision (facial agnosia)
- 2000's Christine Roman documents specific visual behaviors, and improvement after intervention

Some Typical CVI Behavioral Characteristics

- ◉ Strong preferences for one color (often yellow or red)
- ◉ Seeing moving things better than stationary things
- ◉ Needing extra time to look at something (visual latency)

Some Typical CVI Behavioral Characteristics

- May have great difficulty with visual complexity (this can mean a hard time looking at faces, a hard time looking at complicated patterns instead of simple ones, a hard time attending in clutter, may not be able to listen and look together)

Some Typical CVI Behavioral Characteristics

- Distracted by lights, and looking at them to the exclusion of other things
- Only seeing things in certain fields (only on the left, etc)
- Only seeing things that are near to them even though they do not have nearsightedness

Some Typical CVI Behavioral Characteristics

- ◉ May not blink to touch or to visual “threat”
- ◉ May only attend to familiar things
- ◉ May not be able to maintain gaze on an object while they reach towards it

GOOD NEWS!

**Visual behaviors can improve
over time with structured
activities and environmental
accommodations**

How can we adapt?

- APH Lightbox
- iPad and specific apps
- Household materials used to highlight and modify everyday items
- Changes in timing, location, backgrounds, and participants if possible





Functional Use of Lightbox

- Research shows passive looking leads to passive behavior
- Want to find ways for lightbox use to be interactive
- “50 Ways to Use a Lightbox”
- Let’s brainstorm on ways light and lightboxes might be used during routines

iPads: Research

Supporting iPads for CVI

COURTESY of BRENDA JAGER

- brightly lit background/screen
- bright colors
- unlimited forms and pictures
- interactivity
- software that responds to the child's actions.
- the ability for the child to control starting and stopping
- possibilities for children who do not have reach and grasp

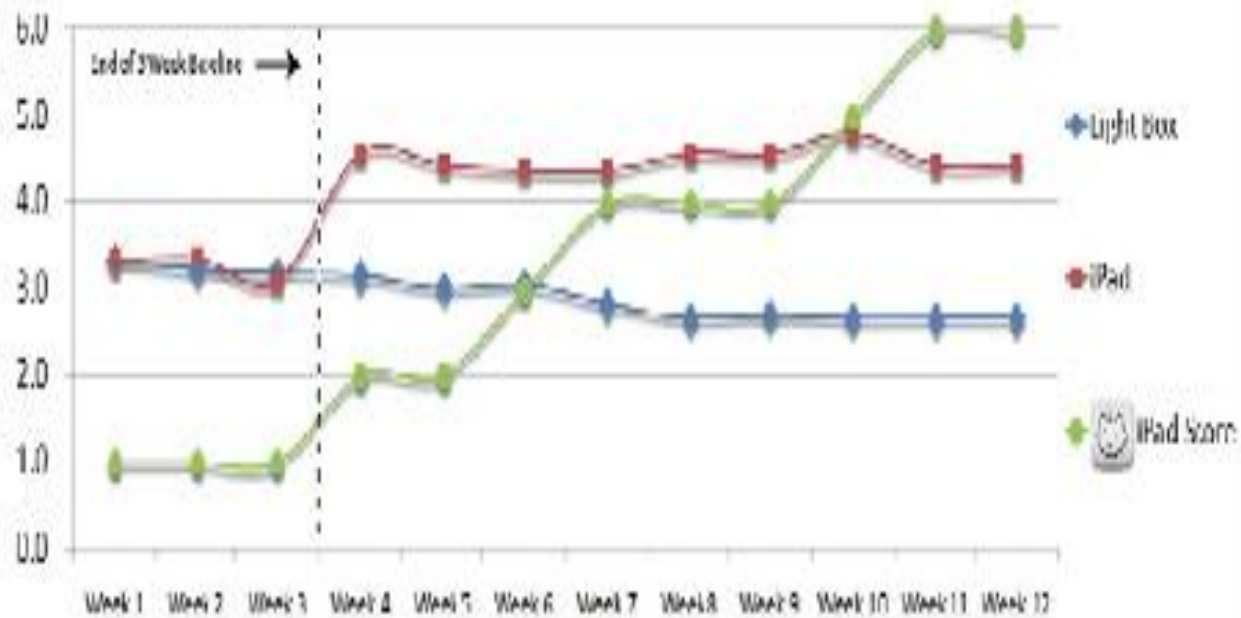
<http://www.cadbs.org/news/gloria-the-ipad-and-apps-for-children-with-cvi/>

Jr. Blind's Research

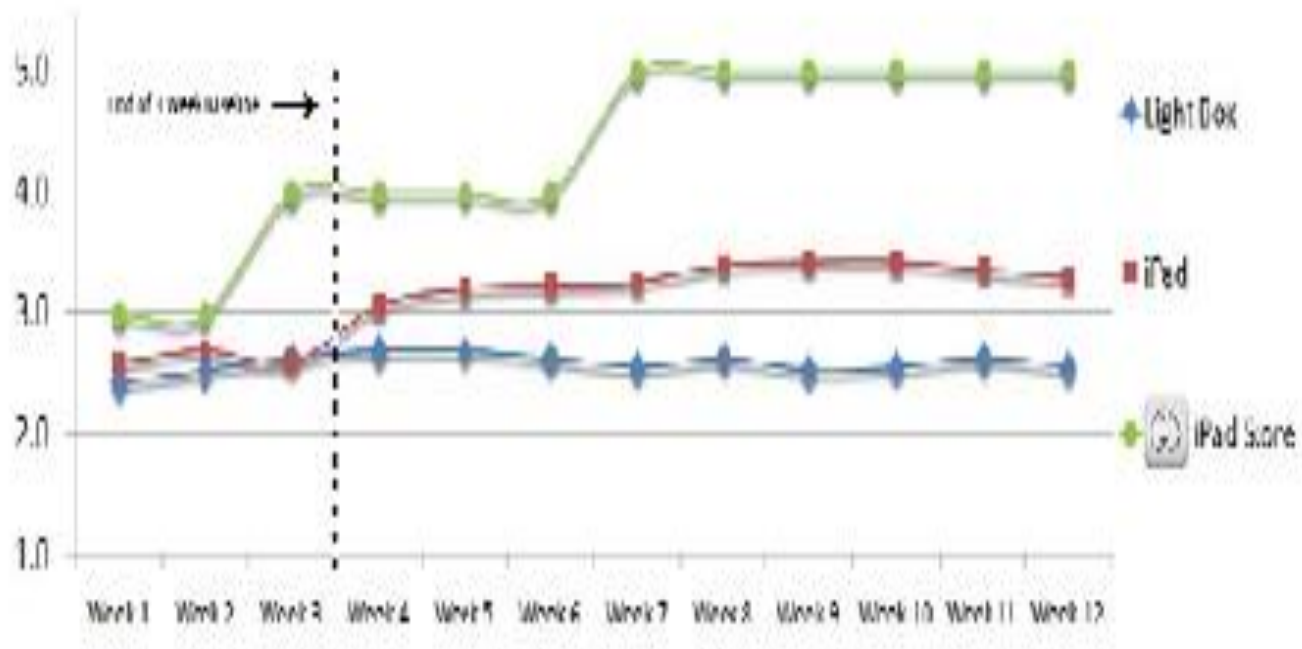
**[http://www.juniorblind.org/
site/iecp-test-presentation](http://www.juniorblind.org/site/iecp-test-presentation)**

- **investigated the use of the iPad as a means to strengthen or initiate visual engagement, parental interactions, communication, visual attentiveness, reaching and/or activation with the children with visual impairments and/or multiple disabilities.**

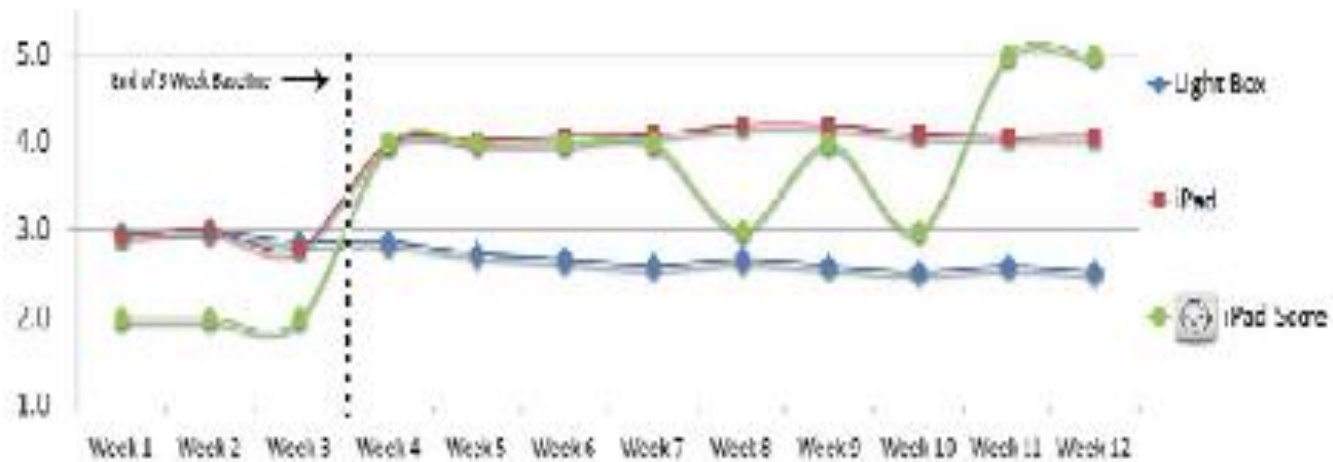
Length of Engagement



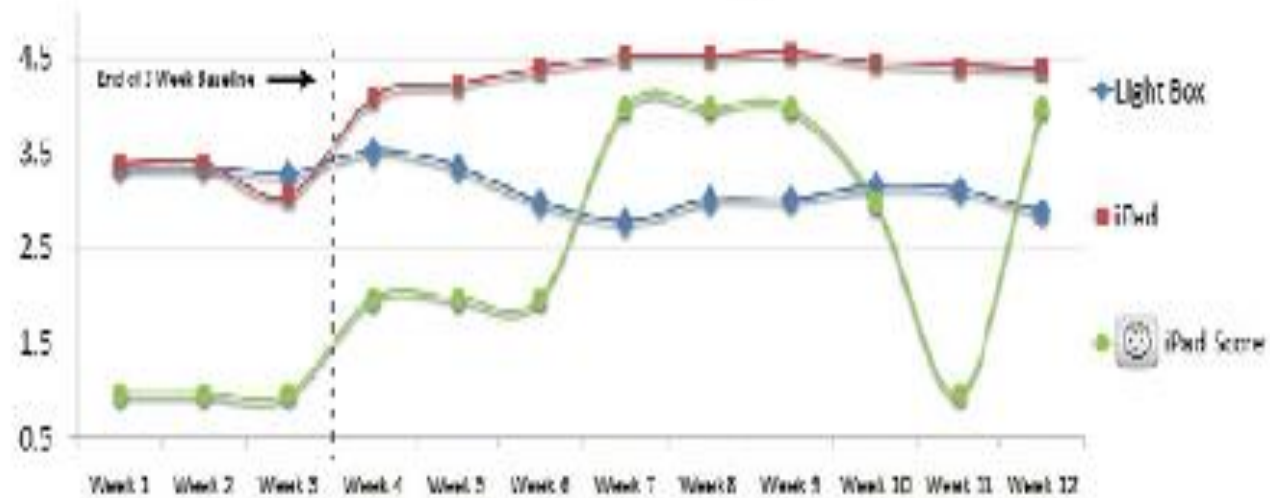
Communication



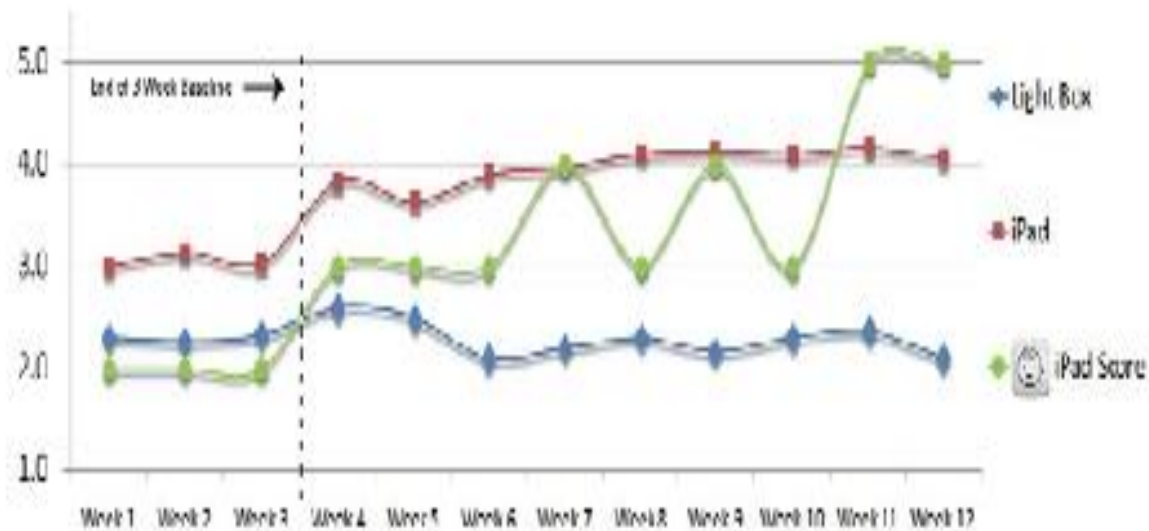
Visual Attentiveness



Reaching



Activation



Applications used in the in the study:

- Art of Glow
- Awesome
- Baby Finger HD
- Baby's Musical Hands
- Bubble's Magic
- The Cat in the Hat
- Cosmic Top
- Fireworks Arcade
- First Words: Toddler Touch and Say
- Kids' Song Machine
- Little Bella's – I Close My Eyes
- Infant Arcade
- Magical Images Imagine
- Paint Sparkles
- Peekaboo HD
- Rainbow Pad
- Shapes Toddler
- Wheels on the Bus HD



Does everything have to plug in to be helpful?

No! We can also use

- ◉ **Household materials used to highlight and modify everyday items**
- ◉ **Changes in positioning, timing, and location, if possible**



Can we make what we
have shiny, yellow, red....

- o Aluminum foil (shiny mimics movement!)
- o Mylar wrapping paper
- o Colored or patterned shelf liner
- o Paint or magic markers



**Can we make what we
have shiny, yellow, red....**

- o Outline visual target with preferred color or pattern (this includes letters and pictures!)**

**If we buy can buy new,
can we get...**

- Cups, plates, placemats in preferred colors?**
- Towels or bath toys in preferred colors or patterns?**
- Plain blankets instead of busy ones?**

What about positioning?

- Have windows, lights and fans behind children
- Place items at eye level, in preferred field
- Only use one thing at a time, not positioning too many things too close together

What about positioning?

- Consider screens to block out unneeded information (Cover calendar when it is done, cover play areas not being offered, cover pictures that are not essential to the story...)
- Consider a student's position within a group to take advantage of preferred visual fields

What about timing?

- Give children plenty of time to look!
- If new units are coming up, give them a grace period with objects **BEFORE** the new unit, so they become more familiar

What about location?

- When new content is being taught, perhaps have smaller, quieter groups
- Do not expect visual attention in noisy, active locations – convey information in other ways

Let's apply what we know

- o Get into groups
- o Choose a case study (age 2 ½ or 4 ½) OR think about a child you know.
- o Select a few challenges the child has, and then think of some things to try

Great sources of information

- <http://www.aph.org/cvi/>



- What's New?
- What is CVI?
- Articles & Videos
- Shared Stories
- Sample Goals & Reports
- Environmental Supports
- Intervention Strategies
- Presentations & Workshops
- CVI Products
- Advocacy & Resources
- Research
- Feature Presentation
- APH Home
- Contact Us



Welcome to the APH CVI Website

"Due to improved medical care, children with severe brain insults have increasingly begun to survive over the last 30 years. The vast majority have tended to have severe multiple disabilities, including a variety of learning difficulties. A minority of them also has permanent visual loss, but normal or minimally abnormal eye examinations."

Great sources of information

- <http://wvde.state.wv.us/osp/vi/cvi/basicunderstanding.html>



The screenshot shows the West Virginia Department of Education website. The header features the department's logo and a search bar. A left sidebar contains a navigation menu with various educational programs. The main content area is titled 'Cortical Visual Impairment (CVI): A Basic Understanding' and includes a collage of images showing children and adults interacting. Below the title, there are sections for 'Overview of CVI' and 'Characteristics of CVI', each with a brief description and links to presentations and videos.

West Virginia Department of EDUCATION

Search

[K-12 Jobs](#) · [Teach21](#) · [Schools](#)

Office of Special Programs

EXPANDED CORE CURRICULUM

EARLY CHILDHOOD ▶

SCHOOL AGE / EDUCATION ▶

CHILDRENS VISION REHABILITATION PROJECT

CORTICAL VISUAL IMPAIRMENT ▶

TEACHER PREPARATION CERTIFICATION PROGRAMS

INSTRUCTIONAL RESOURCE CENTER

PARENTS ▶

SENSEABILITIES

RESOURCES ▶

CALENDAR

SPACE CAMP

Cortical Visual Impairment (CVI): A Basic Understanding



Overview of CVI

(44 minutes) Kathy Quesenberry, a West Virginia CVI Mentor, presents basic information about CVI

[Presentation](#)

[Video](#)

Characteristics of CVI

(150 minutes) Each of the ten characteristics of CVI are discussed.

[Presentation](#)

[Video](#)

Great sources of information

- <http://documents.nationaldb.org/products/TeamApproachtoCVI.pdf>

A TEAM APPROACH TO
CORTICAL VISUAL IMPAIRMENT (CVI)
IN SCHOOLS

Donna Shaman, MOT

Great sources of information

<http://www.littlebearses.org/what-is-cvi/>



Little Bear Sees

Helping visually impaired children learn to see



Read our
CVI Book!

Search this website...

SEARCH

[Home](#) [What is CVI?](#) [What to do](#) [Tips & Ideas](#) [FAQ](#) [About](#) [Resources](#) [News](#) [iPad Apps](#) [Book](#)

What is CVI?



**Please complete an
evaluation!**

o Questions?????