Visual Impairments in Children – A Tutorial for Speech-Language Pathologists
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Why is this Important for SLPs?

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• Vision Impairments affect over 694,000 children in United States (Blindness Statistics, 2015)
• Many of these affected children have co-morbid disabilities (>65%)
• Research suggests that the majority of SLPs do know have formal training in visual impairments House & Davidson, 2000)
Vision Impairments
General Information

• Normal central acuity is 20/20.
• Total blindness is rare and is only reported in approximately 10% of individuals with visual impairments (Blindness Statistics, 2015).
• Blindness is not associated with acuity measures due to the complete absence of vision.
• Low vision acuities range from 20/70 to 20/200.

Central Acuity

Normal Vision Vs. Legal Blindness
Cortical Visual Impairments

- Occurs at or beyond optic radiations
- Perinatal hypoxia, prematurity, hydrocephalus
- Reduced visual acuity with atypical visual behaviors
  - Visual latency, light-gazing, poor or delayed visual attending, color preference, reduced visual fields, difficulty with complex visual patterns, turns head while reaching, absence of light, light deficit or worse behavior
  - Increased attention to moving objects, two or three: parallax, liminal objects, slow to turn for coming

Common Causes of Visual Impairment in Children

Cortical Visual Impairment

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Retinopathy of Prematurity
- Caused by abnormal growth of blood vessels in the retina
- Severity 1–5 (1 = mild – 5 = severe)
- Severity typically related to gestational age
- Most severe cases cause retinal detachment
- Most severe cases 3–4 times more likely have additional disabilities

Optic Nerve Hypoplasia
- Syndrome includes disorders of vision, hypothalamus, growth & cognitive development
- Congenital
- Often have co-morbid disabilities of motor, cognitive and language domains
- Share symptoms of ASD
- Also includes Geni Stirae Dysplasia

Cognitive and Language Development
Joint Attention

- Develops significantly later in infants with visual impairment
- Must first develop object permanence and sense of ecological and interpersonal self

Symbolic Play

- Follows development of joint attention
- Also develops later in children with visual impairment (18-36 months)
- May require direct instruction from specialist
- Found to develop following the emergence of the word "no" and two-word utterances

Similarities???

Kitty!
Mommy!
fly!!
Cup!
Cold!
Differences

- Echolalia - Purpose
- First Person Pronouns
- Structural vs. Social Language

Visual Impairment Vs. ASD

What is what and how do we know when autism co-exists with visual impairment?

Language Assessment
What to use with infants and children with VI

- Developmental Scales for infants with VI: http://www.tsbvi.edu/instructional-resources/123-general-2/3294-selected-assessments-that-are-used-for-young-children-who-are-visualy-impaired
- How to adapt assessments
- Which assessments to administer and why?

Intervention

Active Learning

- https://www.youtube.com/watch?v=p7e6NDewPYE
- 10 Principles of Active Learning
- Learning Environments
Active Learning

Joint Attention

Further Interventions
- Typically for children with multiple disabilities
- Tactile symbols
- Switches
- PECS
- Literacy Interventions
- Wait-Time
### Tactile Symbols

- **Schedule**
- **Object Cues**

### School-Age Interventions
- Extended Core Curriculum
- Compensatory skills to access the curriculum
- Career education
- Independent living skills
- Self-determination
- Assistive Technology
- Orientation & Mobility
- Recreation and leisure
- Social interaction
- Sensory efficiency skills

### Limitations of Studies in VI
- Low incidence
- Variability of population
- Small sample sizes
- Difficult to generalize results
Questions?
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References


