Some material presented during this webinar may not represent the views or opinion of Advanced Bionics.

Perspectives on Deafness With Autism: Changing How We Think

Deafness with Autism: An Early Communication Perspective

Housekeeping

- You must stay logged in for the duration of this course in order to be eligible to earn CEU credit.
- This course is offered for Continuing Education Units (CEUs) from AudiologyOnline if you are a CEU Total Access member.
- Be sure to take the exam following course completion to earn credit.
- Need Technical Support? Contact AudiologyOnline at 1-800-753-2160
Evaluation and Treatment for Children with Deafness plus Autism, Ages 0-3 years old

Presented by: Wendy Deters MS, CCC/SLP, LSLS Cert. AVEd

Presenter Information

- University of Illinois at Chicago
- Child’s Voice
- Illinois State University
- Northwestern University and Midwestern University

Email: wbdeter@ilstu.edu
3 Key Learning Objectives

1) Identify typical social, play, and communication behaviors in children with hearing loss irrespective of amplification that aid in differential diagnosis of hearing loss and autism.

2) Explain the importance of interdisciplinary evaluation when a child 0-3 years old is suspected of having hearing loss plus autism.

3) Name factors that must be considered in order to develop an individualized and focused treatment plan for a child 0-3 years old with hearing loss and autism.
Children with Atypical Hearing

- Great variability in young children with hearing loss
- Variability typically depends on:
  - Age of diagnosis
  - Age of amplification
  - Access to sound (residual hearing, amplification)
  - Caregiver involvement and support
  - Additional developmental delays/disabilities
  - Intervention services

Research suggests that 40-60% of children with hearing loss have an additional developmental delay/disorder.

If hearing loss is the initial diagnosis, there is typically a time lag for the additional diagnosis.

Why?
- "Wait and see" approach to amplification
- Caregiver challenges
- Provider challenges

Incidence & Prevalence of ASD

- According to the CDC, approximately 1 out of 68 children in the US have ASD
- Males have a greater likelihood than females of developing ASD
- Ratio is as high as 5:1 (1 in 42 boys; 1 in 189 girls)
- Over 2 million individuals in the US are affected by ASD

ADDN Network (2008)
- 10 per 1000 (DSM-5) compared to 11.3 (DSM-IV-TR)

Data obtained for the CDC website (http://www.cdc.gov/ncbddd/autism/data.html)
Incidence & Prevalence of ASD & Hearing Loss

**Autism**
- According to the CDC, about 1 out of 68 children in the US
- Males have a greater likelihood than do females of developing ASD
  - Ratio is as high as 5:1 (1 in 42 boys; 1 in 189 girls)
- Over 2 million individuals in the US are affected by ASD

**Hearing Loss**
- Per CDC, approximately 1 to 3 children per 1000 are born with a hearing loss

**Autism & Hearing Loss**
- 1-6% of children who are deaf also have ASD
  - Rosenhall et al., 1999
    - 1.6% unilateral
    - 7.9% mild to moderate
    - 3.5% profound
  - Gallaudet Research Institute (2009)
    - 1 in 59 children with hearing loss receive services for ASD
  - Jure et al., 1991 - 5.3%
  - Levy et al., 2010 - 1.7%

Hearing Loss & ASD Comorbidity

- Data from the 2004-2010 Annual Survey of DHH Children and Youth
- 37,818 deaf and hard of hearing children
- 39.9% of all deaf children had an additional disability
- Significant difference in the severity of hearing loss for children with ASD
- Disproportionate number of profoundly deaf children having a co-existing diagnosis of ASD (35.4%)

Szymanski et al. (2012) J Autism Dev Disord. 42, 2027-2037

Age of Diagnosis - ASD

- According to the CDC:
  - Research has shown that a diagnosis of autism at age 2 can be reliable, valid, and stable.
  - On average, ASD is diagnosed around 4 years of age.
  - Studies have shown that parents of children with ASD notice a developmental problem before their child’s first birthday.
  - Vision and hearing concerns – before 1 year old
  - Social, communication, and fine motor skills – from 6 months
Challenges to Diagnosis Under 3 Years Old

- Range of typical development
- Particular expressive spoken language
- Range of age of identification and amplification
- Children are learning multiple skills simultaneously
- Parental education on typical development
- Parent’s emotional availability
- Challenging behaviors are typical at this age

How can EI providers contribute to making an early and accurate diagnosis?

- Open dialogue with families
- Knowledge of typical development
- Knowledge of core symptoms of ASD
- Team Approach

What to expect post CI

- Variety of factors impact outcomes with CIs
- Table of expected outcomes for children implanted under 2 years old
  - for 12 months subtract 1-2 months
  - For over 2 years old add 2-3 months
  - For over 3 years old add 3-6 months

- Please see handout
Core Symptoms of Autism Spectrum Disorder

More specific to children Ages 0-3 years old

Social Interactions and Relationships

- Social Interactions

  - Lack of social smile & social referencing

Verbal and Nonverbal Communication

- Verbal and Nonverbal communication

  - Delay in communication skills (receptive and expressive)

  - Difficulty initiating communication

- Stereotyped and repetitive use of language

Play

- Play

Behavior

- Behavior

Detection of Ling 6 (high frequencies should be established by 3-4 months)

- Understands some words: (ex. family members, favorite things, bye bye)

- Likes music – moves and/or vocalizes

- Starts to have words in a variety of categories (about 50 words)

- Can choose items from a group

- Understands some prepositions and pronouns

- Should be able to identify all 6 Ling sounds

- Performs routine activities

- Depending on age and vocabulary may start consonant and vowel discrimination

- Listening in noise and distance improves

Core Symptoms of Autism Spectrum Disorder

More specific to children Ages 0-3 years old

Social Interactions and Relationships

- Social Interactions

  - Lack of eye contact, facial expressions, and social gestures

  - Lack of interest in shared enjoyment or play with people

  - Lack of empathy

Verbal and Nonverbal Communication

- Verbal and Nonverbal communication

  - Delay in communication skills (receptive and expressive)

  - Difficulty initiating communication

  - Stereotyped and repetitive use of language

- Understands more words and can find objects not in sight

- Follows one step directions consistently

- More consistent following directions

- Consonant and vowel identification

  - Should be able to identify all 6 Ling sounds

  - Performs routine activities

  - Depending on age and vocabulary may start consonant and vowel discrimination

  - Listening in noise and distance improves
Limited Interests in Activities or Play

- Unusual focus on pieces
- Intense need for sameness and routines
- Stereotyped behaviors

Disruptive Behaviors

- Poor emotional regulation
- Severe and persistent tantrums
- Resistance to social activities

Key Behaviors

- Eye Contact
  - Communicative Intent
- Play Skills – visual examination of objects
- Social interactions
- Sensory behaviors

Challenges in Dual Diagnosis

- There are similarities in the communication delays of a child with hearing loss and a child with autism
  - Receptive language delay
    - Ex. both children may have difficulty learning to answer questions
  - Expressive language delays
    - Ex. both children may have delayed expressive language development
    - Ex. both children may repetitively use known early vocabulary words
  - Listening skill development
    - Ex. both children may have difficulty learning to respond to their name
Challenges in Dual Diagnosis

- There is a significant time lag between the diagnosis of a hearing loss and that of ASD
- Evaluation procedures:
  - The Autism Diagnostic Observation Scale (ADOS)
  - Professionals are typically not cross-trained on evaluation tools
  - ADOS score is weighted towards social communication and language skills
  - ADOS has not been validated in children with hearing loss
  - "Best" diagnosis is clinical judgment (Kleinman et al., 2008)

“Wait and see” approach to hearing loss
- Receptive and Expressive language delays due to hearing loss need to be ruled out to assist in the diagnosis of ASD
- Children with sensory integration disorder and/or ASD may be very difficult to test in the sound booth
  - May provide important information!

What Can We Do? – Assessment

1. Obtain a complete case history including the hearing loss, medical, and developmental growth
2. Understand typical progression of children with hearing loss with and without amplification
3. Working relationship with Audiologist and the child’s therapy team
4. Obtain and share information and data on: listening skills, speech, language, play, and social skill development
Assessment and Progress Monitoring

- Assessments should take place every 3 months
  - More often that EI typically requires
- Progress should be tracked over time
  - Rate of growth is important!
  - The language gap should begin to close as listening skills develop
- Standardized assessments, Criterion Referenced assessments, and informal measures should all be used

Assessment and Progress Monitoring

- Language:
  - Rossetti Infant Toddler Scale – (RITLS) (Rossetti, 2006)
  - Sensory Kids Impaired – Home Inventory (SKI-HI)
  - MacArthur Bates – Communication Development Inventories (CDI) (Bates et al, 2007)
  - Preschool Language Scale-5 (PLS-5) (Zimmerman, Steiner, & Pond, 2002)
- Listening
  - Infant Toddler Meaningful Auditory Integration Scale (IT-MAIS) (Zimmerman-Phillips, Robbins, & Osberger, 2000)
  - Early Listening Function Test (ELF) (Anderson, 2007)

Assessment and Progress Monitoring

- Criterion references assessments – Listening and Language:
  - Cottage Acquisition Scales of Speech, Language and Listening (CASSLS) (Wilkes, 1999)
  - Speech Perception Instructional Curriculum and Evaluation (SPICE) (Morag et al, 1995)
- Informal Measures:
  - Spontaneous language samples
  - Conversational turns
  - Data collection of communicative intents
Assessment and Progress Monitoring

- Team Approach!
  - Deaf Educator
  - Speech Language Pathologist
  - Communication and feeding
  - Occupational Therapy
  - Physical Therapy
  - Psychologist
  - Developmental Pediatrician
  - Social Work

Elements of a Successful Treatment Plan

- Communication modality must be based on the skill/preferences of the child
  - This may change over time
  - Parents may have to adjust initial expectations
  - No one method is best for all children with ASD/Hearing Loss
  - All communication modalities should be considered
Elements of a Successful Treatment Plan

- Communication Options:
  - Listening and Spoken Language
  - Total Communication
  - Picture Exchange Communication (PECS)
  - Combination of all modalities

Elements of a Successful Treatment Plan

- Listening Skill Development should continue to be a high priority!
- Amplification needs may require a multidisciplinary approach
- A clear understanding of the child’s motivators is helpful in teaching listening skills
- Intervention strategies and expectations should be flexible and based on child’s needs

Resources

Resources


Questions?

Wendy Deters
wbdeter@ilstu.edu

Write down something new that you learned from today’s presentation.
Perspectives on Deafness With Autism: Changing How We Think

Deafness with Autism: A School Age Perspective

June 10, 2014 • 12:00 p.m. Eastern/9:00 a.m. Pacific