Aural Habilitation
Round Table: Birth - 18
Intervention Strategies for Children with Hearing Loss

Presenters

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Agenda:

- Review of Goal Writing (10 minutes-JPT)
- Introduction to auditory verbal therapy (10 minutes-JPT)
- Auditory-verbal principles and coaching (10 minutes-JPT)
- Listening intervention strategies/video (15 minutes)
- Language/speech intervention strategies/video (15 minutes)
- Self-advocacy intervention strategies/video (10 minutes)
- Break-out session (15 minutes)
- Questions (5 minutes)
Objectives:
• Auditory-verbal intervention vs. typical speech-language intervention
• Determining candidacy for auditory-verbal therapy/aural habilitation
• Discuss specific auditory-verbal strategies for early intervention for children with hearing loss

Goal Writing: Audition
• Use information collected
  • Audiogram
  • Outcome measures
  • Family goals

Goal Writing: Audition
• Understanding the hierarchy of hearing and normal stages of auditory development
  • Detection
  • Discrimination
  • Identification
  • Comprehension
Goal Writing: Audition

• Utilizing the Auditory Learning Guide

Goal Writing: Self-advocacy

• Assessment
  • PEACH/TEACH
  • MAIS
  • Audiology Self-Advocacy Checklist-ELEMENTARY SCHOOL (ASAC-ES)

Goal Writing: Self-advocacy

• Teaching students to speak up for what they need
• Helping the parents understand the importance of self-advocacy
• Start early
Goal Writing: Receptive & Expressive Language

- Receptive → Expressive
- 90% gained through incidental learning, BUT incidental learning is at risk in children with hearing loss
- Direct teaching of more skills is often necessary
- Consistently track progress in receptive and expressive abilities and target missing skills to prevent...

Developmental Checklists

- Integrated Scales of Development (Cochlear)
- Development Milestones (Hearing First)
- Cottage Acquisition Scales for Listening, Language and Speech- CASLLS (Sunshine Cottage)

Goal Writing: Articulation

Pre-speech skills:
- Raspberries
- Blowing
- Sucking
- Chewing
- Inhibit drooling

If a child is optimally amplified, and there are no additional concerns, his speech skills development should follow a developmental pattern.
Common errors for children with hearing loss: voiceless consonants (e.g., /p, t, k/) + /s, f/ and "th"

Many of these are also common for children without hearing loss.

Do imitations improve with visual cues?

Rule out perception difficulties with minimal pairs task (e.g. cat vs. cats, mouth vs. mouse)

→ consult with the audiologist!

Some children with hearing loss have additional articulation disorders, which are not completely explained by hearing loss.

Goal Writing: Summary

Need to utilize developmental milestones and integrate the child's rate of progress, outcome measures, and integrate parents' desires for their child to establish appropriate goals.

Important to always determine suspected progress to assess the effectiveness of intervention.

Child needs to make a minimum of 12 months of progress in 12 months time.

Degree/configuration of hearing loss should be considered when developing goals, as well as kind of amplification used.
Introduction to Auditory-Verbal Therapy

- AVT approach utilizes child’s hearing and listening potential to ultimately be able communicate verbally
- AVT is not effective for every child
- Must have appropriate amplification
- Dettman et al (2013)
  - Evaluated language outcomes and speech perception in cochlear implant recipients in auditory-verbal, auditory-oral, and total communication programs
  - Language and speech perception highest for those in auditory-verbal programs, which emphasize a child’s access to language through audition

Auditory Verbal Principles and Coaching

- “The goal of auditory verbal practice is that children who are deaf or hard of hearing grow up in regular learning and living environments, enabling them to become independent, contributing citizens. Supports the rights of children with all degrees of hearing impairment to develop the ability to listen and communicate using spoken language” (Estabrooks 2001).

Principle 1

- Early detection and identification of infants and children who are deaf or hard of hearing
- Auditory Verbal therapy can begin during infancy
Principle 2

- Intense audiological management
- Pursuit of best amplification option
- Requires high parental commitment
- Parents need to be willing to make more trips to the audiologists and take a highly active role in intervention

Principle 3

- Appropriate amplification technology to achieve maximum benefits of learning through listening
- Amplification no later than 12 months
- *Optimal benefit with hearing aids by 3-6 months and implants by 6-9 months. 80% of children with implants by 12 months will exhibit age-appropriate vocabulary. 1.3 standard deviations (7.5 points) lower with each 6 months of delay (after 6 months).

Principle 4

- Appropriate auditory learning environment for the acquisition of spoken language including individualized therapy
- In AVT, all therapy is one-on-one
- Sessions are typically 30 minutes to 1 hr 30 minutes
- Optimal conditions for verbal learning are provided
Principle 5

• Integrate listening into all aspects of a child's life
• Focus on utilizing residual hearing rather than visual cues
• Emphasis on auditory learning vs. auditory training
• Use of hearing for language acquisition is unique to AVT

Principle 6

• AVT requires on-going assessment, evaluation, and prognosis of the development of audition, speech, language, and cognition
• All therapy is considered diagnostic
• An average or better than average rate of progress is expected (~12 months or 12+ months of progress in one year)

Principle 7

• Mainstream education is a critical component
• Integration and mainstreaming of children who are deaf and hard of hearing into regular education classes to the fullest extent possible with appropriate support
• Parents and AVT work in partnership to secure appropriate services and placement
• Children who are deaf/ hearing impaired have the similar expectations as those who are normal hearing
Principle 8

- Active participation of parents in order to improve spoken communication between the child and family members
- Parents actively participate in all therapy sessions
- Parent functions as the primary student during training sessions
  - In-person
  - Teletherapy

Principle 9

- Affirmation of parents as primary role models in helping the child learn to listen to his or her own voice, the voice of others, and the sounds of the environment
- Parent is the primary teacher in daily life
  - Goal is for the parent to learn to incorporate AVT into daily activities

Principle 10

- Integration of speech, language, audition, and cognition in response to the psychological, social, and educational needs of the child and family
- The AV approach follows the normal development sequence of acquiring language
- Baseline is considered the child’s hearing age, not chronological age (until ~2 years)
Auditory Verbal Strategies

- Audition First
- Auditory Sandwich
- Auditory Bombardment
- Auditory Closure
- Expansion/Extension
- Optimal Seating/Position

*Nearly all can be used to target listening, language, and speech goals

Audition First

- Definition: ensure optimal access to sound; present information through audition alone before adding visual supports.
- Listening check should begin each session:
  - Ling 6 sounds (behavioral, conditioned play, imitation, etc.)
- Requires a significant amount of meaningful auditory input during a critical period; neuroplasticity in infancy and very early childhood
- Best way to take a diagnostic approach throughout each session

Example 1:
- Device check first (not included in video)
- Conditioned play
- Identification of Ling 6 sounds
- Access to all the sounds of speech?
- Add more sounds as needed
Example 2:
- Device check (not shown)
- Both sides individually (only L shown)
- "Tell me what you heard"
- "Very quick!"
- Assess independence with devices

Auditory Sandwich
- Definition: information is presented through audition before visual supports are provided and added as needed to assist comprehension. Information is then put back into the auditory only presentation.
- Visual supports can be eye gaze, pointing, showing a toy/picture, acting out, etc.
  - If you know a skill is present, attempt 3 auditory strategies before adding visual support.
- Additional auditory presentations place emphasis on the importance of listening.
- Builds a child's trust and confidence in learning through listening.

Example 1:
- Parent training session
Example 2:
- New vocabulary
- Familiar choice
- Added action
- Repeated
- Tried to get child involved

Auditory Bombardment

- Definition: providing a child with numerous opportunities to hear the target phoneme, word, or language structure
- Provide opportunities to hear the target in a variety of auditory environments
  - Isolation, phrase level (beginning, middle, end), conversation
  - Incorporate wait time to encourage usage (~5-10 seconds)
  - Switch roles if possible to encourage
- Goal: imitate/spontaneously use... carryover into other activities and environments

Example 1:
- Parent training session
  - Bombardment of Learning to Listen sounds
  - Attempted to match qualities of the sound
Example 2:
Past tense-ed
- 3 forms: discussed on
- Changed book’s topic
- Repeated multiple times
- Open ended questions

Auditory Closure
- Definition: a speaker begins a song, rhyme or sentence and then stops talking in order to encourage the child to fill in a verbal response
- Children with hearing loss often don’t have the language/life experience to “fill in the gaps”
- Expectant look
- Wait time
- Modeling is always appropriate; use without models if success can be expected
- Nursery rhymes, songs, highly repetitive books, idioms, analogies
- Takes advantage of the redundancy of familiar language to encourage use of expressive language

- Evaluate familiarity of target
- Include visual supports to ensure the child becomes more independent
Expansion/Extension

- Definition: an adult repeats back what a child has said, either adding new information or correcting syntax/grammatical structures
- Encouraging longer utterances
- Adding more details
- Relating to specific experiences
- Using more complex structures

Example 1:
- Speech/language
- Target: 'hot! yum'
- CV, CVCV

Optimal Seating/Position

- Definition: appropriate position and distance between the speaker and listener enable the child to hear
- Consider:
  - Level of presentation (floor, seated beside, etc.)
  - Situation
  - Always the better hearing side
  - Distance
    - Depends on each child (1-2 inches)
    - Listening bubble (range through single sound check, other comprehension tests)
  - Environment
    - Background noise (sound, echo), conversation, special accommodations
Example 1:
- Sabotage
- Talk child through thinking and planning
  • Cognitive state verbs
  • Vocabulary to request

Break Out Sessions
- Groups A, B, C
- Watch brief video example
  • Describe one appropriate goal for this child
  • Identify at least one auditory-verbal strategy used during the session clip
Group A
- 2 years, 0 months
- Bilateral, sensorineural hearing loss
  - R: moderate
  - L: mild to moderate

Group B
- 2 years, 2 months
- Bilateral, sensorineural hearing loss
  - R: mildly to moderately-severe
  - L: moderate to moderately-severe

Group C
- 3 years, 2 months
- Bilateral, sensorineural hearing loss
  - R: moderately-severe high-frequency hearing loss (6,000-8,000Hz)
  - L: severe-profound
References:


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Intervention Strategies for Children with Hearing Loss Part II

late spring 2019!

Including...

- Wait Time
- Acoustic Highlighting
- Self/Parallel Talk
- Sabotage
- Expectant Look
- Parentese