Remaining Vigilant for Today’s Children with Hearing Loss

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Learning Objectives

- Participants will list the challenges faced by this new generation of children with hearing loss as they attempt to sustain, throughout their school career, their initial advantages gained from newborn hearing screening, vigilant audiologic management, early LSLS intervention, and contemporary hearing technologies.

- Participants will brainstorm at least 5 practical tools, strategies, and techniques for meeting the needs of today’s school-aged children with hearing loss in spite of the failure-based Special Education model.

Learning Objectives

- Participants will describe at least 3 considerations for oversight surveillance of the linguistic, academic and social progress of this new generation of children with hearing loss so that they too can have the same opportunity for success as children with typical hearing.

Purpose

- Today’s children with hearing loss are scoring at chronological age or higher on traditional speech and language measures at earlier and earlier ages.

- They do not fit into the typical failure-based model of special education.

- While certainly an outcome to be celebrated, this positive outcome challenges LSLS to use their knowledge to create and use new tools to evaluate and manage children with hearing loss who will always have less acoustic accessibility to free and redundant information than peers with typical hearing.

So....

- How do we identify and manage the more nuanced skills that are necessary for effective interaction and active engagement in the typical classroom?

- Do we need a new platform for managing today’s children with hearing loss that will allow them to attain and sustain unsurpassed listening and spoken language outcomes and knowledge acquisition?

Format for this Session

- We are going to begin by voting on a series of survey questions that will allow us to explore what we believe to be so about managing today’s children with hearing loss.

- Next we will present two case studies that typify our new frontier of sustaining the momentum of the child’s academic trajectory.

- Results of measurement tools outside of typical audiologic and LSLS tests and evaluations will be presented.

- Last, educational goals will be written for this child, who is not typically eligible for an IEP.....he is not yet failing.
Post Cards for Participants

- The New Frontier: Sustaining Forward Progress
- Address your post card to yourself.
- At the end of this session, write 3 action steps on the card, and copy the same steps to your notes.
- What will you do new, better, different as a result of this session?
- Pass these cards to us at the end of the session.
- We will mail these cards to you in 30 days.

Survey Question One: Demographics

- Parents
- Audiologists (who are not LSLS)
- SLPs (who are not LSLS)
- TODs (who are not LSLS)
- LSLS Cert. AVT™
- LSLS Cert. AVEd™

Survey Question Two

- I always Suspect Auditory Access (technology setting and use) first if the child’s pace of academic development lessens even a little bit.

Agree Disagree

Survey Question Three

- Once listening is firmly integrated into the child's personality, he or she will be able to capture the incidental free flow of information that swirls through the educational and social environments.

Agree Disagree

Survey Question Four

- Our existing LSLS protocols for evaluating expressive, receptive and pragmatic language skills continue to provide the breadth and depth of evaluation needed for children who were diagnosed via newborn hearing screening and who received appropriate early intervention.

Agree Disagree

Survey Question Five

- Too many of today's children with hearing loss are not able to sustain their age-appropriate language and academic competencies throughout their school careers.

Agree Disagree
Survey Question Six

- As professionals, we are going to have to equip ourselves to have better collaborative consultant skills as we coach and guide regular classroom teachers.

- Agree  Disagree

Focusing on This New Frontier

Two Examples of This New Population

- Brief Background of child
- Audiologic Test Results
- Speech Test Results
- Language Test Results
- Teacher and Parent Concerns
- Other Relevant Information

Case History 1: Harper

CA: 6 yrs 7 mons  HA: 5 yr. 2 mons  CI Age Left Ear: 2 yrs. 2mons

- DOB: Aug. 2005
- Passed NBHS
- HL diagnosed 8 months
- HA fit at 8 months but optimized at 10 months
- AVT initiated at 10 months
- Remarkable progress with HA but struggled with high frequency acquisition impacting phonological and linguistic features at age 2 yrs. 8 months

Harper

CA: 2 years 8 months

- MLNT (Open Set)
- Binaural Aided
  75% at 50 dBHL
  16% at 35 dBHL

Harper

CA: 6 yrs 7 mons  HA: 5 yr. 2 mons  CI Age Left Ear: 2 yrs. 2mons

- CI left ear age 2 yrs. 10 mons.
- Entered regular preschool at 3 years of age
- AVT services transitioned from direct to consultative services at 4 yrs. 6 mons. during PreK
- Spring of this year experienced drop in hearing in right ear.
- Annual evaluation initiated to determine needs at this time.
Harper

3 years, 5 months

Harper happily wears the aid and CI during all waking hours.

Parents report better attention, listening in noise, and articulation.

Exp. Language: Pt. S Sid Score: 116
Receptive Language: Pt. S Sid Score: 116
Articulation: Production of /h/ corrected

LNT Open Set Word Recognition (55 dB HL)

- CI alone: 91%
- Hearing aid alone: 20%
- Bimodal: 96%

Harper

CA: 6 yrs 7 mons
HA: 5 yrs 2 mons
CI Age Left Ear: 2 yrs 2 mons

- AVT services transitioned from direct to consultative services at 4 yrs. 6 mons. during PreK
- Spring of this year experienced drop in hearing in right ear.
- Annual evaluation initiated to determine needs at this time.

Harper Audiogram
Feb. 2012

Lexical Neighborhood Test (LNT): Recorded words at 45 dB HL

Right Aided: 56% Correct
Left CI: 99% Correct

Speech-Language Evaluation

CA: 6 yrs, 7 mos
HA: 5 yrs, 2 mos
CA Age Left Ear: 2 yrs, 2 mos

C.H.I.L.D. Listening Situation Breakdown

<table>
<thead>
<tr>
<th>Type of Situation</th>
<th>Family Member Rating</th>
<th>Child Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiet</td>
<td>6</td>
<td>7.75</td>
</tr>
<tr>
<td>Noise</td>
<td>5.2</td>
<td>6.75</td>
</tr>
<tr>
<td>Distance</td>
<td>3</td>
<td>6.3</td>
</tr>
<tr>
<td>Social</td>
<td>3</td>
<td>5.6</td>
</tr>
<tr>
<td>Media</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Overall Average of Responses</td>
<td>5.2</td>
<td>6.8</td>
</tr>
</tbody>
</table>
### Minnesota Social Skills Checklist

Average rating in each of the categories:

- **Self-concept/self-esteem**: 3.0
- **Friendship**: 2.8
  (Lowest ranked item: *Listens to other children’s ideas and adapts them accordingly.*)
- **Social Interaction**: 2.9
  (Lowest ranked item: *Identifies bullying behaviors (walks away, says no, uses “I” statements, asks for assistance.)*)
- **Pragmatics**: 2.8
  (Lowest ranked item: *Remains quiet when others are talking.*)

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Harper

CA: 6yrs. 7 mons

Kdg: April 2012

Completed by Teacher: A.P.
Let's Give These Graphs Some Perspective

According to LENA for a 48 month old child:

**Average Adult Word Count per Hour**
- 50th Percentile: 1023 words/hr
- 75th Percentile: 1355 words/hr

Harper had an average of 1071 words/hr

**Average Child Conversational Turns**
- 50th Percentile: 43 turns/hr
- 75th Percentile: 61 turns/hr

Harper had an average of 29 turns/hr
Observations & Impressions During Testing

- By the LSLS
- By the Audiologist
- By the LSLS and Audiologist teaming together during assessment
- By the Parent or Caregiver

Summary

- Relative weakness in social language, interacting with friends, engaging in classroom discussion
- Concern regarding slippage /caution flags in areas directly related to hearing loss

Case History 2: Kelen

CA: 7 yrs, HA: 5 yrs., 2 months
- Born premature May 2005
- Referred on NBHS
- Follow up diagnostic testing – frequent visits to audiologist
- March 2007 FINALLY diagnosed with moderate to severe bilateral SNHL with different audiologist. Immediately fit with HAs, & started AVT. No spoken language skills

Case History 2: Kelen

CA: 2 yrs, 11 months, HA: 1 yrs., 1 months
- Attended weekly one hour AVT sessions with grandmother
- Continued aggressive audiological management
- Annual eval initiated at CA: 2 yrs. 11 months.
**Speech and Language Assessment**

<table>
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<tr>
<th>Test Type</th>
<th>Std. Score</th>
<th>Age Equiv.</th>
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<tbody>
<tr>
<td><strong>Receptive</strong></td>
<td>104</td>
<td>2y, 11m</td>
</tr>
<tr>
<td><strong>Expressive</strong></td>
<td>102</td>
<td>2y, 11m</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>104</td>
<td>2y, 10m</td>
</tr>
</tbody>
</table>

**PPVT-4 (Receptive Vocabulary)**

<table>
<thead>
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<th>Std. Score</th>
<th>Age Equiv.</th>
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</thead>
<tbody>
<tr>
<td>98</td>
<td>2y, 11m</td>
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</table>

**EVT-2 (Expressive Vocabulary)**

<table>
<thead>
<tr>
<th>Std. Score</th>
<th>Age Equiv.</th>
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</thead>
<tbody>
<tr>
<td>89</td>
<td>2y, 11m</td>
</tr>
</tbody>
</table>

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**Case History 2: Kelen**

**CA**: 3 yrs  
**HA**: 1 yrs., 2 months

- Transitions from EI (Part C) to school based (Part B) services.
- Public School says not eligible based upon normal scores. 504 Plan Written. AVT writes dissenting opinion for file
- Attends preschool and pre-kindergarten and kindergarten in the regular classroom
- Continues aggressive audiologic mgmt and AVT

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**Kelen**

**CA**: 6 yrs, 8 mons  
**HA**: 4 yrs, 8 mons

**PPVT-4 (Receptive Vocabulary)**

<table>
<thead>
<tr>
<th>Std. Score</th>
<th>Age Equiv.</th>
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<tbody>
<tr>
<td>108</td>
<td>7y, 5m</td>
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**EVT-2 (Expressive Vocabulary)**

<table>
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<th>Std. Score</th>
<th>Age Equiv.</th>
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<tbody>
<tr>
<td>112</td>
<td>8y, 0m</td>
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</tbody>
</table>

**GFTA -2 (Articulation)**

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<th>Std. Score</th>
<th>Age Equiv.</th>
</tr>
</thead>
<tbody>
<tr>
<td>106</td>
<td>7y, 5m</td>
</tr>
</tbody>
</table>

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**Kelen**

**CA**: 2 yrs., 11 months  
**HA**: 1yr, 2 months

**Speech-Language Assessment Continued:**

- **Photo Articulation Test**
  - Noted Errors
    - Omission of consonants in initial word position
    - Substitution of /h/ for continuants
  - Intelligibility of connected speech: Fair

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**Kelen**

**CA**: 6 yrs, 8 mons  
**HA**: 4 yrs, 8 mons

- Dismissed from weekly AVT in Feb 2011 at CA: 5-9; HA: 3-9.
- Entered regular first grade Fall 2012
- Feb 2012 annual eval initiated

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**Kelen**

**CA**: 2 yrs., 11 months  
**HA**: 13 months

- April 2012 grandmother concerned Kelen is not hearing as well.
- School personnel read dissenting opinion written by AVT and initiates full evaluation.
- Additional questionnaires, information, observations, & impressions gathered
Kelen
CA: 7 yrs     HA: 5 yrs., 2 months
Current Audiogram

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<td>3.0</td>
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LENA Recording: Kelen

Let's Give These Graphs Some Perspective
• According to LENA for a 48 month old child:
  - Average Adult Word Count per Hour
    - 50th Percentile: 1023 words/hr
    - 75th Percentile: 1355 words/hr
  - Kelen had an average of 1156 words/hr
Let’s Give These Graphs Some Perspective

- According to LENA for a 48 month old child:
  
  **Average Child Conversational Turns**
  
<table>
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<th>50th Percentile</th>
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<tr>
<td>43 turns/hr</td>
<td>61 turns/hr</td>
</tr>
</tbody>
</table>
  
  Harper had an average of 41 turns/hr

LENA Recording: Kelen

TV and Background Noise

Kelen

**LENA data indicated on this day:**
- Noisier at home than at school
- Less frequent conversations at home than at school
- Home was noisier than school

**Implications:**
Based on this single sample we could coach the family to be aware of noise levels and increase the frequency of both talking and listening opportunities.

Survey Question Seven

Analyzing the case studies, Harper and Kelen should receive support services.

Agree
Disagree

Survey Question Eight

Considering the information presented on Harper, choose one of the following areas you would consider to be the top priority to address:

- Speech Audibility/Amplification
- Speech Perception and Listening Skills
- Self Concept
- Self-Advocacy
- Social and Communicational Competence
- Communication Repair
- Access to Instruction

Survey Question Nine

Considering the information presented on Kelen, choose one of the following areas you consider the top priority to address:

- Speech Audibility/Amplification
- Speech Perception and Listening Skills
- Self Concept
- Self-Advocacy
- Social and Communication Competence
- Communication Repair
- Access to Instruction
Areas to be Considered in the Development of Educational Goals

In addition to academic, speech-language, motor, transition, etc:

- Speech Audibility/Amplification
- Speech Perception and Listening Skills
- Self Concept
- Self-Advocacy
- Social and Communication Competence
- Communication Repair
- Access to Instruction
- Additional Considerations


What specific steps can we take to access the next frontier of attaining and sustaining age-appropriate classroom engagement and knowledge acquisition?

The New Frontier... Sustaining Forward Progress
My Action Plan for
NEW • BETTER • DIFFERENT

1. __________________________________________________
2. __________________________________________________
3. __________________________________________________

Copy the same steps to your notes
Pass your cards to the center
In 30 days the card will be mailed to you as a reminder!

Summary

LSLS are challenged to use their knowledge to create new tools, strategies and techniques to evaluate and manage today’s children with hearing loss who will always have less acoustic accessibility to free and redundant information than peers with typical hearing.

A Special Thank You….

- To Harper and Kelen, their families, and classroom teachers, LSLS, and pediatric audiologists for sharing their journeys and providing us the opportunity to learn more.

- To Dr. Dana Suskind, Beth Suskind, and Kristin Leffel with project ASPIRE for use and analysis of the LENA

Selected References


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