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Audiology Grand Rounds:
A Week at Henry Ford Hospital
Day 2: Pediatrics

Henry Ford Health System:
The Institution

- Founded in 1915 by Henry Ford
- Over 18,000 employees
- 1,200 Medical Group Members
- 6 hospitals
- 25 outpatient centers
- Over 3.1 million outpatient visits annually
- Over 15,000 appointment slots per day
- 17 audiologists at 4 sites
Case: A
Age: 8 years  Male

**History:**
- Noticed a left hearing loss at age 4
- Unremarkable birth and childhood history
- Recently diagnosed with ADHD
- Receives preferential seating at school
- Some disequilibrium
- Mother is concerned about speech development
Case: A  Age: 8 years  Male

Right Ear

Frequency in Hz

Hearing Level in dB (ANSI-2004)

250  500  1K  2K  4K  8K

Right Ear

Frequency in Hz

Hearing Level in dB (ANSI-2004)

250  500  1K  2K  4K  8K

Word-Recognition Scores

Right  Level  Left

90 %  80 HL  CNT %

%  70 HL  %
Case: A  Right OAEs

Case: A  Left OAEs
Disposition

Case: A

- Idiopathic unilateral sensorineural hearing loss

- ENT discussed options including:
  - CROS hearing aid
  - Baha
  - SoundBite
Case Report: Twins

- S: B1  Female
- S: B2  Male
- Age: 2 months at the time of assessment
- Uneventful pregnancy and birth
- Brief stay in ICN
- Failed newborn screening bilaterally

Case: B1  Age: 1 day  Female
Case: B1  Age 2 mo  Female

- ABR thresholds to 75 dB nHL bilaterally
- No ABR response to bone conduction
- Type A tympanograms
- OAEs absent bilaterally
Case: B2  Age: 1 day  Male

Case: B2  Age: 2 mo  Male

Left
Click
ABR
Case: B2  Age: 2 mo  Male

- ABR thresholds to 75 dB nHL on the right and 70 on the left
- No ABR response to bone conduction
- Type A tympanograms
- OAEs absent bilaterally
Case: B2  Age: 2 mo  ASSR

Cases: B1 & B2  ASSR
Report of a Case  
Case: C

- Age: 4 months  
- Sex: Female

History:
- Congenital hydrocephalus
- Dilation of the 4th ventricle
- Shunt at 2 days
- Seizure disorder
- Improving visual disorder

Case: C  2 days  ICN Screen

continued
### Case: C  4mo  LE Click ABR

<table>
<thead>
<tr>
<th>Frequency in Hz</th>
<th>250</th>
<th>500</th>
<th>1K</th>
<th>2K</th>
<th>4K</th>
<th>8K</th>
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</thead>
<tbody>
<tr>
<td>Estimated Audiogram</td>
<td></td>
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</tbody>
</table>

- **ASSR Thresholds**
  - 95 dB
  - 70 dB

### Case: C  4mo  RE ASSR

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- **Estimated Audiogram**
Case: C  4mo  Right DPOAEs

Case: C  4mo  Left DPOAEs

continued
Case: C  4mo  RE Click ABR
Report of a Case  

Case: D

- Age: 16 years  
- Sex: Female  
- History:
  - Thought she might have hearing loss  
  - Reportedly never formally assessed  
  - ECMO treatment as an infant  
  - Hearing loss might be progressive  
  - Right clicking tinnitus  
  - Received speech therapy

<table>
<thead>
<tr>
<th>Signal to RE</th>
<th>Right Ear</th>
<th>Left Ear</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>BBN 500</td>
<td>1K 2K</td>
</tr>
<tr>
<td>Crossed</td>
<td>80 90 90 90</td>
<td>80 85 85 80</td>
</tr>
<tr>
<td>Uncrossed</td>
<td>90 95</td>
<td>75 85</td>
</tr>
</tbody>
</table>

Air Pressure in daPa  

Admittance in ml  

ECV~0.8  

ECV~0.7
Case: D  Age: 16 years  Female

**Word-Recognition Scores**

<table>
<thead>
<tr>
<th></th>
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<th>Level</th>
<th>Left</th>
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<tbody>
<tr>
<td>Level</td>
<td>80%</td>
<td>80 HL</td>
<td>84%</td>
</tr>
<tr>
<td>Percentage</td>
<td>70 HL</td>
<td></td>
<td>%</td>
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