Using Strengths Based Coaching to Impact Device Wear Time in Pediatric Patients

Erika B. Gagnon, AuD
The Children’s Cochlear Implant Center at UNC
Financial disclosure

• Study funded by Cochlear Americas
  • Investigator Initiated Research
Children’s Cochlear Implant Center at UNC

**Physicians**
- Harold Pillsbury, MD  
  Professor and Chair  
  Executive Director
- Kevin Brown, MD, PhD  
  Associate Professor  
  Medical Director
- Brendan O’Connell, MD  
  Assistant Professor
- Lauren Kilpatrick, MD  
  Assistant Professor
- Carlton Zdanski, MD  
  Associate Professor

**Pediatric Audiologists**
- Holly Teagle, AuD  
  Associate Professor, Co-Director
- Jennifer Woodard, AuD
- Erika Gagnon, AuD
- Melissa Auchter, AuD
- Lisa Park, AuD  
  Assistant Professor, Research Audiologist

**Speech-Language Pathologists**
- Hannah Eskridge, MSP, CCC-SLP, LSLS Cert.AVT  
  Assistant Professor, Co-Director
- Maegan Evans, PhD, CCC-SLP, LSLS Cert.AVEd
- Lillian Henderson, MSP, CCC-SLP, LSLS Cert.AVT
- Sandra Hancock, MS, CCC-SLP, LSLS Cert.AVT
- Christine Kramer, MS, CCC-SLP, LSLS Cert.AVEd
- Erin Thompson, MS, CCC-SLP, LSLS Cert.AVT
Device Wear Time: 397 Pediatric CI Patients

Average Hours of Daily Use: Age

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>Average Daily Use: Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>5.8</td>
</tr>
<tr>
<td>1</td>
<td>5.8</td>
</tr>
<tr>
<td>2</td>
<td>7.0</td>
</tr>
<tr>
<td>3</td>
<td>8.4</td>
</tr>
<tr>
<td>4</td>
<td>8.9</td>
</tr>
<tr>
<td>5</td>
<td>9.8</td>
</tr>
<tr>
<td>6</td>
<td>10.9</td>
</tr>
<tr>
<td>7</td>
<td>11.0</td>
</tr>
<tr>
<td>8</td>
<td>11.1</td>
</tr>
<tr>
<td>9</td>
<td>11.3</td>
</tr>
<tr>
<td>10</td>
<td>12.0</td>
</tr>
<tr>
<td>11</td>
<td>12.1</td>
</tr>
<tr>
<td>12</td>
<td>11.7</td>
</tr>
<tr>
<td>13</td>
<td>11.6</td>
</tr>
<tr>
<td>14</td>
<td>10.9</td>
</tr>
<tr>
<td>15</td>
<td>10.0</td>
</tr>
<tr>
<td>16</td>
<td>10.5</td>
</tr>
<tr>
<td>17</td>
<td>11.7</td>
</tr>
<tr>
<td>18</td>
<td>11.0</td>
</tr>
<tr>
<td>19</td>
<td>11.3</td>
</tr>
<tr>
<td>20</td>
<td>13.5</td>
</tr>
<tr>
<td>21</td>
<td>9.0</td>
</tr>
<tr>
<td>22</td>
<td>8.5</td>
</tr>
<tr>
<td>23</td>
<td>9.9</td>
</tr>
<tr>
<td>24</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>
Coil Off Time: Birth-Three

Average Hours of Coil Off: Birth-3 Years

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>Average Coil Off Time: Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3.8</td>
</tr>
<tr>
<td>1</td>
<td>3.3</td>
</tr>
<tr>
<td>2</td>
<td>2.9</td>
</tr>
<tr>
<td>3</td>
<td>2.3</td>
</tr>
</tbody>
</table>
Co-Treating

• Two years ago, our center implemented a “co-treat” model for clinical care
  • Speech pathologists “push” into audiology appointments for all children birth to three years and as needed for older children
• The addition of a speech pathologist helps with provider collaboration and to give parents access to additional resources
Reduced Wear Time

• How do you start the conversation with this parent about their child's wear time?
Strengths Based Coaching

• Speech pathology team is trained in aspects of strengths based coaching
  • Adult Learning Theory
  • Positive Psychology
  • Non-Violent Communication
  • Appreciative Inquiry

• Opened ended questions and positive discussion used in the co-treating model to create dialogue with parents to highlight success and discuss areas that need growth
Parent Discussion

• Examples of how to use strengths based coaching
  • What new skills has your child mastered since our last visit?
  • When is your child most successful wearing their technology?
  • What retention devices have you been successful with?
    • Headbands, Pilot Cap, Double-Sided Tape
  • Tell me what songs/books your child enjoys
  • What responses are you seeing with the cochlear implant?
Functional Listening Index: FLI

• Tool used to mark early listening progress based on the development of functional auditory skills in children with typical hearing

• Through Co-Treating we can celebrate progress documented on FLI that would be difficult to otherwise capture
  • Examples:
    • Show an involuntary response to sound
    • Search for the source of a sound
    • Attend a voice with interest
    • Attend to talking/singing for a few minutes
    • Detect all Ling 6 sounds

The Functional Listening Index-Pediatric (FLI-P), The Shepherd Centre (2012)
Co-Treating Success: Jane

• History
  • Female, born full term without complications
  • Failed NBHS bilaterally
  • Normal inner ear anatomy
  • Unknown etiology
• Implanted unilaterally at 13 months
• 15 months post-implant, Jane maintains limited device use
  • Co-treating implemented in our center at this time
Co-Treating Success: Jane

Average Daily Use: Hours

- 3 Months: 2.8 hours
- 9 Months: 2.1 hours
- 1 Year: 5.4 hours
- 1.3 Years: 5.7 hours
- 1.5 Years: 2.8 hours
- 1.75 Years: 8.7 hours
- 2 Years: 10.3 hours
- 2.5 Years: 14.2 hours
- 2.6 Years: 13.7 hours

Time Post-Implant
Limitations of Co-Treating: Jessica

• History
  • Female, born term without complications
  • Failed AABR
  • Failure to thrive
  • Global developmental delay
  • G-tube for feeding
  • Mitochondrial DNA Depletion Syndrome
  • Hypotonia

• Implanted unilaterally at 16 months
• Limited trunk and motor control
• Co-Treating occurred during all patient sessions
Limitations of Co-Treating: Jessica

![Bar chart showing average daily use hours over time post-implant]

- 1 Month: 1.3 hours
- 2 Months: 0.4 hours
- 6 Months: 0.1 hours
- 1.5 Years: 0.3 hours
- 1.75 Years: 0.3 hours

**Average Daily Use: Hours**

**Time Post-Implant:** 1 Month, 2 Months, 6 Months, 1.5 Years, 1.75 Years
Co-Treating Success: Jack

• History
  • Male, born at 33 weeks with 8 weeks in NICU
    • Treated with phototherapy for hyperbilirubinemia
    • Assisted ventilation
  • Diagnosed with Congenital CMV, Cerebral Palsy
    • Failed NBHS bilaterally
  • Implanted in the right ear at 14 months and in the left at 2.5 years
  • Limited trunk and motor control
  • Co-Treating occurred during all patient sessions
Co-Treating Success: Jack

![Graph showing average daily use hours over time post-implant.](image)

**Average Daily Use: Hours**

- **Right (First Side):** 2.5, 2.4, 4.2, 6.3, 7.3, 7.7, 8.5, 8.9, 9.1
- **Left (Second Side):** 8.5, 8.9, 9.1

**Time Post-Implant:** 1 month, 2 months, 3 months, 6 months, 1.3 year, 1.4 year, 1.5 year, 2 year, 2.5 year
Conclusions

• Data logging is a powerful objective tool that aids in device troubleshooting and patient counseling
  • When used in tandem with tools such as the FLI, it can provide an indirect quality of life measure

• Strengths/positive based coaching empowers families and builds connections
  • One strategy that can be used to help increase device wear time

• Open-ended questions allow for increased dialogue and creates a safe place for conversations about wear time
References


• The Functional Listening Index-Pediatric (FLI-P), The Shepherd Centre (2012)
Thank you