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Program

AB Advanced Bionics

Setting Appropriate Expectations and Communication Goals with a Cochlear Implant

Name
Title

Mission

At Advanced Bionics we are *dedicated* to improving lives by developing technologies and services that help our recipients achieve their full potential.

- Our commitment to putting patients first and providing the best possible hearing *performance* remains at the forefront of all that we do.

- The trust patients place in us inspires us to act with *integrity and transparency* as we strive for excellence each and every day in all that we do.

To learn more about Advanced Bionics visit AdvancedBionics.com

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General Slide

Speaker's Notes: AB is dedicated to helping people with hearing loss hear their best. Partnering with Phonak has allowed AB to offer unique technological advances to help people with hearing loss hear better in the most challenging listening situations.

Tools for Schools

Today's presentation is just one of many valuable <u>FREE</u> resources provided by Advanced Bionics' Tools for Schools™ program (TFS™).

The goal of the TFS program is to:

- Help school aged children with cochlear implants succeed in the classroom.
- Ease your workload and save you time.
- Educate parents and professionals about CI technology.
- Provide support for effective teaming between the School, CI center and Home.

Visit www.advancedbionics./tfs to learn more.

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Speakers Notes: A cochlear implant becomes an option when hearing aids can not provide sufficient access to sound for the development of listening and spoken communication. In general, the cochlear implant is expected to improve hearing well beyond that received with traditional hearing aids, allow a child access to spoken language, and expand educational opportunities.

Speakers Notes: Long term performance with a cochlear implant can be influenced by several factors. Awareness of these factors will aid you in helping a child reach their full potential.

Factors that Influence Performance

- Age at onset of deafness
- Age at time of implantation
- Consistency of device use
- Bilateral/bimodal device use
- Educational environment
- Family support and follow up
- Residual hearing
- Etiology
- Additional Special Needs
- Other Considerations

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Speakers Notes: The following slides will discuss each of these factors.

Factors that Influence Performance

Age at onset of deafness

Pre-lingually deafened children
- lost ability to hear **before** learning to understand & speak a language
- limited experience with sound and oral language
- poorer auditory memory

Post-lingually deafened children
- lost ability to hear **after** learning to understand & speak a language
- greater experience with sound and oral language
- better auditory memory

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Speakers Notes: Children learn spoken language by listening. If a child is diagnosed with hearing loss before the age at which talking is expected, generally by the age of two, then they are considered to have a Pre-Lingual hearing loss. Conversely, if the child has developed spoken language and then experiences an event in which hearing is lost, generally after the age of two, then they are considered Post-Lingual.

Factors that Influence Performance

Age at time of implantation

- Younger Children (12 months – 2 years)
  - critical period for learning language
  - bond quicker to the device
  - auditory plasticity
- Older children
  - length of deafness is greater
  - increased risk for non-use

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Speakers Notes: For a Pre-Lingual child with profound sensorineural hearing loss, the age at the time of implantation can be critical. Research indicates that providing access to sound with a cochlear implant during the period of time when the brain is most receptive to sound, increases the potential for the development of spoken language.

Bilateral/Bimodal Device Use

- Improved hearing in noise
- Improved hearing in quiet
- Improved lateralization & localization
- Assurance that the "better listening" ear is captured

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Factors that Influence Performance

Consistency of device use

- Every day, all waking hours is critical
- Consistent use contributes to increased performance
- Inconsistent use discourages device bonding and encourages non-use

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Speakers Notes: Once the cochlear implant is activated, the child should use the system all waking hours. Listening and spoken communication can only develop with consistent exposure to sound.

Factors that Influence Performance

Educational Environment
- Support and maintain the CI
- Educate those involved with the child
- Provision of an optimal auditory environment
  – FM System
  – Classroom acoustics
- Promotes and encourages auditory development

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Speakers Notes: Most often, a classroom environment which supports listening and spoken communication results in the best long term outcome for a child with a cochlear implant. Younger children will require daily monitoring of their implant device and assistance with FM system technology. An older child can be encouraged to monitor and maintain their implant and classroom FM system; however the teacher & hearing specialists should always be aware of the status of equipment.

Factors that Influence Performance

Family support and follow-up

- Consistent Follow Up
  - Regular visits to the audiologist
- Equipment Maintenance
  - Provide optimal listening conditions
- Create a Listening Rich Home Environment

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Speakers Notes: A child should be seen for follow up by their audiologist on a regular basis. This assures that the child has access to optimal sound levels. The frequency of visits depends on the child's age and progress with their implant. Visits in the first couple years of device use can be as much as 4-6 times per year. For an older child, this often decreases to 1-2 times per year. Keep in mind for a child using two (bilateral) cochlear implants, there maybe more frequent visits. Family support and involvement is also critical. Parents should create a home environment that highlights the importance of spoken language and sound.

Factors that Influence Performance

Previous Auditory Experience
- Length of deafness is shorter
- Better auditory memory for sound
- Auditory nerve survival may be greater
- Residual hearing provides a "bank" of auditory experiences

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Speaker Notes: For a Post-Lingual child, adjustment and progress with a cochlear implant may be faster than for a Pre-Lingual child. The Post-Lingual child has developed a "bank" of auditory skills from which to compare and expand with the new sound. The new sound with the cochlear implant is most likely different at first compared to sound remembered prior to the cochlear implant; however very quickly the difference fades and sound becomes natural.

Factors that Influence Performance

Etiology

Congenital abnormalities
- Mondini malformation

Acquired abnormalities
- Ossification (Meningitis)

Abnormalities in the inner ear may increase the difficulty of the surgery
- May prevent a full insertion of electrode array
- May restrict cochlear implant function

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Speakers Notes: One of the factors which can influence long term performance with a cochlear implant is the cause of the hearing loss. In particular, etiologies which are due to or contribute to abnormalities in the inner ear require individual consideration. Those with more difficult etiologies can still receive significant benefit from a cochlear implant; however may also need more frequent visits to the audiologist to maintain access to sound. For these individuals, a team approach to management is of particular importance.

Speakers Notes: The cochlear implant provides stimulation to the hearing nerve. However, hearing occurs in the brain and requires an intact auditory nerve. In rare cases, the hearing nerve or the centers responsible for hearing in the brain are compromised. For these individuals, cochlear implant benefit can be limited.

Factors that Influence Performance

Additional Special Needs
Cognitive conditions
- Auditory Processing Problems
- Learning Disabilities
- Neurological Problems

Non cognitive conditions
- Blindness
- Cerebral Palsy

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Speakers Notes: A child with a co-existing health or developmental challenge may take longer to reach milestones than one with no other issues. These children continue to benefit from the sound provided through a cochlear implant, they may however need more time to attain skills. A multi-sensory approach, listening and sign for instance, with these children may be warranted to develop language skills necessary for communication.

Factors that Influence Performance

Considerations for Additional Complex Needs:

- Progress is slower but often still follows that of a child without additional challenges
- Progress is dependent on individual
  - Often requires multi-modality approach to optimize language
- Cochlear implant will not "cure" the other developmental issues
- Multi-disciplinary approach is important

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Speakers Notes: None

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Factors that Influence Performance

Other considerations

- Child's desire for the cochlear implant
- Child's drive to communicate
- Child's behavior

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Speakers Notes: Universal Newborn Hearing Screenings have successfully identified hearing loss earlier. This has allowed children who are candidates for cochlear implants to receive cochlear implants by one year of age. For older children who are identified with hearing loss, some additional considerations are whether the child wants a cochlear implant, if the child is motivated to learn to communicate using listening and spoken language to the best of their ability, and if there are any behavior issues. The more opportunities to communicate and listen through the day, the better the outcome. A team approach is necessary to create an environment which supports the development of these skills in a child, younger or older.

What you will learn today

- Factors that influence CI performance in children.

- **Helping a child with a CI reach their full potential.**

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Speakers Notes: How do you set appropriate expectations and goals for a child? 1. As we have already discussed, know the factors that apply to your child/student which may influence performance. 2. Create a plan which addresses goals, the predicted challenges, and monitors progress. Use Auditory Integration help children learn that sound has meaning and purpose. use of Make sure you have resources in place to provide the appropriate support in the classroom. Remember that the child and their environment are dynamic. Be ready to make appropriate changes in the plan as the child grows and develops language. Finally, make sure the professionals working with the child are educated about the benefits of cochlear implantation, how cochlear implants function, and have a basic understanding of the equipment.

Speakers Notes: The goal is a child who can learn, communicate, and be successful.

Speakers Notes: As mentioned, some children require a multi-modal approach to develop language and communication. This is a decision made with the team in an effort to maximize the child's success. Many children with cochlear implants do well with a fully auditory environment, at school and home. Others may require the integration of signs. This continuum illustrates the various levels of sensory integration with listening and sign.

Setting Goals

- **Use your Experience as Guidance for Setting Goals and Expectations**
  - Educational experience with other children with hearing loss
  - Experience with other children with Cochlear Implants

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Speaker's Notes: If this is your first time working with a child with cochlear implant and you need guidance, contact an experienced professional. Most professionals are happy to provide input and resources to assist you in setting appropriate goals.

Setting Goals for Language Development

Research has shown:

- After implantation, children should make at least one year of language growth for each year of cochlear implant experience
- Early implantation (prior to age 2 years) may not only prevent increased language delays, but may in fact help to eliminate them
- Children implanted prior to 2 years understand vocabulary and develop language skills faster than later-implanted children
- Communication skills improve significantly with increased cochlear implant use

Kirk, K., Miyamoto, R., Ying, E., Perdew, A., & Zuganelis, H. (2002) Does Age Matter with Cochlear Implants? Cochlear Implantation in Young Children: Effects of Age at Implantation and Communication Mode, *The Volta Review, Volume Number, Page Range*. Retrieved from http://listeningandspokenlanguage.org/Document.aspx?id=455#sthash.59aGjZ5e.dpuf

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Speakers Notes: Very early implantation can have a significant impact on the rate of language development in children with profound deafness. Early implantation appears to minimize initial language delays and to promote the development of age-appropriate skills. Keep in mind that children with multiple challenges, especially those with co-existing developmental delays, cannot be held to the same level of expectation as children with no other issues. That being said, an otherwise normal child should make, at a minimum, one year of language growth for each year of cochlear implant experience. If a child is implanted prior to 2 years, consistently uses the cochlear implant, and receives consistent intervention, the gap between language age and chronological age should be expected to close more quickly over time.
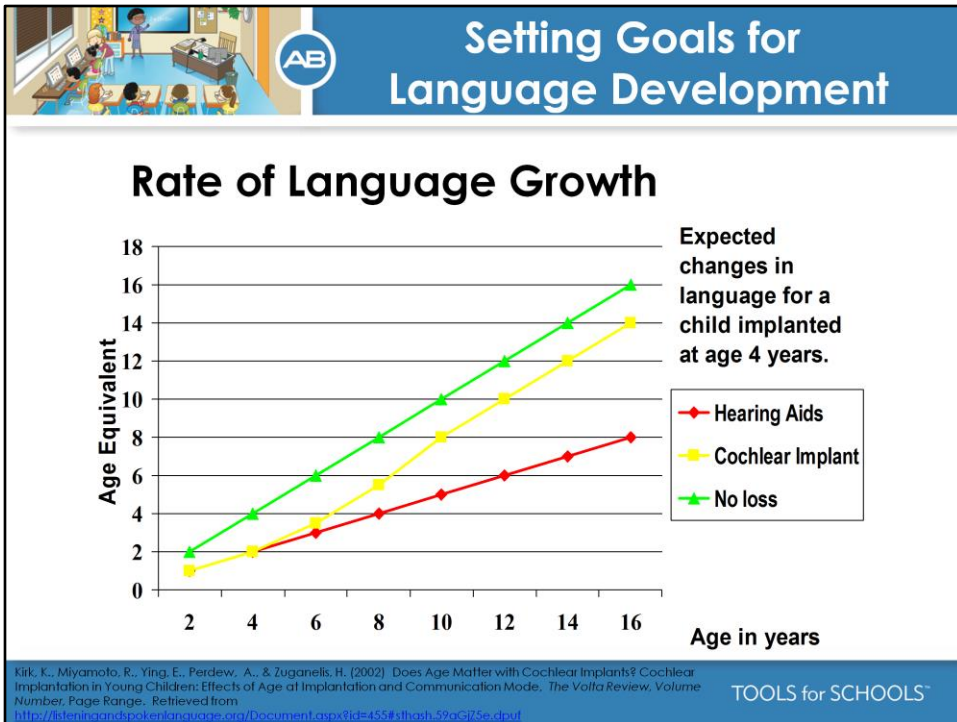
Speakers Notes: This graph illustrates the previous slide's statement. Here you see that once a child receives the cochlear implant, and the implant has been optimized for access to sound, the child follows a pattern of growth which is similar to the normal hearing child.

Achieving Full Potential

Create a Plan
- Set Goals and Expectations
- **Auditory Integration**
- Monitor Progress
- Educate professionals

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Auditory Integration

Even though the cochlear implant makes sound available to a child's auditory system, the child must be taught to make meaningful use of this auditory information.

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Speakers Notes: This isn't as difficult as it may sound. Children have an innate ability and desire to communicate, therefore…

Auditory Integration

Components of Auditory Integration

- Consistently communicate that sound has meaning
- Maintain strong expectations for listening
- Reduce predictability
- Participate with student's therapists and parents to bridge activities into the child's real life
- Integrate language goals into auditory classroom activities
- Integrate the process of listening, speaking, and thinking

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Speakers Notes: Create the environment, opportunity, and support necessary; and the child will have the best chance for success. Next we will give some examples of how you might create opportunities for auditory integration in the classroom.

Auditory Integration

Sound Has Meaning

- Allow time for a child to process what was heard before expecting a response
- Practice using the auditory sandwich by: first, describing concepts or talking about an activity; then, allow time for thinking about what was heard; finally, demonstrate or show, and finish with a spoken statement
- Use prompts, "Did you understand me or are you still thinking?" and encourage asking for clarification
- Encourage commenting on things that the child hears or that others say

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Speaker's Notes: Waiting before expecting a response helps a child to have time to process spoken information, think about what was said, and then respond or clarify appropriately. Creating an environment in the classroom that has high expectations for listening to one another and responding to one another brings value to listening.

Auditory Integration

Strong Expectations for Listening

- Give opportunities for children to self-monitor spoken language through listening
  - After giving directions, ask children to restate the directions for an activity or provide the next step
  - Encourage responding to what a classmate has said
- Use hearing peers as models
- Purposeful sabotage
  - Say one thing and do another and ask for clarification of what was said and what should have been done

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Speaker's Notes: When a classroom creates a high value for listening to one another, there automatically becomes strong expectations for listening. Here are some techniques that could be used in the classroom.

Auditory Integration

Reduce Predictability

- Use new vocabulary for the same word/activity (get out your writing instrument vs. pencil)
- Use different speakers (student vs. teacher reading out loud)
- Sabotage a spoken direction used during a common classroom routine (say one thing and do another)
- Change the expected order of events in a schedule to check for listening

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Speaker's Notes: When we know what to expect, it makes it easier to understand what we hear. Using predictable routines are a good way to build a foundation for learning to listen and learning language. However, as children are ready to build on their listening and language skills, purposefully changing a routine can challenge them. Reducing predictability challenges the child to try to resolve what is heard and what is done when it is different than what was expected or routine.

Auditory Integration

Bridge Activities

- Collaborate with Parents and Therapists:
  - Share classroom themes/content with parents & therapists for extension listening and language activities at home and during therapy
  - Send vocabulary lists and spelling words to home & therapy
  - Integrate listening and language goals from therapy into classroom
- Use examples from child's daily living to explain new concepts in the classroom
- Help connect new knowledge to life experiences

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Speaker's Notes: Participate with student's therapists and parents to bridge activities into the child's real life to ensure that listening and understanding are generalizing across environments. This is how learning happens and how auditory information is integrated fully into the child's day to day activities. This allows many opportunities to practice listening and understanding the same information, but in a different environment.

Auditory Integration

Integrate Goals into the Classroom

- Ask parents and therapists for goals and plan for activities to practice speech, listening, and language goals using classroom content
- Provide frequent opportunities to rehearse concepts/directions presented in the classroom
- Encourage use of metalinguistic strategies in the classroom: self-talk, predicting, paraphrasing, and summarizing
- Invite the Hearing Itinerant teacher to observe and make suggestions for opportunities to integrate listening into the classroom

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Speaker's Notes: Maximizing opportunities for auditory learning in the classroom does not require a separate lesson plan. Plan for opportunities to include auditory learning and language learning within the curriculum activities that are occurring in the classroom. Utilize support from parents, therapists and hearing itinerant teachers to make suggestions for opportunities to integrate listening into activities in the classroom or provide more emphasis on listening or language learning.

Auditory Integration

Integrate Listening, Speaking, Thinking

- Model and practice thinking out loud during classroom activities
- Create opportunities to talk about new topics or expand knowledge of known topics
- Take advantage of teachable moments by using incidental learning opportunities to teach language, focus on listening, and increase knowledge of the world
- Explore and learn about new topics through reading, going, doing, and discussing
- Take opportunities to use figures of speech and discuss what is heard and what is meant ("That was a slam dunk!")

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Speaker's Notes: Integrate the process of listening, speaking, and thinking in the classroom. This will help a child with hearing loss make meaningful use of auditory information because we are activating the brain. Actively model and demonstrate how to think and solve problems out loud together. These strategies will help promote thinking skills.

Create a Plan
- Setting Goals and Expectations
- Auditory Integration
- **Monitor Progress**
- Educate professionals

Monitor Progress

Progress should be monitored at regular intervals

-How is child progressing compared to pre-implant   performance?

-How is child doing compared to other similar children with cochlear implants?

-How is child doing compared to normally hearing peers?

- Is child meeting set goals?

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Speaker's Notes: There are several ways to Monitor Progress.

Monitor Progress

Formal evaluations
- Commonly completed by CI Center
- Assess auditory thresholds
- Assess speech perception abilities
- Assess understanding, use of language, and speech production abilities

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Speakers Notes: Communication between the cochlear implant center, care givers, and school aid in monitoring the child's progress. Formal evaluations are a tool to establish baseline measures and show progress overtime.
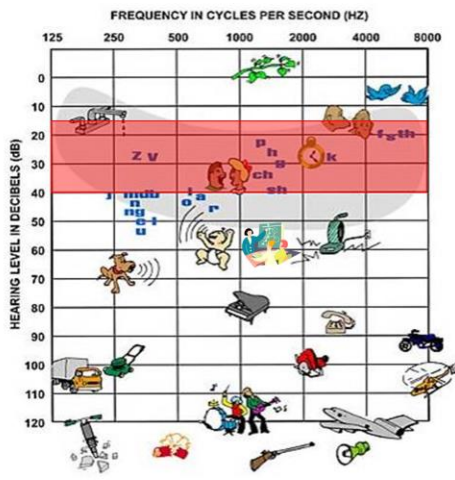
Speakers Notes: Following a few months of experience of the cochlear implant device, the audiologist may report the level of access the child has to sound with their cochlear implant based on an audiogram. The highlighted area above is the typical range of hearing with a cochlear implant when responses are elicited in a sound booth. Keep in mind that this is only one measure and in of itself does not predict success with a cochlear implant.

Speakers Notes: Hearing occurs in the auditory centers of the brain. The ability to detect a sound is not the same as understanding the importance of that sound. There are many types of tests an audiologists, speech language pathologists, and educator may do with a child to determine their benefit and progress with a cochlear implant.

Monitor Progress

Formal Evaluations

Speech Perception Testing

- Provide information on the child's ability to perceive and process auditory messages
- Assess children at different levels of skill development
- Demonstrate progress over time.

Assessing Listening Skills in Children with Cochlear Implants: Guidance for Speech-Language Pathologists
by Linda I. Rosa-Lugo & Susan G. Allen
The ASHA Leader March 15, 2011

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Speakers Notes: Speech perception tests require the child with a cochlear implant to listen and respond by repeating what's heard. There are different levels of difficulty, the more difficult tests are assessing the child's ability to integrate sound and meaningfully use it.

Speech Perception Tests

Responses during this type of testing:

- Indicates understandability in *an ideal listening environment*
- Does not indicate "real world" understandability (noise, distance, soft voices)

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Monitor Progress

Formal Evaluations

Many centers will complete formal speech and language evaluations to track the child's progress in speech production and language development

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Speaker's Notes: The results from the evaluation is the starting point for your child. It is always good to know where your starting line is so that you know what steps need to be taken to the 'finish line'.   Monitoring progress at regular intervals helps you to understand how your child is progressing or if your child is not progressing as expected, what other steps might need to be taken. Later in this presentation we will discuss Red Flags.

How to Monitor Progress

- Formal Evaluations
- **Auditory Benchmarks**
- Red Flags

Monitor Progress

Auditory Benchmarks

Auditory Benchmarks for progress have been developed using research results.

- Provides average data to measure progress
- Provides information on variables that can affect progress
- Assists when counseling family and others

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Speakers Notes: Progress should be monitored at regular intervals to assess and compare how the child is progressing compared to where they started pre-implant, to compare how they are progressing in relation to same age hearing peers and to compare how they are doing compared to other children with cochlear implants. Research helps us to set the benchmarks to guide expectations for progress post cochlear implantation.

Monitor Progress

Auditory Benchmarks
• Pre-implant characteristics predict post CI outcomes

GROUP 1
• Implanted in the preschool years.

GROUP 2
• Implanted at age 5 or later.
• Some residual hearing and speech perception skills.
• Consistent use of hearing aids.
• Communicates primarily through speech.

GROUP 3
• Implanted at age 5 or later.
• Little or no residual hearing or speech perception skills.
• Highly dependent on sign.

McConkey-Robbins, A. (2005). Clinical Red Flags for Slow Progress in Children with Cochlear Implants. *Loud & Clear!*, *1*, 1-8.

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Speakers Notes: The information on this slide can be found in the TFS Resource "Tracking auditory progress" by Amy Robbins. These benchmarks were established for three groups of children based on research and clinical experience. These benchmarks outline expected behaviors and development based on the age at which the child receives the cochlear implant and their level of auditory experience prior to the implant. Note that for all three groups, full time use of the cochlear implant is a requirement.

Monitor Progress

Auditory Benchmarks
Group 1 – Preschool

1 Month	Full time implant use without resistance.
3 Months	Changes noted in vocalizations
6 Months	Spontaneous response to name and common environmental sounds
12 Months	Attaches meaning to sound

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Speakers Notes: None

Monitor Progress

Auditory Benchmarks
Group 2 – 5 years or older & residual hearing

1 Month	Full time implant use without resistance
3 Months	Closed set understanding of some familiar words
6 Months	•Understands many familiar words in a closed set •Spontaneously alerts to name •Understands some familiar phrases
12 Months	•Spontaneous response to own name vs. others •Auditory recognition of some sounds at school

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Speakers Notes: None

Monitor Progress

Auditory Benchmarks
Group 3 – 5 years or older & limited or no auditory experience

1 Month	Full time implant use without resistance
3 Months	Discriminates patterns of speech
6 Months	•Understands a few words in closed set •Alerts spontaneously to loud noises •Begins to detect name spontaneously •Reports dead battery some of the time
12 Months	•Understands many words in closed-set •May understand familiar phrases •Knows when device is not working •Spontaneously responds to name about half the time

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Speakers Notes: None

Monitor Progress

Auditory Benchmarks

Provide:

- Outcomes data for a large number of implant recipients
- Information on "typical performance"

However...

- Outliers are a reality
- Each person brings their own individual hearing health history and personal attributes to the implant experience

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Monitor Progress

How to Monitor Progress

- Formal Evaluations
- Auditory Benchmarks
- **Red Flags**
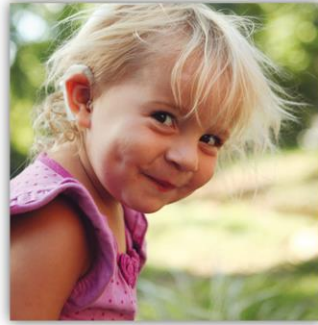
Monitor Progress

Red Flags

- Set up brief meetings between educators and parents every 3 months the first year after implantation
- Identify "**red**-flags" for children who are not progressing appropriately.

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Speakers Notes: None

What is a red flag?

- Concern that is raised over a child's inadequate progress with a cochlear implant
- Severity of the concern relates to:
  - The length of the delay
  - The number of skills delayed
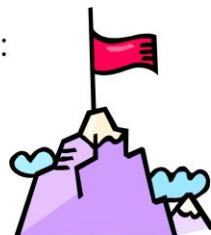
McConkey-Robbins, A. (2005). Clinical Red Flags for Slow Progress in Children with Cochlear Implants. *Loud & Clear!, 1,* 1-8.

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Monitor Progress

Examples of Red Flags

- Decrease in speech perception ability
- Decrease in speech production skills
- Sudden resistance to wear the device
- Sudden change in attention or behavior
- Constant "fiddling" with the speech processor
- Lack of progress over a period of time
- Sudden decline in progress documented over several sessions
- **Failure to meet expected goal or auditory benchmark**

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Speaker Notes: None

Monitor Progress

Use this TFS Resource to help you track progress and monitor red flags

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Monitor Progress

Responding to Red Flags

TABLE 4: HOW TO RESPOND TO ONE RAISED RED FLAG	TABLE 5: HOW TO RESPOND TO TWO RAISED RED FLAGS
☑ Share ideas with child's parent	☑ Share concern with child's parent
☑ Confirm child wears CI all waking hours	☑ Confirm child wears CI during all waking hours
☑ Contact CI Center regarding possible equipment/ programming changes	☑ Contact CI Center regarding equipment/ programming changes
☑ Assess that home/school environment creates a need for child to use the skill	☑ Utilize any 1-flag response
☑ Verify that prerequisites to a skill are adequately established	☑ Change in teaching methods/techniques
☑ Break down skill into smaller steps, and teach those steps	☑ Add sensory modality
☑ Use different materials/teach the skill in another way	☑ Consult with a colleague for new ideas
☑ Increase the intensity of training toward the skill	☑ Refer for learning profile testing
☑ Write plan of action/check every month for three months	☑ Refer to specialists to rule out additional disabilities

McConkey-Robbins, A. (2005). Clinical Red Flags for Slow Progress in Children with Cochlear Implants. *Loud & Clear!, 1,* 1-8.   TOOLS for SCHOOLS™

Speakers Notes: Response to a Red Flag depends on severity and whether or not additional concerns are also noted. A typical first response to a red flag is to focus more attention on the skill and/or break the skill down into simpler skills. If two Red Flags are noted, then the following may be warranted: a change in therapeutic plan, the addition of a sensory modality, and/or consultation with a specialist.

Monitor Progress

For some children Red Flags may indicate

- Lack of consistent device use
- The need for programming changes
- Equipment issues
- The need for a communication environment in which listening and speech are addressed appropriately on a daily basis.

McConkey-Robbins. A. (2005). Clinical Red Flags for Slow Progress in Children with Cochlear Implants. *Loud & Clear!, 1,* 1-8.

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Monitor Progress

For some children Red Flags may indicate

- An underlying cognitive issue which makes the child a slower learner
  - A multidisciplinary evaluation may provide valuable information
  - More time may be required at each level of instruction
  - These children should keep moving along the auditory continuum, even if at a slower rate.

McConkey-Robbins, A. (2005). Clinical Red Flags for Slow Progress in Children with Cochlear Implants. *Loud & Clear!, 1,* 1-8.

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Monitor Progress

Keep in Mind

- Group performance data only provide guidance for setting expectations
- Your work, ultimately focuses on the individual child
- Each child may represent the exception, not the rule
- Set and maintain expectations that take into account the unique abilities and life circumstances of each child and his or her family
- Be flexible and willing to change goals
- Know when to contact the cochlear implant center
  (Tools for Schools has forms to assist you in communicating with the cochlear implant center)

McConkey-Robbins, A. (2005). Clinical Red Flags for Slow Progress in Children with Cochlear Implants. *Loud & Clear!, 1,* 1-8.

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Create a Plan
- Set Goals and Expectations
- Auditory Integration
- Monitor Progress
- **Professional Education**
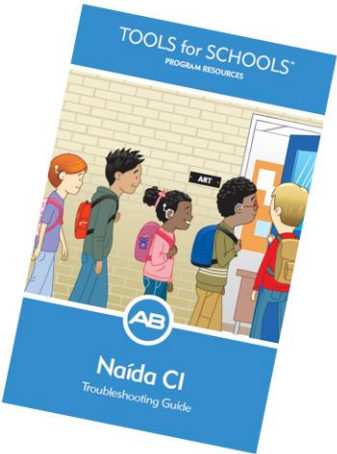
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Professional Education

- Understand what a cochlear implant is and how it functions
- Understand how to complete troubleshooting
- Know where to find support and resource materials
- Communicate with your student's cochlear implant center

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PROGRAM RESOURCES

Naída CI
Troubleshooting Guide

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Speakers Notes: Resources to learn how to use and troubleshoot Advanced Bionics sound processors are available in Tools for Schools. TFS also has forms you can download that will assist in communication with the student's CI center.

Summary

- Outcomes after cochlear implantation are individual and depend on the many factors that influence performance
- There are many ways to assist children in reaching their full potential with a CI
  - Set appropriate goals and expectations
  - Use Auditory Integration
  - Monitor progress
  - Be aware of red flags
  - Communicate with your team members at school and your CI Center
- Adjust expectations as appropriate
- Educate yourself and other professionals

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Speakers Notes: None

Her cochlear implants allow her to participate in many different Student Council activities that involve being in social settings. She feels part of a group and not like an outsider. Most importantly her friends and peers see her as Addison, the funny, kind hearted, smart young lady that she is and not the "girl with the bionic ears."
—Rachelle Blackmon, mother of Addison, bilateral AB recipient

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Speakers Notes: Rehabilitation and support are keys in the outcome. Parent involvement, specialist knowledge, and setting expectations which allow the child to grow are key elements to success.

Speaker's Notes: AB Makes it Simple for Schools! Take advantage of all the free resources offered by the Advanced Bionics Tools for Schools Program. Visit www. Advancedbioincs.com/tfs
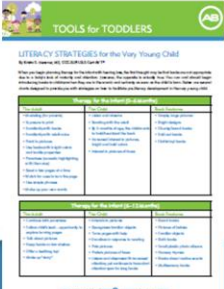
Tools for Toddlers ™ Program

Do you know about Advanced Bionics' Tools for Toddlers program (TFT ™)?

TFT provides free resources created specifically to help support early intervention and pre-school aged children.

Visit the Tools for Toddlers Program at
www.advancedbionics.com/tfs
TFT resources can be found on the lower section of the TFS page

TOOLS for SCHOOLS™

Speakers Notes: Advanced Bionics has several other resources and programs to assist you.

HearingJourney.com is an online forum for people to chat, laugh, and share stories about cochlear implants and hearing loss.

The Listening Room is a rehabilitation site where you will find a host of free, fun activities and resources to support the development of speech, language, and listening skills in people of all ages with a hearing loss.
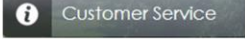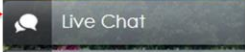
The BEA is a community of recipients, candidates and professionals who connect to promote the benefits and optimal use of cochlear implants and Advanced Bionics technology.

And you can always visit www.advancedbionics.com for materials, resources, and information.

Speakers Notes: Advanced Bionics is committed to supporting you and your child. Discover our convenient and easy to access resources and support services online or by phone.