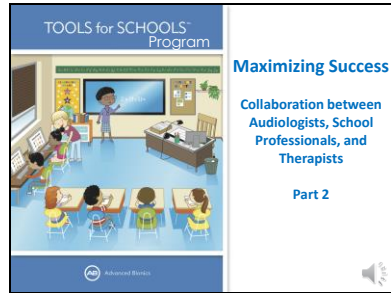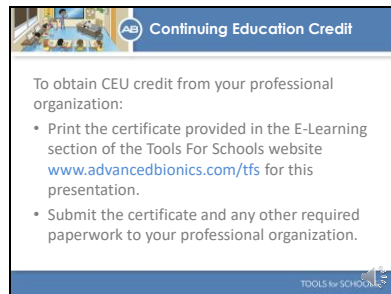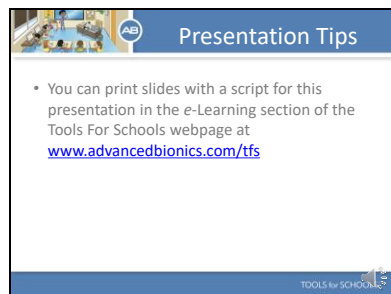Slide 1

Hello and thanks for joining us to learn more about cochlear implants. Today's presentation is part 2 of a presentation about how audiologists, school professionals, therapists, and others can work collaboratively to help students with cochlear implants maximize their success.

Slide 2

If you would like to submit for continuing education credits to your professional organization please print out the certificate of completion provided at the TFS webpage under E-Learning for this presentation. Submit the certificate with any other required information to your professional organization.

Slide 3

If you would like to print out slides and take notes, or print out a script so you can follow along with the audio, please visit the companion materials section for this presentation in the e-learning section of the TFS webpage.

Slide 4
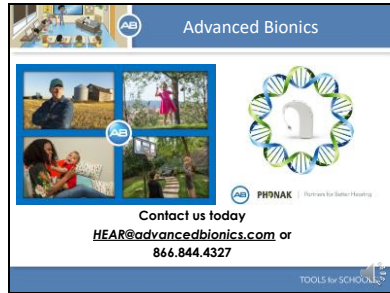
Advanced Bionics is dedicated to helping people with hearing loss hear their best. AB has partnered with Phonak.   This partnership has enabled AB to offer unique technological advances to help people with hearing loss hear better in even the most challenging listening situations. From offering technologies that grow with children as they learn to listen and make sense of the world of sound…
To helping adults get back to connecting and communicating with the important people in their lives, AB is dedicated to providing the unique hearing technologies that can help recipients achieve their hearing goals.

Slide 5
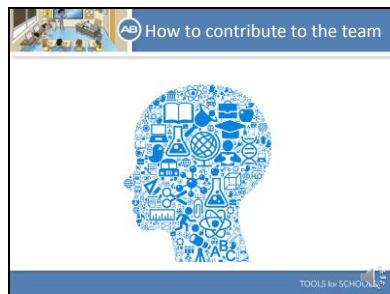
In part one of this presentation we spent time discussing each team members role and responsibilities as well as the teams responsibilities as a whole. Today we are going to focus on what knowledge and information is necessary to know in order to be able to contribute to the team and to the success of a child with a cochlear implant.

Slide 6

To maximize success all team members should have knowledge in each of the areas shown here. The value of knowledge sharing and basic competence in each of these areas will lead to optimal outcomes. Let's look at each of these areas in more detail.

Slide 7

Each team member should have a basic understanding of how the hearing system works and hearing loss. Each team member should also have a copy of the most recent audiogram. The audiogram shows the softest sounds the child is able to detect. This is especially important for the speech language pathologist as it could help explain why the child is not hearing certain sounds or is having trouble acquiring certain speech and language skills. It is also important that each team member know the results of recent speech perception testing. Speech perception testing goes beyond detection and shows how well a child is able to understand words and sentences through hearing alone. Your expectations for a child who is able to hear 90% correct on a speech perception test will most likely be different then your expectations for a child who is able to hear 50% correct on a speech perception test.

Slide 8

Shown here are resources that would be helpful for team members who are new to hearing loss. Here you see the Tools for Toddlers piece Understanding Hearing Loss. This piece provides a basic understanding of the normal hearing system, hearing loss, hearing testing, and how to interpret and audiogram. This is a great piece to share with a mainstream teacher who is new to working with children with hearing loss. Also pictured is the Audiogram of Familiar Sounds. This is a great place to plot a child's hearing loss to help those who work with the child clearly understand what they can and can't hear both with and without a cochlear implant.

Slide 9

Team members should also have a basic understanding of auditory skill development. According to Norm Erber, there is a four step process, or order, for auditory skill development called the Auditory Hierarchy. The triangle shown here illustrates the order of the 4 steps. Children begin by being able to detect sound and then gain skills in discriminating between sounds. Soon they are able to identify sounds and finally they are able to comprehend sounds and engage in conversation. Team members should have a basic understanding of how the auditory system develops so that each team member has appropriate expectations for performance.

Slide 10
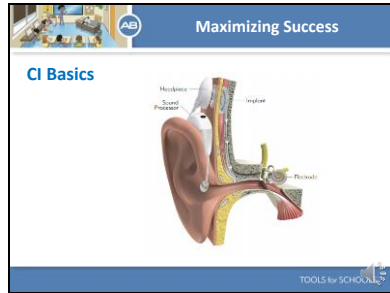
Each team member should also have a basic understanding of how a cochlear implant works. Tools for Schools has many resources to assist team members in learning these concepts. Look in the companion materials section of this presentation for pdf documents that can be easily printed and cover topics such as how a CI works and the specific technology that helps children who use an Advanced Bionics device hear their best. You can also find a video that shows how a cochlear implant functions at www.AdvancedBionics.com.

Slide 11
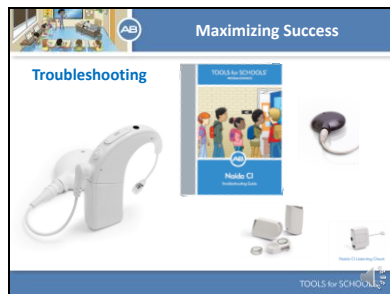
Additionally, each person on the team should have a basic understanding of the equipment and how to complete troubleshooting. Be sure to keep a troubleshooting kit with spare equipment in the classroom so items that are not working properly can be switched out on the spot. The Tools for Schools program has several easy to print troubleshooting guides that can be kept in the classroom to assist with troubleshooting. These guides provide a list of recommended equipment for the classroom. You can also view the webinar on Troubleshooting the Naida processor if you have not done so already.

Slide 12

Maximizing Success

Behavioral Listening Check
- Complete Everyday!
- Only way to determine if child is hearing well on a daily basis
- Record Results
- Note any changes that may indicate the need for troubleshooting or further evaluation

TOOLS for SCHOOLS

One of the most important aspects to maximizing success is establishing a routine for daily listening checks. . Listening checks should be completed each and every day. Listening checks verify the child is hearing well and that there have been no negative changes to what sounds the child has access to. Parents should complete a listening check in the morning. The school should also identify one individual who will be responsible for daily listening checks. You must keep a daily record of the results as this allows you to note any changes in baseline performance. A change in performance will alert the team member that there is an issue and result in troubleshooting or further evaluation. Perhaps there is an equipment problem, such as a cable that needs to be replaced. Or perhaps the child is set to the wrong program. Either way, a daily listening check is important and necessary as it is the only way to determine if the child is hearing their best on a daily basis. Tools for Schools has several resources to assist you with completing a daily behavioral listening check such as the Behavioral Listening Check tracking form shown here. Consider creating a folder to keep tracking sheets in or pinning to a bulletin board for easy reference.

Slide 13

Some of you may be wondering how to complete a behavioral listening check. The Ling 6 Sound check is a quick and easy-to-use tool that evaluates how well children are hearing with their cochlear implant and/or hearing aid. The test is a behavioral listening check that uses simple sounds to detect changes in the quality of a child's hearing. These sounds represent speech in the low, mid, and high frequencies and broadly represent the sounds needed to hear spoken language. When completing a listening check it is important to consider periodically evaluating different listening conditions such as doing a check of what the child can hear with each individual CI if the child is implanted bilaterally or how well the child is hearing with the HA alone if the child is bimodal. A behavioral listening check should also be used to verify that the child's Roger or FM system is working appropriately from a distance.

If you would like to learn how to complete this check print out the pdf titled the Ling 6 sound instructions in the companion materials section for this presentation.

Slide 14

Maximizing Success

Team Approach to Programming

It is imperative that parents, school professionals, and therapists provide input and feedback to the programming audiologist

It is also imperative that a team approach be taken toward programming. Parents, teachers, therapists, and other school professionals spend a tremendous amount of time with a child compared with the few hours that the programming audiologist sees the child every four to six months. These team members must *provide input and feedback to the audiologist* to ensure that the child receives an optimal program to bring back to the classroom and therapy.

This process starts with all team members being aware of upcoming programming appointments. Tools for Schools has a school input form that helps team members communicate information to the programming audiologist. It asks for input on such things as how consistently the child wears the device, how well the child seems to hear with the device, if there have been any changes in performance and more. Team members who can regularly observe the child's performance in different environments can provide valuable input that is crucial to the overall success of the child. Let's look in more detail at information it is helpful to share with the programming audiologist.

Slide 15

Maximizing Success

What should you share?
- Device Usage
- Program Settings
- Volume Issues
- Equipment issues
- Difficult Environments
- Speech & Language Progress
- Academic Progress
- Roger/FM

TOOLS for SCHOOLS

Here is a summary of information to share with the programming audiologist. Ideally the child should be wearing his or her device during all waking hours. Let the audiologist know if this is not the case or if the child is resisting device use. Provide input on what programs and settings the child uses. Have there been any recent changes such as the child always prefer program 2 instead of 1. Does the child consistently ask for more volume or does the child consistently report sound is too loud? Do you have any concerns about any of the equipment for example, does the head piece fall off all day long or does the cable look frayed? Are there any environments that are especially challenging for the child such as the cafeteria? How well does the child hear in quite compared with noise? Is the child making appropriate progress in his or her speech, language, and academic skills. Does the child report any issues when using Roger or FM technology? All of this information is important and will assist the programming audiologist in creating the best program possible.

Slide 16

Finally the last topic I want to discuss regarding maximizing success is the responsibility of team members to refer children back to the programming audiologist for concerns. Here are reasons to refer back to the audiologist: if the child is not making expected progress, if there are sudden changes in any areas related to hearing, or if there is an equipment issue that can not be resolved through basic troubleshooting. Let's talk about each of these in more detail.

Slide 17

Let's begin by discussing a lack of expected progress. As we discussed in part 1 of this presentation it is important to have a clear understanding of the expectations for a child's performance after receiving his or her cochlear implant. We must know this information, to determine if a child is not making progress so we can make appropriate referrals. One way to ensure goals are clear to all team members is to include them in the child's IEP. Another resource you can use is the Tracking Auditory Progress and Identifying Red Flags form from Tools for Schools. This tool demonstrates clearly what a child should be doing at each stage after implantation. Let's take a closer look.

Slide 18
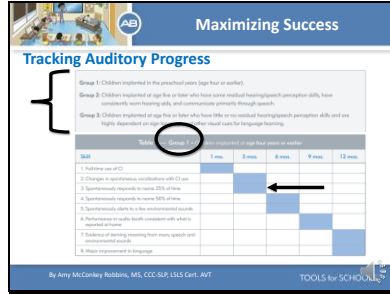
Here you see a portion of the Tracking Auditory Progress form. Auditory benchmarks for performance have been established independently for three groups of children based upon research findings and clinical experience. The three groups are broken down as you see here. Children implanted in the pre-school years. Children implanted at age 5 or older who have used amplification and communicate orally and children implanted at age 5 or older who had little exposure to sound and speech. The chart shown here indicates the benchmarks for children from group 1. The blue squares indicate the typical time post implantation that a child from group one acquires that particular skill. So for example, 3 months post implantation, a child from group 1 should be responding to his or her name through listening alone at least 25% of the time. If a child from group one has not met this benchmark this would be considered a red flag. Team members should be familiar with the benchmarks for progress in typical children with implants so they are comfortable making a referral when a child's performance lags behind that of his/her peers. Let's talk more about identifying red flags.

Slide 19

A red flag is a concern that is raised over a child's inadequate progress with a cochlear implant. A Red Flag is not a diagnosis of a problem but an indication that increased attention needs to be given to a specific skill area. The severity of the concern depends on the length of the delay and the number of sills delayed.

Slide 20

There is little value in raising a Red Flag for a listening skill unless we can suggest ways to monitor and improve that skill. The chart you see here is included on the Tracking Auditory Progress Form and provides suggestions on how to respond to Red Flags. For example, for a child who is exhibiting one red flag one suggestion is to verify the prerequisite skill has been established or breakdown the skill into smaller steps and reteach the skill. I think you will find the Tracking Auditory Progress form helpful in guiding you as you monitor performance and make decisions about referrals.

Slide 21

Now let's talk about changes that may lead to a referral. Parents and school professionals are typically the first to note when there has been a change as they interact with the child on a regular basis. Here are things to consider Have there been any changes in sound awareness. Have there been any changes in behavior. Does the child suddenly seem to be struggling to understand or even produce certain sounds. Does the child suddenly require a change to the processor setting to hear. As we discussed earlier, a listening check is the best way to monitor many of these types of changes and should be completed and tracked every day.

Slide 22

Here are some indications that there has been a change in sound awareness. I'll give you a moment to read these over.

Slide 23

And here are some changes in behavior that may be associated with decreased ability to hear. Again, I'll give you a moment to read these over.

Slide 24

If you notice that the child is making speech substitutions or distortions, that the student's speech sounds unclear, there is a change in voice quality, or any of the additional points listed here a referral back to the audiologist should be considered. Ill give you a moment to read these over.

Slide 25

Changes to consider may also be related to the child's equipment. A child may need to be referred back to the programming audiologist if basic troubleshooting has been unable to resolve any of the following issues: the child consistently wants to change the settings to their processor, he or she is complaining sound is intermittent, or he or she constantly adjust the headpiece. Additionally, a referral should be made if the LED indicates there is an issue that is not resolved through basic troubleshooting.

Slide 26

By now you probably guessed that Tools for Schools has a form you can use to make referrals. You can find the Tools for Schools Audiology Referral form in the companion materials section for this presentation.

Slide 27

One word about referrals. Keep in mind it is not always the program or equipment that is the issue. Consider if there have been any significant changes at home or in the classroom. Also, sometimes other health issues may result in a temporary set back in performance. Additionally, fatigue and stress may also play a roll in performance. It is important to take always take a step back and take a look at the child as a whole.

Slide 28

And finally, just a quick reminder before we wrap up that both the Tools for Toddlers and Tools for Schools programs have a tremendous amount of resources to assist you in managing students who use cochlear implants. Please take advantage of these free materials. I hope you have enjoyed today's presentation. Have a great day.