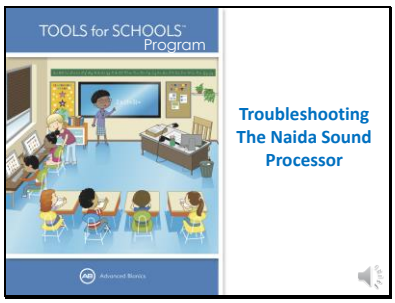
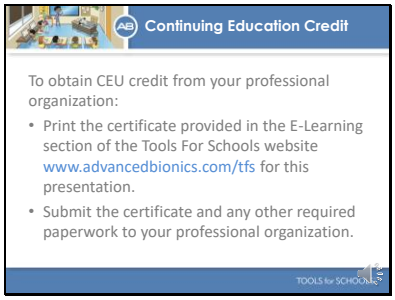
Slide 1



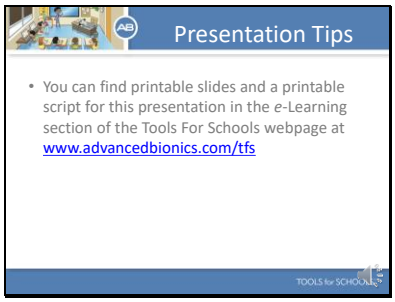
Hello and thanks for joining us to learn more about cochlear implants. Are you feeling like you need more information about how to manage a student's cochlear implant? You may be feeling a bit intimated about having to oversee your student's equipment and complete troubleshooting. You may just need a review on these topics. Either way, you will benefit from Today's presentation as we review how to troubleshoot the Naida Processor.

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 website under E-Learning for this presentation. Submit the certificate with any other required information to your professional organization.

Slide 3

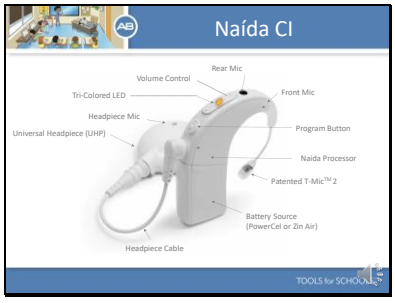


If you would like to print out slides and take notes, or print out a script so you can follow along with the audio for this presentation, please visit the e-learning section of the TFS webpage. Both are located in the companion materials section for this presentation.

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



Before we begin let's take a moment to quickly review the parts of the Naida processor. For more detailed information please view the webinar titled Naida Overview.

- Here is the Naida Processor.
- At the bottom of the processor is the power source. Here you see one of the Power Cel rechargeable batteries.
- Here you can see the Universal Headpiece (UHP) and the headpiece cable.
- The round button located near where the UHP attaches to the processor is the Program Button.
- The Volume Control is located directly above.
- You can see here that the Naida's LED is located in the center of the volume control.
- There are also several microphones on the Naida processor. The front and rear microphone as well as the T-Mic and headpiece mic.

Slide 6

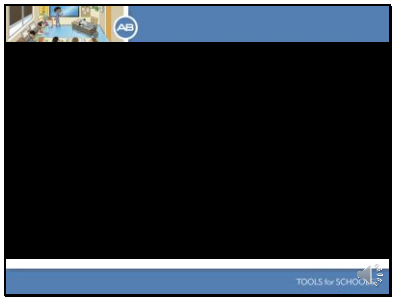
Here are the topics we are going to discuss today. Basic Troubleshooting Steps,
Indicators for System Checks and Troubleshooting, and
Troubleshooting Scenarios.

Slide 7

Here is the equipment you should keep at school to be able to effectively manage and troubleshoot your student's equipment. Cables are always the most vulnerable to breakage so be sure your student has several extras. Having a spare headpiece is also a good idea. Additionally, the simplest and most cost-effective way to troubleshoot power issues if a rechargeable battery is not available is with our Zinc-Air battery cartridge and 675 batteries. Also listed is our listening check system with enables you to listen to the microphones on your student's

processor. Additionally, it is recommended that you have compressed air available to clean the processor and battery contacts. Compressed air is commonly used to clean electronics and can usually be purchased at an office supply store or any store that sells electronics.

Slide 8



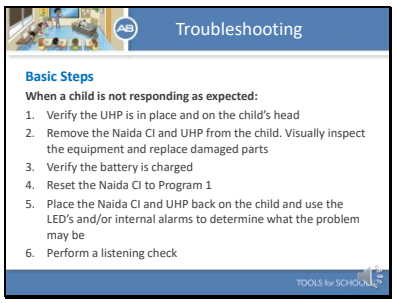
Here is a short video on how to use compressed air to clean the processor.

Slide 9

The basic equipment will help you in most situations, however, if you would like to be able to do more extensive troubleshooting you may want to consider also having this additional equipment on hand.

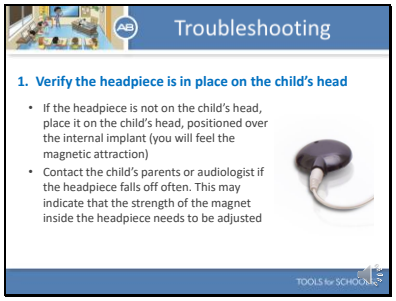
A PowerCel™ 170 battery
A PowerCel™ charger
A Zephyr Dry & Store
A T-Mic™ 2

Slide 10



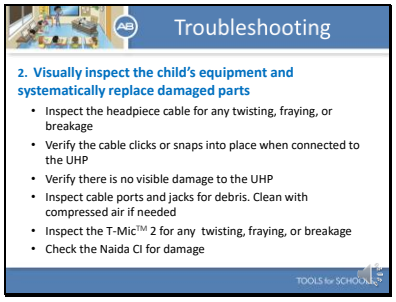
There are a set of basic steps you can follow when a student is not responding as expected. I'll give you a moment to read them over. Over the next few slides we will go through each step in more detail.

Slide 11



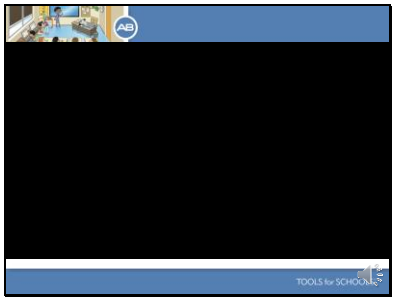
The first step is always to verify the headpiece is in place on the child's head. Reposition the headpiece if it has fallen off. If you find the child's headpiece is falling off often, contact the child's parent and CI audiologist. The headpiece connects to the internal device through a magnet and the audiologist can adjust the strength of the magnet to ensure better retention. Keep in mind it is normal for the headpiece to fall off every once in a while, especially if the child is being very active

Slide 12



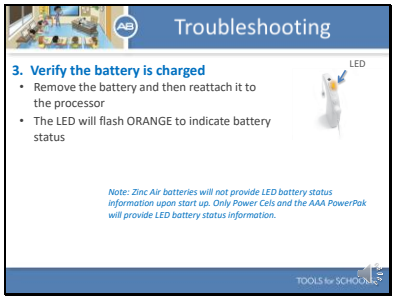
Once you have verified the headpiece is in place you should visually inspect the child's equipment to see if there are any damaged parts. Again, the cables are the most vulnerable to damage. You can sometimes see that the cable is kinked or frayed and needs replacing. Check that the cable snaps into place as it should and that there is no damage to the headpiece. Clean all ports with compressed air to eliminate any build up. Inspect any additional parts such as the T-Mic and the processor itself.

Slide 13



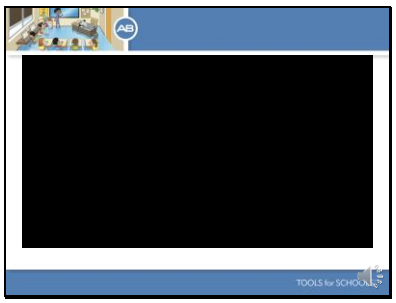
Let's watch a short video that shows you how to disassemble the UHP and cable from the processor.

Slide 14



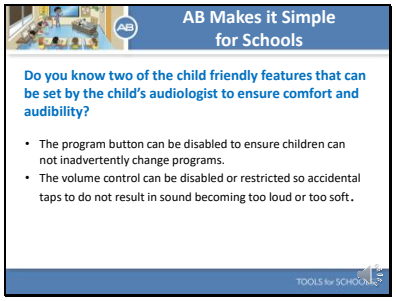
Next you should verify that the battery is sufficiently charged to power the processor. You can use the Naida's LED determine this. Slide the battery off and then back onto the Naida CI. The LED will flash orange to indicate how much charge it contains. 3-4 orange blinks indicates the battery is sufficiently charged to power the processor. If necessary replace the battery with a fully charged one.

Slide 15



Here is a short video that shows you how the Naida LED indicates battery status.

Slide 16

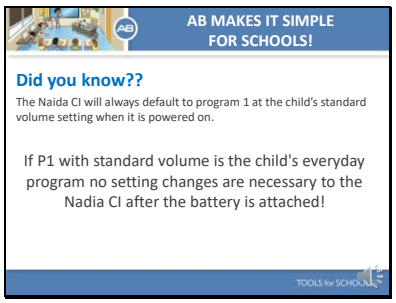


Let's pause here for a moment to talk about some of the child friendly features of the Naida processor. Did you know the audiologist can disable the program button so children cannot fiddle with their processor and make program changes? The audiologist can also disable or restrict the volume button so there is no chance children can accidentally make sound too loud or too soft.

Slide 17

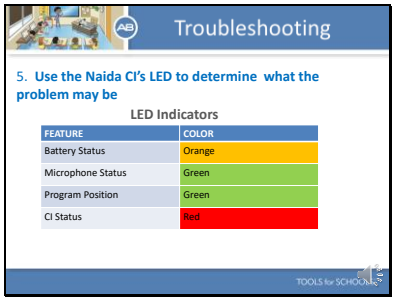
If you have completed the steps we have discussed and the student is still having trouble it is always a good idea to do a re-set. This is similar to shutting off and back on our phone when it is not functioning properly. Re-setting the Naida to Program 1 can often resolve a troubleshooting issue and is easily done by detaching and reattaching the battery.

Slide 18



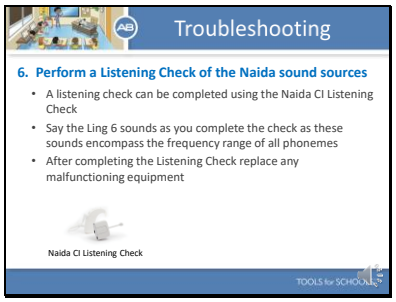
I want to take a moment to highlight one of the points we just discussed as it is a great feature of the sound processor. The Naida will always default to program 1 at the child's standard volume setting when powered on. This is great news as most children use P1 as their standard everyday program. So once you attach the battery no further changes are necessary.

Slide 19



If you are still unable to resolve the issue you can use The Naída's LED to determine what the problem may be. The Naída's LED provides important information about CI status, battery life, program position, audio input, and error conditions. The LED indications are grouped by color: orange for battery status, green for microphone and program position, and red for CI status. We will discuss these in more detail later in this presentation.

Slide 20

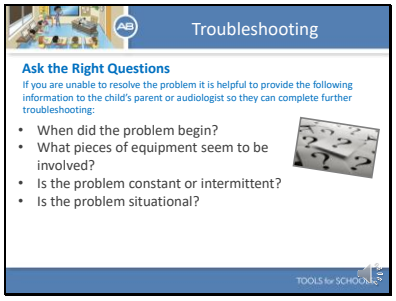


You can also complete a listening check of the Naida. To do this you will need the Naida CI Listening check. A listening check can reveal things like poor sound quality from a particular microphone or a cable that is cutting in and out. It is important to say the Ling 6 sounds as you complete a listening check to verify that all the sounds of speech are being heard clearly. After completing the listening check replace any malfunctioning equipment. We will discuss how to use the listening check in more detail in just a bit.

Slide 21

Since we were just talking about the Ling 6 sounds I wanted to make sure to tell you about the FREE instructions and flash cards AB offers so you can complete the Ling 6 Sound assessment with your student's. It is a great way to verify your student is hearing as they should each and every day.

Slide 22

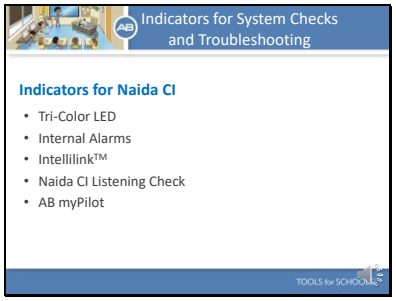


So, what happens if you cannot resolve the issue? It is very helpful if you can ask questions and share the answers with your student's parents and CI team. This information will help your student's audiologist complete further troubleshooting.

Slide 23

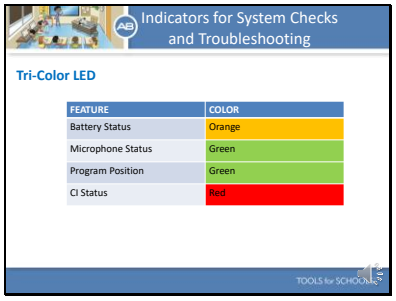
Now let's move on and talk in more detail about the indicators the Naida processor has to assist with system checks and troubleshooting.

Slide 24



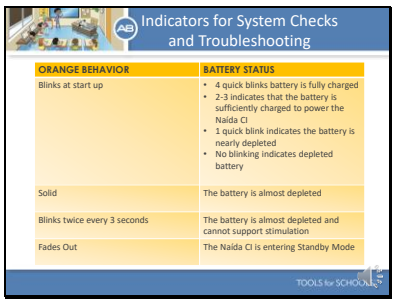
You can see here the Naida has many diagnostic indicators that can assist with troubleshooting. Let's talk about each one in more detail.

Slide 25



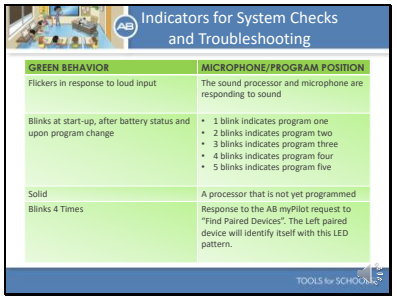
As we discussed earlier, the Naida's LED provides important information.
Orange indicates battery status
Green indicates microphone status and program position
Red indicates CI Status

Slide 26



The Orange LED indicates battery information. The orange LED blinks at startup to indicate if the battery is sufficiently charged to power the processor. Four blinks means the battery is fully charged. Two to three blinks means the battery is sufficiently charged and one blink means the battery is nearly depleted. I'll let you take a moment and read the other indicators listed here.

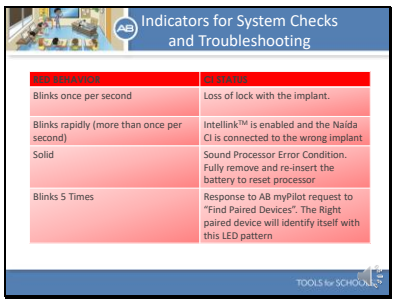
Slide 27



The green LED indicates the microphone is functioning properly when it flickers in response to loud sounds. This is a programmable feature so it may not be active in a child's processor. You will need to contact the child's parents or audiologist to determine if this feature is active.

The green LED also will indicate which program is active by the number of blinks it displays either after the orange battery status sequence or upon changing a program. I'll give you another moment to read some of the other information the green LED indicates.

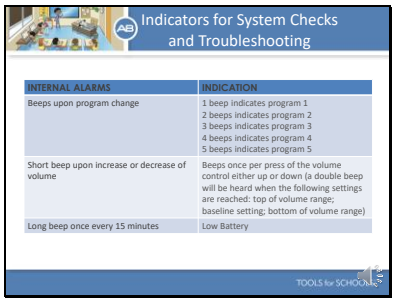
Slide 28



The red LED indicates CI status. One red blink per second indicates loss of lock or connection with the internal implant. This can happen if the headpiece has fallen off or if a cable is no longer working. Confirm the headpiece is attached to the child's head or verify the UHP cable is intact and firmly attached to the processor and headpiece.

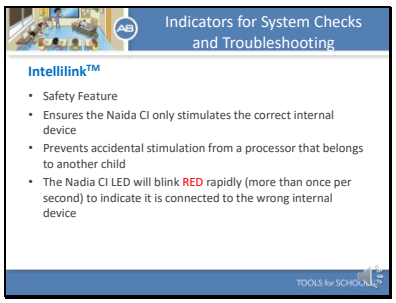
Rapid red blinks indicate the Naida is connected to the wrong internal implant. I'm sure some of you have students who would switch out processors to be funny. This could be a bad situation as different people have very different needs in terms of loudness. However, because of the Naida's Intellilink system, the processor is not able to stimulate the wrong internal device. Sometimes when troubleshooting you may see A solid red LED. This indicates an error condition. Fully remove and reattach the battery to reset the Naida.

Slide 29



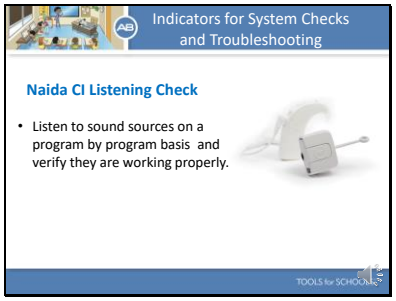
In addition to LEDs which are great for pediatrics, the Naida also ha Internal alarms that provide the user with important information. They are a discreet way for adults and older children to get information about battery status, program number, and volume level. You can see here what the different internal alarms indicate. This feature is typically only active for older children and adults.

Slide 30



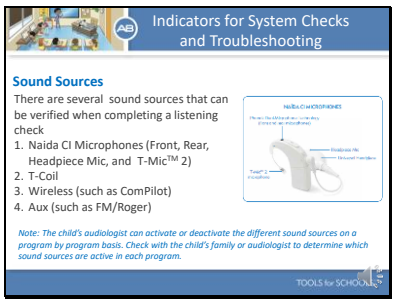
We just touched on this but I want to discuss it in more detail. , Intellilink ensures the Naida CI only stimulates the correct internal device. It prevents accidental stimulation from a processor that belongs to someone else. The Naida CI LED will blink RED rapidly to indicate it is connected to the wrong internal device.

Slide 31



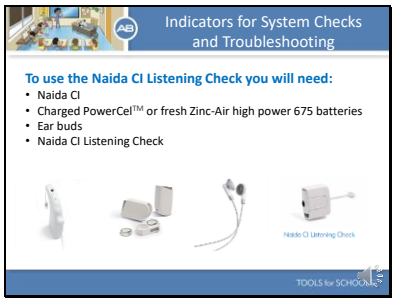
Let's move on and talk about the Naida CI Listening Check. The Naída Listening Check is a special accessory that allows you to check the Naida's microphones and other sound sources. It allows an unaided listener to listen to the exact sound source configurations the child is using on a program by program basis. For example, let's say a child's everyday program is set to the T-Mic. I notice that this child is having a hard time hearing "s" when I complete a listening check in the morning. This child is young and cannot provide good feedback about what the issue is so I decide to use the listening check. I connect the LC and set he processor to program one. I can now hear the clarity of sound through the T-Mic. I say each of the Ling sounds and realize that the "s" sound is inaudible. This verifies the issue is a T-Mic problem. I can swap the T-Mic out for a new one if I have one or contact the child's parents and CI team.

Slide 32



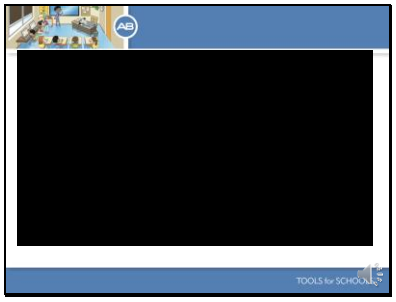
There are several sound sources that can be verified when completing a listening check. It just depends on which sound sources are enabled for a child's program. Here are the sound sources you can verify. The four CI microphones Front, Rear, Headpiece Mic, and T-Mic. The T-coil, Wireless such as sound streaming through a ComPilot, and Auxiliary sound sources such as FM/Roger.

Slide 33



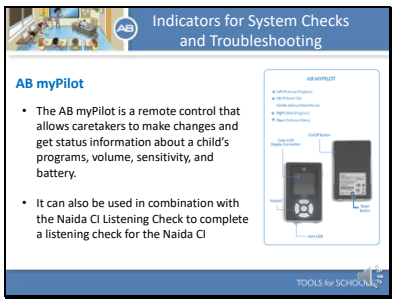
You will need the following equipment to use the Naida CI Listening Check. Since the listening check uses the Naida power source for power it is a good idea to use a freshly charged battery. You will not be able to complete the check if your power source is depleted.

Slide 34



Let's watch a short video that shows how easy it is to use the Listening Check.

Slide 35

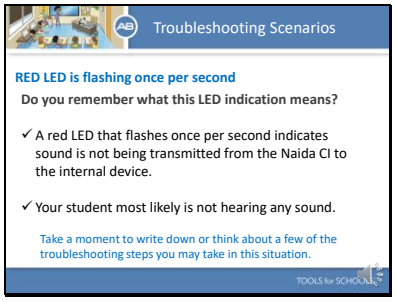


The last thing I want to talk about for this section of the presentation is the AB myPilot. The AB myPilot is a remote control that can be used to make changes to processor settings, get status information, and also be used in combination with the listening check. To learn more about how to use the AB myPilot, please visit the companion materials section for this presentation on the Tools for Schools webpage.

Slide 36

We have discussed different way you can troubleshoot but you may be wondering how to apply this information to specific situations. In the next few slides we will discuss some real-world troubleshooting scenarios.

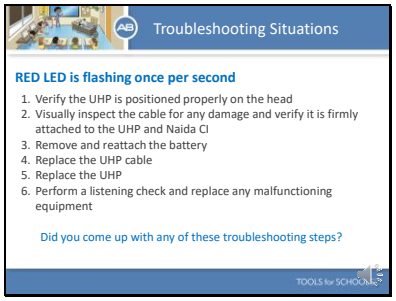
Slide 37



In this first situation your student is not hearing anything or the red LED is flashing once per second.
Do you remember what this LED indication means? I'll give you a second to think about it.

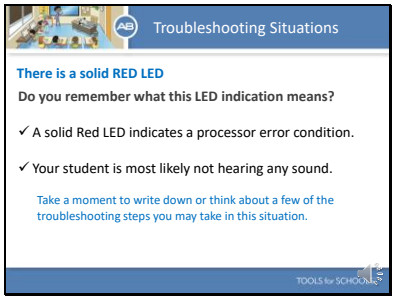
A red LED that flashes once per second indicates sound is not being transmitted from the Naida CI to the internal device.
Your student most likely is not hearing any sound.
Take a moment to write down or think about a few of the troubleshooting steps you may take in this situation.

Slide 38



Here are some recommended troubleshooting steps. I'll give you a moment to read through them. Did you come up with any on this list?

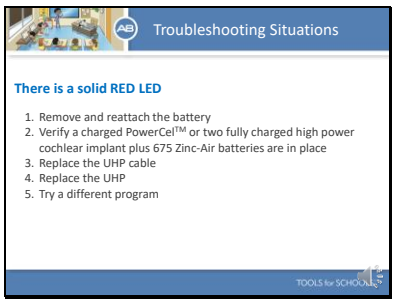
Slide 39



In this next situation, your student's Naida processor has a solid red LED. Do you remember what this LED indication means?

A solid Red LED indicates a processor error condition.
Your student is most likely not hearing any sound.
Take a moment to write down or think about a few of the troubleshooting steps you may take in this situation.

Slide 40

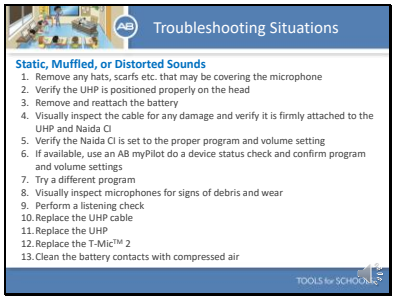


Did you come up with any of the steps on this list?

Slide 41

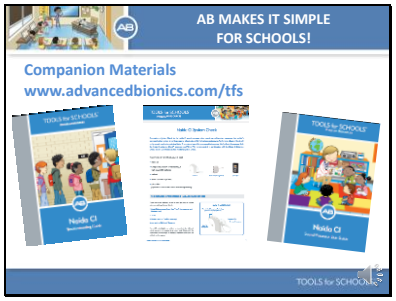
Let's do one more. This is a pretty common troubleshooting situation. I've put some hints on this slide for you to think about as you consider what steps to take.

Slide 42



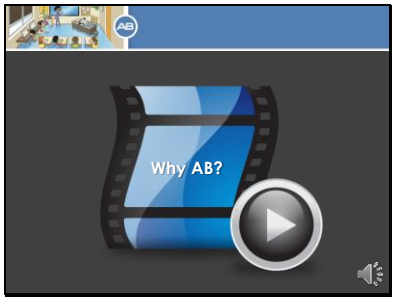
A change in sound quality can be caused by several factors. It can be something as simple as the processor being set on the wrong program or something more intricate such as debris collecting on the microphone. This slide lists many suggestions for how to troubleshoot this issue. If the issue cannot be resolved use a backup Naida CI (if available) and call the student's parents so they can alert the student's cochlear implant audiologist. I'll give you a moment to read through these.

Slide 43



I hope you feel the information in today's presentation was helpful. If you are like me you will not be able to recall anything on that very day your student comes to you with an issue. Well I have good news. All the information presented today is available in concise guides that can be kept in the classroom and consulted when needed. You can easily download and print them at www.advancedbionics.com/tfs.

Slide 44



Let's end our discussion today with a short video featuring kids who are benefiting from cochlear implants.

Slide 45

Finally, before we wrap up this presentation I'd like to share a FREE resource offered by Advanced Bionics. The TFS and TFT programs offer everything you need to educate yourself and support students with CI's. Make sure to visit the webpage and take advantage of all our free resources. Thanks for joining us today.