

## Troubleshooting a nonfunctional cochlear implant

You may suspect the child's equipment is not functioning properly if he or she was unable to complete the Ling Six Sound Test, or because the child misses key classroom information. Simple troubleshooting can restore the cochlear implant's functionality. Some parents may prefer to troubleshoot the cochlear implant themselves. In this case, call the parents when a malfunction occurs and wait for them to come to the classroom. (Ask parents which approach they prefer at the beginning of the school year.)

### Strategies

To troubleshoot, you will check the external components of the system, which include the batteries, cables/wires, transmitter/headpiece, microphone, and speech processor. At the start of the school year, ask the parents to demonstrate minor repairs to the child's cochlear implant. If the parent fails to provide this information, then ask the audiologist in your school district for information. You may also visit the website of the cochlear implant manufacturer for more information on troubleshooting and replacement parts. Develop a plan for what you will do if the cochlear implant fails to work after you complete these troubleshooting steps:

- **Check the batteries and replace if needed:** The longevity of cochlear implant batteries varies considerably by the type of cochlear implant, type of batteries used, and amount of input being processed by the cochlear implant. Some processors and/or microphones have a low-battery indicator. This indicator may be an icon on the processor display window, a flashing light near the microphone, or an audible beep.
- **Check the cables and replace if needed:** Cochlear implant cables get worn, frayed, and kinked quite quickly. Poor quality cables can cause the child to get a distorted signal, an intermittent signal, or no signal at all. Replace any cables that show signs of wear.
- **Try resetting the program:** Turn off the processor, wait 10 seconds, and then turn it back on. Resetting the cochlear implant can get things working properly.
- **Examine the transmitter/headpiece and microphone:** Parents may provide you with a "wand" to use to determine if the signal is reaching the transmitter/headpiece. You may also have to use a listening microphone to see if the microphone is working. If you have these tools, conduct a check and then follow the parents' instructions for fixing the component.
- **Check the FM system connection:** If the child with a cochlear implant uses an FM system, you may need to troubleshoot it to ensure the FM system is working properly and the connection to the child's cochlear implant is correct. Check the connection and the frequency settings. If you are unable to find or fix a problem with the FM system, turn it off and contact

the child's parents, audiologist, the cochlear implant manufacturer, or another resource who can address the problem.

- **Do not panic:** You may find that you are unable to troubleshoot the cochlear implant. In such instances, you should alert the child's parents, turn off the cochlear implant, and continue teaching. Do your best to ensure that the child with the cochlear implant understands what is happening.

Remember that there may be more than one faulty component, so troubleshoot each one.

#### List of backup cochlear implant equipment

At the start of the school year, the parents should supply you with all backup equipment you may need. If the parents forget, or do not provide you with these supplies before the school year starts, remind them that without these supplies you will be unable to assist the child should the cochlear implant malfunction at school.

- **Replacement parts – batteries, cables, and transmitters/headpieces:** Ask the parent to provide several sets of spare batteries. Keep several sets in the classroom, and put at least one set in the child's backpack in case the batteries die while you and the child are away from the classroom. If the child uses rechargeable batteries, then you may find it helpful to have a battery tester and charger in the classroom. You still will need extra batteries, because charging can take several hours. Also, keep extra cables and transmitters/headpieces on hand in case these components stop working.
- **Troubleshooting devices:** A "wand" to ensure the transmitter/headpiece is functioning and a listening microphone to check the child's microphone.
- **Additional helpful troubleshooting resources that you may be provided:** A map card, provided by the audiologist who programs the child's cochlear implant, gives brief information on program settings, volume, and sensitivity levels. This document may help you reset the settings on the cochlear implant if they are accidentally adjusted.
- **Contact information for the person who can assist you in case of a technical problem you cannot solve:** This may be a parent, audiologist, or itinerant teacher for deaf children. If your troubleshooting of the cochlear implant is unsuccessful, either you or one of the administrators should call this person for assistance.