

APPENDIX A**ACCOMMODATIONS: AUDITORY**

Please refer to Appendix F for glossary definitions.

Students with cochlear implants, similar to those with hearing aids, require specific auditory accommodations in order to appropriately make use of the communication used in the classroom to be able to access the curriculum in the educational setting. Attending to auditory information for learning requires a great deal of energy and can result in auditory overload. These accommodations are offered as a way to reduce the students' need to divide their attention between teachers, peers, handouts, slides, etc.

Students who use cochlear implants may experience significant difficulty accessing spoken information in learning environments, especially where background noise is present. Consideration of classroom acoustics is crucial. Accommodations may be necessary to improve listening conditions in order to avoid auditory fatigue and improve a student's ability to listen for meaning.

The following guidelines for auditory accommodations are provided as a support to the educational teams as they identify the specific accommodations best suited to an individual student's access needs when developing the IFSP/IEP/504 plan. As is developmentally appropriate, educate and involve the student in these discussions and decisions regarding accommodations. Additionally, appropriate accommodations for a student may change over time. As such, it is critical to monitor the student's access needs on an ongoing basis.

CLASSROOM ACOUSTICS*Reverberation and Noise*

School teams can successfully manage the acoustics in the learning environment by addressing reverberation (echo), noise, and distance through:

- using acoustic tiles on ceilings (ideally no higher than 10 feet);
- using sound-absorbing floor treatments (e.g., carpeting);
- using window treatments to reduce background noise;
- using sound absorption panels or acoustic wall coverings to reduce reverberation of low HVAC noise levels;
- monitoring noise from sources such as the water fountain, the aquarium, computers, HVAC systems, and fans;
- closing classroom windows and doors to dampen ambient noise from hallways; and
- placing rubber guards at the base of doors to reduce noise from the hallway.

In addition, settings such as the school auditorium, cafeteria, gym, and art room can be monitored by the educational audiologist, who can then make recommendations for accommodations that enhance communication access. The gym, for example, is a loud environment where use of sound-absorbing materials (e.g., rugs, curtains) may not be possible.

Distance and Noise

- The distance between the teacher and the student can be adjusted to reduce the weakening of the auditory signal.
- Consider preferential seating, keeping in mind on which side of the student's head the implant processor microphone is located if the student has a single implant. It is important to include the student's input, whenever possible, when making these seating decisions. In general, being seated at the front of the classroom, in the center of the class, is not the most appropriate placement. Seating in a semi-circle is optimum, with the student seated at one end with his or her best ear towards classmates, thereby allowing both seeing and hearing the teacher and classmates.
- Offer natural listening breaks throughout the day to reduce auditory overload.
- Institute a "one-voice rule" in the classroom, meaning only one person is allowed to speak at a time and the person speaking is identified by name.
- Provide in-service training to all specialty area teachers regarding strategies to ensure access to communication and instructions in challenging listening environments.
- Identify and train a staff member on how to troubleshoot any auditory equipment utilized by the student.
- Recommendations can be sought from the student's audiologist regarding the fitting of an FM system that is compatible with the student's speech processor. Provision of a personal FM system, and/or a classroom/sound field infrared or FM system, can reduce the negative effects of background noise, reverberation, and distance from the teacher during instruction. This microphone can be passed to each speaker in the classroom to allow the student to hear peer input as well as time to visually locate and attend to peers when they speak.
- Broadcast the Internet, movies, and/or music through the student's FM system when using a computer, SMART technology, or a CD player.
- Assistive devices are appropriate to use during special classes and events (e.g., gym, assemblies), not just in the classroom.

RESOURCES

Students with Cochlear Implants: Guidelines for Educational Program Planning—<http://clerccenter.gallaudet.edu>

Classrooms

Quiet Classrooms—www.nonoise.org. This site offers an on-line version of a booklet called *Classroom Acoustics: A Resource for Creating Learning Environments with Desirable Listening Conditions*.

Acoustical Society of America— <http://asawebdev.devcloud.acquia-sites.com>. This site offers additional technical information about classroom acoustics.