Chapter 6 - Hearing Impairment

Definition under IDEA of Hearing Impairment

The Individuals with Disabilities Education Act (IDEA) includes "hearing impairment" and "deafness" as two of the categories under which students with disabilities may be eligible for special education and related services programming. While the term "hearing impairment" is often used generically to describe a wide range of hearing losses, including deafness, the regulations for IDEA define hearing loss and deafness separately.

Under the federal law, a hearing impairment is defined by IDEA as "an impairment in hearing, whether permanent or fluctuating, that adversely affects a student's educational performance."

Deafness is defined as "a hearing impairment that is so severe that the student is impaired in processing linguistic information through hearing, with or without amplification."

Overview of Hearing Impairment

Deafness and hearing loss may be defined according to the degree of hearing impairment, which is determined by assessing an individual’s sensitivity to loudness (sound intensity) and pitch (sound frequency). Sound is measured by its loudness or intensity (measured in units called decibels, dB) and its frequency or pitch (measured in units called hertz, Hz). The range of human hearing is approximately 0 to 130 dB.

Impairments in hearing can occur in either or both areas, and may exist in only one ear or in both ears. Hearing loss is generally described as slight, mild, moderate, severe, or profound, depending upon how well a person can hear the intensities or frequencies most greatly associated with speech. Generally, only students whose hearing loss is greater than 90 decibels (dB) are considered deaf for the purposes of educational placement (Drew, Hardman, & Egan).

According to The National Dissemination Center for Students and Youth with Disabilities, there are four different types of hearing loss:

(1) Conductive hearing losses are due to the effects of diseases or obstructions in the outer or middle ear (the conduction pathways for sound to reach the inner ear). Conductive hearing losses usually affect all frequencies of hearing evenly and do not result in severe losses. A person with a conductive hearing loss usually is able to use a hearing aid well or can be helped medically or surgically.

(2) Sensorineural hearing losses result from damage to the delicate sensory hair cells of the inner ear or the nerves which supply it. These hearing losses can range from mild to profound. They often affect the person's ability to hear certain frequencies more than others. Thus, even with
amplification to increase the sound level, a person with a sensorineural hearing loss may perceive distorted sounds, sometimes making the successful use of a hearing aid impossible.

(3) Mixed hearing losses refer to a combination of conductive and sensorineural loss and means that a problem occurs in both the outer or middle and the inner ear.

(4) Central hearing losses results from damage or impairment to the nerves or nuclei of the central nervous system, either in the pathways to the brain or in the brain itself.

Prevalence of Hearing Impairment

According to the U.S. Department of Education, Hearing Impairments represent approximately 1.0 percent of all students having a classification in special education. However, the number of students with hearing loss and deafness is undoubtedly higher, since many of these students may have other disabilities as well and may be served under other categories (Holden-Pitt & Diaz). Also, these figures only represent those students who receive special services; a number of students with hearing loss who could benefit from additional services do not receive them (U.S. Department of Education; cited in Heward).

Characteristics of Students with Hearing Impairments
Behaviors that may indicate a hearing impairment
The student or student…

- give no response when spoken to
- often give irrelevant or incorrect responses to questions
- seem unable to follow spoken directions to carry out an activity
- often say, "huh?" or "what?" and requires repetition
- seem unaware that others are talking and interrupts conversations
- seem to have a behavioral problem or is irritable
- express confusion or uncertainty when unable to understand
- hold head in an abnormal position to listen "better"; seems unable to locate the source of sound
- watch a speaker's face intently
- seem inattentive, but pays more attention to visual things
- speak more loudly or softly than expected for a situation; have an unusual vocal tone, resonance, or pattern of speaking
- use gestures and objects to get attention more than would be expected
- seem to have language problems (structure, syntax, and vocabulary)
- seem to withdraw from interaction in groups
- have frequent colds, earaches or ear infections, and allergies
- breathe through his/her mouth more than through his/her nose
- complain or show signs of ear pain, fullness in the ear, dizziness, or balance problems
Procedures and Assessment Measures used to diagnose Hearing Impairment

If a student is suspected of having a hearing impairment, the following evaluation shall be conducted:

(A) An audiological assessment by an audiologist licensed by a State Board of Examiners in Speech Pathology and Audiology;

(B) A medical statement or a health assessment statement indicating whether the hearing loss, if conductive, is treatable and whether the use of amplification is contra-indicated;

(C) Assessments to determine the impact of the suspected disability:

(i) On the student's educational performance when the student is at the age of eligibility for kindergarten through age 21, or

(ii) On the student's developmental progress when the student is age three through the age of eligibility for kindergarten; and

(D) Additional evaluations or assessments that are necessary to identify the student's educational needs.

Besides these assessment measures, the following should be considered:

If a student is suspected of having a hearing impairment under the definition set forth in IDEA, the following assessment measures should also be considered:

- An observation by a team member other than the student’s general education teacher of the student’s academic performance in a general classroom setting; or in the case of a student less than school age or out of school, an observation by a team member conducted in an age-appropriate environment;
- A developmental history, if needed
- An assessment of intellectual ability
- Other assessments of the characteristics of speech and language impairments if the student exhibits impairments in any one or more of the following areas: cognition, fine motor, perceptual motor, communication, social or emotional, and perception or memory. These assessments shall be completed by specialists knowledgeable in the specific characteristics being assessed
- A review of cumulative records, previous individualized education programs or individualized family service plans and teacher collected work samples
- If deemed necessary, a medical statement or health assessment statement indicating whether there are any physical factors that may be affecting the student’s educational performance
Assessments to determine the impact of the suspected disability

On the student’s educational performance when the student is at the age of eligibility for kindergarten through age 21
On the student’s developmental progress when the student is age three through the age of eligibility for kindergarten

Additional evaluations or assessments necessary to identify the student’s educational needs.

Eligibility for a Diagnosis of Hearing Impairment

1-For a student suspected of having a hearing impairment, determine that the student shall meet one of the following minimum criteria (A-C):

(A) The student has a pure tone average loss of 25 dbHL or greater in the better ear for frequencies of 500 Hz, 1000 Hz, and 2000 Hz, or a pure tone average loss of 35 dbHL or greater in the better ear for frequencies of 3000 Hz, 4000 Hz, and 6000 Hz; or

(B) The student has a unilateral hearing impairment with a pure tone average loss of 50 dbHL or greater in the affected ear for the frequencies 500 Hz to 4000 Hz; and

(C) The loss is either sensorineural or conductive if the conductive loss has been determined to be currently untreatable by a physician.

2-For a student to be eligible for special education services as a student with a hearing impairment, determine that:

(A) The student's disability has an adverse impact:

(i) On the student's educational performance when the student is at the age of eligibility for kindergarten through age 21, or

(ii) On the student's developmental progress when the student is age three through the age of eligibility for kindergarten; and

3-Determine that the student needs special education services as a result of the disability.
Final Thoughts

For babies who are born deaf or diagnosed with a hearing impairment, the earliest possible detection and intervention are crucial. Currently, a student's hearing loss is usually diagnosed between the ages of 14 months and 3 years—resulting in the loss of a significant window of opportunity for acquiring language, whether spoken or signed. A delayed diagnosis can also affect a student's social skills. Ultimately, the research strongly suggests that students with a hearing loss must receive early intervention as soon as possible if they are to learn the language skills necessary for reading and other academic subjects as they approach the school years (Calderon & Naidu).