

# Disability Awareness Begins With You



## Hearing Impairments

Hearing impairment is defined by IDEA as "an impairment in hearing, whether permanent or fluctuating, that adversely affects a child's educational performance." Deafness is defined as "a hearing impairment that is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification." Hearing loss can be divided into the categories of "prelingual" and "postlingual," according to whether the deaf person lost hearing before or after learning spoken language. The main problem facing prelingually and early postlingually deaf persons is the acquisition of signed or spoken language. Postlingually deaf individuals who lost hearing in adolescence or adulthood have acquired, or adventitious, hearing loss and are often known as "late-deafened."

### INCIDENCE

Approximately three per 1000 babies are born with a significant hearing loss, and many more children are born with milder forms of hearing loss. 14.9% of US children aged six to nineteen have a measurable hearing loss in one or both ears. However, the number of children 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.

### CHARACTERISTICS

It is useful to know that 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). 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. There are five types of hearing loss.

1. Conductive hearing losses are caused by diseases or obstructions in the outer or middle ear (the conduction pathways for sound to reach the inner ear). This usually affects 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. A mixed hearing loss refers 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. A central hearing loss 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.
5. The progressive hearing loss is one that worsens over the course of time.

### EDUCATIONAL IMPLICATIONS

Hearing loss or deafness does not affect a person's intellectual capacity or ability to learn. However, children who are either hard of hearing or deaf generally require some form of special education services in order to receive an adequate education. Such services may include:

- regular speech, language, and auditory training from a specialist;
- amplification systems;
- services of an interpreter for those students who use manual communication;
- favorable seating in the class to facilitate speechreading;
- captioned films/videos;
- assistance of a notetaker, who takes notes for the student with a hearing loss, so that the student can fully attend to instruction;
- instruction for the teacher and peers in alternate communication methods, such as sign language; and
- counseling.

Children who are hard of hearing will find it much more difficult than children who have normal hearing to learn vocabulary, grammar, word order, idiomatic expressions, and other aspects of verbal communication. For children who are deaf or have severe hearing losses, early, consistent, and conscious use of visible communication modes and/or amplification and aural/oral training can help reduce this language delay. Since the great majority of deaf children (over 90%) are born to hearing parents, programs should provide instruction for parents on implications of deafness within the family.

People with hearing loss use oral or manual means of communication or a combination of the two. Oral communication includes speech, speechreading and the use of residual hearing. Manual communication involves signs and fingerspelling. Total Communication, as a method of instruction, is a combination of the oral method plus signs and fingerspelling.

### ASSISTIVE DEVICES

Although hearing aids are capable of a large amount of amplification, no amount of amplification can replicate a hearing person's ability to tolerate both soft and loud noises. For example, a person with normal hearing can hear a cricket

chirp while hearing an airplane flying overhead. The hearing aid user, however, in amplifying the cricket to an audible level, will also amplify the airplane to an unbearable volume. When speaking with persons who prefer lip reading, you should face the person directly, and speech should be clear at a normal volume and rate. Sentences should be rephrased rather than repeated, and it should be made clear when a new subject is being introduced. The person should be allowed to interrupt if something is missed. Looking away from the person should not be done while talking. Communication may be verified by asking the person to repeat what has been said.

Devices that create a visual environment in the home include ring signalers for the telephone and the doorbell, sensors that detect an infant's cry, alarm clocks that vibrate the bed and closed caption decoders for television sets. Special devices for communication include telephone amplifiers, speakerphones, FM and infrared amplification systems and the "TDD," or Telecommunication Device for the Deaf. The Americans with Disabilities Act requires each state to provide a relay service for TDD users.

Some deaf people, typically the late-deafened, use a "hearing ear," "assistant" or "hearing guide" dog specially trained to alert its owner to specific sounds. These dogs wear bright orange leashes, and as with the seeing eye dogs of the blind, they should be treated as working animals rather than pets and allowed to accompany individuals wherever possible.

In describing individuals, "deaf" and "hard of hearing" are acceptable nomenclature. "Hearing-impaired" is acceptable to many of those who are hard of hearing, but not to some culturally deaf people. "Deaf and dumb" and "deaf-mute" are considered offensive.

People who combine understanding of the background and practical issues associated with deaf or hard-of-hearing individuals with patience and empathy will find working with these individuals a source of deep reward.

For more information or support:

**American Society for Deaf Children**  
1820 Tribute Road, Suite A  
Sacramento, CA 95815  
Parent hotline: 1-800-942-2732  
Business telephone: 1-916-641-6084

**National Association of the Deaf**  
814 Thayer Ave  
Silver Spring, MD 20910-4500  
Telephone: 1-301-587-1788 (voice);  
1-301-587-1789 (TDD)

**Registry of Interpreters for the Deaf**  
8630 Fenton St., Suite 324  
Silver Spring, MD 20910  
Telephone: 1-301-608-0050 (TDD/voice)