

# Communication Options for Children Who Are Deaf or Hard-of-Hearing

## How Is Hearing Loss or Deafness Identified in Newborns?

Deafness or hearing impairment affects not only a child who is deaf or has a hearing loss, but also the child's family, friends, and teachers. Health professionals, including otolaryngologists (ear, nose, and throat doctors), pediatricians, and audiologists use several methods to detect deafness and hearing loss in children.

Two of these testing methods are auditory brainstem response (ABR) and evoked otoacoustic emissions (EOAE). ABR examines the brain's electrical response to sound to determine whether the ear is functioning properly. EOAE is based on monitoring the sounds produced by the inner ear in response to stimulation.

Some children are identified at birth or within the first few months of life as having a hearing loss or deafness, but many who have these impairments are not. The national goal set by the Department of Health and Human Services (DHHS), in collaboration with national organizations and State agencies, is to test for hearing loss or deafness in all newborns at birth or within the first month of life. DHHS hopes to accomplish this by screening newborns while they are in the hospital nursery or within a month after they go home. Another DHHS goal is to perform a full audiologic evaluation to confirm the extent of an infant's hearing loss by the age of 3 months. A third national objective is to develop an appropriate intervention for deaf and hard-of-hearing children by the time they reach 6 months. Healthy People 2010, the new decade's better health agenda, includes all of these goals, as well as other hearing-health topics.



## How Is Later-Onset Hearing Loss Identified in Young Children?

Sometimes babies and toddlers who may have had minimal or no hearing loss at birth show signs of later-onset hearing loss. Additional screening is then especially important, since hearing loss of any kind can affect a child's speech and language development. Only your doctor, audiologist, or speech language pathologist can make a diagnosis of hearing loss, but there are things you can do to help your child.

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# N I D C D F A C T S H E E T

The National Institute on Deafness and Other Communication Disorders (NIDCD) publication, *Silence Isn't Always Golden*, contains a checklist that can help you gauge your child's abilities and compare them with what doctors suggest is normal development.

## What Causes Deafness or Hearing Loss in Newborns?

About 1 in every 1,000 infants is born deaf. Another 1 in every 1,000 infants has a hearing impairment significant enough to make speaking difficult. More than half of all deafness or hearing impairment is believed to have genetic cause(s). Recessive hearing impairment accounts for the largest portion of deafness or hearing impairment. About 90 percent of infants who are born deaf are born to hearing parents.

Some hereditary forms of deafness or hearing impairment are associated with other identifiable physical characteristics. For example, Usher syndrome may include deafness and vision problems. Waardenburg syndrome includes deafness and pigmentary changes in the hair and eyes.

## What Are the Communication Options for Deaf and Hard-of-Hearing Children?

For hundreds of years, people have debated the best ways to provide communication skills and education for deaf and hard-of-hearing children. NIDCD will not attempt to resolve this issue. Instead, NIDCD will help you understand the options and the questions to consider.

Here are a few things that scientific and health professionals, educators, and experienced parents usually agree on:

1. The earlier deafness or hearing loss is identified, the better a child's chances of acquiring language, whether spoken or signed. In 1993, NIDCD released a Consensus Statement on identifying deafness in children. The American Speech-Language-Hearing Association, the Alexander Graham Bell Association for the Deaf and Hard of Hearing, and the National Association of the Deaf all have information on this topic.
2. Each child is unique. It is important to understand the full nature and extent of a child's hearing loss or deafness. It is also important to understand how each family member and caregiver will communicate with the child. Get to know the services that are provided in your community for children in preschool and elementary school.
3. Optimizing residual hearing may be advantageous. Children may benefit from hearing aids or cochlear implants. This is a decision that you should discuss with your child's health care providers.

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For more information, contact:

NIDCD Information Clearinghouse  
1 Communication Avenue  
Bethesda, MD 20892-3456

1-800-241-1044  
1-800-241-1055 (TTY)  
E-mail: [nidcdinfo@nidcd.nih.gov](mailto:nidcdinfo@nidcd.nih.gov)  
Internet: [www.nih.gov/nidcd](http://www.nih.gov/nidcd)

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is a service of the  
National Institute on Deafness and Other  
Communication Disorders

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4. Exploring the options and, if possible, working with professionals in teams can be beneficial. Your child may visit a pediatrician, an otolaryngologist, an audiologist, and/or a speech-language pathologist. Ask each to keep the others informed about your child's visits. Coordinated care can be a big help to you and your child.
5. It is important to interact often with your deaf or hard-of-hearing infant by holding, facing, smiling, and responding to your infant from the very beginning. All of the caregivers in the child's life should keep interacting with him or her. Children need love, encouragement, and care from their families.

## How Will My Child Learn To Communicate?

There are two differing philosophies on this subject, as well as some combined approaches:

1. **Oral/Auditory Approaches.** These approaches take advantage of residual hearing, and the ability to lip-read in context. They stress enhancing speaking and listening skills and employing technology, including cochlear implants (when appropriate to the hearing loss), hearing aids, tactile aids, cued speech, and assistive devices. The goal of this approach is to promote skills in oral and auditory spoken English. For more information, please contact the American Speech-Language-Hearing Association, the Alexander Graham Bell Association for the Deaf and Hard of Hearing, National Deaf Education Network and Clearinghouse, or the National Cued Speech Association.
2. **Sign Language.** Some deaf children, particularly those who are born to deaf parents, use American Sign Language (ASL) as their first language. Just as is the case with hearing parents, the origin of deafness in a child born to deaf parents may not be easily identified. For more information, contact the National Association of the Deaf, the American Society for Deaf Children (ASDC), or the National Deaf Education Network and Clearinghouse.
3. **Combined Approaches.** Some deaf children who use primarily oral communication will also learn to sign (using ASL, signed English, cued speech, and/or fingerspelling). Some children who use ASL as a first language will learn to speak. Children who use ASL as a first language should also learn to read and write in English, which can be a challenging task. You will need to consider a variety of strategies to ensure that your child learns to read and write.

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## How Can My Family Participate in Research?

If you or your family is interested in participating in research related to hereditary deafness, hearing impairment, or intervention strategies, please contact us at [nidcdinfo@nidcd.nih.gov](mailto:nidcdinfo@nidcd.nih.gov). You may also want to visit the clinical trials database resource at [clinicaltrials.gov/ct/gui](http://clinicaltrials.gov/ct/gui).

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Internet: [www.nih.gov/nidcd](http://www.nih.gov/nidcd)

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## Where Can I Get Additional Information?

### Alexander Graham Bell Association for the Deaf and Hard of Hearing (A.G. Bell)

3417 Volta Place, NW.  
Washington, DC 20007  
Voice: (202) 337-5220  
TTY: (202) 337-5220  
Toll-free: (800) HEAR-KID  
Fax: (202) 337-8314  
E-mail: [info@agbell.org](mailto:info@agbell.org)  
Internet: [www.agbell.org](http://www.agbell.org)

### American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS)

One Prince Street  
Alexandria, VA 22314  
Voice: (703) 519-1589  
TTY: (703) 519-1585  
Fax: (703) 299-1125  
E-mail: [webmaster@entnet.org](mailto:webmaster@entnet.org)  
Internet: [www.entnet.org](http://www.entnet.org)

### American Society for Deaf Children (ASDC)

P.O. Box 3355  
Gettysburg, PA 17325  
Voice/TTY: (717) 334-7922  
Toll-free: (800) 942-ASDC  
E-mail: [ASDC1@aol.com](mailto:ASDC1@aol.com)  
Internet: [www.deafchildren.org](http://www.deafchildren.org)

### American Speech-Language-Hearing Association (ASHA)

10801 Rockville Pike  
Rockville, MD 20852  
Voice: (301) 897-3279  
TTY: (301) 897-0157  
Toll-free: (800) 638-8255  
Fax: (301) 897-7355  
E-mail: [actioncenter@asha.org](mailto:actioncenter@asha.org)  
Internet: [www.asha.org](http://www.asha.org)

### National Deaf Education Network and Clearinghouse

KDES PAS-6  
800 Florida Avenue, NE.  
Washington, DC 20002  
Voice: (202) 651-5051  
TTY: (202) 651-5052  
Fax: (202) 651-5054  
E-mail: [Clearinghouse.Infotogo@gallaudet.edu](mailto:Clearinghouse.Infotogo@gallaudet.edu)  
Internet: [www.clerccenter.gallaudet.edu](http://www.clerccenter.gallaudet.edu)

### National Association of the Deaf (NAD)

814 Thayer Avenue  
Silver Spring, MD 20910-4500  
Voice: (301) 587-1788  
TTY: (301) 587-1789  
Fax: (301) 587-1791  
E-mail: [nadinfo@nad.org](mailto:nadinfo@nad.org)  
Internet: [www.nad.org](http://www.nad.org)

### National Cued Speech Association (NCSA)

23970 Hermitage Road  
Shaker Heights, OH 44122  
Toll-free Voice/TTY: (800) 459-3529  
Fax: (216) 360-0359  
E-mail: [cuedspdisc@aol.com](mailto:cuedspdisc@aol.com)  
Internet: [www.cuedspeech.org](http://www.cuedspeech.org)

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