

TABLE OF CONTENTS

Professionals	3
Hearing Tests	4
How Is My Child's Hearing Tested?	4
Your Child's Audiogram	6
What Is an Audiogram?	6
How Often Will My Child's Hearing Be Tested?	7
Types of Hearing Loss	7
Degree of Hearing Loss	8
Listening Devices	9
Hearing Aids	9
Cochlear Implants	10
How Will My Child Communicate?	11
Auditory/Oral	11
Auditory/Verbal	11
Cued Speech	11
American Sign Language (ASL)	11
Bilingual/Bicultural	12
Total Communication	12
Programs for Children With Hearing Loss	13
Early Intervention Programs	13
Schools	13
Speech and Language Services	14
Private Providers	15
Public Health Programs	15
Hearing Aid Recycling Program (HARP)	16
Local Health Departments	16
Cochlear Implants	16

A PARENT'S GUIDE to HEARING LOSS

Utah Department
of Health,
Hearing, Speech,
& Vision Services





A PARENT'S GUIDE

Utah Department
of Health,
Hearing, Speech,
& Vision Services

You may have just found out your child has a hearing loss. The period of time after the diagnosis of a hearing loss is an extremely emotional one for parents. Although a child with a hearing loss creates unique challenges for a family, much can be done to help your child communicate and be successful.

The following is a guide to help parents start learning about hearing loss, where to get more information, and how to make decisions about what is in the best interest of your child.

PROFESSIONALS

Below is a list of professionals who will be a part of your family's care team. If you have any questions, these people can help you.

Audiologists are specialists trained in the field of hearing. They test hearing, recommend and fit hearing aids, and monitor your child's progress over time.

Counselors/therapists give emotional support for children and families. You or a member of your family can see a counselor or therapist to help with emotional issues surrounding your child's hearing loss.

Early intervention hearing consultants provide home visits for families of children with hearing loss ages 0-3 years. They support the family in developing the child's communication skills.

Otolaryngologists/ENTs are medical doctors who diagnose and treat middle ear infections and medical problems that may affect your child's hearing. This doctor must examine your child before he or she receives a hearing aid.

Primary care physicians (pediatricians/family practitioners) are medical doctors who provide general health care. They can help coordinate care and make referrals to appropriate specialists.

Speech language pathologists test your child's communication skills and may provide therapy to help your child's speech and language development.

HEARING TESTS

How Is My Child's Hearing Tested?

There are many ways to test your child's hearing. The kind of test your child has depends on your child's needs and abilities.

ABR or BAER Test

ABR and BAER both stand for Brainstem Auditory Evoked Response evaluation. This test measures how well your child's hearing nerve responds to sounds. It is used for children who are too young to respond to sounds by turning their heads. It is also used for children who may not always respond to behavioral hearing tests. Sometimes the ABR test is done to confirm the results of a behavioral hearing test. The steps for the ABR test are as follows:

Step 1. Your child must be asleep. If your child is tested before 6 months of age, the test may be done while he or she sleeps naturally. If your child is over 6 months of age, your child will probably fall asleep with a mild sedative prescribed by his doctor.

Step 2. Your child's skin is cleaned, and recording pads are put on his forehead and behind each ear.

Step 3. Sounds are played into each ear through a small earphone.

Step 4. A computer records the response of your child's hearing nerve.

Step 5. Your child's audiologist looks for the softest sound your child's hearing nerve responds to.

Behavioral Hearing Test

A behavioral hearing test measures the softest sounds your child responds to. The steps for a behavioral test are as follows:

Step 1. Your child sits on your lap or at a table in a special sound room.

Step 2. Sounds are presented through a speaker or earphones.

Step 3. The audiologist may teach your child to respond to the sounds he or she can hear. If your child is older, the audiologist plays a game to find your child's hearing level.

Step 4. Your child's hearing may be plotted on a graph called an audiogram (see *Figure 1*).

Tympanometry Test

The tympanometry test helps the audiologist find out how your child's middle ear is functioning.

Step 1. The audiologist puts a rubber tip in your child's ear.

Step 2. The tip is connected to a machine that changes the air pressure in your child's ear and prints out a graph.

Step 3. The graph gives information about whether there is fluid in the middle ear or if the eardrum is not moving well. This test is most reliable when your child is 6 months of age or older.

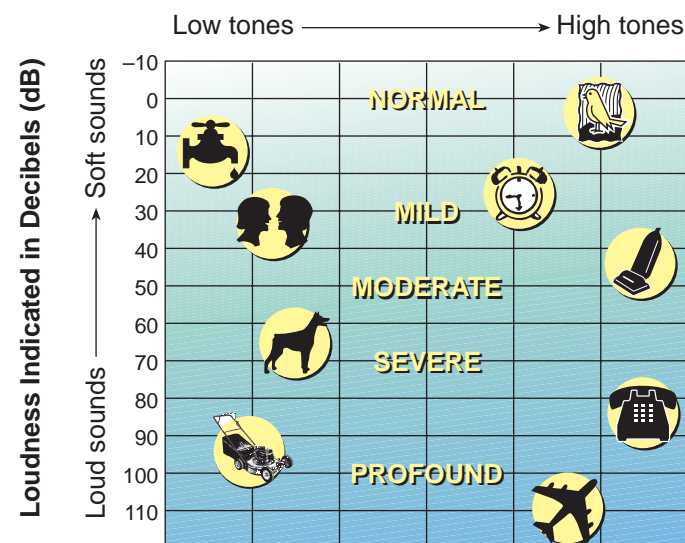


Figure 1. An audiogram.

YOUR CHILD'S AUDIOGRAM

What Is an Audiogram?

An audiogram is a graph of the softest sounds your child hears. A few tips will help you understand the graph:

- Across the top of the graph, the low tones are on the left and the high tones on the right. An example of a low pitch is a drum, and an example of a high pitch is a bird chirp. These pitches or frequencies are measured in Hertz. Down the side of the graph is intensity or loudness of sounds. The sounds at the top of the graph are soft. The sounds at the bottom of the graph are loud. Loudness is measured in decibels (dB).
- Your child will have marks on her audiogram. The marks represent the softest sounds to which your child responded. If your child wore earphones during the test, you will find **Xs** and **Os** on the graph: **X** = left ear; **O** = right ear.
- If your child did not wear earphones during the test, you will find **Ss** on the audiogram. The **S** means your child was tested using **speakers**. When using speakers, only your child's better ear is tested.
- The audiogram shown has shaded areas. Each shaded area has a label that describes the amount or degree of hearing loss.

HOW OFTEN WILL MY CHILD'S HEARING BE TESTED?

Your child's hearing should be tested on a regular basis. These tests monitor your child's hearing to make sure that his hearing has not changed. Your child will also need to be tested with his hearing aids on. This kind of test is called an "aided test." Aided tests measure how well your child hears with hearing aids.

Types of Hearing Loss

The **type** of hearing loss depends on where it occurs in the ear. The ear can be divided into three parts (see *Figure 2*):

- **Outer ear:** The **pinna** (the part we see) and **ear canal**.
- **Middle ear:** The **eardrum**, **ossicles** (malleus, incus, stapes), and **Eustachian tube**.
- **Inner ear:** The **vestibular system** (used for balance) **vestibular nerve**, **cochlea**, and **auditory (hearing) nerve**.

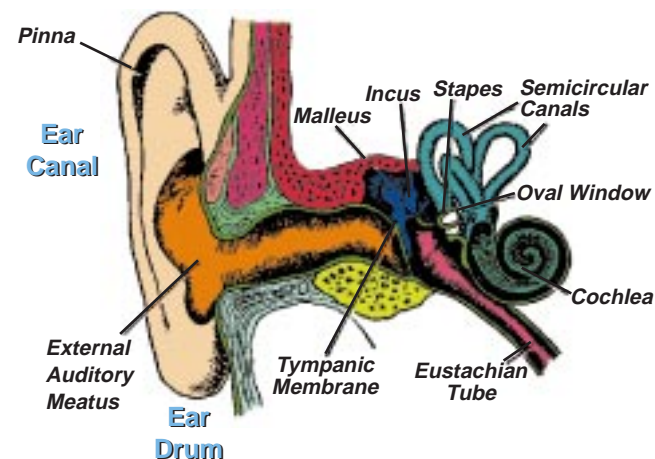


Figure 2. The structure of the ear.

- A hearing loss is **conductive** when there are problems with the outer and middle parts of the ear. Medicine or surgery can sometimes help this type of hearing loss.
- A hearing loss is **sensorineural** when there is a problem with the cochlea (inner ear) or auditory nerve. This type of hearing loss is usually permanent.
- A hearing loss is **mixed** when there is a problem in both the outer or middle and the inner ear.

Degree of Hearing Loss

The **degree** of hearing loss describes the severity of the hearing loss. There are four degrees of hearing loss, measured in decibels (a standard for measuring loudness):

- **Mild loss** = 25 to 40 decibel hearing loss (dBHL)
- **Moderate loss** = 40 to 65 dBHL
- **Severe loss** = 65 to 90 dBHL
- **Profound loss** = 90 dBHL or greater

LISTENING DEVICES

Listening devices help your child make the most of his hearing. However, they cannot make your child hear normally. They help him become aware of sounds. When your child becomes aware of sounds, he can begin to understand what sounds mean. The following are several types of listening devices. The audiologist can talk with you about the different options and help you decide what is best for your child.

Hearing Aids

Amplify sound or make sounds louder. Hearing aids for young children rest behind the ear and attach to an earmold that fits inside the ear canal. An earmold is a small piece of soft plastic made for the child's ear that helps hold the hearing aid in place. The hearing aid is set by the audiologist to best improve your child's hearing. The hearing aid picks up sound through a microphone and makes it louder through the earmold in the child's ear.

When Will My Child Get Hearing Aids?

The process to fit your child with hearing aids takes a few weeks. This may seem like a long time, but important things must happen first.

- Your child must have medical clearance from an otolaryngologist/ear (ENT) doctor. The doctor must examine your child and give approval for your child to wear hearing aids.
- After testing is completed, the audiologist must make impressions of your child's ears. The impressions are made into earmolds. It takes 2 weeks to make the earmolds and get them from the factory.
- Your child must have a special measurement taken for each ear called "real ear measurement." This measurement helps the audiologist choose the best hearing aid for your child. The measurements are made with the earmolds in place.

- After these measurements, it takes about 2 more weeks to get your child's hearing aids.

Cochlear Implants

Change sound into electrical impulses that stimulate your child's hearing nerve. This device must be surgically placed into your child's inner ear. Check with the cochlear implant team to see if your child is eligible for an implant (see resources at back of the booklet).

Loaner hearing aids are available on a short-term, trial basis. The Parent Infant Program has information on this (see resources at back of the booklet).

The Hearing Aid Recycling Program (HARP) offers a limited number of hearing aids to eligible families (see resources at back of the booklet).

HOW WILL MY CHILD COMMUNICATE?

Relating to people (communication) is very important. Speech (or talking) is one way we communicate. We can also communicate by using our hands, as with sign language. For a child with hearing loss, there are many choices for communication. Following are ways families of children who have hearing loss can communicate.

Auditory/Oral

- Uses listening and lip reading to teach spoken language.
 - Your child must wear a listening device (hearing aids or a cochlear implant) to learn language in this way.
- Goal:** Families learn how to communicate with their child using spoken language. This approach does not use sign language.

Auditory/Verbal

- Is similar to the auditory/oral approach, except it does not use lip reading.
 - Your child must use a listening device with this approach.
- Goal:** Families learn how to communicate with their child using spoken language. This approach does not use sign language.

Cued Speech

- Uses eight hand shapes near the mouth that represent the sounds in spoken language.
 - These hand shapes combined with lip reading give your child visual access to spoken language.
- Goal:** Families learn to communicate with their child using hand cues simultaneously with speaking.

American Sign Language (ASL)

- ASL is its own complete language.
- Used by the Deaf community who have a strong cultural identity.

Goal: Families learn ASL to communicate with their child using the body, face, and hands.

Bilingual/Bicultural

- Families use two languages—ASL and English—which may be signed or written.
- Goal:** Families learn to blend ASL and Deaf culture with English and Hearing culture.

Total Communication

- Uses a combination of communication methods.
 - Families learn how to use spoken language and some form of sign language, gestures, facial expressions, finger spelling, and pantomime to communicate.
 - Signs and speech are generally used at the same time but are sometimes used separately.
- Goal:** Families learn to communicate with their child using a combination of signed and spoken language.

You may want to consider reading the following books:

Schwartz, S. (1987). *Choices in deafness: A parent's guide to communication options* (2nd ed.). Kensington, MD: Woodbine House.

Marschart, M. (1997). *Raising and educating a deaf child: A comprehensive guide to the choices, controversies, and decisions faced by parents and educators*. New York: Oxford University Press.

PROGRAMS FOR CHILDREN WITH HEARING LOSS

Early Intervention Programs

Early intervention provides service coordination to help families access community resources that are appropriate for your infant/toddler and family. There is no cost to the family for the service.

Baby Watch

Utah's Department of Health network of services for children birth to 3 with special needs. A team of professionals works with the child and parents to meet that child's unique needs. Every county has at least one program providing these services. To find the program nearest you, call toll free: 1.800.961.4226. Web site: www.utahbabywatch.org

Parent Infant Program (PIP)

PIP provides the early intervention hearing consultant who works with the Baby Watch team. The hearing consultant provides family support, language development, instruction in hearing aid management, and information on community resources. To find out who to contact in your area, call toll free: 1.800.990.9328. Web site: www.usdb.k12.ut.us

Schools

Local School Districts

When your child is 3 years old, contact your local school district to find out what it offers for children with hearing loss. By law, many children with hearing loss are entitled to special services, such as speech therapy. You will work with your school to develop a plan for your child.

Utah School for the Deaf

A state-funded program for children with hearing loss (birth through high school) serving students in various settings, including local district classes and residential options. Audiology,

speech instruction, auditory development, cochlear implant habilitation, and sign language instruction are available.

Utah School for the Deaf

742 Harrison Blvd.

Ogden, UT 84404

Voice: 801.629.4700

TTY: 801.629.4701

Toll free: 800.990.9328

Web site: www.usdb.org

The Jean Massieu School

A charter public school starting at age 3 that values Deaf culture. It provides a bilingual/bicultural environment. Classes are taught in ASL. Students learn English through reading and writing. Some speech services are also available.

Jean Massieu School

1530 West 12600 South, #3

Riverton, UT 84065

TTY/Voice: 801.253.1331

Web site: www.jeanmassieu.org

E-mail: principal@jeanmassieu.org

Speech and Language Services

Speech and language services are provided by licensed speech pathologists through various agencies or private providers. Contact the provider for information about costs and services.

Speech and Language Pathologists

Brigham Young

Comprehensive Clinic

Audiology, Speech, and

Language Pathology

1190 North 900 East, #158

Provo, UT 84602

801.378.7650

Cottonwood Hospital

5770 South 300 East

Salt Lake City, UT 84106

801.314.2089

LDS Hospital

Speech-Language Pathology

8th Avenue & C Street

Salt Lake City, UT 84143

801.321.5462

Logan Regional Hospital

Cache Kids Pediatric Rehab

246 East 1260 North

Logan, UT 84341

435.755.8300

McKay Dee Hospital

McKay Dee Pediatric

Rehabilitation Center

2955 Harrison Blvd., Suite 101

Ogden, UT 84403

801.395.2634

Primary Children's Medical Center

Speech & Language, Suite 4400

100 North Medical Drive

Salt Lake City, UT 87113

801.588.3950

St. Mark's Hospital

1200 East 3900 South

Salt Lake City, UT 84124

801.299.4361

Tooele Valley Health Care

211 South 100 East

Tooele, UT 84074-2736

435.843.3645

University of Utah

50 North Medical Drive

Salt Lake City, UT 84132

801.581.3506

Utah State University

USU Speech Hearing Center

1000 Old Main Hill

Logan, UT 84322

435.797.1375

Utah Valley Regional Medical Center

1034 North 500 West

Provo, UT 84604

801.357.7448

Private Providers

See "Speech-Language Pathologists" in your local yellow pages for the names of private providers in your area.

Public Health Programs

Provide information about services for hearing-impaired children and a list of audiologists in your area.

Utah Dept. of Health (HSVS)

44 Medical Drive

Salt Lake City, UT 84132

800.829.8200

801.584.8215

2540 Washington Blvd.

Ogden, UT 84403

801.626.3645

2390 West Hwy. 56, Suite 2
Cedar City, UT 84720
435.865.5887

*Outreach in Richfield, Delta, Fillmore,
Beryl, Panguitch, Hildale, Kanab,
Hurricane, and St. George.*

28 South 100 East
Price, UT 84501
435.636.0430

*Outreach in Vernal, Roosevelt, Green
River, Moab, Monticello, Blanding,
and Montezuma Creek.*

Hearing Aid Recycling Program (HARP)

A limited number of donated hearing aids are made available to children of families in financial need.

Utah Dept. of Health (HSVS)

Hearing, Speech, and Vision

Services

801.584.8215

800.829.8200

Local Health Departments

See the “Government Services” section in your local phone book.

Cochlear Implants

Cochlear Implant Services

Dr. Clough Shelton

ATTN: Estelle

University of Utah Hospital,
Clinic #9

50 North Medical Drive

Salt Lake City, UT 84132

801.585.5450

Cochlear Implant Information

Marilyn Madsen

Scera Park Elementary School

450 South 400 East

Orem, UT 84057

801.224.6590