



# Infant Hearing Program **2018** Resource Guide



# For Families with Infants and Toddlers who are Deaf/Hard of Hearing.



This resource guide was written and compiled with the help of many individuals and agencies interested in helping children who are deaf or hard of hearing (D/HH). The information is intended to be a resource for parents of D/HH children. The Infant Hearing Program (IHP) ascertained the latest resource information; however, our list of resources may not be comprehensive and some addresses, websites, and other information may change over time.

**Infant Hearing Program**  
Arkansas Department of Health  
Revised, 2018

**Infant Hearing Program-Child & Adolescent Health**  
Arkansas Department of Health  
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**As you look over this guide, new questions and ideas may appear. There is no one “right” way to find the program to help your child to succeed. You will make many decisions in the days ahead. Give yourself time to consider all options. Your child’s needs, as well as the needs of your family, will change with time. Remain open to new ideas.**

# Does your baby have hearing loss?

Most people do not know a lot about hearing loss and what it means for a child and his or her family. You may not remember much of what was said after you were told your child has hearing loss. Instead, many questions may have raced through your mind:

- “Can this hearing loss be corrected?”
- “What caused this hearing loss?”
- “Will it get better?”
- “Will it get worse?”
- “Can my child learn to talk?”
- “Can he or she go to a regular school?”
- “If we have more children, will they have a hearing loss?”
- “Will he or she be able to get a job?”

It might be hard for you as you learn the answers to these questions. No one knows for sure what your child’s future holds. You want the best for your child, but now you may not know what to do or where to turn. The Arkansas Department of Health wants you to know there is support for you and your family.

## What to Do

Upon your baby’s diagnosis with hearing loss, you should:

1. Contact Guide By Your Side (GBYS) immediately. GBYS is a program provided by Arkansas Hands and Voices. It is a family support program composed of parents of children who are D/HH. Parents of D/HH children serve as guides for parents who have just learned of their child’s hearing condition. Hands & Voices is a group where you can explore options, discover new resources, learn from one another and share common experiences. More information can be found at <http://arhandsandvoices.org>.
2. Request a service coordinator from Arkansas First Connections. A service coordinator will contact the parent(s) to discuss concerns, answer questions, and assist the family in obtaining developmental evaluations and



securing services. Service coordinators work to help the child reach their fullest potential and enhance the abilities of the family to assist their child.

3. Learn as much as you can about hearing loss and the different forms of communication. Choose the communication method that best suits your family. More information can be found at [www.healthy.arkansas.gov/images/uploads/decisionguide.pdf](http://www.healthy.arkansas.gov/images/uploads/decisionguide.pdf)

## Who Can Help

You will meet many new people because of your child’s hearing loss. The Infant Hearing Program (IHP) strongly suggests using a Service Coordinator to assist you with the navigation of the hearing loss system of care. All families are welcome to attain this free service through the Department of Human Services’ First Connections program. You may begin or end the service at any time.

During your journey you may meet audiologists, early intervention specialists, medical professionals, and parents and/or caregivers of children with hearing loss.

## Audiologist

- An audiologist is a professional who diagnoses and treats hearing and balance problems. The audiologist may help you by:
- Providing hearing care and treatment to increase positive outcomes with regards to communication.
- Recommending amplification (hearing aids, personal frequency modulation (FM) systems) or cochlear implants to meet the needs of your child.
- Testing your child with and without amplification and discussing your child's responses to sounds.
- Providing information about early intervention program options and working with you and early intervention specialists.

## Early Intervention Specialist

An early intervention specialist can be a speech-language pathologist, teacher of the deaf/hard of hearing, an audiologist, early childhood special educator, occupational therapist or a physical therapist. Each of these professions have special expertise to help you and your infant. You may work with one or more of these professionals, who can help by:

- Describing the services and support systems available through early intervention programs and your family's ability to participate.
- Discussing concerns about your child's hearing loss.
- Answering your questions about the effect of your child's hearing loss on communication, participation in family activities, and learning.
- Working with the audiologist to help you and your child make the best choices.
- Working with you to plan for child's educational needs as they grow.

## Primary Care Practitioner (PCP) or Pediatrician

Your child's doctor may help by:

- Working with an audiologist who is experienced in infant hearing testing.

- Providing information about treatment for the various types of hearing loss.
- Completing referrals promptly.

## Ear, Nose, Throat (ENT) Physician

The ENT may help by:

- Confirming the hearing loss.
- Discussing possible medical or surgical treatment, including cochlear implants, for different types of hearing loss.
- Referring promptly for amplification and early intervention upon confirmation of a hearing loss.



## How You Can Help Your Child

- Learn as much as you can about hearing loss and communication.
- Keeping all your appointments.
- Following through with any recommendations you have agreed upon with the professionals working with you and your child.

## Early Intervention Services

First Connections provides early intervention (EI) services. Speak with your service coordinator to see which options are available for your child. These services can include:

- Assistive technology/adaptive equipment (and AT Services)
- Audiology
- Family training, counseling, and home visits
- Health services
- Medical services
- Nursing services
- Nutrition services
- Occupational therapy
- Physical therapy
- Psychological services
- Service coordination services
- Sign language and cued language services
- Social work services
- Special instruction (developmental therapy)
- Speech-language pathology services
- Transportation and related costs
- Vision services

More information about First Connections can be found by calling 1-800-643-8258 or visiting [https://dhs.arkansas.gov/dds\\_firstconnectionsweb/#fc-home](https://dhs.arkansas.gov/dds_firstconnectionsweb/#fc-home).



## Types of Communication

A child who is deaf or hard of hearing may utilize one or more ways to communicate:

- **Auditory-Oral**  
Hearing aids or cochlear implants are used to amplify available hearing. Amplified hearing is used to develop spoken language.
- **Auditory-Verbal**  
Amplification is used without speech reading (lip-reading).
- **Bilingual-Bicultural (Bi-Bi)**  
The primary spoken language is American Sign Language (ASL), which is also the language used for reading, writing and speech.
- **Cued Speech**  
This type concentrates on lip-reading with hand gestures to assist the listener in recognizing certain sounds.
- **Total Communication**  
Combines all of the above communication tools.

# Types and Degrees of Hearing Loss

There are four types of hearing loss:

- **Conductive Hearing Loss**  
Hearing loss caused by something that stops sounds from getting through the outer or middle ear. This type of hearing loss can often be treated with medicine or surgery.
- **Sensorineural Hearing Loss**  
Hearing loss that occurs when there is a problem with the way the inner ear or hearing nerve works.
- **Mixed Hearing Loss**  
Hearing loss that includes both a conductive and a sensorineural hearing loss.
- **Auditory Neuropathy Spectrum Disorder**  
Hearing loss that occurs when sound enters the ear normally, but because of damage to the inner ear or the hearing nerve, sound isn't organized in a way that the brain can understand.

The degree of hearing loss can range from mild to profound:

- **Mild Hearing Loss**  
A person with mild hearing loss may hear some speech sounds but soft sounds are hard to hear.
- **Moderate Hearing Loss**  
A person with moderate hearing loss may hear almost no speech when another person is talking at a normal level.



- **Severe Hearing Loss**  
A person with severe hearing loss will hear no speech when a person is talking at a normal level and only some loud sounds.
- **Profound Hearing Loss**  
A person with a profound hearing loss will not hear any speech and only very loud sounds.

Hearing loss can also be described as:

- **Unilateral or Bilateral**  
Hearing loss is in one ear (unilateral) or both ears (bilateral).
- **Pre-lingual or Post-lingual**  
Hearing loss happened before a person learned to talk (pre-lingual) or after a person learned to talk (post-lingual).
- **Symmetrical or Asymmetrical**  
Hearing loss is the same in both ears (symmetrical) or is different in each ear (asymmetrical).
- **Progressive or Sudden**  
Hearing loss worsens over time (progressive) or happens quickly (sudden).
- **Fluctuating or Stable**  
Hearing loss gets either better or worse over time (fluctuating) or stays the same over time (stable).
- **Congenital or Acquired/Delayed Onset Hearing**  
loss is present at birth (congenital) or appears sometime later in life (acquired or delayed onset).

For more information, visit the National Institute of Deafness and Other Communication Disorders at: <https://www.nidcd.nih.gov/>

# Communication Milestones

## 0-3 Month Milestones

- Quiets or smiles in response to sound or voice
- Turns head towards sound or voice
- Shows interest in faces
- Makes eye contact
- Cries differently for different needs (e.g. hungry vs. tired)
- Coos and smiles

## 4-6 Month Milestones

- Reacts to sudden noises or sounds
- Listens and responds when spoken to
- Begins to use consonant sounds in babbling, e.g. “da, da, da”
- Makes different kinds of sounds to express feelings
- Notices toys that make sounds
- Uses babbling to get attention

## 7-9 Month Milestones

- Uses increased variety of sounds and syllable combinations in babbling
- Looks at familiar objects and people when named
- Recognizes sound of their name
- Participates in two-way communication
- Follows some routine commands when paired with gestures
- Shows recognition of commonly used words
- Simple gestures, e.g. shaking head for “no”
- Imitates sounds

## 10-12 Month Milestones

- Meaningfully uses “mama” or “dada”
- Responds to simple directions, e.g. “Come here”
- Produces long strings of gibberish (jargonizing) in social communication
- Says one or two words
- Imitates speech sounds
- Babbling has sounds and rhythms of speech

- Pays attention to where you are looking and pointing
- Responds to “no”
- Begins using hand movements to communicate wants and needs, e.g. reaches to be picked up

## 13-18 Month Milestones

### By 15 months:

- May use 5-10 words
- Combines sounds and gestures
- Imitates simple words and actions
- Consistently follows simple directions
- Shows interest in pictures
- Can identify one to two body parts when named
- Understands 50 words
- By 18 months:
- Responds to questions
- Repeats words overheard in conversation
- Continues to produce speech-like babbling
- Points at familiar objects and people in pictures
- Understands “in” and “on”
- Responds to yes/no questions with head shake/nod

## 19 – 24 Month Milestones

### By 21 Months:

- Uses at least 50 words
- Consistently imitates new words
- Names objects and pictures
- Understands simple pronouns (me, you, my)
- Identifies three to five body parts when named
- Understands new words quickly
- By 24 months:
- Begins to use two-word phrases
- Uses simple pronouns (me, you, my)
- Understands action words
- Uses gestures and words during pretend play
- Follows two-step related directions e.g. “Pick up your coat and bring it to me”
- Enjoys listening to stories

## 2 – 3 Year Milestones

### By 30 months:

- Consistently uses 2-3 word phrases
- Uses “in” and “on”
- At least 50% of speech is understood by caregiver
- Follows 2-step unrelated directions, e.g. “give me the ball and go get your coat”
- Understands basic nouns and pronouns
- Understands “mine” and “yours”
- By 36 months:
- Asks “what” and “where” questions
- Uses plurals, e.g. “dogs”
- Most speech is understood by caregiver
- Simple understanding of concepts including color, space, time
- Understands “why” questions
- Understands most simple sentences

Source: [www.pathways.org](http://www.pathways.org)







## Impact of Hearing Loss on Learning

According to Project IDEAL, variations in age of detection, degree and type of hearing loss, and family and educational situations result in a widely diverse hearing impaired population. Students with auditory impairments characteristically experience significant issues with regard to social and intellectual development, speech and language, and educational achievement.

**Social Development:** Social-emotional development in children with hearing impairments follows the same developmental pattern as those without a hearing loss. Since social-emotional development relies heavily on communication, a student with hearing impairment may participate in cooperative play or learning activities differently. Without a common communication system, the ability to develop friendships can be impacted.

**Intelligence:** Research has determined that individuals with hearing impairments have normal cognitive ability in the absence of any coexisting

disability. Any difficulties in performance appear to be closely associated with speaking, reading, and writing, not the level of intelligence.

**Speech and Language:** Speech and language skills are the areas of development most severely affected for those with a hearing impairment. The effect may be minimal for individuals with mild or moderate hearing loss, especially with early diagnosis and treatment. Children with more profound hearing impairments and deafness are unable to access auditory feedback, impairing the development of speech and language.

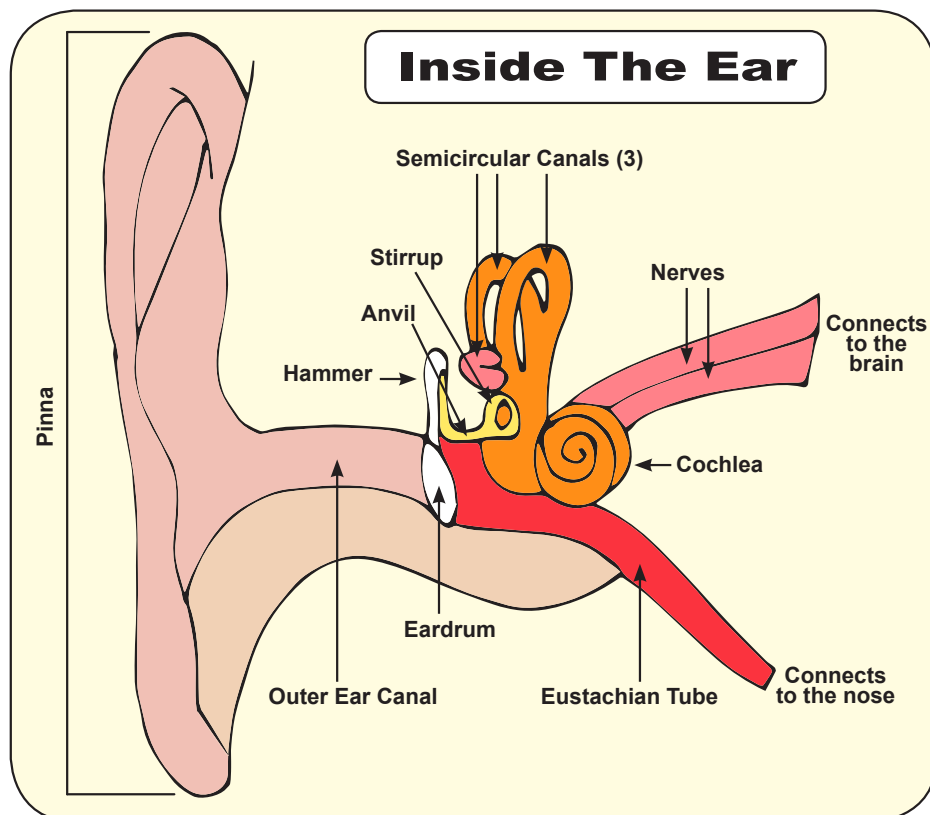
**Educational Achievement:** The educational achievement of students with hearing impairments may be delayed in comparison to that of their hearing peers. Students with a hearing impairment can have challenges with succeeding in an educational system that depends primarily on the spoken word and written language to transmit knowledge.

# The Ear

Sound is collected by the pinna (the visible part of the ear) and directed through the outer ear canal. The sound makes the eardrum vibrate, which in turn causes a series of three tiny bones (the hammer, the anvil, and the stirrup) in the middle ear to vibrate. The vibration is transferred to the snail-shaped cochlea in the inner ear. The cochlea is lined with sensitive hairs which trigger the generation of nerve signals that are sent to the brain. On average, people can hear sounds between 20 to 20,000 Hertz.

Parts of your ear include:

- **Anvil** - (also called the incus) a tiny bone that passes vibrations from the hammer to the stirrup.
- **Cochlea** - a spiral-shaped, fluid-filled inner ear structure; it is lined with cilia (tiny hairs) that move when vibrated and cause a nerve impulse to form.
- **Eardrum** - (also called the tympanic membrane) a thin membrane that vibrates when sound waves reach it.
- **Eustachian tube** - a tube that connects the middle ear to the back of the nose; it equalizes the pressure between the middle ear and the air outside, like when your ears “pop” with changes in altitude (going up a mountain or in an airplane) to equalize the air pressure in your middle ear.
- **Hammer** - (also called the malleus) a tiny bone that passes vibrations from the eardrum to the anvil.
- **Nerves** - carry electro-chemical signals from the inner ear (the cochlea) to the brain.
- **Outer ear canal** - the tube through which sound travels to the eardrum.
- **Pinna** - (also called the auricle) the visible part of the outer ear that collects sound and directs it into the outer ear canal.
- **Semicircular canals** - three loops of fluid-filled tubes that are attached to the cochlea in the inner ear to help maintain our sense of balance.
- **Stirrup** - (also called the stapes) a tiny, U-shaped bone that passes vibrations from the stirrup to the cochlea. This is the smallest bone in the human body (it is 0.25 to 0.33 cm long).



## How Do I Know if My Child Needs a Hearing Aid or a Cochlear Implant?

The audiologist and other hearing health care professionals will determine whether your child is a candidate for hearing aids or cochlear implant based on the type and severity of the hearing loss, as well as the structure and shape of the outer ear.

As hearing loss is commonly identified in very young infants, children often start with hearing aids initially, and then become a candidate for a cochlear implant once they are older. A child with hearing loss will have frequent hearing tests to carefully track hearing ability and hearing aid benefit.

## Other Assistive Devices

Health professionals use a variety of assistive devices:

- Assistive listening devices (ALDs) amplify sounds when there is a lot of background noise. ALDs can be used with a hearing aid or cochlear implant to help a user hear certain sounds better.
- Augmentative and alternative communication (AAC) devices to help people with communication disorders express themselves. These devices can range from a

simple picture board to a computer program that synthesizes speech from text.

- Alerting devices to a doorbell, telephone, or alarm that emits a loud sound or blinking light to let someone with hearing loss know an event is taking place.

## Telecommunications Relay Services

Title IV of the Americans with Disabilities Act (ADA) of 1990 requires all U.S. telephone companies to provide telecommunications relay services.

A telecommunications relay service (TRS) provides a communications assistant (CA) allowing people who are deaf, hard of hearing, or speech impaired to communicate with people who use a standard telephone. A TRS offers two options: voice carry-over (VCO) and hearing carry-over (HCO). VCO allows a person with a hearing impairment to speak directly to the other party and then read the response typed by a CA. HCO allows a person with speech impairment to hear the other party and relay the typed response back to the telephone user through the CA. This service allows individuals with communication disorders to communicate with all telephone users. You can dial 711 to access all telecommunications relay services anywhere in the United States. The relay service is free. In the event of an emergency, TDD or TTY users can call 911 directly and do not need to make a TRS call via 711.



## Service Providers:

### Batesville

Batesville Surgery & CT Imaging, 501 Virginia Drive, S-A, Batesville, AR 72501; Phone: 870-698-1846

Saline Audiology Associates, #5 Medical Park Dr., Suite 101, Benton, AR 72015; Phone: 501-778-3868, 501-317-1704 initial and rescreen

### Camden

Pinnacle Hearing Clinic 415 Hospital Drive Camden, AR 71701; Phone: 501-225-6060

### Conway

Central Arkansas ENT Clinic, 2200 Ada Avenue, Suite 202, Conway, AR 72034; Phone: 501-327-3929 or 800-419-3929

Ear, Nose, & Throat Center of Conway, 2425 Dave Ward Drive, S-101, Conway, AR 72034; Phone: 800-304-5158 or 501-932-7600

UCA- Department of Speech & Language Clinic, 201 Donaghey Avenue, Conway, AR 72035; Phone: 501-450-5484

### Fort Smith

AR Center for ENT & Allergy, 7805 Phoenix Ave, Fort Smith, AR 72901; Phone: 479-242-4220;

Center for Hearing, Ltd., 4300 Rogers Avenue, Suite 15, Fort Smith, AR 72903; Phone: 479-785-3277

Cooper Clinic, 6801 Rogers Avenue, Fort Smith, AR 72903; Phone: 479-478-3541 Med Records 479-274-2640;

### Forrest City (Marion)

Forrest City Office of Memphis Hearing Aid and Audio logical Services, 1501 Dawson Rd., Forrest City, AR 72335 Phone: 870-270-9491 or 901-682-1529

### Harrison

Family ENT & Sinus Center, 1401 McCoy Drive, Harrison, AR 72601; Phone: 870-741-4368  
Screenings, Diagnostic ABRs, Fax 870-741-9515

### Hot Springs

First Step, Inc., 407 Carson St., Hot Springs, AR 71901; Phone: 501-624-6468

### Jonesboro

Otolaryngology & Facial Surgery Center, 621 E. Matthews, Jonesboro, AR 72401; Phone: 870-932-6799

### Little Rock

Arkansas Children's Hospital Audiology, #1 Children's Way, Little Rock, AR 72202; Phone: 501-364-4319  
Arkansas Otolaryngology Center, 10201 Kanis Road, Little Rock, AR 72205; Phone: 501-227-5050

Little Rock Audiology Services, 500 S. University, #405, Little Rock, AR 72205; Phone: 501-664-5511

Pinnacle Hearing Clinic 107000 N. Rodney Parham Rd STE A7 Little Rock, AR 72212; Phone: 501-225-6060

UALR Speech and Hearing Clinic, 5820 Asher Avenue, University Plaza, Suite 600, Little Rock, AR 72204  
Phone: 501-569-3155

### Organizations that may Provide Financial Assistance:



#### Easter Seals Arkansas

3920 Woodland Heights Road Little Rock, AR 72212



#### Jaycees (United States Junior Chamber)

National Service Center)  
PO Box 7, Tulsa, OK 74102  
800-529-2337



#### Lion's Club International

300 W. 22nd St, Oak Brook, IL 60523  
630-571-5466 Ext 318



#### Hear Now, Starkey Hearing Foundation

1245 S. Main Street, Suite 200, Grapevine, TX  
76051  
800-648-4327

## Other Resources:

### Arkansas Department of Health Infant Hearing Program

Little Rock, Arkansas  
501-280-4758

[www.arhealthyhearing.com](http://www.arhealthyhearing.com)

Offers: *Education on infant hearing, trainings for parents and professionals . Monitors all children under three years of age with hearing loss. Ensures children have access to Early intervention.*



### Arkansas School for Deaf Statewide Services

Little Rock, Arkansas  
501-324-9522

<https://www.arschoolforthe deaf.org/>

Offers: *Outreach services to children who are deaf or hard of hearing, their families and service providers. Early intervention services (including service coordination), education, audiology testing, speech and language assessments, and sign language classes are also provided.*



### First Connections (Arkansas Department of Human Services)

Statewide  
1-800-643-8258

<https://dhs.arkansas.gov/dds/firstconnectionsweb>

Offers: *Assistive Technology/Adaptive Equipment Services, audiology, family training, counseling, home visits, occupational therapy, social work, and speech-language pathology services.*



### Arkansas Hands and Voices / Guide By Your Side

Statewide  
501-932-7700

<http://arhandsandvoices.org/>

Offers: *Educational seminars from methodology choices, networking with other parents in your area, advocacy training, transition early intervention to preschool, deaf culture, and transition from elementary school to middle school/Junior High.*









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