

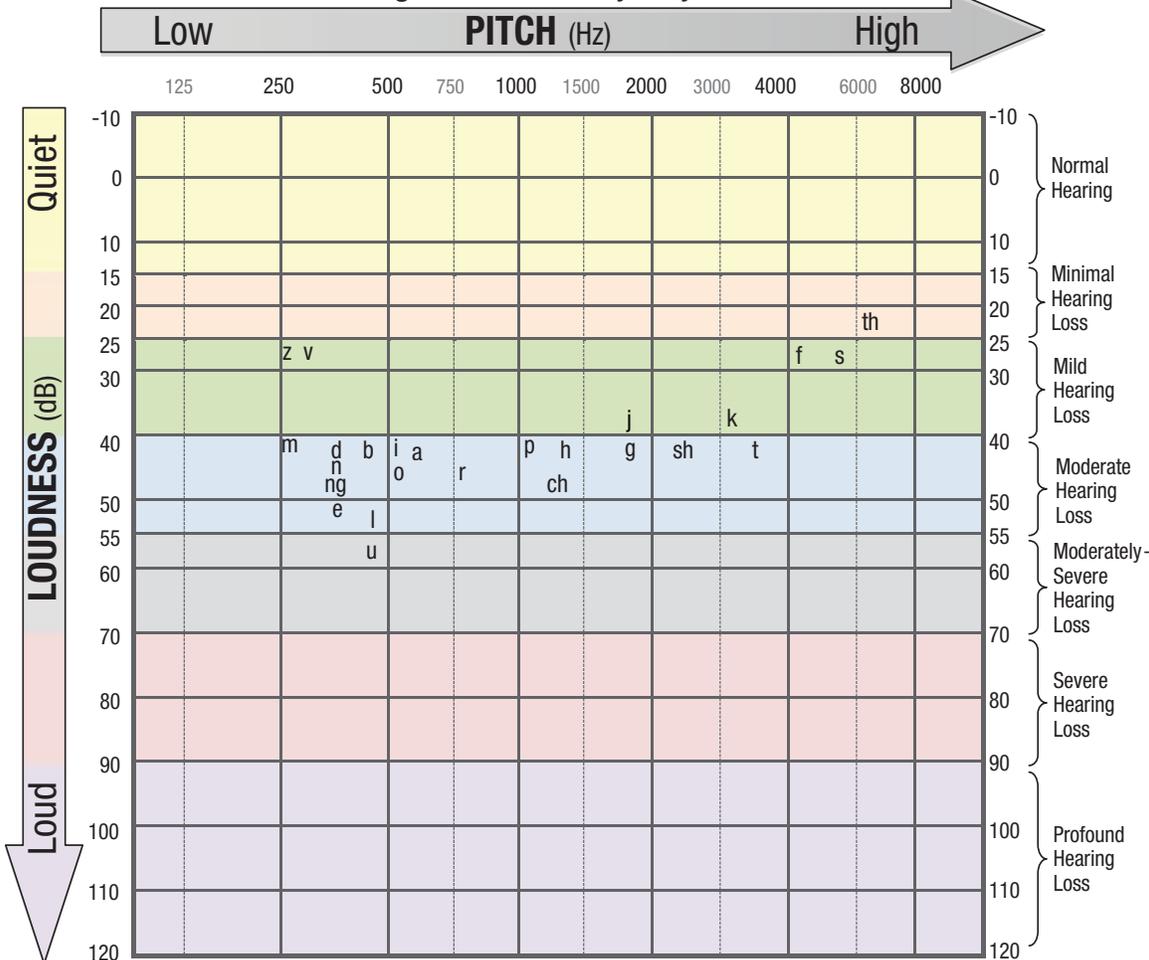
This worksheet will help you learn about your baby's hearing loss. Many people try to describe hearing loss as a percentage. It is better to describe hearing loss by its **degree** and **type**. The **degree** tells us how much of a hearing difficulty your baby might have. The **type** tells us where the ear might not be working normally.

The audiogram is a tool used to show **degree** and **type** of hearing loss. The symbols your audiologist puts on the audiogram represent the softest sounds your baby can hear at each pitch. These are called **thresholds**. The **threshold** symbols on the audiogram show the **degree** and **type** of your child's hearing loss for each ear, and how these were measured (air conduction or bone conduction).

Audiogram: What can my baby hear?

Threshold Symbols	Right	Left
Air Conduction (AC)- earphones	O	X
Bone Conduction (BC)- oscillator	<	>

Type of Hearing Loss	Definition
Conductive	BC is in the normal range, but AC is in the hearing loss range.
Sensorineural	AC and BC are in the hearing loss range. AC and BC are about the same.
Mixed	AC and BC are in the hearing loss range. BC is more than 10 dB better than AC.



Letters on the audiogram show how loud and what pitch each speech sound is. For example, the sound “s” (as in snake) is quieter and higher pitched than the sound “m” (as in milk). Together, these letters make up the speech banana.

Letters that are closer to the top of the audiogram than your baby's **thresholds** will be hard for your baby to hear without hearing aids. Babies need to hear all the speech sounds clearly so they can learn to talk.

See reverse side for more information about your baby's degree and type of hearing loss.

Next Steps

What do we do now?

- Schedule otolaryngology (ENT) appointment**
 - Medical clearance for hearing aids
 - Medical examination of ears
 - Etiology evaluation and referrals
- Call your child's insurance company**
 - Ask about hearing aid benefit
 - Learn about any rules or requirements
- Schedule hearing aid appointments**
 - Hearing aid selection and earmold impressions
 - Hearing aid fitting
- Wait for phone call from Early Intervention**
 - Learn about educational services
 - Respond right away to calls and letters
- Wait for phone call from Guide By Your Side**
 - Learn about parent support services
 - Connect with local Parent Guide
- Wait for phone call from Public Health Nurse**
 - Learn about home visiting/nurse services
- Read information in Family Resource Guide and online**

OUTER EAR: Pinna, ear canal

Pinna funnels sound into the ear canal.

MIDDLE EAR: Eardrum, ossicles, Eustachian tube

Sound vibrates the eardrum and sets the three ossicles into motion. The footplate of the last ossicle pumps in and out of the cochlea.

The Eustachian tube keeps space between the eardrum and cochlea pressurized.

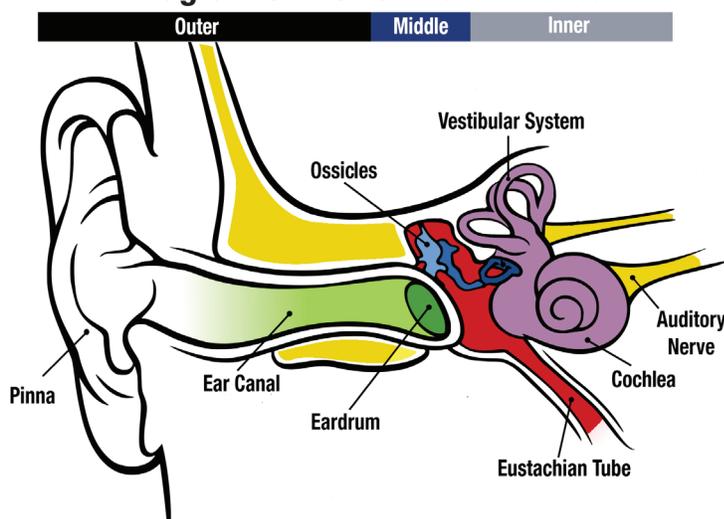
INNER EAR: Cochlea, auditory nerve, vestibular system

The last ossicle's motion vibrates fluid inside the cochlea. Fluid vibration stimulates tiny hair cells.

Hair cells release chemicals that excite the auditory nerve. The auditory nerve sends the signal to the brain.

Interactive Ear: <http://bit.do/earEHD1>

Diagram of the Ear: How do we hear?



Degree of Hearing Loss

Is there a problem? How much of a problem?

Right Left

- Normal hearing:**
 - Your baby should have few hearing-related problems.
- Unilateral hearing loss:**
 - Your baby may appear to hear normally, but will likely have trouble hearing in noise, or when the person speaking is closer to the poorer ear.
 - A hearing aid in the poorer ear will likely help your baby.
- High-frequency hearing loss:**
 - Without hearing aids, your baby will likely not hear consonants.
 - With hearing aids, your baby should hear consonants at quiet and normal volumes clearly.
- Minimal or mild hearing loss:**
 - Your baby will likely not hear quiet speech, and may have trouble hearing in noise.
 - Hearing aids will likely help your baby.
- Moderate hearing loss:**
 - Without hearing aids, your baby will likely not hear most speech clearly.
 - With hearing aids, your baby should hear speech at quiet and normal volumes clearly.
- Moderately severe hearing loss:**
 - Without hearing aids, your baby will likely only hear very loud speech.
 - With hearing aids, your baby should hear speech at normal volumes clearly.
- Severe hearing loss:**
 - Without hearing aids, your baby will likely not hear speech at all.
 - With hearing aids, your baby should hear speech at a normal volume.
- Profound hearing loss:**
 - Without hearing aids, your baby will not hear speech at all.
 - With hearing aids, your baby may not hear speech at normal volumes, and may benefit from a cochlear implant.

Type of Hearing Loss

Where is the problem? Is it temporary or permanent?

Right Left

- Conductive Hearing Loss (CHL):**
 - Due to a problem with the outer and/or middle ear.
 - Usually caused by fluid/ear infection, ear malformation, genetics, trauma, or surgery.
 - Often temporary or medically treatable.
 - If permanent, special hearing aids can help sound get to the inner ear (which hears normally).
- Sensorineural Hearing Loss (SHL):**
 - Due to a problem with the inner ear.
 - Usually caused by genetics, illness, or medication.
 - Permanent, but can be treated with hearing aids or a cochlear implant, depending on the degree.
- Mixed Hearing Loss (MHL):**
 - Both conductive and sensorineural.
 - Conductive part may be temporary or permanent, but sensorineural part is usually permanent.
 - May be treated medically and/or with hearing aids.
- Auditory Neuropathy Spectrum Disorder (ANSD):**
 - Type of sensorineural hearing loss, often due to a problem with the auditory nerve.
 - Usually caused by genetics, prematurity, or NICU treatment.
 - Can be treated with hearing aids and cochlear implants, but performance varies.

Once your child's hearing loss has been identified, you will start building a team of experts who will support you and your child. The team will include both medical and educational providers. Be sure to see pediatric specialists whenever possible. They have experience working with families, infants and young children. Children have their own unique needs - they are not small adults!

Remember, the professionals and your family are on the same team. Everyone wants to see your child succeed! To help your child best, everyone needs to have the same information. Share all records about your baby's hearing, health and education among members of the team. Complete any forms needed to let the team communicate. A public health nurse from Babies First! or CaCoon may also help with coordinating care among members of the team. See Oregon Resources page for more details about these two programs.

Medical Home, Pediatrician, Primary Care Physician or Primary Doctor

- Checks general health and development
- Facilitates care among the other medical specialists

Questions you might ask your child's doctor:

- Could my child's hearing loss be related to any other medical conditions? Could it be genetic?
- Will my child need more tests because of the hearing loss? What will these tests tell you?
- To get referrals to see specialists, do I need an appointment with you or can I request them by calling your office? If my insurance company has questions, what should I do? Can your office help me?
- Are there any medications that can harm my child's hearing?
- Will ear infections or fluid in the ears affect my child's hearing loss? Should the condition be treated differently because of my child's hearing loss?

Audiologist

- Diagnose hearing loss and monitor hearing
- Program and check hearing aids or cochlear implants
- Send referral to Early Intervention programs
- May facilitate care between educational and medical specialists

Questions you might ask your child's audiologist:

- What type of hearing loss does my child have and is it permanent?
- What can and can't my child hear?
- Will my child's hearing loss get worse?
- How often should my child get his or her hearing tested?
- Does my child need hearing aids? Should I consider a cochlear implant for my child?
- How will you partner with my child's educational team?

Ear, Nose, Throat (ENT) Physician, Otolaryngologist or Otologist

- Check ears for ear infections, wax, or physical issues
- Provide medical clearance for hearing aid use (prescription for hearing aids)
- Recommend testing to look at inner ear (MRI, CT scan)
- Perform ear surgeries, including tubes and cochlear implant surgery

Questions you might ask your child's ENT:

- What caused my child's hearing loss? Will my child's hearing loss get worse?
- Will my child need any medical tests?
- Would my child benefit from a hearing aid?

Early Interventionist, Deaf and Hard-of-Hearing Specialist, Teacher of the Deaf and Hard-of-Hearing (D/HH) or Auditory-Verbal Educator (AVEd)

- Teach families how to help their child learn during the early years of life
- Help children with hearing loss meet their communication goals

Questions you might ask your child's EI provider:

- Why is it important for my child to begin EI?
- What services are available? How often? How long? What is the cost? (Public EI should be free.)
- How can I help my child learn to communicate between EI sessions?
- Do you have expertise in the communication method I have chosen?

Speech-Language Pathologist (SLP) or Auditory-Verbal Therapist (AVT)

- Test and treat speech and language disorders
- Track and assist auditory skill development
- Coach parents on developing speech and/or language skills at home

Questions you might ask your child's SLP:

- What experience do you have working with young children with hearing loss?
- What services are available? How often will services be provided? How long? What is the cost?
- How will you communicate with my child during therapy?
- Can I participate in therapy? Can my child's siblings participate in therapy?

Geneticist or Genetic Counselor

- Discuss genetic and non-genetic causes of hearing loss
- Help you decide whether to get genetic testing

Questions you might ask your child's geneticist:

- Will a genetic test tell me the cause of my child's hearing loss?
- What are common genetic causes of hearing loss?
- Why should I find the cause of my child's hearing loss?
- If I have another child, is there a chance he or she could have hearing loss?

Counselor or Therapist

- Provide emotional support for parents and families (including siblings)
- Help families process their feelings after their child's hearing loss is identified

Questions you might want to ask your counselor:

- How can I cope with stress related to having a child with hearing loss?
- How do I help my child be well-adjusted? How should I help my child's sibling(s)?

Ophthalmologist

- Test and treat vision or eye disorders

Questions you might ask your child's ophthalmologist:

- How common is vision loss in children with hearing loss?
- What are signs of vision loss in infants and toddlers?
- Can my child's vision get worse? How often should my child's vision be tested?