

American Speech-Language-Hearing Association

Unilateral Hearing Loss in Children

Unilateral hearing loss (UHL) means that hearing is normal in one ear but there is hearing loss in the other ear. The hearing loss can range from mild to very severe. Parents or caregivers of children with UHL may ask:

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How is UHL identified?

Many children with UHL are identified at birth through newborn hearing screening programs. We know that early identification and intervention of hearing loss results in extremely favorable outcomes, and we now have an opportunity to intervene earlier for children with UHL.

Will my child's hearing get worse?

Although hearing sometimes gets worse, often it does not. Hearing that worsens over time is sometimes referred to as progressive hearing loss. The otolaryngologist (ear, nose, and throat [ENT] doctor) can order tests that may be able to determine whether your child is at risk of progressive hearing loss. It is important for an audiologist (hearing specialist) to closely monitor your child's hearing in both ears. If there are any changes, your audiologist will suggest ways to help your child.

What types of evaluations will my child need?

- **Hearing:** An audiologist will conduct a complete hearing test for your child. This will include tests of his or her middle ear function. The audiologist may also do special hearing tests if they are needed and make referrals to other professionals who can help your child.
- **Ear, Nose, and Throat (ENT):** Any child with hearing loss should be seen by an ENT doctor. The ENT will examine your child's ears. He or she will want to make sure that conditions such as wax and middle ear conditions such as fluid are not causing your child's hearing loss. The ENT may order some special tests to see whether the cause of the hearing loss can be determined.
- **Eye and Vision:** An ophthalmologist (eye doctor) will examine your child's eyes and vision. Since your child has a hearing loss, it is important to check that his or her vision is normal. Disorders that affect both vision and hearing are more commonly seen in children with bilateral hearing loss.
- **Genetics:** Most children with permanent hearing loss are referred to a geneticist. This doctor may be able to determine a possible cause of the hearing loss and tell you whether it runs in the family. He or she may ask other family members to have their hearing tested. The geneticist will also check your child for other medical problems.
- **Speech/Language:** A speech-language pathologist will evaluate and monitor your child's speech and language development. If your child's speech or language is delayed, the speech-language pathologist may suggest activities to do at home or may recommend speech therapy.
- **Early Intervention:** If your child is under 3 years of age, he or she should be evaluated by your county's early intervention program. This program is available to your child in your community. Program personnel may test your child and recommend that he or she receive services to stimulate speech and language, or they may simply want to monitor your child and track his or her development.

What problems do children with UHL experience?

- Your child may have trouble finding where sounds are coming from. This is known as localization. Localization is important when listening in groups of people. It helps direct us to who is talking at any moment. If a child takes longer to identify who is talking, he or she may miss some of the message. Localization is also important for safety. If your

child is near the street, riding a bike, or even learning to drive, he or she may have trouble localizing a horn.

- Your child may have difficulty understanding speech in noisy situations. Two normal hearing ears help us to filter out noise to better hear speech.
- Your child may have an especially difficult time hearing you from another room or from outside. When two normal hearing ears hear together, sound seems louder. When a child has UHL, he or she can often hear speech from a distance but may not always understand what is being said.

Remember, your child is in the process of developing language. He or she cannot make a guess or "fill in the gaps" about what he or she didn't understand.

Will my child's hearing loss affect his or her speech?

Your child's unilateral hearing loss will not keep him or her from learning to talk. However, some children with UHL have been found to have delays in their speech and language development. We do not yet know why some children have difficulties and others do not. There are many ways you can help your child now. Being aware of typical language development, being a good speech and language model for your child, and being aware of your child's listening environment will help. Below are some specific ideas:

- Be aware of where your child's "normal" hearing ear is facing. Think about this when you are feeding your child or if he or she is at the dinner table, in the car, etc. It is best if your child is facing the person speaking or if his or her normal hearing ear is facing the person.
- Make eye contact when speaking to your child.
- Talk about your daily routine (e.g., "I'm making a sandwich right now").
- Use repetition and expand your child's vocabulary by introducing new words (e.g., "terrific" instead of "good").
- Play listening games with your young child (e.g., "I hear the telephone ring").
- Get your child's attention before talking to him or her. This way, he or she will not miss any of the intended message.
- Help your child localize sound if he or she appears to be having difficulty.

Look for cues that your child understands what you are saying.

Make sure your child puts the phone to his or her good ear.

Raise your voice slightly and face him or her when you are at a greater distance (in the car, walking child in stroller) and try not to give directions from another room.

How will I know if my child's speech is developing normally?

Speech development varies from child to child. If you have concerns about your child's speech, you should talk to your pediatrician. As mentioned earlier, your child should also be evaluated by a speech-language pathologist. [Typical speech and language development milestones](#) can be found on the ASHA Web site.

Will my child have trouble in school because of his or her hearing loss?

Children with UHL may have difficulties in school. Being aware of these difficulties may help you and/or your child's teacher to catch any problems early. Help is always available for your child.

How will I know if my child is having difficulty?

Your child might:

- Get easily frustrated.
- Seem overly tired at the end of the day.
- Seem like he or she is not paying attention.
- Respond incorrectly to a question or request.
- "Act out" due to frustration.

How can my child be helped in school?

- If your child is preschool-age, when choosing a day care center or preschool for your child, look closely at their setup. Try to avoid situations where many classes are within one large area separated by partitions. This will be noisy.
 - Make sure that your child is seated near the teacher with his or her better ear facing the teacher (during both instructional and circle time). Being closer to the teacher not only allows your child to hear the teacher better, but it also gives him or her best access to visual cues.
 - Provide visual aids (handouts and written material) to supplement oral (verbal instruction) lessons.
 - Make sure that your child is not seated with his or her normal hearing ear facing a noise source (hallway, air conditioner, running computer).
- If your child wears a hearing aid or uses a frequency modulating (FM) system, make sure

the teacher knows how they work. Make sure your teacher has extra batteries for these systems.

- Keep in close communication with your child's teacher to monitor his or her progress. If you or the teacher have concerns, request further educational testing.
- Let your child's teacher know that he or she may have trouble localizing sound (e.g., being called on the playground).
- If you notice your child is becoming frustrated or having difficulty in social situations, seek out the help of a counselor.
- Share with your child's teacher what you have learned about UHL and give the teacher written information about UHL.
- Request the services of an educational audiologist or other school professional who specializes in working with hearing impaired children and attend any meetings about your child. This professional can work with your child and the teacher on strategies to help him or her academically and socially and can help ensure that the classroom has the best possible acoustics (modifications that help decrease noise levels).

How can we make classrooms more "listening friendly"?

- Carpeting—if there is not wall-to-wall, place some area rugs.
- Request acoustically treated hanging ceiling tiles.
- Avoid situations where the class is split and half of the students are listening to teacher instruction and the other half are watching TV or listening to a tape recorder.
- Place window treatments (thick material).
- Replace buzzing lights.
- Hang long pieces of felt on the wall on which children can pin artwork.
- Use "creative" artwork—hang egg crates and strips of carpet from the ceiling.
- Use corkboards whenever possible.
- Place flat surfaces (movable boards) at an angle.
- Place tennis balls or rubber tips on chair feet (keep in mind latex allergies).
- Have soft chairs (small beanbag chairs) in leisure/reading areas.
- Do not have noisy equipment (e.g., computers, projectors) on if you are not using them.
- Try to keep doors and windows closed.
- Teach your child to advocate for himself or herself by learning to ask for clarification when messages are not understood: "Can you repeat that?"
- Give your class an age-appropriate lesson about sound. Show them how it is difficult to

hear when many children are talking at once.

How can I help my child at home?

- Make your home "listening friendly." There are things you can do to reduce noise. Use carpeting and cloth curtains. Replace buzzing fluorescent lights. Operate noisy appliances (dishwasher, washing machine) when your child is not home or is sleeping.
- Try not to let your child's "normal" hearing ear face noise (dishwasher, room air conditioner, radio).
- Do not have the TV or radio on while eating dinner or at other times when you are talking with your child.
- Be aware of where you place your child at the dinner table. Try to have the child facing those who will be talking to him or her.
- Be aware of where your child is seated in the car. For example, a child with hearing loss in his or her right ear should be seated behind the passenger seat so that his or her normal hearing ear is facing the other passengers.
- Create a quiet listening environment while your child is watching TV, doing homework, or playing with others.
- Do not give your child instructions from another room. He or she will likely hear your voice but may not understand what you are saying.
- Remember the tips listed earlier on helping speech and language development.
- Teach your child's siblings things that you have learned about helping him or her.
- If your child wears a hearing aid, make sure it is functioning properly at all times. A hearing aid that does not work is much worse than no hearing aid at all.

What are some treatment options for children with UHL?

A hearing aid might be an option for your child. Some children with UHL benefit from using a hearing aid. Factors to consider include your child's age and the amount of hearing loss. Your audiologist will help you to decide what will best meet your child's needs.

- **Conventional Hearing Aid:** A hearing aid may be appropriate for some children with UHL. It is recommended if there is some usable hearing in the impaired ear. The goal is for your child to be able to hear and understand speech in the ear with hearing loss. It may also allow your child to have a perception of more "balanced" hearing. A conventional hearing aid is not recommended if your child has severe or profound UHL.

Most young children are fit with a behind-the-ear (BTE) type of hearing aid.

When a child's ear canal growth slows (at approximately 12 years of age), he or she may be a candidate for an in-the-ear (ITE) hearing aid. The choice will depend on a variety of factors such as degree of hearing loss, chronic external or middle ear pathology, and maturity level. Any child under the age of 18 years requires medical clearance by a physician prior to the fitting of a hearing aid.

- **Frequency Modulating (FM) System:** At some point, your audiologist may recommend an FM system for your child. An FM system can provide a great deal of benefit to children with any degree of UHL. With this device, the speaker (teacher or parent) wears a small microphone and the child has a receiver. The receiver may be a headset, an attachment to the child's hearing aid, an ear bud style earphone, a desktop speaker, or room speakers. An FM system allows the speaker's voice to be heard at a listening level that is louder than the existing background noise. An FM system can be used in different situations, such as school, church, scouts, and the car. It is important to note that in group situations, young children should be able to hear all who are contributing to a conversation. In other words, a young child learns not only from a parent or teacher but also from other children.
- **Osseointegrated Auditory Device:** This device, called a Baha, is placed surgically in the bone behind the ear. It is intended for individuals with primarily conductive hearing loss (outer or middle ear abnormality). It has recently been marketed for individuals with "single sided deafness" or profound UHL. The Baha is approved for children over 5 years of age, but little is known about its effectiveness in children with UHL at this time.
- **Contralateral Routing of Signal (CROS) Aid:** This hearing aid is for individuals with a severe or profound UHL. It picks up sound on the impaired side and delivers it to the good ear. This system may be useful in quiet listening situations. It is not recommended in situations where noise could enter on the impaired side and be sent to the "normal" side. This could actually make it more difficult for your child to understand what is being said. A CROS aid is not a good choice unless your child can determine when it helps and when it does not. For this reason, it is not recommended for young children.
- **Cochlear Implant:** A cochlear implant is not an option for children with UHL. This device, which is placed surgically in the inner ear, is only for children with severe or profound hearing loss in both ears.

How often should my child's hearing be tested?

An audiologist will want to monitor your child's hearing closely. Children with UHL should be monitored closely. The frequency of appointments depends on your child's age, degree of hearing loss, tests already completed, and existing risk factors for progressive hearing loss. Close follow-up will allow the audiologist to determine whether your child's hearing is changing. If your child wears a hearing aid, the audiologist will want to monitor use and progress closely.

What else do I need to know?

- If your child seems to be having more difficulty hearing, see your audiologist as soon as possible. Signs of difficulty may include:
 - ignoring sounds to which he or she used to respond
 - saying "huh?" more often
 - needing the TV turned up
 - seeming unusually frustrated
 - having trouble with attention
 - having uncharacteristic behavioral problems
 - reporting that his or her hearing aid is not working
- Remember that your child will have difficulty localizing sounds. This is important for safety. He or she may not be able to tell from where someone is calling him or her or from which direction a horn is honking.
- If your child starts to show signs of an ear infection, take him or her to your doctor as soon as possible. Such signs may include: tugging on the ear(s), increased irritability, difficulty sleeping, and/or fever. If your child has an ear infection or fluid in his or her ear, it could cause temporary hearing loss. Middle ear fluid may cause hearing loss in your child's "good" ear and/or increased hearing loss in his or her "impaired" ear. Although middle ear problems are common in young children, it can be more detrimental to your child than to a child with normal hearing in both ears.
- Make sure your child's ears do not get plugged by earwax. Although earwax is normal, it can cause temporary hearing loss. If you notice that your child has excessive earwax, take him or her to the doctor.
- Has your child been diagnosed with large vestibular aqueduct syndrome (LVA)? This is a particular formation of the inner ear that can be seen on a CT scan or MRI ordered by your ENT. If your child has LVA, you may be instructed to try to avoid situations where your child could get bumped in the head. Sometimes a blow to the head or sudden

changes in pressure (as experienced with scuba diving) can cause the hearing to worsen. If your child has LVA and you have any concern about a change in hearing, you should schedule an appointment with your audiologist.

- Start to think about "hearing conservation." This refers to protecting the hearing that you have. Have your child use earplugs when he or she is going to be at loud events (fireworks, concerts). Extremely loud sounds can cause additional hearing loss. If your child is using an iPod or MP3 player, make sure to [keep the volume at a reasonable level](#). As your child grows, teach him or her about hearing conservation. It should become a habit. A fun and informative Web site for you and your child to visit is [Dangerous Decibels](#). Your child might enjoy going to the "Virtual Exhibit" part of the site.

You now know the risks and the difficulties associated with UHL. Help your child now. Children can be taught how to help themselves. What you do now will make a difference!

The information on this Web page has been adapted from the doctoral project of Sarah McKay, AuD, CCC-A.

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