

The Developing Child with Unilateral Hearing Loss



Sharing what we know with families

My child hears perfectly fine in one ear. Why should I be worried?

- Two ears help us know where sound is coming from.
 - Two ears help us understand speech better in noisy places.
 - Language learning may be slowed because your child misses parts of what is said:
 - ⇒ at a distance,
 - ⇒ In noisy places
 - ⇒ When the good ear is not facing the speaker
 - If your child does not behave the way you want, it might be that he or she did not hear everything you said.
 - Ear infections increase the chance for language delays. If you think your child has an ear infection:
 - ⇒ Get prompt medical care
 - ⇒ Use up all medicine as prescribed
 - ⇒ Follow up with your child's doctor as recommended.
- Not all children with unilateral hearing loss have:
- ⇒ Slower language learning
 - ⇒ Poor patterns of listening
 - ⇒ Behavior issues.
- But** you can take steps to give your child the best chance. And Early Steps can help.

HELP IS AVAILABLE

- Learn about unilateral hearing loss
- Learn about what you can do to help your child's development
- Monitor language development
- Monitor hearing ability

Contact your Local Early Intervention office by calling:

2 out of every 1000 young children have permanent unilateral hearing loss.



References:
http://www.cdc.gov/ncbddd/ehdi/document/unilateral%20Workshop_Proceedings.pdf
http://www.audiologyonline.com/articles/article_details.asp?article_id=1000

Hearing Loss in One Ear Unilateral Hearing Loss

Children with unilateral hearing loss are at 10 times the risk for learning problems compared to children with

Standardize your message to parents – from referral to first meeting

Hearing with two ears is better than one!

Language Learning

Many children with unilateral hearing loss have problems learning language. It can be as many as one out of three.

Language Learning Problems



Changes in Hearing Loss

Some children with permanent hearing loss lose some or all of their hearing in their good hearing ear. It can be as many as one out of four.

Hearing Changes in Better Ear



Behavior

Children with hearing loss may find it hard to hear directions and soft speech. That can lead to frustration and poor behavior. One out of five children may have problems like this.

Possible Behavior Problems



What are some things I can do?

- Get early intervention services to help you learn ways to prevent delays in learning and speech. Your audiologist should refer you. Someone can come to your home at no cost to you.
- Ease your mind by making sure your child's learning is on target. A language check-up twice a year is all it takes. The checkup lasts only an hour.
- Protect your child's hearing. Your child's hearing can be permanently harmed by loud noises. Guard the hearing in the good hearing ear.
- If you think your child may have an ear infection get medical help quickly!
- Remember 1/4 of children with hearing loss in one ear develop it in the other ear. Get your child's hearing checked by your audiologist every 3-6 months. Early Steps may be able to cover this expense.

Every six months someone from early intervention can come to your home and help you fill out checklists that will compare your child's language learning with other children the same age. Many children do not show any difficulty until they are 15 - 18 months old. Normal results on early checklists does not mean that problems cannot develop.

Consider more hearing

Depending on your child's hearing loss a hearing aid or FM system may really help. Try a loaner hearing device for 3-6 months. If your child is one of the 25% who develop hearing loss in both ears, then using a hearing aid at an early age can make a world of difference in stimulating brain development and language. Rely on your hearing professional to help you find the best solution for you and your child. If it looks like a hearing aid or FM system will help your child develop better, Early Steps may be able to pay for it.

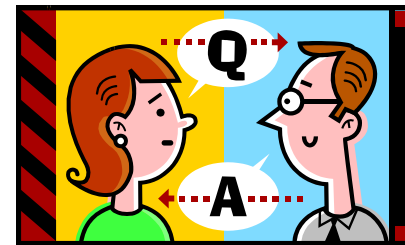
Would an amplification device really help my child?

A hearing aid doesn't help every child with unilateral hearing loss. The only way to tell is to try one and watch for improved listening. Other parents of children with unilateral hearing loss have tried hearing aids. Here is what they said.

- He doesn't talk so loud when wearing his aid.
- He was missing one half of everything before he got his aid.
- He hears sounds he never heard before.
- Doesn't interrupt people in group situations now.
- It is a very positive thing.
- Audiologists and doctors say children with only one good hearing ear will be fine—they are not fine.



UHL PPT to share with parents

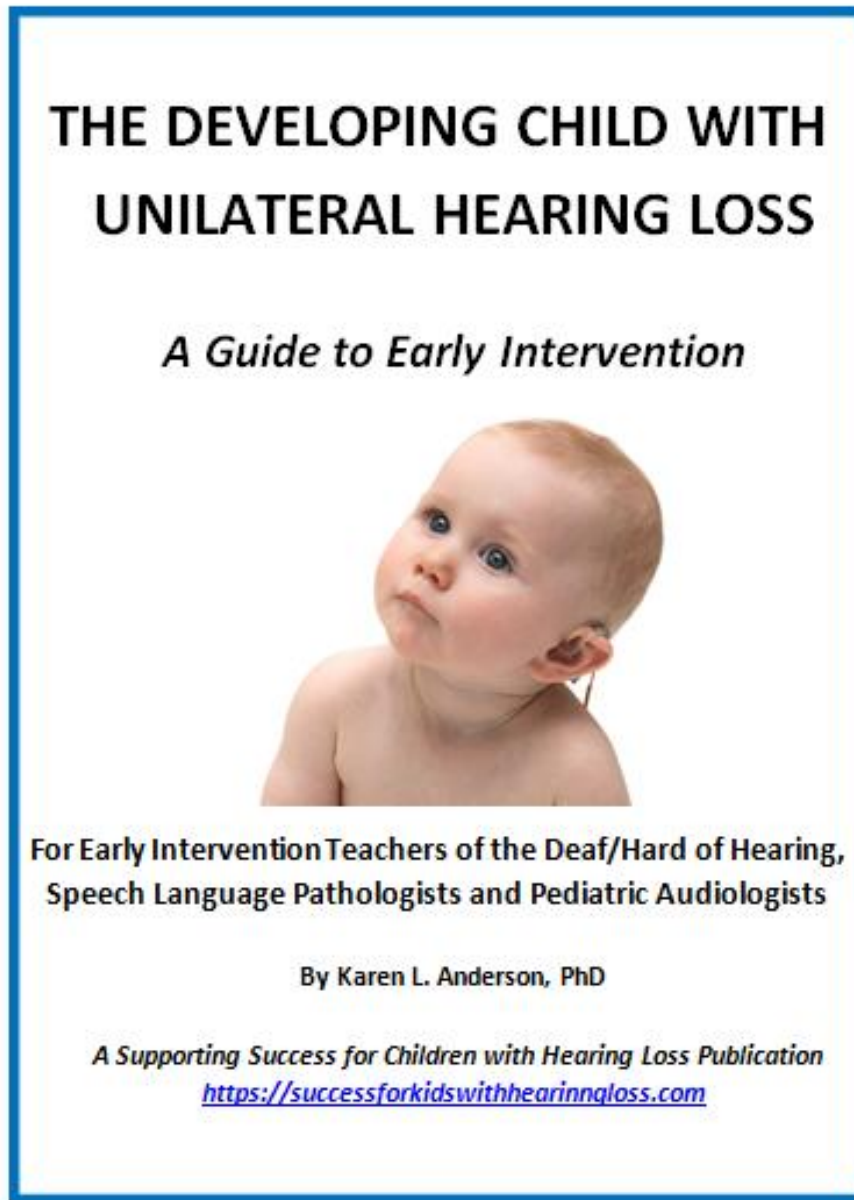


- 100 slides
- Written with early intervention in mind
- Any page can be printed off and used as a handout for the family to keep
- Addresses grieving/non-acceptance issues
- Shares facts of UHL learning with families
- Gives examples of what families can do with their child to prevent learning issues
- Use of analogy and examples
- Slides have been grouped in this guidance to accompany handouts to use during intervention

**Follow along on
this 60-page
guidance
document**

**Describes
activities for
each home
visit more
completely**

**Handouts
from the PPT
accompany
information
discussed at
home visits**



Your Child with Hearing Loss in One Ear:



- What does it mean to grow up with unilateral hearing loss?
- What can you do to help him/her now?
- Preparing for school success

First home visit after diagnosis

1. Start your home visit by asking families to “tell their story” including describing the diagnostic appointment.
2. Share ***AN UNEXPECTED DIAGNOSIS.***
3. After providing this handout to the family members, sit respectfully silent and wait for them to ask the first question or after 30 seconds or so ask what questions they would like to talk about first.
4. It can be anticipated that the families who received *the Unilateral Hearing Loss: What Parents Should Know brochure* will be interested in discussing this information.
5. Be prepared to answer questions about language, learning and social delays briefly, stating that you and the family will discuss these issues in depth during future visits.

First home visit after diagnosis

7. Provide ***EARS WORK TOGETHER*** and talk a little bit about the analogy.
8. The ***EXPERIENCING UNILATERAL HEARING LOSS***. If possible, provide them with one or two sets of ear plugs. Let them know that you will discuss their thoughts from these experiences at the next visit.
9. Before you leave, emphasize the importance of returning to the audiologist for the hearing recheck within 3-4 months. If the family does not seem to be familiar with the need for this appointment share ***HEARING DOES NOT ALWAYS STAY THE SAME*** with them.

You expected your baby to be perfect

Parents dream of who their babies will be, the joy they will bring and their possible futures, all before they are ever born.

Your baby came with a surprise you never expected or thought about – hearing loss.

You don't want to believe it.

It doesn't seem real that you have any problem.



You want to believe your baby is perfect

It is real. You have a baby with a hearing loss in one ear that will never go away.

Maybe that ear looks different. Maybe it looks perfect – just like the other ear.

The hearing loss will be a part of him every day of his life.

You are thankful that hearing loss is only in one ear but don't want him to have it at all.



It is hard to accept your baby is not perfect

When a baby is so young, it is hard to believe that hearing tests can be accurate.

Hearing tests are very accurate, even when babies are only days or weeks old.

Whether your child has some hearing in that ear or no hearing, there is a hearing loss that is part of who she is now and part of the child and adult she will become.



Your child is who she or he is.

Hearing loss in one ear is as much a part of who she is as her eye and hair color.

She will need your love, care and guidance just as if she had no hearing loss.



She is a whole person, even if she has a hearing loss in one ear.

As parents, you will want to understand what it means to have good hearing in only one ear.

How bad can it be? The good ear will compensate for the bad ear, won't it?

Hearing loss is invisible and difficult to understand, especially when someone seems to hear most sounds or most times but not always.



It is very common to think that because we have two ears that if something is wrong with one ear, the other ear will do the work of two ears.

In reality, we need both ears to perform well in all listening situations.



An analogy to help us understand

Think about a child who was born with only $\frac{1}{2}$ of one foot. We require two feet to equally support the weight of our bodies as we walk.

With only one normal foot, a child will still learn to walk and run, but likely not as fast or as smoothly as children with 2 normal feet; especially in rough terrain or when competing in a race.

Can the one good foot really compensate for the $\frac{1}{2}$ foot? No, but having only one good foot works fine in many situations.



What to expect at home

Your baby can hear normally with one ear. As you diaper him, feed him, play with him you will see him respond to sound.

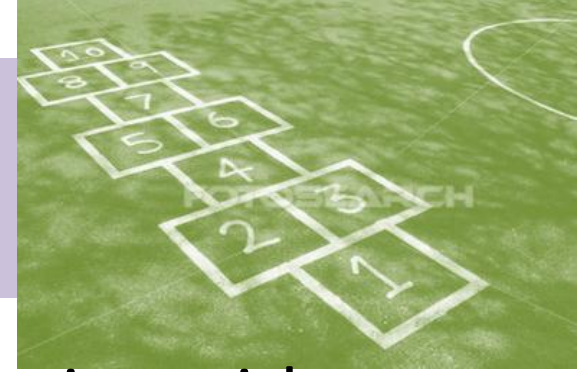
He CAN hear.

You are close to him. It is quiet. He is interested in what you are doing.

Thinking about our analogy, this is like walking on flat ground with plenty of time to get where you want to go.



Rugged terrain



Think again of the child with $\frac{1}{2}$ foot playing with other children in a large park with grassy areas, rocky climbing areas, and an obstacle course to jump, skip and hop.

She can play anywhere she likes with the other children, have fun and get exercise.

She will have difficulty experiencing some of the things to do at the park.

She may need to work harder, may avoid some, or may be able to do it all, only at a slower pace.

Analogies can help understanding but are not perfect

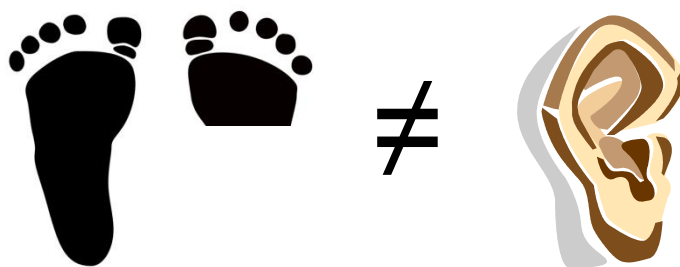
- What do you think “rugged terrain” would be for listening?
- When is it most challenging to listen, even with 2 ears?
- When one foot does not work as well as the other foot there would be times when a child may have some problems. Can you think of when that would be?
- Now think of hearing. What kinds of situations would it be more difficult if you had problem hearing everything well?



A foot and ear are not the same

The analogy of the child with $\frac{1}{2}$ foot is a starting place to understand that 2 ears are really needed, and one ear cannot do the job of two ears.

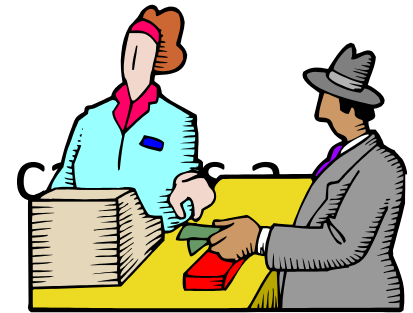
There is at least one big difference as we think about the child with only one normal foot and your child with only one normal ear – listening is strongly tied to the ability to learn at home and at school! A foot problem will likely not impact learning.



You need to experience it yourself

Buy foam ear plugs at the hardware store or drug department of a large store.

Be sure to insert it correctly so it mild (30-35 dB) hearing loss.



Be ready to record your thoughts as you try the different activities.

Make a commitment to yourself to wear one earplug for at least 3 hours.



You need to experience it yourself

Activities to do in your 3 hours:



1. Spend time talking quietly with someone with the television on in the background.
2. Have someone talk to you from another room or from across a large room
3. Use some of the *ELF* listening activities
 - a) when you are not looking at them
 - b) when you are reading or doing something you really enjoy or that interests you
 - c) with and without background noise.

You need to experience it yourself

More activities to do in your 3 hours:

- Listen to a TV show or radio show don't turn up the volume.
- Have a conversation sitting close with no background noise.
- Talk in the car with your 'bad ear' toward the person speaking
- Talk to someone outside at a distance.



Your thoughts and reactions:

Amount of effort to understand all speech in

- Quiet _____
- Across room _____
- Another room _____
- Noise (TV) _____

- In car _____
- Outside distance _____

Think in terms of Listening Bubble size



Think about it



How much effort did it take you to listen?

How did background noise affect your ability to pay attention and easily understand what was said?

What was the difference between having a conversation within a few feet and from across the room, outside or in the car?

Remember – you already have developed language and have the ability to ‘fill in the blanks’ if you miss part of a word.

Early Listening Function test



Based on the child's responses to sound, place Y (Yes) M (Maybe) or N (No) in the boxes below

ELF 	Listening activities at different distances							Closest distance child responded in noise
	6 ins.	3 ft.	6 ft.	10 ft.	Next room (15+ feet)	No. of Yes	No. of Maybe	
Quiet Activities								
1. Mommy saying "sh,sh" quietly								
2. Hands together, palms rubbing together briskly								
3. Quiet clucking tongue								
4. Mommy saying 'buh buh buh' quietly								
Typical loudness activities								
5. Turning water full on (kitchen sink, bathtub)								
6. Mommy singing a song (i.e., Mary had a Little Lamb)								
7. Clapping hands together in quiet applause								
8. Daddy saying 'ship ship ship' in normal voice loudness								
Loud Activities								
9. Daddy says 'shoe-buh, shoe- buh' in loud voice								
10. Loud door knock with knuckles								
11. Hold 2 spoons together back-to-back by their ends and hit them hard on your palm twice								
12. Hitting a frying pan or pot with a wooden or metal spoon								

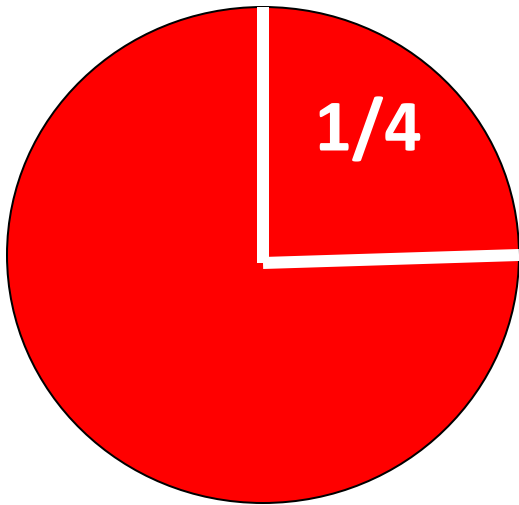


Observing child behavior when presented with contrived listening activities at different distances

Try the **Early Listening Function** activities across the room and from the next room. 12 activities: 4 quiet, 4 typical, 4 loud. Loudness calibration of the parent's voices is not critical –participation is what is critical. Also the **ELF** raises awareness of how noise effects listening and understanding.

Families need to know...

Hearing does not always stay the same.



It appears that one out of every four children with one normal hearing ear **will develop hearing loss in their better hearing ear.**

This appears true for the children normal looking ears, not those born with a deformed ear. We cannot predict which children will end up **having permanent loss in both ears!**

Any additional hearing loss...

- In the better hearing ear
- Or in the poor hearing ear

WILL increase the child's chance of developing greater listening, language, behavior and learning issues.

This does NOT mean that $\frac{1}{4}$ of these children become deaf in both ears, just that some amount of additional hearing loss – *great or small* - will develop.

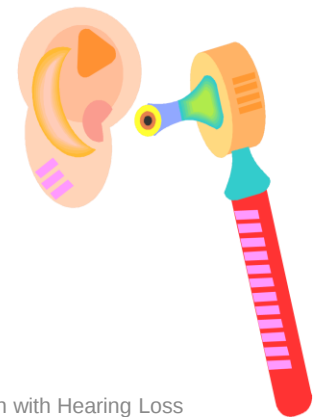


Something families need to know!

Hearing does not always stay the same.

Children can have ear infection that can cause hearing loss in both ears.

This additional hearing loss will affect them more than other children because they are relying so heavily on their one better hearing ear for listening and learning.



Something families need to know!

Hearing does not always stay the same.

Hearing can be damaged by loud noises, even when they occur only once.

A child with hearing in only one ear must rely on that ear to hear for their whole lives – they can't afford to damage this hearing!

Keep your child away from loud sounds or protect their hearing with ear plugs.



What to do about permanent hearing loss:

Changes in permanent hearing loss:

- Return to the audiologist for a hearing check-up every 3-4 months until the child is 3 years old or the audiologist says that testing this often is no longer necessary. Next appointment _____

Noise induced hearing loss:

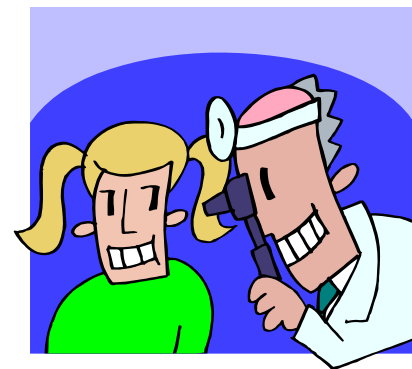
- Prevention is job #1. Keep your child away from noisy settings. If he or she must be there (i.e., family celebration with fireworks) be sure that the child wears ear plugs.



What to do about ear infections

About 1 child in every 6 children has serious problems with recurring ear infections before they start school.

Fluctuating hearing loss – or hearing loss that comes and goes – happens with ear problems.



Because your child relies on one ear, this inconsistent hearing may have a much greater affect on their listening and eventual learning.

If you think your child may have an ear infection seek medical care promptly!

Second Home Visit

1. Begin with referring to the analogy of the ½ foot in ***EARS WORK TOGETHER***. Ask the families what they think “rugged terrain” would be for listening. When is it most challenging to listen even with two good hearing ears?
2. Family members will likely come up with noisy listening situations or when speech is distant. Those who have already experienced mild unilateral hearing loss should be encouraged to share their experiences at this time. If the family members have not taken the time to experience unilateral hearing loss encourage them to think about challenging listening situations.
3. Share ***LISTENING FROM A DISTANCE*** and ***LISTENING IN BACKGROUND NOISE***.

Second Home Visit

3. Go through some of the listening activities on ***EXPERIENCING UNILATERAL HEARING LOSS***. Be sure to demonstrate listening to the activities in the table on this handout as these are activities from the **Early Listening Function (ELF)** test that you will soon doing with the family to discover the child's listening bubble. It is important to have the reference of the listening bubble of the family members for different activities before doing the ELF activities with the child.
4. Be sure to talk at length about the concept of balanced hearing and how two ears work together. This is an important point for families of children with aidable residual hearing in their poor hearing ear to recognize as they consider trying a hearing aid. Provide ***LISTENING FROM A DISTANCE*** and ***LISTENING IN BACKGROUND NOISE***.
5. Link the concept of listening to proximity (listening bubble), interest and opportunity to hear meaningful speech.

Rugged listening terrain

So “rugged listening terrain” would be any situation in which listening is not easy, specifically:



**DISTANCE &
BACKGROUND NOISE**



Every day listening with 2 ears



Hearing is a distance sense

We monitor what is going on around us with our hearing.

Think about all you hear right now – in the room you are in, sounds from other places in the building, sound from outside.

1. Two ears working together hear just a bit better than one ear working alone.
2. We turn our heads to use both ears to locate where sound is coming from.

Distance

The concept of the listening bubble

Mommy has a
cookie for you!



Not in range, not listening

Mommy has a
cookie for you!



In range and listening

Language is caught, not taught!

For language to be 'caught' it needs

- 1) be in the child's listening bubble,
- 2) be of interest to the child,
- 3) interactive and meaningful if a child is going to learn new words and concepts.



Scenario 1 – young child

Mama is folding laundry on the bed while John crawls on the floor. Mama gives John 2 socks as she is folding. She talks about the pants, colors of the shirts, two socks and socks going on John's feet.



After a bit John sees the cat and crawls away into the next room. Mama can still see him and she now talks about the cat.

John may not hear every word clearly, but has many opportunities to catch language.



Scenario 2 – young child

Mama is folding laundry on the bed while John crawls on the floor.



After a bit John sees the cat and crawls away into the next room. Mama sees him and tells him to leave the cat alone.



John did not have many opportunities to catch new language that describe things that interest him. He would have greater consequence if he missed any words due to hearing with only 1 ear.



Hearing 'through' noise

People have 2 ears to help them locate sound and also to help listen in noise.

Without even being aware of it we use both ears when we are listening in noise by pointing one ear a bit more to the person we are trying to listen to and the other ear a bit more toward the noise. Our heads actually help to block out a bit of the noise so the one ear can 'tune in' better to the speaker or preferred sound.

Listening in noise with one ear

Children with only one normal hearing ear have greater difficulty locating where sounds are coming from and understanding speech or recognizing sounds when there is competing noise.

Children with one hearing ear will need more time to locate sounds and it will take more effort to focus on sounds in background noise. They are more likely to 'tune out' in noise.



Background noise scenario 1

Mama is doing dishes and Marie is on the kitchen floor playing with plastic containers and a large wooden spoon.

Except for when she is running water, mama talks about the big dish and the little dish; the red top and the green top; the spoon going bang, bang - providing the language that describes what Marie is interested in at the moment.



Background noise scenario 2

Mama is doing dishes and Marie is on the kitchen floor playing with plastic containers and a large wooden spoon.



Mama is running water, and the television is on. Mama tells Marie to play.

Marie soon stops in a few minutes and Mama wonders why she bothered getting out things for Marie to play with.

Background noise scenario 3

Mama is doing dishes and the television is on.

Marie is on the kitchen floor playing with plastic containers and a large wooden spoon.

Mama tells Marie to play with the dishes.

Marie soon stops playing and crawls away toward a house plant. Mama tells her to not touch. Marie pulls the plant. Mama rushes over and tells her she is a bad girl.

Marie tuned out in background noise. She had no warning before seeing Mama mad.



How 'far' can a child hear?



It depends! How interested is the child in the sound?

How much background noise?

She may hear the cookie jar opening from the next room because she loves cookies.

He may not seem to hear when spoken to from the same room if he is very interested in what he is doing.

BUT children with only one ear do not hear as well as children who have 2 ears that work together.

What can you hear right now? How 'far' can you hear?

What would be the size of your Listening Bubble right now?

What do you think would happen if it was quiet? Noisy?

Third Home Visit

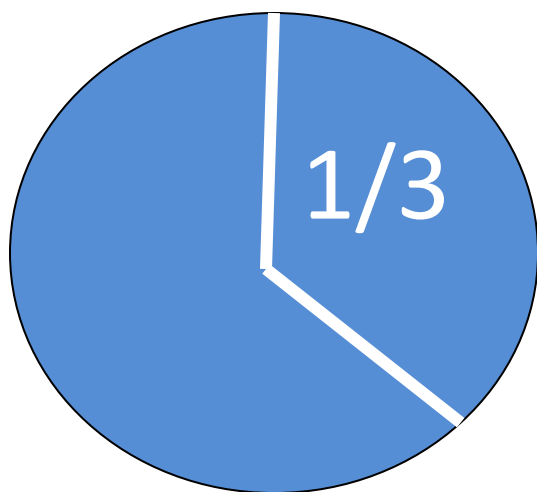
1. **Review the family's ELF findings** and/or collaborate with the family to identify the child's responses to the different ELF sounds. It is suggested that listening at 10 feet and 15+ feet and the affect of noise be demonstrated.
2. **Relate results to the concept of the listening bubble** and how near the adults should be if they expect their child to really hear them. Reinforce the concept of **Language is Caught, Not Taught** as you discuss the listening bubble.
3. Share:

***POTENTIAL IMPACT ON LANGUAGE LEARNING
FOSTERING LANGUAGE GROWTH***

Third Home Visit

4. Share **POTENTIAL IMPACT ON BEHAVIOR.**
5. Share **WHAT TO DO - CHOICES and CONSIDERING HEARING AID USE.** Discuss the advantages of 'balanced hearing' Review the handouts on listening at a distance and in background noise and how balanced hearing would be helpful
6. If the family has not been in contact with another 'veteran family' of a child with unilateral hearing loss offer to facilitate that contact.

Potential impact of hearing loss in one ear on language learning



One out of every three children with only one good hearing ear develop delays in the number of words they say by the time they are 15 – 18 months old.

Not keeping a child's daily 'cup of language' full will have consequences!



Language learning, every hour a child is awake, every day, everywhere.

Babies learn language by hearing it around them every day. Parents don't 'teach' children to learn how to talk.

Your child will learn language whenever you interact with him and as he sees you communicate with other people.

Language is caught, not taught.



What is incidental learning?

With a unilateral hearing loss background noise and distance are barriers to children 'catching' all the language that occurs around them.

Children learn much of what they know from over hearing other people talking or attaching a new word and concept together.

Picture your child seeing a brown truck, hearing a knock on the door, and then seeing a package that is for them – suddenly 'truck' or 'UPS' or 'present' has real meaning!

This is called incidental learning.



Potential for many missed language opportunities over time

- Picture a child learning language as a cup that family members fill up drop by drop, spoon by spoon, every day.
- With every drop and spoonful a child has the potential to 'catch' new words.
- **EVERYDAY** children with only one good hearing ear will **miss** part of the language that is said around them.
- Children exposed to many words will be less affected by missing some



For language to be 'caught...

Language needs to:

- 1) be in the child's listening bubble,
- 2) be of interest to the child,
- 3) interactive and meaningful if a child is going to learn new words and concepts.

Your early intervention teacher will help you learn more about how you can easily do this during every day activities.



Born and ready to grow!

- Children's brains are ready to start to learn language as soon as they are born.
- Picture your child's brain as an acre of rich soil that is read to grow an incredible garden.
- A beautiful garden needs seeds planted, a plan for a variety of colors and types, it needs to be watered, tended and carefully cared for to be sure it is all growing well.



Your Child's 'Language Garden'

- Your child's garden of language – this acre of rich soil – needs to be filled with blooms and thriving plants by the time he or she is 3 years old. A whole acre!
- The more people who try to spread seeds and tend the garden will help.
- Having good GARDENERS – people who really know how to grow plants – will help. Having many gardeners in the child's life will really help!



Planting the Language Garden

- Your child will ‘catch’ new language and concepts that he can hear throughout every day. Each chance for him to hear you talk about what he is interested in and what is going on around him is a chance to plant new seeds.
- To grow a rich garden you need to work at it! Know that you are planting seeds and your daily effort will tend this garden. Your early intervention teacher can help you with a plan for growing words.

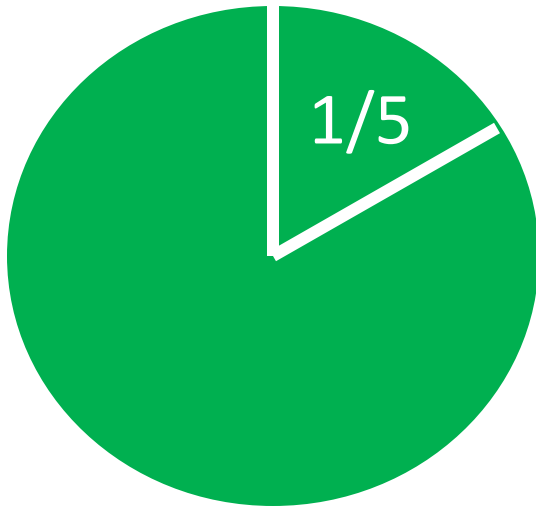


Time to sprout!

- Sometimes a child will seem to pick up a word immediately, other times it seems like all you will do is talk, talk, talk with no new words from your child.
- Know that it takes time, especially for new seeds to sprout. Once your child has some words and concepts and sees that he can get what he wants from using words, the garden will grow more quickly and start to spread. It still needs many moments of daily care! You have a whole acre to fill!



Potential behavior & social issues



As children get older they may think that other people are talking about them when they really just did not hear what was said, especially by peers.

Children with unilateral hearing loss may find it hard to hear directions and soft or distant speech. That can lead to frustration and poor behavior. One out of five children develop behavior or social issues.



How we learn 'rules of behavior'



Think about it – how did you learn to not touch something that is hot?

A parent told you to not touch, showed you what 'hot' meant, and repeated it often.

Children need to know the expectations, why it is wrong (hurt, dirty, impolite, mean), and to be praised when they are behaving well.

They also can learn by overhearing when another child is scolded or warned.

Learning to behave with 1 ear

SCENARIO: *The television is on. Marie crawls toward a house plant. Mama tells her not to touch. Marie keeps crawling. Mama tells her not to touch again. Marie pulls the plant. Mama rushes over and tells her she is a bad girl. Marie tuned out in background noise. She had no warning before seeing Mama mad.*

Children may:

- Miss early warnings (*don't touch it Marie*)
- Need more times in which expectations are explained (*plants grow in dirt, dirt is messy, plants can be hurt if you pull on them, sometimes leaves are sharp, etc*)
- Not learn by example as quickly (*see another child warned but missed what the child did or said*)



Fair chances to good behavior

- Warnings should be given in close, no background noise, when the child is paying attention
- If another child is being warned or scolded the reason why should be made clear to the child with one hearing ear
- Explain again and again – the why of expectations (*this builds language too!*)
- Make sure your child really heard *and understood* the warning before you punish



Those subtle social rules

Children in 'rugged listening conditions' often miss subtle social exchanges.

A child may hear 2 children close by speaking. When the child looks up he sees the other children looking at him. The child who wasn't able to catch part of what the others were saying may think that he was being talked about. He may feel self-conscious or even angry.

Social scenarios should be role-played.

Shaping appropriate behavior

- Families working with early intervention teachers learn how to reinforce and shape appropriate behavior while they play and take care of their child during every day activities.
- Your early intervention teacher can share interaction strategies with families that may assist in behavior management and result in children who find their world predictable and feel good about themselves.



WHAT TO DO to help your child's future?

If your child has two perfect ears no one will know about the hearing loss unless you tell them.

If he or she wears a hearing aid then everyone will see that your child is not perfect.

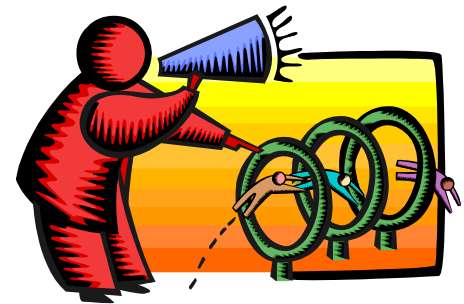
Most people do not understand that a hearing loss in one ear can cause significant learning problems in about ½ of these children.

Now you know that “he will get by just fine” may not be true at all for your child.



WHAT TO DO – Advocate!

The most important thing to do is to advocate for your child's needs. Some physicians and audiologists may not be aware of the research we have about the potential learning consequences to 1/3 to 1/2 of children with unilateral hearing loss.



We do not know how to predict which children will be effected – it could be your child. You may prevent issues from developing by helping your child now!

WHAT TO DO – Test & Retest!

Since one out of every four children with unilateral hearing loss develops hearing loss in the better ear it is critical for your child to have his or her hearing checked by the audiologist regularly.

- Every 3 months to age 1 year
- Every 6 months from 1-3 years
- Get prompt medical care for suspected ear infections
- Teach him to avoid loud noise!



What are your real choices?

- a. **Do what you can** to help prevent listening, learning and social problems by allowing your child to hear his or her best – every day, in every situation. He has a *right* to hear and to learn like other children.



What are your real choices?

b. **Hope that he will get by**, realizing that language, self esteem, and behavior are likely to be affected by the hearing loss. Will he still “be all that he can be”? Probably not, but maybe that is acceptable to you.



What are your real choices?

- c. **Wait and see** if he will be affected, even though this will lose learning time that can never be made up. Children who wait to get hearing aid(s) until closer to school age typically do not adjust very well (see b).

WHAT WILL YOU DO?



Try a hearing aid.



If your child has hearing in the worse ear (i.e., thresholds between 35 – 75 dB) then it may be possible for a hearing aid to ‘balance out’ the child’s hearing ability – meaning provide near normal hearing in the poor hearing ear. Amplification could help with sound location and listening in noise!

Children who are deaf in one ear *may* have too much hearing loss to cause improvement with a standard hearing aid . Ask your child’s audiologist for more information.

A hearing aid! But he hears fine in one ear!

Think back to our analogy with the child who was born with $\frac{1}{2}$ foot. If there was a prosthesis (like a 'strap on foot') that would allow the child to walk gracefully with a normal gait, to run similar to, but maybe not as fast, as other children - would it make sense for the child to use it? Would it help him as he is learning to walk? Would it help him fit in better when playing with other children because he could keep up more easily?

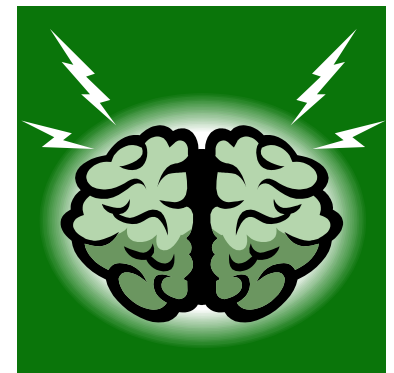


Hearing aid = a brain access tool

Brains develop due to constant stimulation.

With $\frac{1}{4}$ of children developing hearing loss in both ears, early stimulation of the poor ear may end up making a real difference in the child's ability to compensate if all or most hearing is lost in both ears.

Think of it as 'keeping an ear in reserve if the worst happens (and it may!).'



How soon should we try a hearing aid?

The earlier a child tries amplification and gets used to 'balanced hearing' the easier it will be for him or her to adjust to hearing with both ears and want to wear the hearing aid all the time. Waiting until school-age is too late!



Parent comments on hearing aid use

Other parents of children with unilateral hearing loss have tried hearing aids and said:

- *He doesn't talk so loud when wearing his aid.*
- *He was missing one half of everything before got his aid.*
- *He hears sounds he never heard before.*
- *He doesn't interrupt people in group situations now.*
- *It is a very positive thing.*
- *Audiologists and doctors say children with only one good hearing ear will be fine—they are not fine!*



Try it and see....

A hearing aid usually helps a child with unilateral hearing loss, but not always. Adults report that “balanced” hearing makes it easier to listen and overhear when others are talking around them, resulting in less stressful conversations.



The only way to tell if it will help is to try a hearing aid and watch for improved listening – the difference may be subtle *but important!*

- Does the hearing aid help the child “catch language” and “keep the teacup full”? Locating sound sources? Listening at a distance or in background noise?

Home Visit Dedicated to a New Hearing Aid

- When a family has chosen to try a hearing aid it is likely that at least one home visit will be dedicated to instructing them in earmold insertion, hearing aid monitoring including the Ling 6 Sound Test, and coaching them on times that they can tune in to observe the benefit of the hearing aid. Share ***EVALUATING HEARING AID USE***.
- After the child has had the hearing aid two or three weeks he or she should be wearing it most waking hours. At this point **repeat the ELF activities** with them to see if there has been any change in the size of the listening bubble or other observable benefits. Provide the family with the ***Early Listening Function Infant and Young Child Amplification Use Checklist***.
- It is important that the family share their observations on the validity of the hearing aid fitting and its benefit with the audiologist before the end of the first 30 days (some audiologists may provide a 60-day trial period).

Reasonable Expectations for Hearing Aid Wear

How much should my child wear his hearing aids at first? During the first few days of use, put the hearing aids on your child *3-4 times a day for 15 - 30 minutes each time. Goal is full-time use within 3 weeks of hearing aid fitting.*

If your baby wears hearing aids only four hours each day, it will take six years to give him as much listening experience as a normally hearing infant accumulates in one year.

Checking the Hearing Aid – Every Day!

1. **TEST BATTERY:** Batteries only last 1-2 weeks when used daily. Because the child cannot tell you when the battery has died you need to check the batteries in a tester provided. Battery life begins when the tape is removed from the top of the battery surface. BATTERIES ARE ***POISONOUS*** ! KEEP OUT OF REACH OF CHILDREN.
2. **LISTEN TO HEARING AID:** You will soon become skilled at knowing what your child's hearing aid should sound like. Report changes you perceive to your audiologist who can test the aid further. Place the tip of the earmold in the tan colored cup at the end of the stethoset and put the eartips in your ears. Listen for any loud background hiss or scratchy sounds as you move the volume wheel. Jiggle the hearing aid and listen for any cutting in and out of sound. Say the sounds oo, aw, ee, sh, s, m and listen to how clear the sounds are. Each sound represents a different pitch range so clarity of the sounds is critical!



Checking the Hearing Aid – Every Day!

3. **PUT THE HEARING AID ON THE CHILD:** Turn it on and to the correct volume setting.

Say the sounds oo, aw, ee, sh, s, m and watch your child for a response from 6-12 inches and again from 6 feet or at your child's maximum listening distance. Encourage your child to repeat these sounds and participate in hearing aid checks. You can use this quick hearing aid check method for years!

If you know the earmold is in the correct position and you hear any feedback (whistling) when the child chews, vocalizes, or moves around, ***immediately*** make an appointment with the audiologist for a new earmold impression to be made. Babies grow fast and so do their ears! A hearing aid that is whistling is not providing your child with the amount of amplification he or she needs to perceive and attend as well as needed to speech and sounds in the environment.



Checking the Hearing Aid – Every Day!

4. **CARE AND CLEANING:** Hearing aids should NOT get wet or be in moist places.

If you see drops of water in the earmold tubing, remove the earmold and use the blower to dry out the tube. If the earmold looks dirty, clean it with the wax loop tool or remove it and let it soak in warm dishwater. Earwax will eventually discolor the earmold. Do not boil or use harsh cleaners on earmolds. Let dry overnight before attaching to hearing aids.

In a moist climate the hearing aids should be kept in the DriAid kit nightly. Remove the battery, open the battery door, seal tightly in the DriAid jar. One drop of moisture in the earmold tube or hearing aid can prevent a child from receiving amplified sound.

5. **ASK QUESTIONS:** Tell your audiologist or early intervention services provider if your child does not seem to be hearing as well as usual or the hearing aid(s) do not produce the same quality of sound as usual.



Observing for changes with the hearing aid

Changes may be subtle and can improve over time as the child learns to listen with 2 ears and gets practice in challenging situations such as listening across distance and in background noise.

The *Early Listening Function* activities when presented at a distance may help identify changes.





ELF Infant & Young Child Amplification Use Checklist

COMPLETING THE *ELF* CHECKLIST MAY ALSO HELP IDENTIFY SUBTLE CHANGES IN LISTENING AFTER A NEW HEARING AID

Parents circle 1-5 scale: Agree, No Change, or Disagree

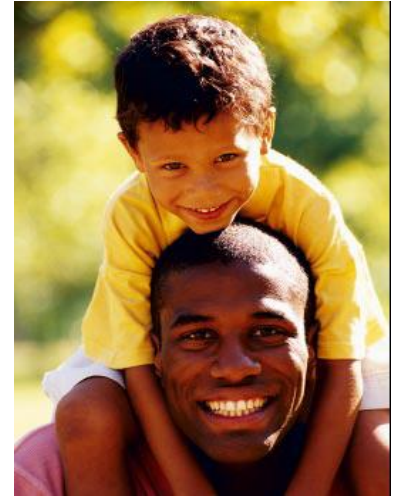
My child appears to:

1. Be more aware of my voice
2. Be more aware of environmental sounds
3. Search more readily for the location of my voice
4. Have an increased amount of babbling or talking
5. Have more interest in communicating

During ELF listening activities, the size of my child's listening bubble:

1. Has improved for quiet sounds voices
2. Has improved for typical sounds and voices
3. Has improved for loud sounds and voices
4. Has improved for listening in background noise

Describe specific situations when you noticed improvements in listening ability:



4th and 5th Home Visit

1. Help the family check the hearing aid and discuss any issues with daily wear.
2. Call the family's attention to **POTENTIAL IMPACT ON LANGUAGE LEARNING**. Say that you will be talking more with them during this home visit about 'keeping the language teacup full.'
3. To get across the importance of quantity of language used share **LANGUAGE EVERYDAY AND EVERYWHERE**.
4. The early intervention teacher or speech language pathologist can then use their customary materials for helping families learn about communication strategies

4th and 5th Home Visit

5. Introduce the concept of monitoring the child's language development to the family. Provide them with a list of words, such as those found on the MacArthur **Communication Development Inventories Checklists** and encourage them to hang the list on the refrigerator. (<http://successforkidswithhearingloss.com/resources-for-professionals/early-intervention-for-children-with-hearing-loss>)
6. Communication **monitoring should occur at least at 6 months intervals, starting at 9 months of age.** Remind the parents that children with unilateral hearing loss who end up with language delays often do not have problems until they reach 15-18 months old.

30 Million Word Gap

1995: Betty Hart and Todd Risley spent 2 1/2 years intensely observing the language of 42 families. Research in the following years found a high correlation between vocabulary size at age 3 and language test scores at ages 9 and 10 in vocabulary, listening, syntax, and reading comprehension. There was a 30 million word gap between the vocabularies of welfare and professional families by age three.



http://archive.aft.org/pubs-reports/american_educator/spring2003/catastrophe.html

More language used, more language learned!

Families' Language and Use Differ Across Income Groups

	Families					
	<u>Professional</u>		<u>Working-class</u>		<u>Welfare</u>	
Measures & Scores	Parent	Child	Parent	Child	Parent	Child
Recorded vocabulary size	2,176	1,116	1,498	749	974	525
Average utterances/ hour	487	310	301	223	176	168
Average different words/ hour	382	297	251	216	167	149

Hart & Risley, 1995; 30 million word gap between professional & welfare by age 3.

20,000 hours of listening

- To learn to read, children's brains need to be exposed to 20,000 listening hours (5+ years).
- All of this input is needed before the brain makes the connection between the sounds and their corresponding letters of the alphabet.
- Without those 20,000 hours of listening children are less ready to read at the same rate as other children their age – and they may never catch up.



ANY FAMILY CAN DO IT!

EVERYDAY YOUR CHILD NEEDS YOU TO:

- Talk about what he is interested in – giving him the words that go with his exploration of the world.
- Talk about everyday happenings, activities, questions, problem solving, planning ahead, I wonder....
- Read – young children love the same books again and again.
- Say rhymes, focus on letter sounds (big blue ball, buh, buh, buh), sing songs



Do language checkups regularly

Customized MacArthur Vocabulary Checklist: Level II (Toddler Form A)*

Copyright 1993 All Rights Reserved Child is age 19-24 months

Child's Name:

Child's Birthdate:

VOCABULARY CHECKLIST

Children understand many more words than they use. We are particularly interested in the words your child SAYS or SIGNS. Please mark the words you have heard your child use. If your child uses a different pronunciation of a word, mark it anyway.

	says	Signs/ cues		says	Signs/ cues		says	Signs/ cues		says	Signs/ cues
baa baa	☐	☐	hat	☐	☐	sky	☐	☐	all gone	☐	☐
meow	☐	☐	necklace	☐	☐	party	☐	☐	cold	☐	☐
ouch	☐	☐	shoe	☐	☐	friend	☐	☐	fast	☐	☐
uh oh	☐	☐	sock	☐	☐	mommy	☐	☐	happy	☐	☐
woof woof	☐	☐	chin	☐	☐	person	☐	☐	hot	☐	☐
bear	☐	☐	ear	☐	☐	bye	☐	☐	last	☐	☐
bird	☐	☐	hand	☐	☐	hi	☐	☐	tiny	☐	☐
cat	☐	☐	leg	☐	☐	no	☐	☐	wet	☐	☐
dog	☐	☐	broom	☐	☐	shopping	☐	☐	after	☐	☐
duck	☐	☐	comb	☐	☐	thank you	☐	☐	day	☐	☐
horse	☐	☐	mop	☐	☐	carry	☐	☐	tonight	☐	☐
airplane	☐	☐	plate	☐	☐	chase	☐	☐	our	☐	☐
boat	☐	☐	trash	☐	☐	dump	☐	☐	them	☐	☐
car	☐	☐	tray	☐	☐	finish	☐	☐	this	☐	☐
ball	☐	☐	towel	☐	☐	fit	☐	☐	us	☐	☐
book	☐	☐	bed	☐	☐	hug	☐	☐	where	☐	☐
game	☐	☐	bedroom	☐	☐	listen	☐	☐	beside	☐	☐
applesauce	☐	☐	bench	☐	☐	like	☐	☐	down	☐	☐
candy	☐	☐	oven	☐	☐	pretend	☐	☐	under	☐	☐
coke	☐	☐	stairs	☐	☐	rip	☐	☐	all	☐	☐
cracker	☐	☐	flag	☐	☐	shake	☐	☐	much	☐	☐
juice	☐	☐	rain	☐	☐	taste	☐	☐	could	☐	☐
meat	☐	☐	star	☐	☐	gentle	☐	☐	need	☐	☐
milk	☐	☐	swing	☐	☐	think	☐	☐	would	☐	☐
peas	☐	☐	school	☐	☐	wish	☐	☐	if	☐	☐

Total Words Said

Total Words Signed or Cued

Total Words both Said and Signed/Cued

Every 6 months see how many words your child is using. Remember, he or she may not develop a gap in learning until after age 15-18 months. Forms are available for 8-36 months.

Summary information for using during any home visit

- Two handouts can be shared with families at referral, first visit or any time during intervention.
- **WHAT TO DO – GET HELP!**
- **SUMMARY**

Hearing in only one ear **IS** a big deal

Children with issues related to hearing loss in only one ear do not outgrow them by school-age.

Children with unilateral hearing loss are at 10 times the risk for school problems as those with 2 good ears.



1/3 – 1/2 of children with unilateral hearing loss repeat a grade or require special education services in school.

We do not know what predicts problems!



There is help!

Get help. Most states provide services to families of infants and toddlers (to age 3) who have unilateral hearing loss.

These early intervention services would include someone coming to your home and/or the child's day care to talk about the child's hearing needs and what can be done to help learning.

They may also help you find out how to obtain a hearing aid trial.

Work to 'keep the language cup full'

Families are a child's first and most important teachers.



Early intervention teachers can help families to learn how they can communicate with children in ways to really stimulate language learning during everyday activities.

Some families use simple signs with their very young children to boost early language growth – you may find this fun too.



Track how your child's language is growing

At least every 6 months your early intervention teacher will check how your child's language is growing.



Ask for a list of typical vocabulary to hang on your refrigerator as a reminder.



An example: MacArthur checklists at

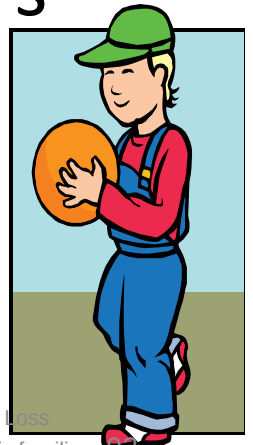
<https://successforkidswithhearingloss.com/resources-for-professionals/early-intervention-for-children-with-hearing-loss>

Remember, children with normal hearing in one ear can develop language at a normal rate until 15-18 months.

Behavior and social rule learning

The early intervention teachers can also help you to teach proper behavior to your child – consistency and being sure the child really understands is the key!

Describing and role playing social interactions can start very early and really help a child's self esteem and understanding by the time he or she starts school.



Help when trying a hearing aid

Most people have not used hearing aids or ever seen one on a young child.

Early intervention professionals typically include teachers of the deaf and hard of hearing or speech language pathologists who can help you learn how to accomplish daily hearing aid wear.

They can also help you to watch for improvement in listening behavior.

Do the ELF with the help of the EI teacher.



Summary

- Your child has a hearing loss that will affect him throughout his life.
- Your child's hearing *may* change.
- Try amplification as early as possible.
- Without early assistance your child may develop language delay and/or social or behavioral issues.
- Children with unilateral hearing loss are at 10 times the risk for school problems.
- Get help from early intervention ASAP!
- Monitor language growth regularly.
- Plan for your child's transition to school.



Gathering Family Observations

- A student with hearing loss needs to be able to understand the teacher, express his own thoughts, obtain clarification when he does not understand, and interact with classmates as a prerequisite to learning.
- Family observations of the child's listening behavior at home provide valuable insights into difficulties he or she may experience in similar school listening situations.
- It is requested that the family complete the Children's Home Inventory of Listening Difficulties (C.H.I.L.D.) so the Listening Situation Breakdown can be considered by the School Team.
- The Understand-O-Meter is provided for score interpretation.





Children's Home Inventory for Listening Difficulties Family Member

Questions for Family Member to Answer

Try the following situations with your child or recall how your child has responded in similar situations. Everyone has some difficulty hearing clearly and understanding in some situations. The level on the Understand-O-Meter you think describes your child's abilities most closely is the number in the box next to each question. This can be very difficult but try to estimate your child's abilities as best as you can.

Child's Name _____ Age _____ Date Completed _____

Family Member Completing CHILD: _____

Listening Situations

1. Sit next to your child and look at a book together or talk about something in front of you using familiar words and a normal conversational manner. Talk in a quiet place and sit so your child is not looking at your face as you talk together. How difficult does it seem for your child to hear and understand what you say?
2. Gather your family together for a meal at home or in a fairly quiet restaurant. Sit across the table from your child and ask some questions about a familiar topic or event. How difficult does it seem for your child to hear and understand what you say?
3. When your child is in his or her bedroom playing quietly, walk into the room and tell or ask the child something. Do not say the child's name or try to get his or her attention first. How difficult does it seem for your child to hear and understand what you say?
4. Watch a live-action TV show or movie with your child. Ask questions about what was said or events in the show that were understood by listening to the dialogue. (Show is seen for first time and is not captioned.) How difficult does it seem for your child to hear and understand what people on the TV or movie say?
5. Observe your child playing inside with a friend, brother or sister. Watch for the other child to ask him or her to do something. How difficult does it seem for your child to hear and understand other children when they talk?
6. When your child is watching TV or playing with a noisy toy, walk into the room and talk to him or her without first getting the child's attention. How difficult does it seem for your child to hear and understand you when there is noise from the TV or toy?
7. Call your child's name from another room when he or she is not able to see you. How difficult does it seem for him or her to realize that you are calling?

Understand-O-Meter

- 8 GREAT
Hear every word, understand everything
- 7 GOOD
Hear it all, miss part of an occasional word, still understand everything
- 6 PRETTY GOOD
Hear almost all of the words and usually understand everything
- 5 OKAY BUT NOT EASY
Hear almost all the words, sometimes misunderstand what was said
- 4 IT TAKES WORK BUT USUALLY CAN GET IT
Hear most of the words, understand more than half of what was said
- 3 SOMETIMES GET IT, SOMETIMES DON'T
Hear words but understand less than half of what was said
- 2 TOUGH GOING
Sometimes don't know right away that someone is talking, miss most of message
- 1 HUH?
Don't know that someone is talking, miss all of message

Children's Home Inventory for Listening Difficulties (C.H.I.L.D.) Family Member



Family Member Responses to the C.H.I.L.D.

8. Use a clock radio or alarm when it is time for your child to get up. How difficult does it seem to be for him or her to hear an alarm clock or clock radio go off? If not clock is used, how difficult is it for him or her to hear your voice and wake up without having to be touched or shaken?
9. Observe your child playing with a group of children inside a house. It's noisy (birthday party, cub scouts, etc.). How difficult does it seem to be for your child to understand what the children are saying as they play as a group?
10. A grandparent, family member or friend wants to talk to your child on the phone. How difficult does it seem to be for him or her to hear and understand what is said over the phone?
11. Observe your child playing outside with other children. How difficult is it for him or her to hear and understand what other children are saying when the children are outside and are not standing close to your child?
12. Go to a crowded store or mall with your child. When you are standing behind the child and he or she is looking at something, ask a question. How difficult does it seem to be for your child to hear and understand what you say?
13. Go into a large room with your child and speak to him or her from across the room. How well does he or she seem to hear and understand what you say?
14. Travel in the car with your child in the backseat. From the front seat say something to your child or ask a question. How easy does it seem for him or her to hear and understand what is said in the car?
15. Sit in a quiet place, face your child and have a conversation or ask questions. How difficult does it seem for him or her to hear and understand what you say?

Listening Situation Breakdown

Type of Situation	Add together the responses to the following question numbers:	Total	Average
Quiet	1 + 2 + 3 + 15 = _____ + _____ + _____ + _____		
Noise	6 + 9 + 12 + 14 = _____ + _____ + _____ + _____		
Distance	7 + 11 + 13 = _____ + _____ + _____		
Social	5 + 9 + 11 = _____ + _____ + _____		
Media	4 = _____		

Understand-O-Meter

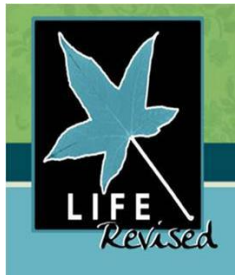
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- 2 TOUGH GOING
Sometimes don't know right away that someone is talking, miss most of message
- 1 HUH?
Don't know that someone is talking, miss all of message

Total of responses

Average of responses
(Total divide by 15)

Comments:

Sharing this content in any manner not related to a specific student's education is prohibited.



Starting School LIFE

- Transition from Part C or new 'move ins' to Gr 6
- Uses family observations from the CHILD.
- Sums scores by type of situation.
- Asks about communication style and independence.
- Has an Interpretation guide for results.
- Values family input
- No 'cookie-cutter' approach to technology needs.
- Simplifies practical results of language evaluation.
- Helps with planning for services and program.





Starting School L.I.F.E.

Listening Inventory For Education-Revised (L.I.F.E.-R.)

Appraisal of Listening Access Needs for Children Entering School

By Karen L. Anderson, PhD, Joseph J. Smaldino, PhD, & Carrie Spangler, AuD

Child _____ School District _____ Entering Grade _____

Child's School Team _____ Including Family _____

The purpose of this tool is to estimate the listening difficulty a child may have in the school environment (age 3-12). Access is at the center of most of the struggles of the student with hearing loss, and is so important that the Individuals with Disabilities Act statute (20 USC 1400(c)(5)(H)) specifies "supporting the development and use of technology, including assistive technology devices and assistive technology services, to maximize accessibility for children with disabilities." The information identified may assist in complying with the intent of this law and also provide valuable information for Special Education Eligibility determination, service planning or 504 Plan considerations for students entering Preschool–Grade 6.

Family Observations: A student with hearing loss needs to be able to understand the teacher, express his own thoughts, obtain clarification when he does not understand, and interact with classmates as a prerequisite to learning. Family observations of the child's listening behavior at home provide valuable insights into difficulties he or she may experience in similar school listening situations. It is requested that the family complete the Children's Home Inventory of Listening Difficulties (C.H.I.L.D.) so the Listening Situation Breakdown can be considered by the School Team. The Understand-O-Meter is provided for score interpretation.

Listening Situation Breakdown

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Noise	6 + 9 + 12 + 14 = ____ + ____ + ____ + ____		
Distance	7 + 11 + 13 = ____ + ____ + ____		
Social	5 + 9 + 11 = ____ + ____ + ____		
Media	4 = ____		

C.H.I.L.D. Understand-O-Meter

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Hear every word,
understand everything
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an occasional word, still
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words and usually
understand everything
- 5 OKAY BUT NOT EASY**
Hear almost all the words,
sometimes misunderstand
what was said
- 4 IT TAKES WORK BUT
USUALLY CAN GET IT**

School Team Information



Rationale:

- The consideration of the special factors portion of IDEA requires the IEP Team to consider the communication needs of the child in terms of opportunities for direct communications with peers and professional personnel in the child's language and communication mode.
- Access to curriculum and instruction in the classroom at the same level and rate as that of typically hearing peers is essential for academic growth for students with hearing loss.
- Most students with hearing loss use both their hearing and their vision for learning to some degree, depending upon changing communication conditions, as estimated by the Functional Listening Evaluation (FLE).
- The FLE provides data to determine the child's listening abilities, needs and accommodations in the classroom.

Resources available:

<http://successforkidswithhearingloss.com>



Supporting Success
for Children with Hearing Loss

[Home](#)

Resources, Continuing Education and Consulting Services
In Childhood Hearing Loss, Educational Support, Specialized Knowledge to Meet Child Needs

Mission
To improve the futures of children with hearing loss.

This is a 'go-to' site for professionals and family members seeking to identify and address listening, social communication and learning issues of children with hearing loss of all ages.

[Join our list to receive monthly updates of new resources.](#)

RESOURCES
[Professional resources](#)
[Tests](#)
[Parent resources](#)

CONTINUING EDUCATION
[New book](#)
[Presentations](#)
[Webinars](#)

CONSULTATION
[One-on-one \(family/school\)](#)
[Variety of experts](#)
[Personalized](#)

Professionals:

- EI Section
- Tests
- Many topics
- Resources
- Books

Parents:
FAQs by topic