

Ensuring Accessibility and Support in Child Care Settings

Denise Fournier Eng, M.A., CCC-SLP

Charlotte H. Mullen, Au.D., CCC-A

Boston Children's Hospital



Stats

The incidence of hearing loss among newborns in the U.S. is approximately 2- 3 per 1000 (NIDCD)

According to the CDC in 2017 range was 2-35 babies per 1000.

According to the National Center for Health Statistics 3.79 million babies were born in the U.S. in 2018

According the U.S. Bureau of Labor Statistics, in 2018 63% of married-couple families with children had both parents employed.

Deaf and Hard of Hearing Program



Boston Children's Hospital

Intro

- We are a speech-language pathology and audiology team that has spent nearly 40 years (each) supporting Deaf and Hard of Hearing children and their families.
- We are also moms who have entrusted (now adult) children to caregivers and teachers with the expectation that each child's unique needs be understood and nurtured.
- Most importantly we appreciate the truly awesome responsibility that child care providers – whether family or professionals – accept when they assume responsibility for children with reduced hearing



Responsibility

- That responsibility includes not only keeping the child's body safe, active and well-nourished...
- But also accepting responsibility for nurturing brain health by providing the experiences needed for language, cognitive and social development

Deaf and Hard of Hearing Program



Boston Children's Hospital

Language Nutrition

- Just as healthy food and exercise provides nutrition for the body
- Healthy, responsive, social language stimulation provides nutrition for the brain



Terminology

- Supplement to the JCIH 2007 Position Statement: Principles and Guidelines for Early Intervention That a Child is Deaf or Hard of Hearing (2013)

“Language refers to all spoken and signed languages.”



Multilingualism

The benefit of early identification of reduced hearing and early access applies to any language – and there is potential for acquisition of more than one language (spoken or signed)

AS LONG AS THERE IS ACCESS & INTERACTION



The challenges

Language Exposure leads to Language Ability

Language Rich *does not equal* Language Accessible



Conversation

- Social interaction - **conversation** - is the medium for language development – and therefore for brain development
- Our presentation is designed to provide resources for **conversation** between parents and caregivers to identify the essential features for creating the opportunities that make a language-rich environment **accessible** for DHH's children's developing brains

Deaf and Hard of Hearing Program



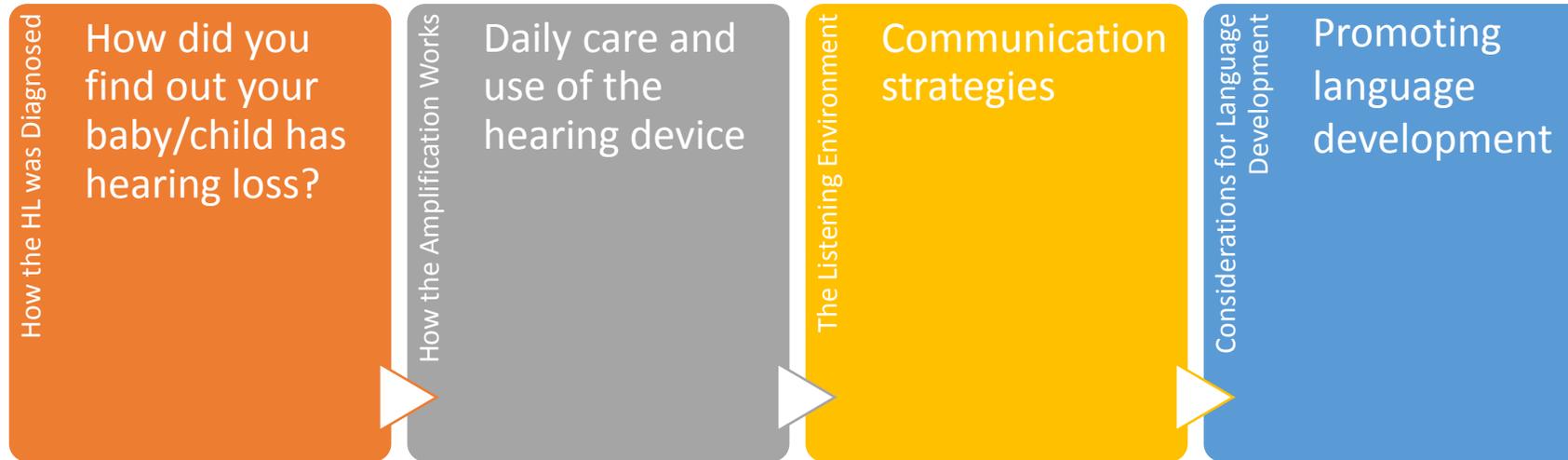
Boston Children's Hospital

Secure access*

- There are necessary accommodations and modifications to the listening and visual environments and to language input in order to create secure **access** to language for brain development
- **Secure access supports the concept that children with reduced hearing can expect to have access to and understand the language presented within the child care or school setting commensurate with their age-level peers*



What caregivers need to know



How the Hearing
Loss was Diagnosed

How did you find
out your child has
hearing loss?



1....3....6....



Purpose of Early Identification

- To maximize the potential for language acquisition during the well-documented “critical period” (birth-to-three)
- To protect developing brains from the negative consequences resulting from reduced access to language

Deaf and Hard of Hearing Program



Boston Children's Hospital

Universal Milestones

- First words by 1 year of age
- Combining words between 18 months – 2 years of age
- Beginning narratives, inferences, and robust social language by age 3



Setting Language in Motion

Overview



The Overview provides a description of this web-based product "Setting Language in Motion: Family Supports and Early Intervention for Babies Who are Deaf or Hard of Hearing".

Module 1 - Early Identification



Module 1 focuses on providing a foundation of knowledge regarding both screening and evaluation of hearing in infants and toddlers. Babies' brains are inherently wired for acquiring language.

Module 2 - The Ear and Testing



Module 2 focuses on providing information on both how the ear works and how an infant's hearing is tested.

Module 3 - Hearing Aids



Module 3 focuses on providing a foundation of knowledge regarding hearing aids and their features, including troubleshooting and listening checks.

Module 4 - Language Learning through Sign



Module 4 provides information on how to facilitate communication and language development through the use of sign.

Module 5 - Cochlear Implants



Module 5 provides information on cochlear implants, surgical considerations, activation, and expectations.

Module 6 - Communication & Language in the Home



Module 6 provides information on how to promote communication and language in the home.



Deaf and Hard of Hearing Program



Conversation starter #1



I can sign WATER and MORE.

I use two hearing aids for listening to spoken language and sounds around me.

How you can help...

Help me keep my processors on
Keep the listening environment as quiet as possible
Come close when you talk and sign to me

I love my soft Mickey and squeeze hugs.

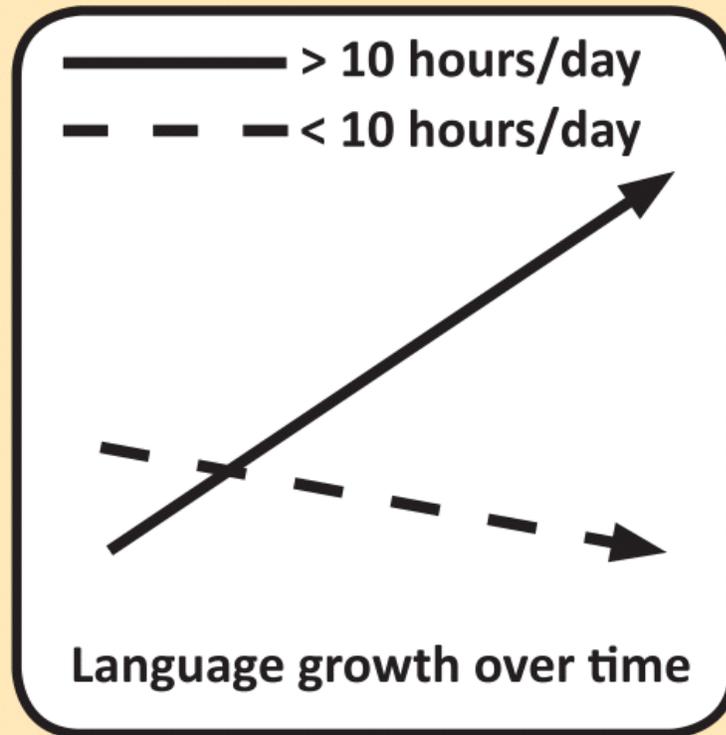


I am learning to crawl and make sounds and signs.



Secure access*

How Much a Child Wears Amplification Matters!



www.ochlstudy.org

If their eyes are open, their ears should be on!



How the
Amplification Works

Daily Use and Care



Setting Language in Motion

Overview



The Overview provides a description of this web-based product "Setting Language in Motion: Family Supports and Early Intervention for Babies Who are Deaf or Hard of Hearing".

Module 1 - Early Identification



Module 1 focuses on providing a foundation of knowledge regarding both screening and evaluation of hearing in infants and toddlers. Babies' brains are inherently wired for acquiring language.

Module 2 - The Ear and Testing



Module 2 focuses on providing information on both how the ear works and how an infant's hearing is tested.

Module 3 - Hearing Aids



Module 3 focuses on providing a foundation of knowledge regarding hearing aids and their features, including troubleshooting and listening checks.

Module 4 - Language Learning through Sign



Module 4 provides information on how to facilitate communication and language development through the use of sign.

Module 5 - Cochlear Implants

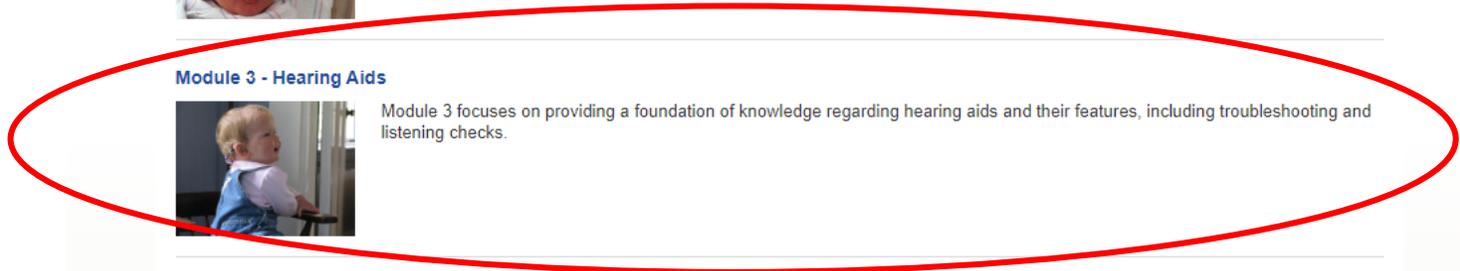


Module 5 provides information on cochlear implants, surgical considerations, activation, and expectations.

Module 6 - Communication & Language in the Home



Module 6 provides information on how to promote communication and language in the home.



What Should the Providers Know?

- How to put on the hearing aids or cochlear implants.
- How to keep the devices on.
- How to know if the devices are on.
- How to change the batteries.
- Strategies for keeping the devices on.
- Correct labels for all parts of the device.
- What words are used to label the device for the child.





Conversation starter #2



1. How to put on/in the hearing aid or cochlear implant.
2. How to know if the device is on and working. (Is there an indicator light?)
3. How to change the battery (or batteries). Make sure they have spare batteries and the tool to open the battery door.
4. Listening devices should be taken off and put in a safe place during nap time.



Communication Strategies & The Listening Environment

The Listening Bubble



Or staying within “ear shot”

Safety is Important!





Reduce/Eliminate Background Noise When Possible



Communication Strategies & The Visual Environment

Eye to Eye and Face to Face

“In the Bubble”

Reduce Background Noise
Ensure Visual Access



Considerations for Deaf and Hard of Hearing Children

Nurture “checking back behavior!”

Lean in “eye-to-eye” and “face-to-face”

Displace, expand and repeat signs



Lead children towards noticing and responding to attention-getting strategies (waving, calling, tapping)

Eye gaze shift supports connecting language to meaning and supports social connection and social/pragmatic language development (conversational eye contact)



Visual access

- Adequate lighting
- Close proximity
- Sight lines
- Reduce visual distractions
- Establish shared attention



Conversation starter #3



Checklist for listening accommodations

1. The child should sit near the person leading the activity.
2. Background noises (music?) should be eliminated.
3. During behavioral redirection, go to a quiet place.
4. Stay close to the child during outdoor play time.

Checklist for visual accommodations

1. The child should be able to clearly see the person leading the activity.
2. Natural gestures (or signs) can aid in understanding.
3. Demonstrating a task can also aid in understanding.



Considerations for Language Development



The starting point

- “...the social brain ‘gates’ the computational mechanisms involved in human language learning.”

- Kuhl (2007)



Deaf and Hard of Hearing Program



Boston Children's Hospital



Early caregiver-child interactions “open the gate” or “flip the switch” for brain development.

Responsiveness builds turn-taking and creates language opportunities

Harvard Center for the Developing Child *Serve & Return*

1. Share the Focus – Notice the Serve
2. Support and Encourage – Return the Serve
3. Name it – Describe, Explain, Expand
4. Take Turns Back & Forth – Wait
5. Practice Endings and Beginnings*



Nurture “checking back behavior!”

Lean in “eye-to-eye” and “face-to-face”

Displace, expand and repeat signs

Lead children towards noticing and responding to attention-getting strategies (waving, calling, tapping)

Gaze shift supports connecting language to meaning and supports social connection and social/pragmatic language development (conversational eye contact)



Checking back behavior

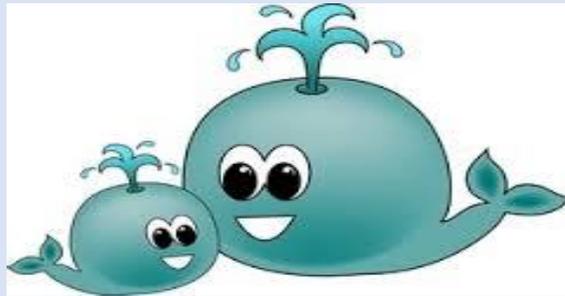
- Checking back behavior goes both ways
 - Adults assume responsibility for creating access, monitoring comprehension and repairing communication breakdown



“Back-and-forth exchanges boost children’s brain response to language”

(Romeo 2018)

- Language Exposure  Language Abilities
- More Conversational Turn-taking  More Activation of the “Language Brain”



Deaf and Hard of Hearing Program



Boston Children’s Hospital

Following early identification: Maintain high and appropriate expectations

- First words by 1 year of age
- Combining words between 18 months – 2 years of age
- Beginning narratives, inferences, and robust social language by age 3

• ***Prioritize social language***



Social Communication Growth Chart: <http://firstwordsproject.com/resources/> Milestones that Matter Most 21-22 Months

Play

Using Actions with Objects

I can combine two different pretend actions with imagined things in a play scenario.

- Help roll out the Playdoh and cut cookies, then pretend to put sprinkles on and bake them
- Make my toy horse run and then eat pretend grass
- Put on a sheet and pretend it is a cape and I am flying
- Climb on a big box and pretend I am fishing in a boat
- Use a paper towel roll and make noise in it like it's a trumpet and march around



Social Sharing with Objects

I can tell you about my play scenario and invite you to play with me.

- Ask you to help me stack up boxes to build a pretend house
- Find a stick and string for each of us and ask you to play fishing with me
- Get my shoes then tell you I want to go outside with you to make mud pies in the sandbox
- Invite you to go on a picnic with my teddy bear and me
- Say *Wanna play horsie* and ask to climb on your back and pretend you're a horse

Social Interaction

Social Attention

I can take a few turns sharing my ideas and listening to your ideas.

- Tell you about my leaf and look to see other things you point to outside
- Show you the buttons on my jacket and then look when you show me the zipper on your jacket
- Look at your new hat and I go get mine to show you
- Point to a train in my favorite book and name it, then turn the page and look at one you point out
- Try to reach the ball that rolled under the counter and ask you to help use my stick to get it



Intentional Communication

I can ask you about things that I don't know.

- Say *Where kitty* when it's time to feed the cat and she is not around
- Say *What Grandpa do* when he is working out in the garage
- Say *What's that* when we look at pictures in a book and I don't know the name
- Take turns talking about people we see when we go to Grandma's house
- Ask you what's in a pumpkin pie

Emotional Regulation

Sharing & Managing Emotions

I can use my words to ask you to help me get motivated or settle down.

- Bring my shoes to you and say *Help Mommy* when I get frustrated trying to put them on myself
- Say *Push me* to get you to help me scoot my chair closer to the table so I can play with my big sister
- Ask to take my favorite book in the car when you tell me it's time to go pick up Daddy
- Say *Purple spoon* when you tell me it's time to take my medicine
- Say *No read books* when you ask if I'm all done after I push the books away



Regulating Challenging Moments

My very upset moments are getting briefer and I can flow with unpleasant or unexpected situations.

- Get mad when you say *All done watching TV* but calm down when you give me choices of other things to play with
- Get upset when we can't go outside to play because it's raining but feel better when you suggest we bake cookies
- Begin to cry then ask you for a kiss and Band-Aid when I fall down and skin my knee
- Help clean up my toys even though I protest that I want to do something else
- Calm down by sitting in my rocking chair with my doll, when the

Responsive language modeling

- Expand and repeat
- Ask thinking questions
- Build “bigger, faster, better” vocabulary
- Share the responsibility for the family goal of “10 Books a Day”

Keep the conversation going!

The brain needs language

Language is nutrition for the brain

Set high and appropriate expectations

Conversational turn-taking is the key



Conversation starter #4 Language nutrition



Child's daily routines

Responsive language modeling opportunities

Arrival time

1:1 time with caregiver
"back and forth" greeting staff and other children

Free play

Caregiver joins active play to create opportunities for "serve and return"

Nap time

Work with parent and early intervention providers to create language routine to accompany caregiving routines

Storytime

Send book home ahead of time for 1:1 "preview"; be mindful of sight lines and proximity; practice signs and gestures



Thank you!

- Contact information:
- Charlotte.mullen@childrens.harvard.edu
- Denise.eng@childrens.harvard.edu



Deaf and Hard of Hearing Program



Resources

<https://mybattlecall.com/>

https://www.handsandvoices.org/pdf/IEP_Checklist.pdf

<http://news.mit.edu/2018/conversation-boost-childrens-brain-response-language-0214>

<https://news.utexas.edu/2019/10/16/deaf-infants-gaze-behavior-more-advanced-than-that-of-hearing-infants/>

- “Serve and Return” Harvard Center for the Developing Child
 - <https://youtu.be/KNrnZag17Ek>

