

eyes open ears on



EYES OPEN EARS ON HANDBOOK

GENERAL

46 MILLION WORDS ALL ABOUT THE BRAIN AUDITORY SKILL DEVELOPMENT CHOICES IN COMMUNICATION LEARN TO LISTEN SOUND PHRASES ROUTINES LING 6 SOUNDS

46 MILLION WORDS



Did you know? Research proves again and again children must hear 46 million words by 4 years of age.

This will help children:

- Have a higher IQ
- Know the meaning of lots of words
- Improve skills to learn in school
- Improve the ability to succeed

Did you know? Research proves again and again children must hear many different kinds of words.



These words must occur:

- While playing together
- During routines
- Repeating what baby says

Without hearing these **46 million words**, babies and children may have trouble learning to read.

46 MILLION WORDS



- Baby must wear hearing technology during all waking hours – "Eyes open, ears on!"
- Follow-up with all audiology sessions. This will check if your baby's hearing has had changes and be sure baby can hear all the speech sounds.
- Follow-up with Listening and Spoken Language (LSL) sessions. This will help you learn to practice back and forth talking with your baby. You will also learn how to use lots of different words at home.

Babies must hear MORE words, but these words must be "extra talk."

Business Talk

- "Stop that."
- "Get down."
- "Brush your teeth."
- "Finish your dinner."

Extra Talk

- "Look at the firetruck!"
- "What a big dog!"
- "Ice cream is so yummy!"
- "Who's my big girl?"



ALL ABOUT THE BRAIN

Did you know? Babies are born with their heart, their liver, and their lungs all working.

Every organ is working except the brain. Baby's brain is waiting on input from the outside world to begin to grow. For the brain to grow, it must receive lots of input from caregivers. This baby's brain will be 90% of its adult size by three years old. Our brains grow the most during the first 2 years of life.

What does that mean?

Babies brains will NOT grow without their caregivers taking care of them. Your baby must grow within the responsive care of you! Every time you snuggle baby, soothe their cries, feed and support their sleep you are growing your baby's brain. Every time your baby is not wearing their hearing technology are times that are missed for their brain to grow.

ALL ABOUT THE BRAIN



What can I do?

 Be sure your baby wears hearing aids all the time while awake.
Then you are sure baby can hear everything you say.



- Be responsive to your baby's cues --- is baby fussing? Crying? Happy? Answer all of these with words that describe how baby is feeling! A caregiver may say, "Are you needing a bottle? Are you hungry?"
- Commit to attending audiology sessions and Listening and Spoken Langauge (LSL) sessions.

References:

http://www.ttac.odu.edu/articles/focuson3.html http://listeningandspokenlanguage.org/Early_Intervention_What_It_Is_and_Why_It_Is_Important/

AUDITORY SKILL DEVELOPMENT



Did you know? All areas of your baby's growth go through different stages.

Your baby will learn to hold their head up before learning to sit up. The same is true with your baby's listening skills. They will learn these skills in a very predictable fashion.

DETECTION -> DISCRIMINATION -> IDENTIFICATION -> COMPREHENSION

Your baby will progress through the stages of listening based on:

- Age
- The time it takes for your baby to receive hearing technology. The longer the time the longer it may take your baby to respond to sounds and voices.
- How well they can 'listen' with their current technology maybe baby will need other technology such as a cochlear implant.
- Added findings may change your baby's progress. By working with your Listening and Spoken Language (LSL) provider, you will be able to understand the stages of listening that are happening with your baby.

AUDITORY SKILL DEVELOPMENT



DETECTION: This is the very first skill baby will develop. If they hear a noise or a voice they may hold still, or they may turn their head, or they may move toward the sound.

DISCRIMINATION: Your baby will learn to find what different sounds they hear. "Was that mommy's voice? Daddy's voice?" or hear the sound of a musical toy vs. the sound of brother crying.

IDENTIFICATION: Your child will identify different sounds from others such as "ahhhh" vs "sssss". Older children will be able to produce rhyming words.

COMPREHENSION: Your child will understand what words mean by: Answering questions Following directions Talking with you

AUDITORY SKILL DEVELOPMENT





- Work closely with your Listening and Spoken Language (LSL) provider to learn more about the stages of listening.
- Stay aware of new skills your child makes and what skills you will be expecting them to get next.
- If your baby is a new listener:
 - Wear hearing technology during. all waking hours "Eyes open, ears on!"
 - Point out and label new sounds
 - Be watchful to your baby's responses to sounds. Here are some examples:
 - Are they responding to something new? Be sure to talk about what they hear while they hear it!
 - Are they responding to your voice from across the room compared to yesterday?

CHOICES IN COMMUNICATION



Did you know? Your baby's communication is at the heart of making relationships.

Since your baby has hearing loss, they will need extra help in learning how to communicate. As part of your journey you will learn how to teach your baby language.

What does this mean? There are 4 choices of communicating for babies and children with hearing loss:

LISTENING AND SPOKEN LANGUAGE (LSL)TOTAL COMMUNICATIONCUED SPEECHAMERICAN SIGN LANGUAGE

AS YOUR CHILD'S FIRST TEACHER

Consider these questions:

- How do I want to talk and understand my child?
- Where do I want my child to be in school?
- How do I imagine my child talking with their friends and their family?

Consider these truths:

- You need access to experts who can teach you to teach your child.
- Your baby must hear or see 40 million words by the time they turn 4.
- Commit to one choice. The caregiver's pledge to the communication choice is important for your child's success in growing language.

CHOICES IN COMMUNICATION



Listening and Spoken Language		Cued Speech		Total Communication		American Sign Language
Hearing Technology? YES	-	Hearing Technology? YES	-	Hearing Technology? YES/NO	-	Hearing Technology? NO
Aggressive auidiological management						
Talking? YES		Talking? YES		Talking? YES/NO		Talking? NO
Normal language development		Hand shapes around the face		Talking/Signs in exact English word order Sign word endings		ASL has its own word order Does not sign word endings Does not use pronouns
Primary language model is parent Parent Coaching				Family speaks slow due to signing		Everyone involved needs to sign to communicate
School of parent choice				Schools utilizing TC approach in OK		School for the Deaf
Available in OK? YES		Available in OK? NO		Available in OK? YES		Available in OK? YES
						Own Culture

LEARNING TO LISTEN SOUNDS



Did you know? All areas of your baby's growth go through different stages.

Airplane "aaaahhh" **Car** "vroom, beep-beep" **Boat** "pu pu pu pu" Motorcycle "mmmmmmm" **Cow** "mmoooo" **Horse** "(tongue click) neigh" Chicken "brock-brock-brock" Duck "quack-quack" **Pig** "oink-oink" Sheep "ba-a-a ba-a-a" **Dog** "ruff-ruff" Rabbit "hop-hop-hop" **Bird** "tweet-tweet" Cat "meeeooow" Mouse "squeak squeak" Fish "swish swish" (in a whisper) Owl "whoooo whoooo"

Monkey "ee ee ee" Clock "tick-tock" (in a whisper) Water "pshhhh" Sleeping "shhhhh" Slide "weeeee!" Eating "mmmm mmmm" Clown "ha ha ha"

ROUTINES



Did you know? Routines at home can improve your baby's listening and learning language.

What are routines?



Why are routines important?

- We all need a sense of routine, a way to get things done.
- Routines help babies with their "body clock":
 - Able to go to bed at night
 - Eat healthy full meals
 - Regular diaper schedule
 - Healthy play and outdoor time
 - Support a baby to be calm and relaxed during down times
- Routines provide babies and children a sense of security, especially if life seems more stressful.
- There is predictable language that caregivers use during routines and this builds on the baby's listening, understanding and talking.









- Set up the important times such as mealtime, nap time, snack time and bedtime.
- Be patient! Setting a schedule may be hard at first.
- Add helpful elements to each routine such as snuggling every time you read a book together.
- Be flexible and adjust as needed! Baby's snack time might take place in the car instead of at home in their highchair.

LING 6 SOUNDS



Did you know? The Ling Six Speech Sound Test is one of the ways that the child's hearing aid or implant can be checked daily to make sure they are working properly.

The Ling Sound Test consists of the following six sounds:

"**a**" as in father "**oo**" as in food "**ee**" as in feet "**sh**" as in shoe "**s**" as in so "**m**" as in mom



- Present these sounds to your child every morning through listening only---do not let them see your mouth!
- If they are old enough, have them repeat the sound when they hear it.
- If your child misses one of the sounds or does not repeat it correctly, notify your child's auditory-verbal therapist or audiologist.

References: Ling, D. (1976), Ling, D. (1989)



AG Bell (n.d.). Early intervention what is it and why is it important? Retrieved from

http://www.listeningandspokenlanguage.org/Early Intervention What It Is and Why

It Is Important/

AG Bell (n.d.). Listening and spoken language knowledge center: The speech banana.

Retrieved from http://www.listeningandspokenlanguage.org/SpeechBanana/

American Speech-Language-Hearing Association (n.d.). How does your child hearing

and talk? [Website]. Retrieved from

http://www.asha.org/public/speech/development/chart/

Beck, D.L. & Flexer, C. (2011). Listening is where hearing meets the brain...in children and adults. *Hearing Review*. Retrieved from

http://www.hearingreview.com/2011/02/listening-is-where-hearing-meets-brain-inchildren-and-adults/

Beginnings (n.d.). Communication options [PDF] Retrieved from

http://ncbegin.org/reference-chart/ and http://ncbegin.org/communication-options/

Bess, F. (1985). The minimally hearing impaired child. Ear & Hearing 6(1), 43-47.

Bess, F., Dodd-Murphy, J., Parker, R., Oyler, R., Oyler, A., & Matkin, N. (1988).

Unilateral hearing loss: Demographics and educational impact. Language,

Speech, and Hearing Services in Schools, 19(2), 201-209.

Childhood Chatter (n.d.). Speech norms [Webpage]. Retrieved from

http://www.childhoodchatter.com/speech-norms.html



Ching, T. & Hill, M. (2005). Parents' evaluation of aural/oral performance of children

(P.E.A.C.H.) Retrieved from http://outcomes.nal.gov.au/Assesments

Resources/PEACH%20ratings%20with%20coverpage%20260509.pdf

- Cole, E. & Flexer, C. (2007). Children with Hearing Loss Develop Listening and Talking Birth to Six. San Diego, CA: Plural Publishing.
- Dehaene, S. (2009). Reading in the brain: The science and evolution of a human invention. New York, NY: Penguin Group.
- Eliot, L. (1999) What's Going On In There? How the Brain and Mind Develop in the First Five Years of Life, Bantam Books, N.Y., N.Y.
- Erber, N. (1982). Auditory Training. Washington DC: Alexander Graham Bell Association, pp. 92-94.
- Estabrooks, W and Marlow, J. (2000) The Baby is Listening: An educational tool for professionals who work with children who are deaf or hard of hearing. Washington DC: Alexander Graham Bell Association, p. 22-25.
- Estabrooks, W. (1998) Cochlear Implants for Kids. Washington DC: Alexander Graham Bell Association.
- Flexer, C. (n.d.). It's all about the brain [Personal website]. Retrieved from

http://www.carolflexer.com/

Focus on Early Childhood (n.d.). Critical windows of opportunity for learning. Retrieved

from http://www.ttac.odu.edu/articles/focuson3.html



Foster, E. (2006). The ages and stages of children's literature. [Webpage]. Retrieved

March 30, 2012, from www.writing-world.com/children/stages.shtml

Geers, A. (2003). Predictors of reading skill development in children with early cochlear implantation. Ear & Hearing, 24(1), S59-S68.

Hart, B., & Risley, T. (1995). Meaningful differences in the everyday experience of young American children. Baltimore, MD: Paul H. Brookes

Hearing First. (2020). Moving Through the Milestones. Hearing First.

https://hearingfirst.org/en/blog/2017/09/14/Moving-Through-the-Milestones

Hearing First. (2020). Ways to Help Your Child with Hearing Loss Building Language Skills. Hearing First. <u>https://hearingfirst.org/en/blog/2019/01/08/Ways-to-Help-Your-Child-with-Hearing-Loss-Build-Language-Skills</u>

McCarthy, J. (2006). Feeding Infants & Toddlers. Strategies for Safe, Stress-free Mealtimes. Retrieved from <u>www.asha.org > convention > handouts > 1884 McCarthy Jessica L</u>

McLaughlin, S. (1998). Introduction to Language Development, First Edition, Singular

Press, San Diego, CA

Rhoades, E. & Chisholm, T.H. (2000). Global language progress with an auditory-verbal approach for children who are deaf or hard of hearing. *The Volta Review*, 102(1), 5-24.



Sharma, A., Dorman, M.F., & Spahr, A. J. (2002). A sensitive period for the

development of the central auditory system in children with cochlear implants: implications for age of implantation. *Ear and Hearing*, 23(6), 532-539.

- Sloutsky, V.M. & Napolitano, A.C. (2003). Is a picture worth a thousand words? Preference for auditory modality in young children. *Child Development, 74*(3), 822-833.
- Suskind, D. (2013). Project ASPIRE: Addressing language disparities for children with hearing loss. [PDF document]. Retrieved from:

http://www.listeningandspokenlanguage.org/uploadedFiles/Connect/Meetings/2013_L

- SL_Symposium/Handouts/Project%20ASPIRE%20Addressing%20Language%20Disparitie
- Svirsky, M.A., Teoh, S.W., & Neuburger, H. (2004). Development of language and speech perception in congenitally, profoundly deaf children as a function of age at cochlear implantation. *Audiology & Neurotology*, 9(4), 224-233. Doi:

10.1159/000078392

Trelease, J. (2013). The Read-Aloud Handbook, 7th Ed.. New York, NY: Penguin Group.

Trelease, J. (2015). Website Retrieved from: http://www.trelease-on-reading.com/rahcontents.html



Walker, E.A., Spratford, M., Moeller, M.P., Oleson, J., Ou, H., Roush, P., & Jacobs, S.

(2013). Predictors of hearing aid use time in children with mild-to-severe hearing

loss. Language, Speech and Hearing Services in Schools, 44: 73-88. DOI:

10.1044/0161-1461(2012/12-0005).

- Yoshinaga-Itano, C. & Apuzzo, M.L. (1998). Identification of hearing loss after 18 months of age is not early enough. *American Annuals of the Deaf*, 143(5), 380-387.
- Yoshinago-Itano, C., Sedey, A.L., Coulter, B.A., & Mehl, A.L. (1998). Language of early and lateridentified children with hearing loss. *Pediatrics*, 102(5), 1168-1171,

https://www.superduperinc.com/handouts/pdf/122 OralMotorDevelopmentalMileston