

Phonak Insight

Serve and return interactions build healthy brains and strong relationships in children

When parents and caregivers respond to a baby's communication attempts, neural connections are strengthened in the child's brain that support bonding and the development of communication and social skills. After infancy, back and forth conversations continue to build a child's brain and are the foundation for strong relationships.

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Introduction

One of the most essential experiences in shaping a child's social, emotional and cognitive development is the back and forth process of 'serve and return' interactions between children and significant others. The National Scientific Council on the Developing Child (2004) states "Growth-promoting relationships are based on the child's continuous give-and-take ("serve and return" interaction) with a human partner who provides what nothing else in the world can offer — experiences that are individualized to the child's unique personality style; that build on his or her own interests, capabilities, and initiative; that shape the child's self-awareness; and that stimulate the growth of his or her heart and mind" (p. 1).

Does hearing loss impact brain development and relationships?

Hearing loss can have an impact on the development of a child's brain. For example, research demonstrates visible brain differences in children with hearing loss including the processing of touch and vision in areas generally used for listening comprehension (Sharma et al., 2007). Research also has suggested that the bond between a parent and a newborn with hearing loss may be different. Winston and Chicot reported the results of a 2012 study by the Essential Parent Company that showed that approximately 80% of new parents reported feeling unprepared and anxious with their newborn. For parents with a newborn identified with hearing loss, in addition to having a new infant, they are quickly learning about hearing loss, attending multiple appointments, feeling the pressure to meet critical windows for listening and language development, and may not know

how to communicate with their baby (Young and Tattersal, 2007). The parents are likely to feel more stress and anxiety which may be unintentionally passed on to the infant. This can have long lasting impact on the child's brain development and the child's ability to handle stress in the future.

Communication between the child with hearing loss and caregivers might also be different. The child's conversational turn-taking may be reduced if a parent is not communicating as much which could lead to missed valuable communication and social development opportunities. A child struggling to comprehend may experience more stress and fatigue than other children. The child is potentially not getting the same access to sound and language as peers with typical hearing which could result in communication delays and differences in brain development. Any of these areas could negatively impact the child.

Leblanc and her colleagues (2017) found that children with strong attachment and bonds to their mothers were more likely to show positive physical differences in the brain than those who had less secure attachments. Raby and colleagues (2012) found that even children genetically predisposed to more stress were able to handle stressful situations better when they had strong attachments with a parent than children without strong attachments. Furthermore, studies have shown that children in responsive parenting relationships have higher social competence, better cognitive skills, have better work skills in school, more self-confidence, and better language development (National Scientific Council on the Developing Child, 2004.). Attachment and bonding are integral to developing a healthy brain and serve and return interactions are an effective way to develop early attachment and bonds.

The need for constant, positive serve and return interactions continues as a child gets older. A child's more important relationships outside the immediate family, such as close friendship bonds are important for later stages of brain development and for developing more sophisticated social skills. But, children with hearing loss have a large task - they try to participate and engage in conversations and interactions with others despite not always catching all of the information due to missed words. Teens and adults consistently report that hearing in noise is challenging. The average home, classroom, and public space are very noisy - even when we think things are quiet. Fans, heaters, lights, electronics, dishwashers, refrigerators and other items make a constant hum that makes it hard to hear. Children who are listening in noise may struggle more to hear the target conversation.

Some routine family situations might also be acoustically challenging for a child with hearing loss. For example, a dinner table discussion with multiple family members talking over one another can be too difficult for the child to follow. When the child cannot keep up with the conversation, he or she might withdraw or stop participating from these occasions. He or she could feel left out when they do not get to engage in these meaningful conversations with family.

While this information may initially portray a grim picture, we see many children with hearing loss with well-developed brains, excellent communication skills, and healthy social interactions. Parents have the tools to develop healthy brains and strong social bonds that can have a lasting positive impact on their children's development. Professionals have the ability to educate and empower parents to use skills the parents already have.

Improving access to serve and return conversations

Parents can improve access to serve and return conversations in many different ways. For example:

1. Ensuring the hearing technology is well-fit and worn every waking hour optimizes auditory access to conversations.
2. Learning about environmental modifications to create the best listening environment and increase access to conversations in challenging listening environments. This might include using a remote microphone system, picking a quieter area of a restaurant, turning off entertainment and appliances during conversations at home.
3. Teaching the child self-advocacy skills for communication. This can set children up to feel like a valued conversation and relationship partner and give them the skills and confidence to set up any situation to best be an active participant and turn-taker.

Facilitating opportunities for serve and return interactions

Serve and return interactions are simple to teach to parents and caregivers. The key to serve and return is to empower the parent to look for communication efforts from the child and provide an appropriate response back. If the parent tickles the baby and the baby wiggles, the parent then recognizes that the wiggle is a communication attempt for

"more." The parent can respond with "you want more tickles? More tickles!" and repeat the desired action. Another great serve and return activity can be playing "peek a boo" with a baby. Serve and return interactions do not seem challenging because they are natural and involve very intrinsic interactions with the child. They can be done while accomplishing everyday tasks. For example, changing diapers, changing clothes, and feeding time are all times when these interactions are natural to add into an existing routine for a baby.

As the child gets older, there are different ways parents and caregivers can incorporate serve and return interactions and more qualitative conversations into their daily routines. Parents can ask their child questions and take the time to actively listen and ask follow-up questions. They can use a rich and varied vocabulary and stimulate imagination when appropriate. They can move from discussing objects and sequences of events to elaborating on thoughts and feelings with their child.

There is no known formula of how much serve and return interaction is enough, but it is intuitive to build serve and return interactions into everyday life, so the child gets meaningful interaction throughout their day. Parents can be empowered when they realize that just consistently responding to their child's communicative efforts is enough to promote healthy brain development.

Summary and talking points

While we do need children with hearing loss to have appropriate amplification in order to have listening access to the oral part of conversations, we need serve and returns between the child and the parent (and others) for optimal brain development and strong relationships. Amplification is not enough. Serve and return interactions need to be practiced before and after a child gets appropriate amplification.

Talking points for professionals when speaking with parents and caregivers:

- Establishing close relationships is essential for a child's optimal social, emotional and cognitive development.
- Strong and caring relationships are critical beyond parent-child. Children's bonds with others, such as friendship bonds are important for later stages and for developing more sophisticated social skills.
- Serve and return interactions positively impact a child's brain development and promote the creation of strong bonds.

- Fancy toys and electronics are not needed. For infants, responding to a child with eye contact, smiling, talking, and playing is essential. As a child gets older, frequent and qualitative serve and return interactions are equally important for optimal brain development and the formation of growth-promoting close relationships.
- Well-fit, consistently worn hearing technology, environmental modifications and teaching a child self-advocacy to improve the listening environment allow children with hearing loss better access to more serve and return conversations. This will support them in growing their important relationships that will sustain them as they progress towards adulthood.

Serve and return interactions are natural to do, and research keeps proving that it may be the most important tool in our arsenal when promoting speech and language development, healthy brains and supporting children to build strong bonds and relationships. The conversations about the importance of these interactions should start with the professionals and must start early. We are brain-architects and prime facilitators in growing children's important, close relationships!

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