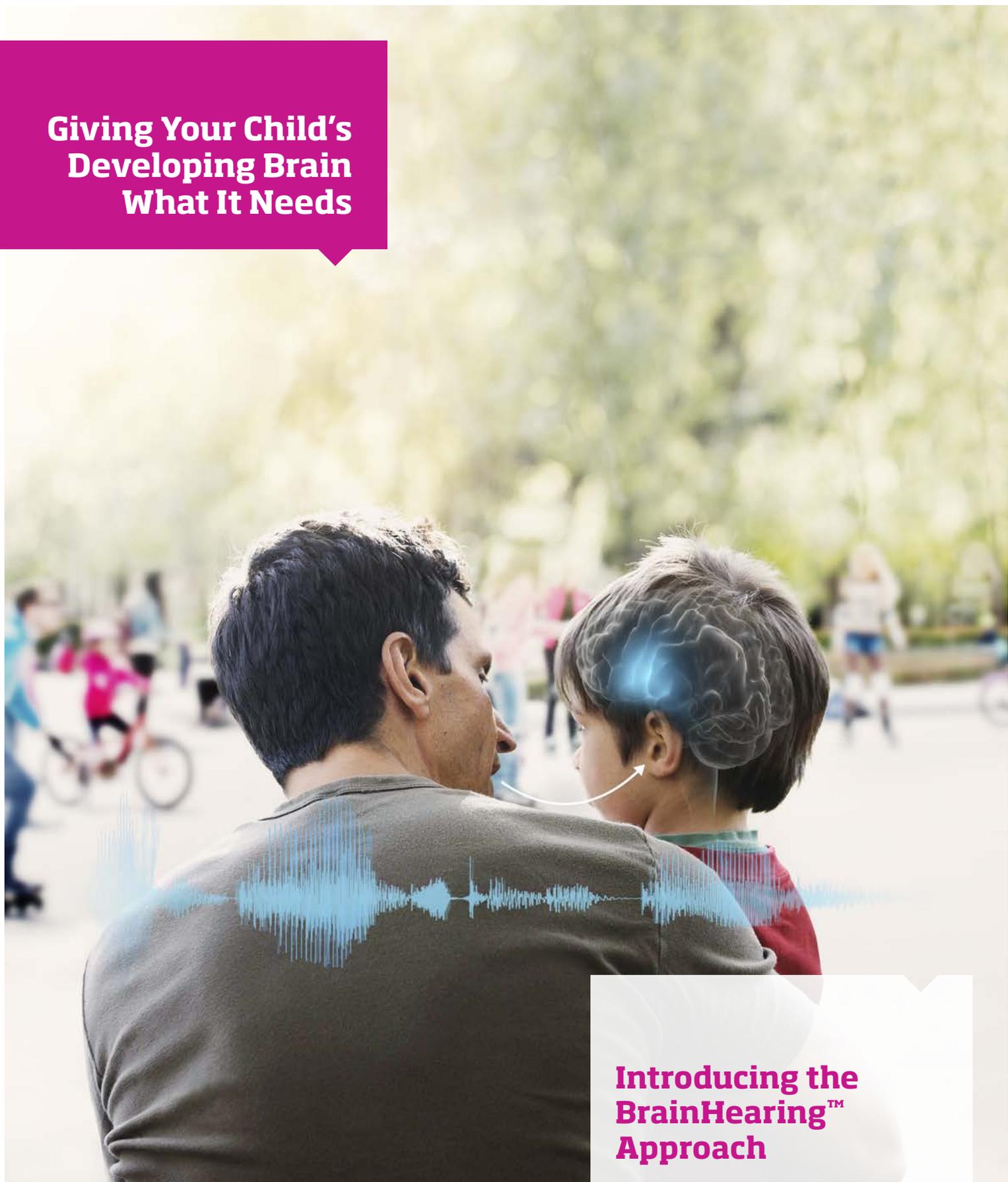


**Giving Your Child's
Developing Brain
What It Needs**



**Introducing the
BrainHearing™
Approach**

oticon
PEDIATRICS

Hearing is a big part of your child's development

It is often said that young children's brains are sponges, constantly learning about how the world works simply by being part of it. One of the most important sources of information for your child during crucial stages of natural development is sound. Sound allows us to learn to talk. It allows us to have conversations, to express needs and wants, to connect with others - to discover the power of communication.

Sound is the basis for a very early connection between the newborn and the parents. Sound forms the basis of the ability to read and write. Sound allows for the enjoyment of music.

It teaches us about the sometimes subtle relationship between sound and what is going on all around us. Footsteps tell a baby that a parent is approaching with a bottle. Laughter tells the toddler that something funny just happened. Traffic noise reminds the young child to be careful while playing outside.

What happens when a child has hearing loss?

- Only some parts of the speech signal get through to the brain.
- What does get through is often distorted.
- Noise creates much greater disruption than for children with normal hearing.
- Many of the softer sounds in the child's world (footsteps, distant voices, nature sounds) are totally missed.
- It takes more effort to follow what is being said as the brain has to fill in the blanks.



Although hearing loss happens in the ears, the real effect is in the brain



It is the brain that makes sense of sound

Children are learning all the time, from day 1

Getting hearing aids fit as soon as possible is essential as children are ready and willing to learn tremendous amounts about the world even from a very, very early age.

The brain must be stimulated to develop

Learning means that the brain is actually changing, becoming better organized. In so many areas, sound that is consistent and clear plays a big part in that learning.

Learning to talk is based on what the child hears

The full spectrum of sound is needed to allow for the best spoken language development.

Having hearing loss can be exhausting . . . it takes more effort to listen

The brain needs the most complete, clearest signal possible in order to easily understand what is being said.

It is essential that hearing aids are worn and functional all of the child's waking hours

If the devices are not worn or not working, the brain is not receiving the vital sound input it needs to continue to develop.



**How can technology
help your child develop
as successfully as possible?**

**Children have to be
able to count on their
hearings aids:**

- To provide the right sounds
- To process speech in the clearest way possible
- To be working all of the time.



BrainHearing™ Technology: Providing your child the best opportunity to get the most out of their hearing

BrainHearing Technology:

Provides a full range of sound

- **Extended Bandwidth** provides access to the full pitch range of speech, especially the important higher frequencies
- **Capturing sounds at all levels** provides access to speech from even soft-spoken talkers

Processes speech in the smartest way possible

- **Speech Guard E** protects the subtle details of speech to make it easier for the brain to recognize
- **FreeFocus Directionality** helps defeat the effects of background noise on speech understanding
- **VoicePriority i™** ensures that the teacher's voice is heard loud and clear even when it gets noisy in the classroom

Delivers sound without interruption

- **LED** provides you, teachers and care-givers immediate, visual confirmation of the status of the hearing aids
- **Robust Pediatric Design** stands up to a child's active life



Give your child's developing brain what it needs

Your child's hearing is as unique as a finger print. Everything about their hearing aids needs to match his or her hearing, listening needs and lifestyle. Oticon's BrainHearing technology provides consistent sound processing that is matched to your child's needs at every stage of development.

As communication skills improve, all areas of your child's life can be positively affected, including school performance, social relationships and even the feeling of self-esteem.



Research supports Oticon's speech processing approach for children

- Recent research from the Pediatric Amplification Laboratory at Arizona State University has proven that Oticon's unique Speech Guard E processing approach is the very best way to present speech sounds to the child with hearing loss.

Pittman AL, Pederson AJ, Rash MA. (2014) Effects of fast, slow, and adaptive amplitude compression on children's and adults' perception of meaningful acoustic information. *Journal of the American Academy of Audiology* 25: 834-47.

- Oticon's patented VoicePriority *i*™ technology has been shown by researchers at the University of North Texas to be the most effective approach at controlling the effects of classroom noise.

Schafer EC, Sanders K, Bryant D, Keeney K & Baldus N (2013) Effects of Voice Priority in FM Systems for Children with Hearing Aids. *Journal of Educational Audiology* 19: 12-24.



The Sensei hearing aid family, developed for children



Silver



Chroma Beige



Terracotta



Chestnut Brown



Diamond Black



Purple



Cool Blue



Baby Blue



Baby Pink



Red

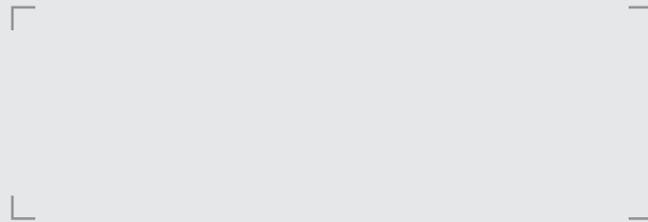


Emerald Green



People First

People First is our promise
to empower people
to communicate freely,
interact naturally and
participate actively



**child
friendly
hearing
care**

Our pediatric audiological mission is to ensure a better future for every child with hearing loss. We will deliver solutions, tools and techniques that optimize auditory and cognitive habilitation, embrace the complexities of growing up with hearing loss and empower you to adapt solutions to each child's developmental stage on their journey to adulthood.