Press release

Wireless communication devices help children with autism to understand and engage more in class

New peer-reviewed research shows that wireless communication technology offers children with autism "clear listening and communication benefits," with teachers reporting "consistent improvement in comprehension, attentiveness and classroom behavior."

Stäfa, Switzerland (November 1, 2013) – A study published in *The Journal of Pediatrics* has shown that sustained use of wireless communication devices can help children with Autism Spectrum Disorder understand more speech in class, aid in their social interaction and improve educational outcomes.

Autism spectrum disorder (ASD) is a neurodevelopmental condition with a range of behavioural symptoms including impaired social interaction and communication difficulties. Children with ASD often also experience problems processing sound\(^1\)-\(^3\), which can further exacerbate their social difficulties.

The study, *The Use of Listening Devices to Ameliorate Auditory Deficit in Children with Autism*\(^4\), is the first of its kind to explore the sustained use of wireless listening technology for children with ASD in mainstream classroom environments. Led by Gary Rance, PhD of The University of Melbourne, the research evaluated the monaural (single-ear) and binaural (two-ear) sound processing skills among a group of 20 children with ASD – and sought to determine the extent to which personal wireless listening systems (specifically, Phonak inspiro microphones and Phonak iSense receivers) could enhance these children’s listening difficulties.

"The systems provided significant listening-in-noise, communication and educational benefits," said Rance, who is Associate Professor at The University of Melbourne’s Department of Audiology & Speech Pathology. "The children could hear the teacher’s words better, communicate with their fellow students more effectively, and were generally more engaged in classroom activities than those not using wireless listening technology. Most of the children also wanted to keep using their devices after the trial had ended."

The research involved 20 children with ASD - 10 primary school students and 10 secondary school students - aged between eight and 15 years. A control group of age- and gender-matched children was also evaluated in order to test the authors’ baseline assumption that children with autism experience more difficulty processing auditory information than those without ASD\(^2\)-\(^4\).
Rance and his team evaluated each child's: auditory temporal processing (how the brain analyses sounds changing over time); spatial listening (how well both ears are used to localize and separate different sound sources); and functional hearing (speech understanding in background noise). Half (10) of the children with ASD then underwent a six-week device trial. During this period they wore Phonak iSense wireless receivers for up to seven hours per day, with teachers and parents speaking into Phonak inspiro transmitter microphones.

Wireless listening devices such as the Phonak inspiro/iSense systems used in the study - also sometimes referred to as frequency modulation (FM) systems - work by transmitting the words of a microphone-wearing speaker to small discrete ear-level receivers, bringing these words directly into the listener's ear. This approach has already been proven to improve the speech understanding of children with cochlear hearing loss⁵, central auditory processing deficit⁶ and auditory neuropathy⁷.

- To read an abstract of the study, visit [http://www.jpeds.com/article/S0022-3476%2813%2901212-2/abstract](http://www.jpeds.com/article/S0022-3476%2813%2901212-2/abstract)
- To learn more about Phonak iSense, please visit [www.phonak.com/isense](http://www.phonak.com/isense)


About Phonak

Headquartered near Zurich, Switzerland, Phonak, a member of the Sonova Group, has developed, produced and globally distributed state-of-the-art hearing systems and wireless devices for more than 60 years. The combination of expertise in hearing technology, mastery in acoustics and strong cooperation with hearing care professionals allows Phonak to significantly improve people’s hearing ability and speech understanding and therefore their quality of life.

Phonak offers a complete range of digital hearing instruments, along with complementary wireless communication systems. With a worldwide presence, Phonak drives innovation and sets new industry benchmarks regarding miniaturization and performance.
For more information, please visit www.phonakpro.com and www.phonak.com or contact:

Kathy Bühler
Product Communications
Tel: +41 58 928 4844
Email: kathy.buehler@phonak.com

Phonak AG
Laubisrütistrasse 28
CH - 8712 Stäfa
Tel: +41 (0)58 928 01 01
Fax: +41 (0)58 928 20 11
www.phonak.com

Phonak – Life is on
We are sensitive to the needs of everyone who depends on our knowledge, ideas and care. And by creatively challenging the limits of technology, we develop innovations that help people hear, understand and experience more of life’s rich soundscapes.

Interact freely. Communicate with confidence. Live without limit. Life is on.