Phonak pediatric solutions

When hearing technology unlocks a child's full potential, life is on

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PHONAK
life is on

Ears are the doorway to the brain

As a physician, you understand that the ears are vital in picking up sound and transmitting it to the brain, where the signal is processed. In this way, and as Dr. Carol Flexer, Distinguished Professor Emeritus of Audiology, (University of Akron, Ohio, USA) describes the process, “the ears are doorways to the auditory brain centres where hearing truly occurs.”

Consequently, we can consider hearing loss in childhood as a ‘doorway problem.’ For families who choose listening and spoken language as the child’s mode of communication, a doorway problem can prevent auditory information from reaching the specific brain regions. This can result in an impaired ability to learn, to listen, talk, and read. This can have a negative impact on the development of speech, language understanding and overall educational achievement.[1–3]

Fortunately, as a healthcare professional, you have access to technology from Phonak. This technology can stimulate and develop auditory neural pathways – facilitating language development and educational success.

Children must be immersed in a language-rich environment (i.e. talking, reading aloud, music) to provide the foundation needed for spoken language and literacy development. Clinical experts in the audiology field recognize the importance of identifying and treating hearing loss as early as possible. They recommend that hearing technology be worn at least 10 hours every day for best outcomes.[4] As a result, you can help children with hearing loss realize their full potential and enjoy all of the incredible opportunities that life offers.

Evidence-based solutions for better outcomes

Opening the doorway to the brain is essential to give young listeners access to the 45 million words and 20,000 hours of listening required for spoken language and literacy.[1-3] Research shows that providing children with optimal hearing solutions or 'door-opening devices' from an early age directly impacts just how well they will succeed.[4]

The Outcomes of Children with Hearing Loss (OCHL) study is a multicenter, prospective, longitudinal investigation examining the impact of early identification and intervention on outcomes of children with permanent, mild to severe bilateral hearing loss. Results from the first years of the study have shown that even mild hearing loss can put children at risk for language delays.[4] However, there is good news for you and your pediatric patients: early and effective intervention can make a difference.

The OCHL study found three factors that protect against language delays and are predictors of better outcomes for children with hearing loss.[4]

Stronger development

Provision of **well-fit hearing aids** reduces risk and provides protection against language delays. Greater aided audibility is associated with stronger language outcomes in preschool.

Faster learning

Children who **wear hearing aids at least 10 hours per day** learn language **faster** than children with less hearing aid use and are more likely to have age-appropriate skills by the time they enter elementary school.

Better outcomes

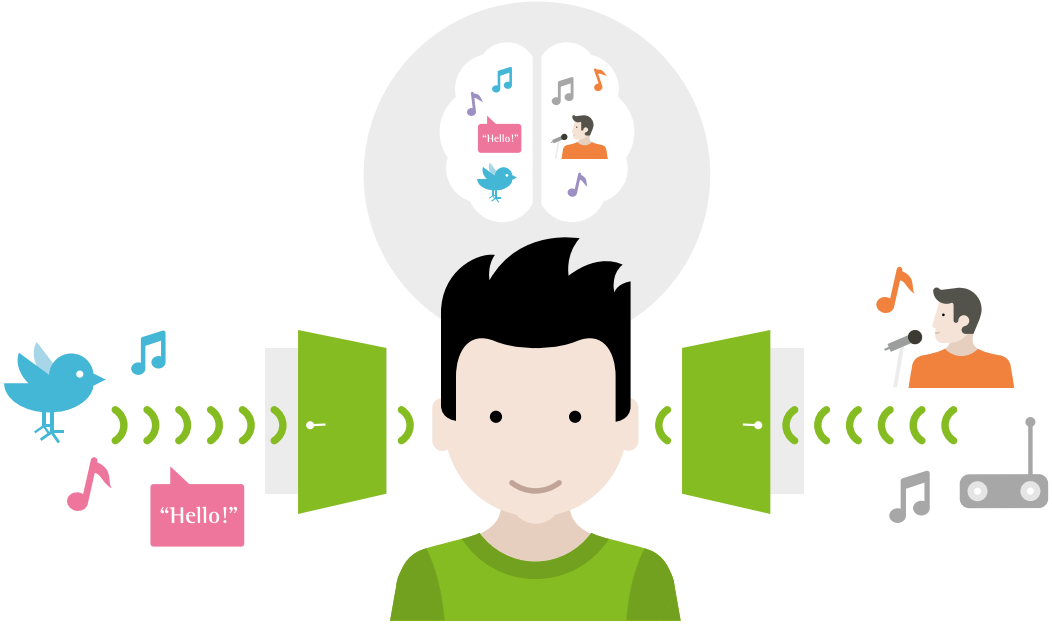
High-quality language exposure is associated with better language outcomes. Children with hearing loss should be exposed to a language-rich environment to drive their language and intellectual development.

The OCHL study continues to investigate the influential variables that generate positive outcomes and how best clinical practice can support auditory development. The longitudinal nature means that new insights will appear over coming years. These findings are guiding the development of pediatric hearing solutions designed specifically to improve speech and language outcomes for children with hearing loss.

Accessing the doorway to the brain

When children cannot hear well in the various listening situations they encounter, they are at risk of missing opportunities for development and enjoyment. Having hearing aids that allow them to fully participate at school, at play, and at home, is essential to their overall sense of well-being and their ability to develop their full potential. At Phonak, we are dedicated to developing innovative and proven hearing solutions to ensure children receive the best listening experience throughout their day.

We are proud to introduce the Phonak Sky™ B hearing aid portfolio, based on the successful Phonak Belong™ platform. It has been developed using our knowledge of early brain development and the challenging listening environments that children encounter. Sky B can help 'open the doorway to the brain' with innovative technology encased in a robust housing that is specifically designed to be easy to use and keep up with even the most active young clients.



The Sky B portfolio offers the following benefits:

Better understanding

- AutoSense Sky OS is the only* operating system built for a child's listening environment[5,6]
- SoundRecover2 gives children access** to a broader range of sounds.[7,8] This is essential for speech and language development
- Roger™ together with hearing aids gives children better access to hearing their peers and teacher in a classroom[9]

Easy to use

- Indicator light clearly shows the status of the hearing aid
- Built-in rechargeable lithium-ion battery for Sky B-PR means no battery changes are required

Safe and strong

- Sky B is water resistant and dust tight (IP68 rating)***
- Tamperproof options provide increased safety for our youngest users
- Robust housing is designed to meet the active lifestyles of children

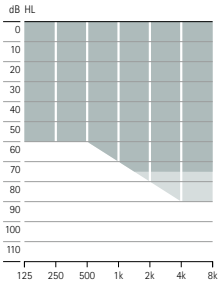
*Valid February 2018
**Compared to without SoundRecover2
***IP68 indicates that the hearing aid is water resistant and dust tight. It survived continuous in 1 meter of water for 60 minutes and 8 hours in a dust chamber as per the IEC60529 standard, no traces of dust were evident within the housing

Phonak Sky B: a comprehensive portfolio of pediatric technology

The Sky B portfolio comprises four performance levels (B90, B70, B50, B30*) and six models, including a rechargeable BTE.

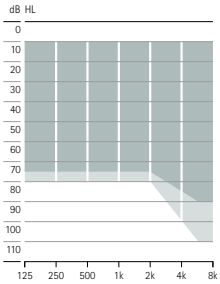
Sky B-M
B90/B70/B50/B30

Mild to moderately-severe hearing loss, all audiometric configurations.



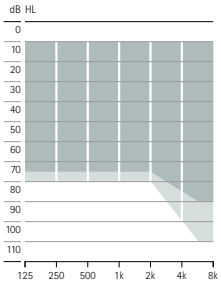
Sky B-P
B90/B70/B50/B30

Mild to severe hearing loss, all audiometric configurations.



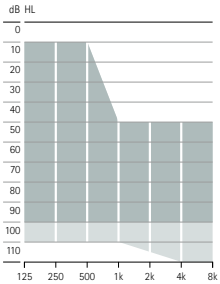
Sky B-PR
B90/B70/B50

Mild to severe hearing loss, all audiometric configurations.



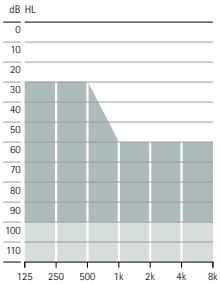
Sky B-SP
B90/B70/B50/B30

Mild to profound hearing loss, all audiometric configurations.



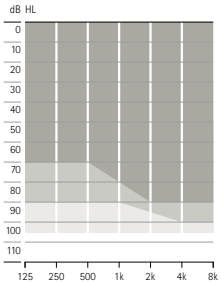
Sky B-UP
B90/B70/B50/B30

Mild to profound hearing loss, all audiometric configurations.



Sky B-RIC
(B90/B70/B50/B30

Moderate to profound hearing loss, all audiometric configurations.



SlimTube HE / Power SlimTube Regular tube xS receiver xP receiver xUP receiver

*Only available in specific countries and not available for Sky B-PR

Given the challenges of busy classrooms and noisy playgrounds, a high-performance, adaptable hearing aid that allows a child to engage with all that is happening around them is essential.

No manual adjustment

Children should spend more time listening, playing, and learning, not adjusting their hearing aid programs. AutoSense Sky OS is the only* automatic operating system built for a child's listening environment. AutoSense Sky OS** is clinically proven to always select the best settings and maximize hearing performance.

The pediatric automatic program and feature selector in AutoSense Sky OS is up to 30% more precise during noisy classroom activities, activating the directional microphones more often. Also, it is up to 39% more accurate in recognizing yelling and shouting as unwanted noise compared to AutoSense OS.[6]

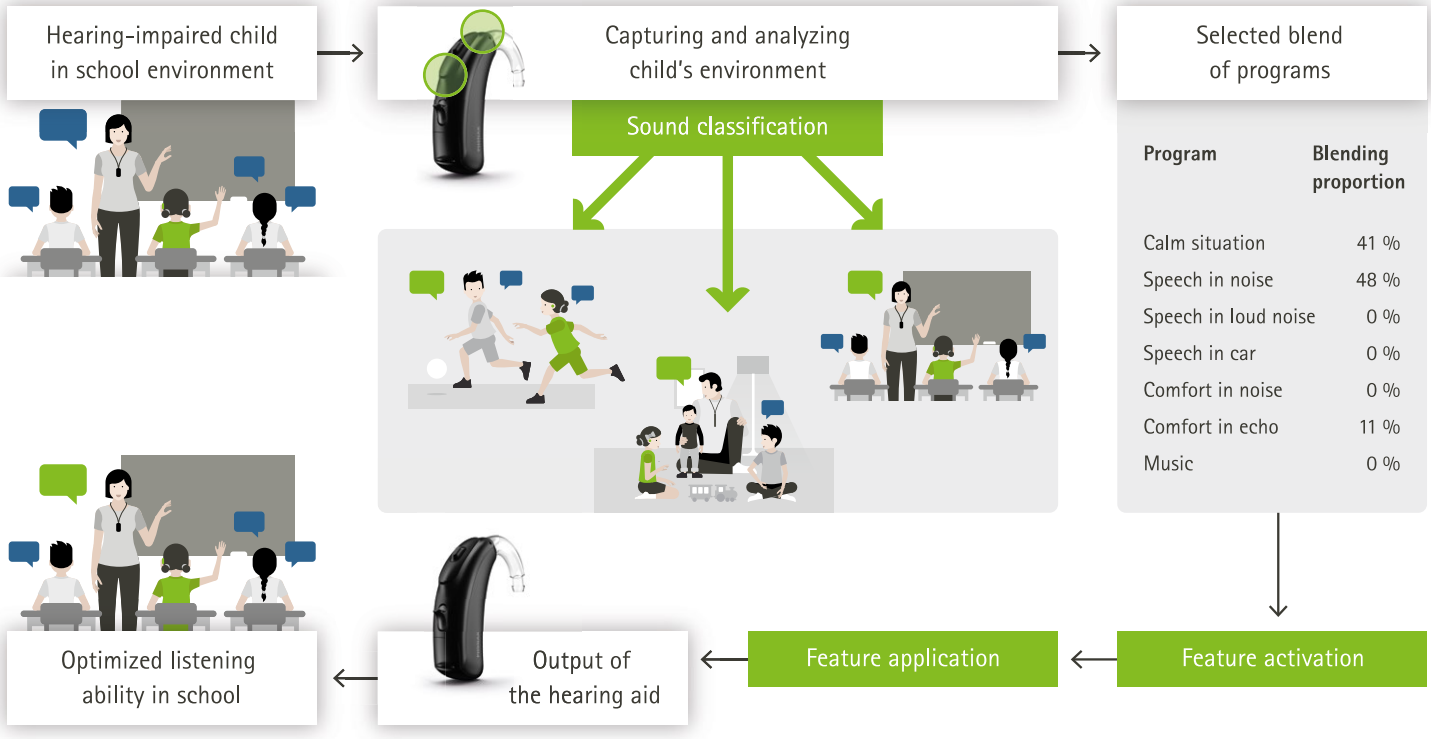


Figure 1. Illustration of the pediatric operating system, AutoSense Sky OS.

* Valid February 2018
** Which is based on the same technology as AutoSense OS

Accessing the brain through ease of use and better hearing performance

Crystal clear sound

High-frequency amplification that is audible but does not distort other sounds is key for auditory brain development and complete speech understanding. SoundRecover2 improves access to high frequencies while maintaining low and mid-frequencies.[7,8,*]

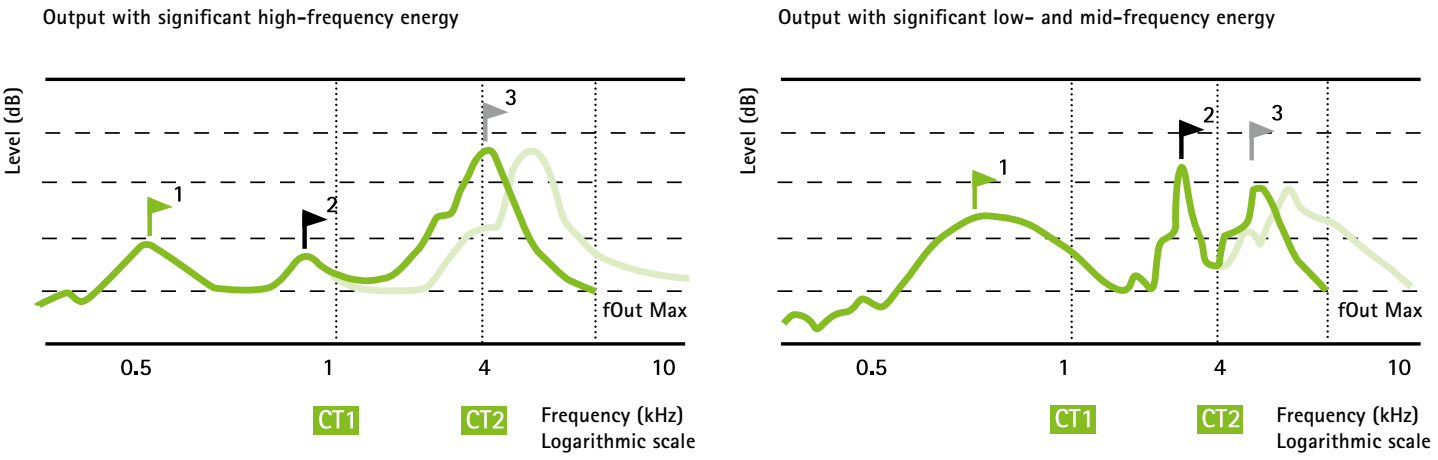


Figure 2. SoundRecover2 restores access to high-frequency sounds (left side) and at the same time protects low- and mid-frequency sounds (right side).

Capturing full conversations

Children no longer need to surrender the benefits of the directional microphone in their hearing aid when using a remote microphone. Roger and directional setting offers children using Sky B the best of both worlds: Roger supports excellent speech understanding together with automatically activated directional microphones on Sky B.**

The Roger and directional setting improves access to conversations with peers by 26% over Roger and omnidirectional.[9]

Optimal listening

RogerReady makes adding a Roger receiver to a hearing aid simple. Without the need for additional programming, Sky B devices with direct audio input and a Roger ear-level receiver automatically detect the signal from a Roger microphone and activate the 'Roger + Mic' program. This seamlessly allows the hearing aid to continuously adapt between AutoSense Sky OS and the Roger program without the need to manually change programs.***

* Compared to SoundRecover
** Available on Sky B 50/70/90 levels
*** Automatically detects the signal from a Roger microphone and activates the Roger + Mic program

Hear all around

The innovative Binaural VoiceStream Technology™ (BVST) featured in Sky B hearing aids allows each side in a binaural fitting to work together, optimizing hearing as children explore, learn, and interact the world. BVST streams the full audio bandwidth in real time and bidirectionally. It therefore tackles challenging listening situations by simulating what the brain does with sounds from both ears.[10] By linking the two hearing aids, children benefit from hearing speech in both ears, especially in noisy environments, on the phone, or when they are not directly in front of the speaker. BVST technology also sets the foundation for the Phonak CROS B solution for children with severe to profound unilateral hearing loss.

Hear more outdoors

The Speech in Wind program improves speech understanding by up to 28%, ensuring children can hear when wind noise is a potential interference.[11]

Hear more on the phone

By streaming the signal in real time to both ears, a caller's voice can be heard binaurally and results in an improvement of 30% in comparison to listening with one ear in both quiet and noisy environments with DuoPhone.[12]

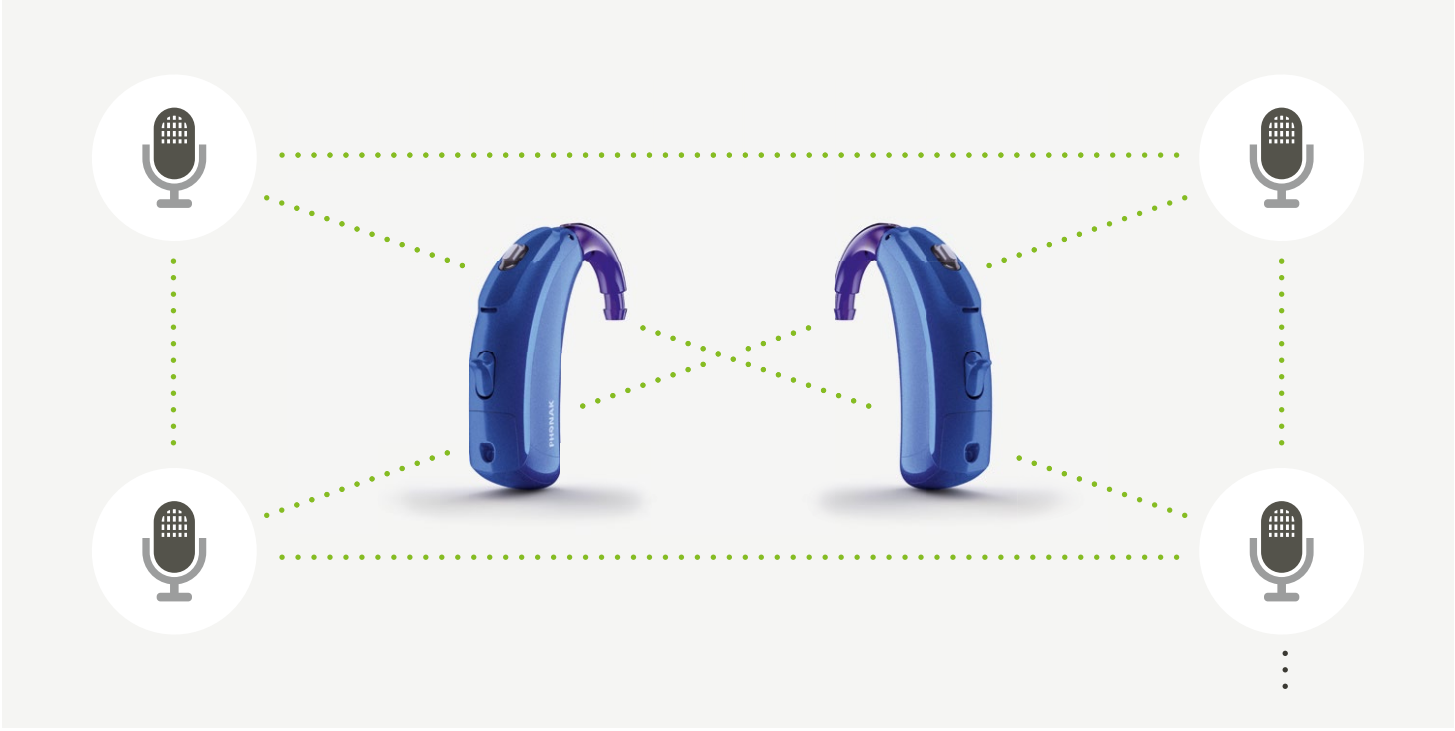


Figure 3. The exchange of full audio data between hearing instruments facilitates binaural signal processing such as binaural beamforming.

Keeping kids in charge all day long

Listening with a functioning hearing aid throughout the day is essential for a child to fully participate. As a professional, you can appreciate the value in offering young listeners hearing aids that function continuously throughout the child's active day and that don't lose power.

Sky B-PR is the only* rechargeable hearing aid specifically designed for children that is equipped with a built-in lithium-ion battery. This new hearing aid combines high-performance technology with ground-breaking battery technology.

Sky B-PR has been designed to simplify life, eliminating the hassles associated with disposable batteries. With 40% more power than conventional rechargeable batteries, lithium-ion is reliable and capable of supporting the superior technology and performance of Sky B-PR. This offers parents, caregivers, teachers, and children the peace of mind that Sky B-PR will stay powered all day long.

Key benefits of Sky B-PR

- 24 hours** of hearing with a charging time of only 3 hours[13]
- Built-in rechargeable battery cannot be removed and swallowed
- Full day*** of battery life with one simple charge, even with Roger streaming during a school day
- All of the tested and proven features of Phonak Sky B in a rechargeable device including tamperproof earhook and indicator light

Phonak Mini Charger: The most compact and discreet charging option available.

* Valid February 2018
** Expected results when fully charged, with up to 80 minutes wireless streaming time. Please visit www.phonakpro.com/evidence for more information
*** 16 hours of hearing with 10 hours of Roger use or audio streaming

To complement the innovative rechargeable Sky B-PR, Phonak offers easy-to-use smart charging options so that parents and children can charge Sky B-PR wherever they go without having to worry about running out of power.

Phonak Charger Case: Comes with charger, drying kit, protective hard case, and cleaning tool.

Phonak Power Pack: Easily attached to the Phonak Charger Case, ideal for short trips when no power source is available.

Roger – bridging the understanding gap

The key to keeping children connected

By offering your young patients Roger technology with the latest Phonak Sky B hearing aid, you are creating an integrated hearing solution that can help access the doorway to a child's brain.

Roger is the wireless digital standard, providing outstanding performance in noise and over distance by transmitting a speaker's voice directly to the listener. The Roger wireless portfolio has been created to work seamlessly with other hearing solutions to improve outcomes for children with hearing loss at home, at school or out with friends. It provides increased access to quality sound and language even in the most challenging situations.

Roger offers the industry's best ever speech-in-noise performance, with proven improvements of up to 35% over Dynamic FM technology and 54% over other FM and digital systems.[14] Whether at home, in class or in a social setting, the Roger portfolio offers multiple microphones and accompanying receivers to suit listeners of every age.

The benefits of Roger for school-age children and teens are well-known, and we now have new evidence for younger children. A recent study conducted at Vanderbilt University showed that the use of Roger microphone at home with pre-school children increased their word exposure by approximately 5,300 words in an eight-hour day. That's 11 additional words a minute. Based on an average hearing aid use time, this translates to a 42% increase in caregiver talk made available to a child, compared to using hearing aids alone.[15] And when a young child needs at least 45 million words[3] spoken to them before school, providing a family a Roger system can really make a difference.

roger

Roger microphones

Roger Touchscreen Mic features a user-friendly interface for use in the classroom. With an automatic microphone function, it conveniently switches from an individual talker to a small-group interaction mode, depending on its placement.

Roger Pass-around is designed to enhance classroom discussions so that not only teachers, but all students are heard clearly. With an appealing design, the microphone is the optimal size for kids and teens to hold and fully control.

Roger Multimedia Hub is a versatile transmitter. When used in a Roger network it features audio mixing which allows a teacher's voice to be heard simultaneously with an audio signal. Used as a stand-alone device, it can be connected to an audiobook or tablet for individual listening.

Roger Select uses MultiBeam Technology and gives teens discrete control in large, noisy conversations. When placed on a table, it can automatically select who is talking, or the user can manually select, with a tap of the microphone, who they want to listen to when multiple conversations are happening at the same time.

Roger Pen offers state-of-the-art wireless technology with superior speech-in-noise and over-distance performance. Packed in a discreet design, its features include fully automated or manual microphone settings and Bluetooth® connectivity, providing an all-inclusive listening experience.

The Roger Clip-On Mic is a small and lightweight microphone worn on a shirt. Perfect for parents and family members, multiple Roger Clip-On Mics can be used at the same time, allowing a child to hear everyone.

Roger wireless receiver

Roger X is the miniature universal Roger receiver with 3-pin Euro plug that is compatible with virtually all BTE hearing aids, cochlear implant speech processors, and streaming devices.

Roger design-integrated receivers perfectly complement the sleek contours of Phonak hearing aids and are available in matching colors and tamperproof versions. There are also Roger design-integrated receivers that are compatible with selected cochlear implants (CIs) from Advanced Bionics, Cochlear, and MED-EL.

Roger MyLink is an easy-to-use universal Roger receiver worn around the neck and compatible with any hearing aid or cochlear implant with T-coil.

Roger Focus is a discreet behind-the-ear receiver that cuts through distracting background noise to bring a speaker's words directly into a child's ears. These devices enable children with unilateral hearing loss (UHL) and normal hearing children with auditory processing disorder (APD) and autism spectrum disorder (ASD) to hear speech better in noise.

Playful design

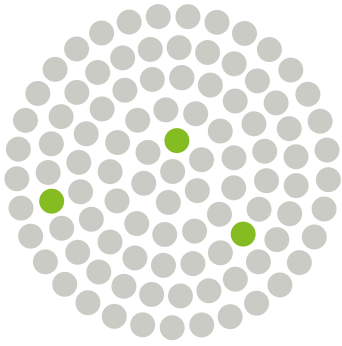
With an exclusive Mix & Match concept incorporating seven colored earhooks and 14 different color options for hearing aid housings and Roger receivers, every child can design a hearing aid that truly suits their personality and identity.

Phonak Sky™ – Award winner of Golden Concha 2017 in the category of 'Best pediatric hearing aid'.

Solutions for children with unilateral hearing loss (UHL)

Ready for success

Three in 100 school-aged children have unilateral hearing loss (UHL)[16] and are at an increased risk of needing extra resources and repeating a year of school.[17,18] Phonak recognizes the needs of these young listeners and for this reason we have developed a number of dedicated solutions proven to improve kids' access to speech even in challenging listening environments. Designed to be easy to fit and use while ensuring that listening remains fun, our goal is to provide children with UHL the best possible tools in order to be ready for success.



3 in 100

Three in 100 school-aged children are thought to have some degree of UHL.

5 times

They are 5 times more likely to need support services.

10 times

They are 10 times more likely to need to repeat a year of school than children with normal hearing.

For further information please visit www.phonakpro.com/UHL

Comprehensive solutions

Due to the mixed and broad nature of UHL, there is no 'one size fits all' solution. A combination of unique solutions is required to meet a young listener's specific needs, which may evolve over time.[19]

Phonak Sky B: Made for children with any degree of hearing loss and easy to use.

Phonak CROS B: Child-friendly and high-performing. Sound is transmitted from the ear with hearing loss to the normal-hearing ear when used with Sky B.

Roger Focus: A discreet and comfortable open receiver worn on the normal-hearing ear allows the child to clearly hear speech from someone using a Roger microphone.

Because a child is not a small adult

Our commitment to life-changing innovation is unwavering and we always strive to create holistic solutions that meet all the needs of your young patients with hearing loss. Our proven pediatric solutions include Phonak Sky hearing aids, Roger systems, and wireless accessories that work together to fully open and access the ear doorways to the brain. These solutions play a pivotal role in providing access to the million words and thousands of hours of listening required for a child to be ready for school and literacy, as well as continuing to maximize auditory development throughout childhood and the teenage years – thereby ensuring ongoing learning success and a fully connected life.[1-3]

Phonak products	Infants and toddlers
Sky B-M	✓ With tamperproof battery door & earhook
Sky B-P	✓ With tamperproof battery door & earhook
Sky B-SP	✓ With tamperproof battery door & earhook
Sky B-UP	✓ With tamperproof battery door & earhook
Sky B-RIC	–
Sky B-PR	✓ With tamperproof earhook
Audéo B-Direct	–
CROS B	–
Roger Touchscreen Mic	✓ For use at home and pre-school/childcare
Roger Clip-On Mic	✓ For use at home by parents and siblings
Roger Select	✓ Experienced parents or children requiring Bluetooth® connection
Roger Pen	✓ Experienced parents or children requiring Bluetooth® connection
Roger design-integrated receivers	✓ With tamperproof solution
Roger X	–
Roger MyLink	–
Roger Focus	–
DECT Phone II	✓
ComPilot II	–
ComPilot Air II	–
TVLink II	–
PilotOne II	✓ Good for parents
EasyCall II	✓

School-aged children	Teens
✓	✓
✓	✓
✓	✓
✓	✓
✓ Ages 8 years and older	✓
✓	✓
✓ Ages 8 years and older requiring direct wireless phone connection	✓ For teens requiring direct wireless phone connection
✓ For children with a non-aidable ear	✓ For teens with a non-aidable ear
✓ For school and home use	✓ For school and home use
–	–
✓ For home and afterschool use	✓ For school, home and afterschool use
✓ For home and afterschool use	✓ For school, home and afterschool use
✓	✓
✓	✓
✓	✓
✓ Ages 6 years and older	✓
✓	✓
✓ Ages 8 years and older or when it can be managed independently	✓
✓ Ages 8 years and older or when it can be managed independently	✓
✓	✓
✓	✓
✓	✓

✓ Recommended – Not recommended

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Life is on

At Phonak, we believe that hearing well is essential to living life to the fullest. For more than 70 years, we have remained true to our mission by developing pioneering hearing solutions that change people's lives to thrive socially and emotionally. Life is on.

www.phonakpro.com/pediatric

sonova
HEAR THE WORLD